Page 1

NATIONAL QUALITY FORUM + + + + +COMPOSITE MEASURE EVALUATION GUIDANCE PROJECT + + + + + TECHNICAL EXPERT PANEL MEETING + + + + +FRIDAY NOVEMBER 2, 2012 + + + + + The Expert Panel met at the National Quality Forum, 9th Floor Conference Room, 1030 15th Street, N.W., Washington, D.C., at 8:30 a.m., Elizabeth DeLong and Patrick Romano, Co-Chairs, presiding. **PRESENT:** ELIZABETH R. DELONG, PhD, Duke University Medical Center PATRICK ROMANO, MD, MPH, UC Davis School of Medicine JOHN D. BIRKMEYER, MD, University of Michigan DALE BRATZLER, DO, MPH, Oklahoma University Health Services Center\* JAMES CHASE, DO, MPH, Minnesota Community Measurement NANCY DUNTON, PhD, FAAN, University of Kansas Medical Center, School of Nursing ELIZABETH GOLDSTEIN, PhD, Centers for Medicare and Medicaid Services SHERRIE KAPLAN, PhD, MPH, The University of California - Irvine LYN PAGET, MPH, Health Policy Partners DAVID SHAHIAN, MD, Massachusetts General Hospital



Page 3

C-O-N-T-E-N-T-S

Welcome	
Eliza Munthali	4
Elizabeth DeLong	5
Helen Burstin	5
Patrick Romano	6
Introductions and Disclosure of	
Interests	
Helen Burstin	5
Overview and Context	
NQF Staff	16
NQF Experience with Composite	
Performance Measures	
NQF Staff	28
Guided Panel Discussion	
Elizabeth DeLong and	
Patrick Romano	73
NQF Member and Public Comment	215
Applying NQF Measure Evaluation	
Criteria to Composite Performance	
Measures	220
Measure Submission Form, Review and	
Evaluation	362
NQF Member and Public Comment	374
Next Steps	375
Adjourn	378

Page 4         1       P-R-O-C-E-E-D-I-N-G-S         2       (8:34 a.m.)         3       MS. MUNTHALI: Hello and good         4       morning everyone. Welcome to the Composite         5       Measure Evaluation Guidance in-person meeting.         6       My name is Elisa Munthali and I am a Senior         7       Project Manager with NQF.         8       Before I turn the meeting over to         9       the technical panels' co-chairs, there are a         10       couple of housekeeping items I just wanted to         11       bring to everybody's attention.         12       I wanted to remind everyone that         13       today's meeting is being recorded and         14       transcribed. And so we ask that when you are         15       speak into the mike, so that we can capture         16       speak into the mike, so that we can capture         17       your comments.         18       And for everyone that is in the         19       room today, your received a packet of         10       handouts. I ask that you keep those handy.         12       you know which documents we are speaking		
(8:34 a.m.) MS. MUNTHALI: Hello and good morning everyone. Welcome to the Composite Measure Evaluation Guidance in-person meeting. My name is Elisa Munthali and I am a Senior Project Manager with NQF. Before I turn the meeting over to the technical panels' co-chairs, there are a couple of housekeeping items I just wanted to bring to everybody's attention. I wanted to remind everyone that today's meeting is being recorded and transcribed. And so we ask that when you are speaking, you turn on your microphone and speak into the mike, so that we can capture your comments. And for everyone that is in the room today, your received a packet of handouts. I ask that you keep those handy. We will be referring to those and we will let		Page 4
3       MS. MUNTHALI: Hello and good         4       morning everyone. Welcome to the Composite         5       Measure Evaluation Guidance in-person meeting.         6       My name is Elisa Munthali and I am a Senior         7       Project Manager with NQF.         8       Before I turn the meeting over to         9       the technical panels' co-chairs, there are a         10       couple of housekeeping items I just wanted to         11       bring to everybody's attention.         12       I wanted to remind everyone that         13       today's meeting is being recorded and         14       transcribed. And so we ask that when you are         15       speaking, you turn on your microphone and         16       speak into the mike, so that we can capture         17       your comments.         18       And for everyone that is in the         19       room today, your received a packet of         10       handouts. I ask that you keep those handy.         21       We will be referring to those and we will let	1	P-R-O-C-E-E-D-I-N-G-S
<ul> <li>morning everyone. Welcome to the Composite</li> <li>Measure Evaluation Guidance in-person meeting.</li> <li>My name is Elisa Munthali and I am a Senior</li> <li>Project Manager with NQF.</li> <li>Before I turn the meeting over to</li> <li>the technical panels' co-chairs, there are a</li> <li>couple of housekeeping items I just wanted to</li> <li>bring to everybody's attention.</li> <li>I wanted to remind everyone that</li> <li>today's meeting is being recorded and</li> <li>transcribed. And so we ask that when you are</li> <li>speaking, you turn on your microphone and</li> <li>speak into the mike, so that we can capture</li> <li>your comments.</li> <li>And for everyone that is in the</li> <li>room today, your received a packet of</li> <li>handouts. I ask that you keep those handy.</li> <li>We will be referring to those and we will let</li> </ul>	2	(8:34 a.m.)
<ul> <li>Measure Evaluation Guidance in-person meeting.</li> <li>My name is Elisa Munthali and I am a Senior</li> <li>Project Manager with NQF.</li> <li>Before I turn the meeting over to</li> <li>the technical panels' co-chairs, there are a</li> <li>couple of housekeeping items I just wanted to</li> <li>bring to everybody's attention.</li> <li>I wanted to remind everyone that</li> <li>today's meeting is being recorded and</li> <li>transcribed. And so we ask that when you are</li> <li>speaking, you turn on your microphone and</li> <li>speak into the mike, so that we can capture</li> <li>your comments.</li> <li>And for everyone that is in the</li> <li>room today, your received a packet of</li> <li>handouts. I ask that you keep those handy.</li> <li>We will be referring to those and we will let</li> </ul>	3	MS. MUNTHALI: Hello and good
6       My name is Elisa Munthali and I am a Senior         7       Project Manager with NQF.         8       Before I turn the meeting over to         9       the technical panels' co-chairs, there are a         10       couple of housekeeping items I just wanted to         11       bring to everybody's attention.         12       I wanted to remind everyone that         13       today's meeting is being recorded and         14       transcribed. And so we ask that when you are         15       speaking, you turn on your microphone and         16       speak into the mike, so that we can capture         17       your comments.         18       And for everyone that is in the         19       room today, your received a packet of         10       handouts. I ask that you keep those handy.         21       We will be referring to those and we will let	4	morning everyone. Welcome to the Composite
<ul> <li>Project Manager with NQF.</li> <li>Before I turn the meeting over to</li> <li>the technical panels' co-chairs, there are a</li> <li>couple of housekeeping items I just wanted to</li> <li>bring to everybody's attention.</li> <li>I wanted to remind everyone that</li> <li>today's meeting is being recorded and</li> <li>transcribed. And so we ask that when you are</li> <li>speaking, you turn on your microphone and</li> <li>speak into the mike, so that we can capture</li> <li>your comments.</li> <li>And for everyone that is in the</li> <li>room today, your received a packet of</li> <li>handouts. I ask that you keep those handy.</li> <li>We will be referring to those and we will let</li> </ul>	5	Measure Evaluation Guidance in-person meeting.
<ul> <li>Before I turn the meeting over to</li> <li>the technical panels' co-chairs, there are a</li> <li>couple of housekeeping items I just wanted to</li> <li>bring to everybody's attention.</li> <li>I wanted to remind everyone that</li> <li>today's meeting is being recorded and</li> <li>transcribed. And so we ask that when you are</li> <li>speaking, you turn on your microphone and</li> <li>speak into the mike, so that we can capture</li> <li>your comments.</li> <li>And for everyone that is in the</li> <li>room today, your received a packet of</li> <li>handouts. I ask that you keep those handy.</li> <li>We will be referring to those and we will let</li> </ul>	6	My name is Elisa Munthali and I am a Senior
<ul> <li>9 the technical panels' co-chairs, there are a</li> <li>10 couple of housekeeping items I just wanted to</li> <li>11 bring to everybody's attention.</li> <li>12 I wanted to remind everyone that</li> <li>13 today's meeting is being recorded and</li> <li>14 transcribed. And so we ask that when you are</li> <li>15 speaking, you turn on your microphone and</li> <li>16 speak into the mike, so that we can capture</li> <li>17 your comments.</li> <li>18 And for everyone that is in the</li> <li>19 room today, your received a packet of</li> <li>10 handouts. I ask that you keep those handy.</li> <li>21 We will be referring to those and we will let</li> </ul>	7	Project Manager with NQF.
10 couple of housekeeping items I just wanted to 11 bring to everybody's attention. 12 I wanted to remind everyone that 13 today's meeting is being recorded and 14 transcribed. And so we ask that when you are 15 speaking, you turn on your microphone and 16 speak into the mike, so that we can capture 17 your comments. 18 And for everyone that is in the 19 room today, your received a packet of 10 handouts. I ask that you keep those handy. 21 We will be referring to those and we will let	8	Before I turn the meeting over to
11bring to everybody's attention.12I wanted to remind everyone that13today's meeting is being recorded and14transcribed. And so we ask that when you are15speaking, you turn on your microphone and16speak into the mike, so that we can capture17your comments.18And for everyone that is in the19room today, your received a packet of20handouts. I ask that you keep those handy.21We will be referring to those and we will let	9	the technical panels' co-chairs, there are a
12I wanted to remind everyone that13today's meeting is being recorded and14transcribed. And so we ask that when you are15speaking, you turn on your microphone and16speak into the mike, so that we can capture17your comments.18And for everyone that is in the19room today, your received a packet of20handouts. I ask that you keep those handy.21We will be referring to those and we will let	10	couple of housekeeping items I just wanted to
today's meeting is being recorded and transcribed. And so we ask that when you are speaking, you turn on your microphone and speak into the mike, so that we can capture your comments. And for everyone that is in the room today, your received a packet of handouts. I ask that you keep those handy. We will be referring to those and we will let	11	bring to everybody's attention.
14 transcribed. And so we ask that when you are 15 speaking, you turn on your microphone and 16 speak into the mike, so that we can capture 17 your comments. 18 And for everyone that is in the 19 room today, your received a packet of 20 handouts. I ask that you keep those handy. 21 We will be referring to those and we will let	12	I wanted to remind everyone that
15 speaking, you turn on your microphone and 16 speak into the mike, so that we can capture 17 your comments. 18 And for everyone that is in the 19 room today, your received a packet of 19 handouts. I ask that you keep those handy. 20 handouts. I ask that you keep those handy. 21 We will be referring to those and we will let	13	today's meeting is being recorded and
16 speak into the mike, so that we can capture 17 your comments. 18 And for everyone that is in the 19 room today, your received a packet of 19 handouts. I ask that you keep those handy. 20 We will be referring to those and we will let	14	transcribed. And so we ask that when you are
<pre>17 your comments. 18 And for everyone that is in the 19 room today, your received a packet of 20 handouts. I ask that you keep those handy. 21 We will be referring to those and we will let</pre>	15	speaking, you turn on your microphone and
And for everyone that is in the room today, your received a packet of handouts. I ask that you keep those handy. We will be referring to those and we will let	16	speak into the mike, so that we can capture
<ul> <li>19 room today, your received a packet of</li> <li>20 handouts. I ask that you keep those handy.</li> <li>21 We will be referring to those and we will let</li> </ul>	17	your comments.
<ul> <li>20 handouts. I ask that you keep those handy.</li> <li>21 We will be referring to those and we will let</li> </ul>	18	And for everyone that is in the
21 We will be referring to those and we will let	19	room today, your received a packet of
	20	handouts. I ask that you keep those handy.
22 you know which documents we are speaking	21	We will be referring to those and we will let
	22	you know which documents we are speaking

	Page 5
1	about. And also for everyone in the room, we
2	just wanted to let you know where the
3	restrooms are. They are just beyond the
4	elevator right by the reception area there and
5	through the glass doors. And also just to
6	remind you that we have breakfast in the back.
7	So please help yourself throughout the morning
8	today.
9	So I will turn it over to Helen
10	Burstin who will continue with our welcome and
11	conduct our disclosures of interests.
12	DR. BURSTIN: Great. Hi,
13	everybody. Helen Burstin. I think I know
14	everybody. I am the Senior VP for Performance
15	Measures at NQF. We will go around and do
16	introductions and disclosures at the same time
17	there she is. Excellent planning.
18	Before I do that, why don't I ask
19	Liz and Patrick to introduce themselves?
20	DR. DE LONG: I'm Liz DeLong. I'm
21	the Department Chair of the Department of
22	Biostatistics and Bioinformatics at Duke

Page 6 University. And I have been at Duke for years 1 2 and years and I have worked with Dave Shahian and Patrick but I have heard the rest of your 3 names and I think you are probably all much 4 5 better at composite measures than I am at this point but we will see. 6 7 DR. ROMANO: Hi. And I am Patrick I know most of you. I am a general 8 Romano. 9 internist and oral pediatrician based at UC 10 Davis Health System in Sacramento, California and long-time health services researcher 11 12 involved in Quality Measurement. I worked with NQF before on several previous projects, 13 as well as with AHRQ and other organizations 14 in the field. We will talk a bit more, I 15 16 guess we will have disclosures again and I 17 will make separate disclosures. 18 Anyway, it is a pleasure to be 19 here and thanks to NQF for convening us for 20 this purpose. 21 DR. BURSTIN: Great. Well thanks 22 aqain. So what I would like you to do is as

	Page
1	we go around the room if you could introduce
2	yourselves. You may remember you filled out
3	a disclosure of interest form which you sent
4	to us. You don't need to fully go through all
5	of that. I think the key thing at this point,
б	since we are not really evaluating measures
7	today so you can't have any conflicts with
8	specifics measures, is really just I think
9	more than anything else to give a sense of
10	sort of where you are coming from for your
11	fellow committee members. And if there is any
12	areas that you think are important for people
13	to understand in terms of potential bias,
14	everybody has got opinions, obviously, we all
15	are here today because we have opinions and do
16	research and feel strongly about things.
17	So as you are going around the
18	room, introduce yourself, where you are from.
19	If you think there is anything relevant that
20	your co-committee members would want to hear
21	about, feel free to mention that. I also
22	welcome Karen Johnson, our Senior Director who

	Page 8
1	made it off a very late train from Maryland.
2	So thanks.
3	Start with you, Steve?
4	DR. WRIGHT: Hi, everyone. I'm
5	Steve Wright. I'm with the VA Department of
6	Veterans Affairs, Director of Epidemiology
7	currently acting as the Director of the Office
8	of Performance Measurement. I have been
9	involved in measurement for many years, health
10	services researcher as a background.
11	I don't have any particular
12	biases, other than rah, rah, VA!
13	(Laughter.)
14	DR. ZASLAVSKY: I'm Alan
15	Zaslavsky. I am a Professor of Health Care
16	Policy Statistics, there is a parenthesis
17	there, at Harvard Medical School, Department
18	of Healthcare Policy. As my title suggests,
19	I'm a statistician. I have done a lot of work
20	particularly on the CAHPS survey since the
21	inception of that project and also with the
22	HEDIS measures.

1	Page 9
1	DR. CHASE: Good morning. My name
2	is Jim Chase. I am President with Minnesota
3	Community Measurement. We are an organization
4	that does quality measurement around the state
5	of Minnesota and have about 600 medical sites
6	of care that report data to us just about
7	every provider in Minnesota.
8	And we use composite measures. We
9	have a couple that are endorsed by NQF so that
10	would be my probably major bias and this is
11	just the experience in using the all-or-none
12	composites in our community.
13	MS. PAGET: Good morning, my name
14	is Lyn Paget. I'm down from Boston where I
15	have recently started some work with a group
16	called Health Policy Partners and Independent
17	Collaboration of Patient Policy Experts. I
18	spent many years at the Informed Medical
19	Decisions Foundation. So I am here much less
20	as a measurement expert but more so in the
21	position representing the patients and
22	consumers whom we hope will benefit from these

1 measures. 2 DR. DUNTON: Good morning. I'm 3 Nancy Dunton. I'm a research professor at the School of Nursing at the University of Kansas 4 Medical Center where I direct the National 5 6 Database on Nursing Quality Indicators. We 7 collect data quarterly from 1900 hospitals 8 across the U.S. on structure, process, and 9 outcome measures relating to nursing care and we think about composites. 10 DR. GOLDSTEIN: Liz Goldstein. 11 12 I'm Director of the Division of Consumer 13 Assessment and Plan Performance at CMS. Ι 14 have been involved in the CAHPS surveys for 15 many, many, many years. My division is responsible for most of the CAHPS surveys that 16 17 CMS implements as well as we are starting to 18 develop three new patient experience surveys. 19 They are just starting up. 20 My division is also responsible 21 for the star rating system for Medicare

22 Advantage. So we use lots of different

Page 11 measures for that, as well as we create our 1 2 own composites for value-based purchasing for 3 Medicare Advantage. DR. KAPLAN: I'm Sherrie Kaplan. 4 5 I'm a psychometrician by training. I'm Assistant Vice Chancellor for Healthcare 6 7 Measurement and Evaluation at UC Irvine. And 8 I have been working in creating composite 9 measures most distantly at Rand with a medical 10 outcomes study. Most recently with the State of California, I am trying to help advise them 11 12 how to sample, whether to sample more items 13 per constructs, more patients per doctor, more 14 doctors per clinic, more clinics per institution, et cetera, et cetera, and making 15 the most out of how we look at these 16 17 composites to do institutional performance 18 assessment. 19 Good morning. DR. BIRKMEYER: 20 John Birkmeyer, I am a researcher from the University of Michigan. I direct the Center 21 22 for Healthcare Outcomes and Policy there and

	Page 12
1	as a researcher I have been engaged for many
2	years with colleagues, economists, Doug
3	Staiger at Dartmouth and Justin Dimick from
4	University of Michigan with more
5	statistically-based types of composite
6	measures looking mainly but not totally at
7	surgical care.
8	I have been involved with the
9	Leapfrog Group for many years and have been
10	involved with implementations of its composite
11	measures. Most recently with Patrick, the
12	hospital-wide summary composite score for
13	patient safety and earlier for more
14	statistically-based composite measures for
15	surgical standards.
16	By way of disclosure, I am the
17	founder and Chief Scientific Officer of a
18	company called ArborMetrix that is not a
19	developer of measures but we do implement
20	performance measurement systems for insurers,
21	health systems and for professional
22	organizations.

	Page 13
1	DR. SHAHIAN: Hi, I'm Dave
2	Shahian. I'm at Mass General and Harvard
3	Medical School. I chair the STS National
4	Database and its Quality Measurement Task
5	Force. I have been involved in development of
6	two cardiac surgery composites, one of which
7	is NQF-endorsed and publicly reported for CABG
8	and another one for isolated AVR, which is
9	just, it is going to be published in the peer
10	review literature next month and will also be
11	publicly reported and submitted to NQF.
12	I have no disclosures. My
13	positions with STS are uncompensated.
14	DR. ROMANO: Okay and just to
15	amplify a little bit, obviously I am an
16	employee of UC Davis Health System but I also
17	have done fairly extensive work as a
18	subcontractor to Battelle Memorial Institute
19	working on the AHRQ Quality Indicators
20	program. So in that capacity, I have been
21	involved in some development testing and
22	application of the AHRQ QI composites, three

	Page 1
1	of which are currently NQF-endorsed. I have
2	also, as John mentioned, been a member of Leap
3	Frog's expert panel related to its hospital
4	safety score composite program. I have also
5	advised the California Office of the Patient
6	Advocate, which is responsible for health plan
7	and medical group reporting in California
8	related to construction and reporting of
9	measures, including a compositing of measures.
10	And I have also done a little bit
11	of work on expert panels for a variety of
12	organizations, including CMS, as well as the
13	AHRQ and probably others Joint Commission
14	and probably others I'm not thinking of.
15	In any case, Liz?
16	DR. DE LONG: I worked with Dave
17	on the composite measure for the STS CABG
18	surgery and I have primarily focused on
19	outcomes research and have no ties with
20	industry or other developers.
21	DR. BURSTIN: Dale are you still
22	with us on the telephone? Can you introduce

	Page 15
1	yourself?
2	DR. BRATZLER: I am. I am, thank
3	you.
4	DR. BURSTIN: Yup.
5	DR. BRATZLER: My name is Dale
6	Bratzler. I am a professor in the Department
7	of Health Administration and Policy in the
8	College of Public Health at the University of
9	Oklahoma and also a Professor in the College
10	of Medicine.
11	I have worked on the development
12	of performance measures for many years,
13	primarily as a contractor to the Medicare
14	program. Currently I do have contracts that
15	are through the College of Public Health to
16	support continued measure maintenance for the
17	Medicare Program. I also have a contract to
18	support external quality review activities for
19	the State Medicaid program.
20	My work in composite measures has
21	really been relatively limited. We have
22	developed composite measures that we have used

Page 16 1 over the years, primarily to support 2 performance improvement. We really have not developed composite measures that we have ever 3 recommended for formal endorsement or public 4 5 accountability. So we have been using 6 composites for some time but primarily we have 7 been using them to help drive performance 8 improvement. DR. BURSTIN: 9 Thanks, Dale. Does 10 anybody have any concerns about anything they have heard about each other? Any further 11 12 questions or probing or are we ready to go to 13 work? 14 All right, great! Thank you 15 everybody. I guess at this point, you are five minutes ahead of schedule, Karen. 16 This is Karen Johnson, who is our Senior Director 17 18 on this project. Karen Pace, who many of you 19 was hoping to be with us today but 20 unfortunately has a personal urgent issue and 21 can't be with us. But Karen is well primed 22 and ready to go.

Page 17 MS. JOHNSON: So thank you. 1 And I 2 am sorry I am running late today so I haven't 3 got to meet you guys but I am really honored to get to work with you. Composites are new 4 5 to me so I get to learn from some of the best. So I am really excited about this. 6 7 So we wanted to give you just a 8 little bit of overview and context about NOF's 9 experience with composite measures. And just 10 to remind you, in 2008 and 2009 NQF convened a TEP to identify a framework for evaluating 11 12 composite measures and during that project, a 13 definition was created or developed and 14 principles were articulated in terms of how to 15 evaluate composite measures. And also specific criteria were developed so that we 16 17 could evaluate measures as they came in. And 18 at that time four AHRQ measures were evaluated 19 and kind of served as a dry run for our 20 framework and evaluation criteria. 21 So since that time, however, we 22 have updated both our criteria and our

	Page 1
1	guidance for our other criteria that we use to
2	evaluate measures, specifically our evidence
3	and our scientific acceptability, reliability
4	validity guidance has been updated.
5	So what we need to do with this
6	project is pretty much re-think our guidance
7	for composite measure and evaluation and make
8	sure that it fits with our updated guidance
9	that we have for our regular measures.
10	So with that in mind our goal is
11	to update our guidance. So the three things
12	that we would like to accomplish with today's
13	meeting or to identify appropriate evaluation
14	methods for various types of composite
15	measures, identify unique considerations for
16	evaluating composite performance measures in
17	relation to our endorsement criteria and then
18	finally develop guidance for evaluating and
19	submitting composite measures for endorsement.
20	So the actual nuts and bolts of what our
21	submission forms look like.
22	So you have some resource that we

## 18

Page 19 1 have tried to provide for you. And Elisa 2 thank you for getting all this printed out in my absence this morning. Beyond your 3 expertise, which I know you have bucket loads 4 5 of, we have provided you an agenda so you know where we are going today. The briefing memo 6 7 that Karen wrote, which I think we will 8 probably follow that a lot as we go through 9 our agenda for our meeting. 10 We have provided you our measure evaluation criteria so that you know what we 11 12 are trying to align with. We have also given you our composite criteria so you know what we 13 14 currently have now and we have also given you 15 kind of a not very pretty but I think it covers the basics of our composite submission 16 17 form so that you can see the actual questions 18 that we asked developers to fill out when they 19 submit a composite measure. 20 Just a little bit more context 21 beyond what I have already mentioned. All 22 NOF-endorsed measures are considered suitable

	Page 20
1	for both performance improvement and for
2	accountability. So currently we do not
3	endorse performance measures for specific
4	accountability applications. And then also
5	the term composite measure and even the term
6	composite means many things to many people but
7	it can refer to scales, or instruments to
8	assess individuals or performance measures
9	used to assess providers. So just a reminder
10	that we endorse the performance measures, not
11	the instruments or scales.
12	Okay, so on to our experience.
13	Yes?
14	DR. DE LONG: Can you go back?
15	I'm not sure I understand what you mean by NQF
16	does not currently endorse performance
17	measures for specific accountability
18	applications.
19	DR. BURSTIN: So essentially when
20	a measure is endorsed by NQF, at least at this
21	point in time, the assumption is it is ready
22	to go for any purpose. If somebody picks it

	Page 21
1	up for payment, if somebody picks it up for
2	public reporting, that is the assumption out
3	the gate. What we don't do is distinguish
4	this measure is great for QI but it is not
5	quite ready for payment. And it has been an
6	issue that keeps coming up in a big way, as
7	Sherrie knows well from our All-Cause
8	Hospital-wide Readmission Project.
9	And it may be something that will
10	morph over time. Currently there is another
11	partnership called the Measures Application
12	Partnership that actually helps to think
13	through specifically which applications are
14	appropriate for which measures and which
15	federal programs. But it is an important
16	distinction just because people often times
17	say this measure is great for this purpose but
18	I wouldn't use it for that. And at least at
19	this point in time, that is not the way we can
20	really kind of separate out that thinking.
21	DR. BIRKMEYER: So just to be
22	clear though because this is so crucial and

	Page 22
1	more crucial to the composite measures than
2	any other type of performance indicator, the
3	measures need to meet some low bar that it
4	could be used either for improvement purposes
5	or for accountability or steerage but
6	recognizing that obviously some measures are
7	going to be much better suited for one or the
8	other. Is that fair?
9	DR. BURSTIN: That's fair, yes.
10	DR. ROMANO: Well yes, I guess
11	maybe you could elaborate on this a little bit
12	more but the fact that there is a measure
13	applications partnership that is trying to
14	think systematically about the application of
15	largely NQF-endorsed measures in various
16	accountability applications implies that the
17	existing NQF process doesn't really
18	comprehensively consider the implications of
19	different accountability or specific
20	accountability applications.
21	DR. BURSTIN: Right. So there is
22	an assumption that if it has been endorsed by

	Page 2
1	an NQF committee, endorsement side committee,
2	that they are primarily focused on the
3	measurement properties. They are really
4	looking at the criteria that we use to assess
5	the measure. They are not looking to say, for
6	example, this measure would be more
7	appropriate, to put it in real terms, this
8	measure would be great for the hospital public
9	reporting program but we don't think it is
10	ready for value-based purchasing. That is not
11	something we do as part of the endorsement
12	process. That is currently something done as
13	part of the MAP process.
14	Again, I think we are increasingly
15	it is an interesting time, as all of you
16	know, in a big way. And if you look to the
17	example of Massachusetts, for example, they
18	did come up with some criteria of what our
19	higher stakes measurement criteria might be.
20	It is not something we have explored yet but
21	it is certainly something, it is hard to deny
22	a sort of back of mind of seeing for example,

	Page 2
1	the MAP last year put one composite as being
2	okay for the hospital public you know for
3	the IQR, hospital public reporting and yet
4	said it was not okay for value-based
5	purchasing. That implies a difference that
6	people are sort of thinking through. I don't
7	know that we have teased exactly what it is
8	that the MAP is using to make that decision,
9	other than the multi-stakeholders kind of
10	talking it through. But I think it is an
11	important issue and you are absolutely right,
12	John because obviously composites are pretty
13	high stakes. And you put it all together and
14	you say this is safety or this is high quality
15	for diabetes. It does have potentially a
16	different lens. And they do tend to be picked
17	up for, I would argue, sometimes higher stakes
18	applications than I think some of the other
19	more individual process measures might be.
20	MS. PAGET: So Helen, can I just
21	ask then do you think it would be part of the
22	role of this group today to make any

	Page 25
1	recommendations about that or do you think
2	that that is in the MAP domain and we don't
3	need to go there? Because I find myself
4	looking at this and thinking about the
5	influence of these measures just on cultural
6	change and the care experience, which is
7	really a completely and as I read through
8	that one paper from the Research and Battelle,
9	it was that one example of just using these to
10	choose a physician, well that is just the tip
11	of the iceberg in my mind. That is really
12	probably not the way these are ultimately
13	going to be used.
14	So for clarification, I just
15	wanted to know whether you think is something
16	we are going to discuss today or not.
17	DR. BURSTIN: You know you are
18	really smart people sitting around a room. I
19	think anything is fair game. At the end of
20	the day, we want to make sure we accomplish
21	the goals of saying what do we do when these
22	measures come forward to us because we have

ĺ	
	Page 26
1	seen every stripe of composites come to us and
2	at times we feel like we are really pounding
3	a square peg into a round hole. So anything
4	you guys could help us think through with
5	clarity that we really do have an approach
6	that makes sense. If you have other thoughts
7	about these other issues, again, we would be
8	open to hearing about it, as long as we get
9	the rest of the work done because I honestly
10	don't know what will come forward. I think
11	there is just going to be a lot more movement
12	in the next couple of years of just clearly
13	seeing a sense of high-stakes measurement
14	versus not in understanding how to handle
15	those.
16	But at this point in time for
17	where we sit at this point, we should assume
18	that anything that is endorsed by NQF if
19	appropriate for any of those applications.
20	MS. PAGET: It does work for me
21	but I actually had another question on this
22	side which came up with the notes on the

	Page 27
1	composite measures that have been submitted
2	and I think it was in reference to CAHPS where
3	the statement is made that NQF doesn't look at
4	the survey instrument itself. I just need to
5	understand.
6	DR. BURSTIN: It's not that we
7	don't look at the survey instrument itself.
8	Obviously, Liz and Alan and others can help
9	here but essentially at the end of the day
10	what we are endorsing is the performance
11	measure based on use of the survey. So we are
12	not endorsing the CAHPS tool, per se. We are
13	endorsing a performance measure based on
14	CAHPS.
15	So this is a big issue it says at
16	the bottom of that slide there "see PRO
17	project." Some of you may know we have been
18	doing extensive work over the last six months
19	or so on a project around patient-reported
20	outcomes and really trying to tease this out.
21	So actually as part of that
22	project, we would be happy to show those

Page 28 1 commission papers with you. It is a very 2 clear distinction between the PRO, the patient-reported outcome as the tool, and then 3 ultimately how do you use the tool in the 4 5 context of moving to a performance measure 6 using the tool and actually tried to come up 7 with the critical path of how to get there. 8 MS. JOHNSON: Okay, so from 2007 9 until now we have had 28 measures that have 10 been submitted to us that have been flagged as composites. And just to put that into a 11 12 little bit of perspective, since 2010 we have 13 evaluated more than 400 measures, so 28 out of 14 400, it is a small number but they are 15 difficult because they are complex and that means that some of us working on the projects 16 maybe have never seen a composite come 17 18 through. So even getting clarity about these 19 criteria is going to be important to us as 20 staff as well as developers. 21 So of the 28 that have been 22 submitted, 22 are still currently endorsed.

	Page 29
1	And you see the breakdowns there. We have
2	three that are all-or-none measures, six based
3	on CAHPS surveys, five on other types of
4	surveys or instruments, and then the remaining
5	eight are combinations of this, that, and the
6	next.
7	So of the 22, some of those have
8	been through endorsement maintenance but not
9	all of them. And I think one of questions
10	that Liz had was in terms of are they useful.
11	At the end of the day, have they been able to
12	improve quality? And we would love to be able
13	to answer that question systematically. Right
14	now we can't just from looking at our data.
15	We do have institutional memory in terms of
16	Helen and Heidi and different folks who
17	sometimes can chime in on these kind of
18	things. But right now, other than if you have
19	some examples that you might want to mention,
20	Helen.
21	DR. BURSTIN: Right. So two
22	things. So the first is that we recently

	Page 30
1	updated one of our four criteria of un-
2	usability, which is now usability in use. And
3	the idea there was to really much more
4	carefully delineate what do we mean by when a
5	measure is useable. And it is really implying
6	that there is significant benefit in terms of
7	driving quality improvement, improvement in
8	performance results, but also not forgetting
9	about potential negative consequences of
10	measurement as being now woven into that very
11	clearly.
12	So as part of that, and that is
13	now coming forward for all measures being
14	submitted, new in maintenance to NQF, a very
15	clear requirement to say of your data how has
16	it helped? Has it moved the needle? Has it
17	potentially hurt as part of that process? But
18	to date, much of what we have gotten from
19	folks has been, here is the measure. It is
20	used in four states. Here is the measure, 16
21	other groups are using it. We don't often get
22	and here is how it moved the needle, actually

	Page 31
1	with the possible exception I would say, Jim,
2	of some of what we have seen from Minnesota
3	Community Measurement when the cardiovascular
4	committee re-endorsed the optimal vascular
5	care composite, Minnesota was able to give
6	pretty strong data showing significant
7	improvements in cardiovascular outcomes in a
8	way that we don't tend to have. But they are
9	above average in Minnesota.
10	But that is the kind of
11	information we would love to be able to get
12	more systematically. So as you are going
13	through this review today, helping us think
14	through in particular about the composite
15	issues, and one of the things we have often
16	heard a lot and it comes up from our consumer
17	purchaser council in particular is if a
18	composite is put forward and is publicly
19	reported, is it also unpacked? So is it
20	unpacked for those obviously trying to improve
21	care in terms of being able to see the
22	individual results but is it also unpacked for

	Page 32
1	the public to see? And I know this is an
2	issue, David, we have talked about with some
3	of the CABG work, for example.
4	But it is just something for us to
5	think about because it does come up.
6	MS. JOHNSON: Okay, so oh.
7	Yes?
8	DR. WRIGHT: Just another
9	contextual question. Is there any connection
10	between our discussion and thinking about
11	composite measures in terms of where the data
12	comes from, i.e., electronic measures,
13	meaningful use, that whole connection?
14	DR. BURSTIN: Yes, so we work
15	really closely with the Office of National
16	Coordinator. I am actually on Quality
17	Measures Workgroup as well. So this has been
18	an issue that has come up. I have not seen
19	any composites come forward as part of that.
20	I think it has been pretty hard to get the
21	basic measures put forward. And I think it
22	will be interesting to see how that comes

1 I have not seen any work yet that forward. 2 moves towards composites. But one of the things that keeps 3 coming up, which is interesting, is some of 4 5 you may have seen that as our criteria have gotten tougher on evidence and testing, in 6 7 particular, a lot of the measures that were 8 endorsed in the last five years or so are 9 actually not making it through maintenance. And one of the concerns oftentimes 10 11 is it is a process measure. It is far too distal from the outcome measure. On its own, 12 it doesn't work. But there has been, I think, 13 14 some interest in saying can you potentially move towards an all-or-none approach of saying 15 if these are all the right process steps that 16 17 should happen, can those move to be composited 18 into something that becomes more of an all-or-19 none? I don't think we have a sense of how 20 that is going to play out in an electronic 21 environment yet. 22 DR. ZASLAVSKY: Why would it be an

> Neal R. Gross & Co., Inc. 202-234-4433

## Page 33

	Page 34
1	all-or-none? Why would the composite have to
2	be all-or-none for something like that, as
3	opposed to any of the other methods?
4	DR. BURSTIN: You are going to get
5	into this in a big way. For some of these
6	examples, some of the individual process
7	measures are at such high levels of
8	performance, that otherwise there is no
9	discrimination has been one of the concerns.
10	And it may not be that that is the right
11	approach. Maybe it is just time to just look
12	at the outcome and skip the process measures
13	completely but that has been one of the
14	concerns.
15	MS. JOHNSON: Okay, so back to our
16	issues. And I think we have articulated most
17	of the things that are going to come up on
18	these slides but one is distinguishing between
19	instrument-level composites versus performance
20	measure composites. So we have already talked
21	about that in terms of the CAHPS measures.
22	The measures that have come

	Page 35
1	through have been inconsistent in terms of
2	implementation of guidance and forms, both
3	again on staff side and committees that have
4	to evaluate these measures. And of course
5	developers who submit measures.
6	All-or-none measures just don't
7	seem to fit the additional analyses that we
8	have indicated is necessary for composite
9	measures.
10	Sometimes developers either don't
11	identify their measures in composites.
12	Sometimes they do and they are really not.
13	Sometimes they just don't want to use our
14	composite form. So in that case they wouldn't
15	be answering the questions that we ask in
16	terms of evaluating composites.
17	And also the thing that has been
18	problematic at least internally is our
19	composite form has only recently been
20	implemented for online submission. So back in
21	the 2008-9 project we came up with the
22	criteria and then various submission forms

	Page 36
1	have been created but it has only been
2	recently that has been kind of put out so we
3	can grab data and store it electronically.
4	So that is part of the reason and
5	I can't tell you specifically how many have
6	gone through maintenance. I just don't know
7	without out having to go back to our paper
8	records. So a little embarrassing there.
9	We also have had difficulty
10	applying the requirement and all of these kind
11	of merge together some of these issues. The
12	requirement that individual component
13	performance measures be NQF-endorsed or meet
14	all criteria. So what does that really mean
15	and how we apply that to all-or-none measures
16	is one of the questions that we have.
17	Part of our guidance right now for
18	composite measures is that it is pretty easy
19	in a way if the components are NQF-endorsed
20	but I will read you from the previous guidance
21	document. "A component measure might not be
22	important enough in its own right as an
	Page 37
----	--
1	individual measure but it could be determined
2	to be an important component of a composite."
3	So what does that really mean?
4	Some folks have interpreted that as not
5	needing to meet our importance criteria, which
6	includes impact evidence and performance gap.
7	So that is our language right now but it is a
8	little unclear what that means, unclear for
9	all of us all the way around.
10	DR. DE LONG: I have trouble
11	envisioning an actual example.
12	DR. BURSTIN: Go to the next
13	slide.
14	DR. DE LONG: Oh!
15	DR. BURSTIN: So did I, so I added
16	the next slide. So you are in good company.
17	MS. JOHNSON: Yes, so Helen will
18	be helping us out on examples here.
19	And then finally on this slide,
20	evaluation of the components themselves are
21	challenging. And you know, you would think
22	that would almost be an easy part of it,

	Page 38
1	easier than the scoring but sometimes the
2	components are not endorsed as stand-alone
3	measures. Sometimes they are competing with
4	other endorsed measures and sometimes they are
5	not harmonized to other endorsed stand-alone
б	measures.
7	So with that, let's go to some
8	examples and let Helen
9	DR. BURSTIN: Sure. So I just
10	pulled up three examples that I thought might
11	express some of the issues we have had with
12	components. And these are not necessarily a
13	systematic review but the ones that really
14	jump to mind for me, at least, in terms of the
15	ones where we have had issues. So the first
16	one is a measure that was put forward and
17	endorsed by CMS, which was a 30-day post-
18	hospital discharge care transition composite.
19	It was actually a measure of three components,
20	the first was a previously endorsed 30-day
21	readmission. This was done for each of the
22	conditions of CHF, heart failure, are the two

	Page 3
1	we got and pneumonia. That was already
2	endorsed. They then included an emergency
3	department visit and an E&M visit, a follow-up
4	physician visit. They assigned scoring so
5	that it was minus four points for the
6	readmission, minus two points for the ED visit
7	and plus one for the E&M. And at the time
8	this measure came forward, that was a logical
9	sort of compilation of thinking through what
10	a transition composite might look like. There
11	was some concerns about the waiting which were
12	really done, expert panel seemed logical,
13	readmissions are worse than ED visits but
14	again.
15	But the biggest issue was the
16	concern that it wasn't clear that the ED visit
17	itself really did capture a lot of the
18	exclusion of understanding the severity of the
19	ED visit. Was it appropriate/inappropriate?
20	And then concerns raised about the
21	E&M visit component, which was that it
22	completely excluded, for example, home visits

	Page 40
1	by nurses. There is no E&M code. It may be
2	perfectly appropriate transition follow-up
3	care. At the end of the day, though, the
4	thought was composite itself was a really rich
5	conceptual concept and it was reasonable to go
6	forward but we did not, the committee did not
7	endorse the ED visit and E&M visit components
8	and we indicated back to CMS those are
9	important. We would love to see measure that
10	actually appropriately capture follow-up
11	visits and ED visits but these probably
12	weren't ready for prime time as a stand-alone.
13	But we thought as part of the composite they
14	made sense.
15	Now I will tell you when that
16	measure got to the Measures Application
17	Partnership, there was a great deal of concern
18	about how could you possibly have a composite
19	that has components within it that were not
20	endorsed or you didn't think were appropriate
21	for endorsement. So to me that was one
22	example of the kind of issues you have

Page 41 encountered. 1 2 Did you have a question? DR. DE LONG: I have a comment 3 4 more than a question. I have heard a lot of 5 buzz about the 30-day readmission measure and I don't know if it is appropriate to talk 6 7 about that today. This is just an example but 8 I have heard of vignettes were patients were 9 sort of pushed off or potentially pushed off 10 and not readmitted so that they wouldn't count against the 30-day readmission. So that is a 11 12 potential downside of some of these things 13 that we are discussing. 14 DR. BURSTIN: All are not specific to composites. And certainly Sherrie knows 15 this well, she chaired the committee. 16 17 DR. KAPLAN: I'm getting a little 18 bit lost in the purpose of kind of the 19 exercise here. If for me, from a measurement 20 science standpoint, if you have got a complex 21 construct under the microscope, then you 22 probably, it is a multi-dimensional complex

Page 42 1 construct, that is when you get into the 2 position of having to create composites of thing that you are measuring, like math is a 3 There is algebra. 4 complex construct. There 5 is geometry, there is calculus, blah, blah, 6 And each one of those things needs to blah. 7 be represented correctly. 8 Whereas you are counting discrete 9 events or episodes like you are trying to 10 measure maternal mortality, you count mothers who died. You know, it is not as complex a 11 measurement exercise. It still has all the 12 measurement issues associated with it, 13 14 precision and validity, but it is a different exercise than trying to measure complex 15 16 constructs. So if you are trying to measure 17 quality of care for the whole hospital, that 18 is a very different purpose that you are 19 trying to accomplish with the measurement task 20 you have in front of you than if you are 21 trying to count bodies, you are measuring 22 mortality rates for hospitals.

	Page 43
1	So just to sort of each one of
2	those things is a different category optimal
3	vascular care is a complex construct by
4	definition.
5	DR. BURSTIN: Again, the intent of
б	this was to just really not to get into the
7	details of the measures but just to show you
8	some of the issues you have so when you get to
9	the guided discussion with Liz and Patrick,
10	some of this will make hopefully some context
11	will be helpful here. So that is just the
12	first example. Again, specifically brought up
13	this example because it was people view it as
14	a complex construct that made sense at some
15	level but didn't necessarily think the
16	individual measures rose to the level of being
17	endorsable as stand-alone measures.
18	The second example here I included
19	specifically because of harmonization issues.
20	So this is the optimal vascular care measure
21	that I mentioned that comes out of Minnesota
22	Community Measurement, which includes these

	Page 44
1	four components of LDL, blood pressure
2	control, tobacco-free status and daily aspirin
3	use. And part of what the committee wound up
4	doing was harmonizing it and actually they did
5	harmonize to the blood pressure control level
6	that we already have for the individual stand-
7	alone measure. But for example, there is no
8	measure of tobacco-free status. There is a
9	measure of offering help with smoking
10	cessation and counseling but tobacco-free
11	status is not a measure. Daily aspirin use is
12	a measure only in a claims-based measure we
13	have got which is somewhat problematic because
14	it is not often on the med list but hopefully
15	we will be going forward.
16	And so at the end of the day, this
17	was endorsed as the composite and yet
18	submitted on a single form as an all-or-none
19	composite. So the committee never actually
20	had the chance to say should any of those
21	individual components go forward but the
22	thought was at least at the end of the day

	Page 45
1	please have it harmonized to the individual
2	measures we have already got, which is what we
3	attempted to do around LDL and blood pressure
4	for example.
5	DR. CHASE: Just to make a comment
6	there because it struck me as you went through
7	that that one of the challenges of why this
8	can occur, too, is when you put together a new
9	composite sometimes the individual components
10	have a different basis so when they were
11	constructed. So the denominator might be
12	slightly different or so forth. So sometimes
13	I think that is what is driving what we may
14	run into and we need to be able to recognize
15	that when you actually implement these
16	sometimes you need to construct them
17	differently because you are trying to get
18	your construct is different. It is trying to
19	get at something else than the individual
20	component was.
21	DR. BURSTIN: Right and that has
22	been a challenge in terms of the denominator

<pre>1 for all-or-nones being different than the 2 denominator for the approaches that often are 3 taken with the composites of weighted</pre>	ge 46
2 denominator for the approaches that often are 3 taken with the composites of weighted	
3 taken with the composites of weighted	
4 measures.	
5 And the last measure I put up	
6 there just as an example is the patient safety	7
7 for selected indicators measures that AHRQ had	1
8 put forward. And the reason I put it up there	2
9 again is there are several measures in here	
10 that as part of the initial evaluation were	
11 not endorsed and yet thought as a general	
12 construct and this was done by the first	
13 committee, that they were appropriate for an	
14 overall sense of patient safety, even if they	
15 didn't feel like they were necessarily	
16 measures that would stand alone.	
17 So for example there is a measure	
18 there about selected infections due to medical	L
19 care and concerns that well we have already	
20 got measures from the CDC's National	
21 Healthcare Safety Network, NHSN around CLABSI	
22 and others and do we want claims-based	

	Page 47
1	measures that would compete and not
2	necessarily agree with what people consider
3	the gold standard?
4	So again, just give this to you
5	more as a sense of these are the kinds of
б	issues we have encountered. So as we go
7	through the more formal discussion with the
8	chairs, I think you will have a sense of at
9	least what some of these terms means. Because
10	it is a confusing space for us.
11	DR. ROMANO: I think part of the
12	issue there, too, is with the reliability of
13	the individual components. So one of the main
14	reasons for constructing a composite is to
15	extract information from multiple measure that
16	may be relevant to a quality-related concept.
17	And to that end, some of those components may
18	not be able to stand on their own merits in
19	terms of having sufficient reliability for
20	public reporting at the provider level.
21	And given that NQF has kind of
22	raised the bar there to say that all the

Page 48 measures have to be sufficiently reliable for 1 2 recording at the provider level, that is the main reason to create a composite is to 3 4 enhance that reliability. 5 DR. BURSTIN: And that is something I think we would love to have more 6 7 discussion about is understanding that leap of 8 saying it is not okay in an individual 9 measure. When you put them together it 10 increases reliability. It something I think we will need to spend some more time on. 11 12 Did you have a comment on that 13 Dave? 14 DR. SHAHIAN: So could one theoretically then have an NQF-endorsed 15 16 composite, none of whose components would pass muster individually as an NOF-endorsed metric 17 18 and is that what we want? 19 DR. BURSTIN: We haven't had any. 20 It is a little hard to imagine. But again, I 21 think that the one place it could be is 22 potentially as an all-or-none, where there may

	Page 49
1	be that the elements as constructed might be
2	slightly different. They may be the same
3	concepts but again because of the denominator
4	issues they may look somewhat different.
5	I mean we didn't, for example,
6	endorse the individual measures under optimal
7	vascular care, they were not submitted as
8	such. It was an all-or-none. And yet it was
9	interesting because when it actually came up
10	as part of the, I believe it was the ACO
11	payment. They really loved this measure and
12	I believe chose it but wanted to use the
13	individual components. And we are like,
14	actually we have never look at the individual
15	components of this measure. It was submitted
16	as an all-or-none.
17	So these are tricky issues for us.
18	I don't know the answer to that, David.
19	DR. SHAHIAN: I mean I think we
20	all know that we are dealing with a
21	proliferation of measures. And I am a little
22	concerned about the concept well for the

	Page 50
1	composite we need to have a slightly different
2	measure of the LDL or a slightly different
3	smoking measure than we do for this endorsed
4	NQF measure.
5	Then we have got people trying to
б	deal with 15 different smoking measures. That
7	is just the wrong direction to be going, I
8	think.
9	DR. ROMANO: I think we will come
10	back to that question a little bit more in the
11	discussion.
12	DR. BURSTIN: Yes, definitely.
13	MS. JOHNSON: We've already talked
14	somewhat about the evidence for each
15	component. Again, they may not meet our
16	updated guidance because it has gotten a
17	little bit more stringent. But even for
18	component measures on our current composite
19	measures where they were previously endorsed,
20	it depends on when that endorsement happens.
21	So as the individual measures come back up
22	from maintenance review our evidence guidance

again has become more stringent and those may
lose endorsement.
Another problem that we have

4 noticed as we have gone through is just asking 5 about the purpose and quality construct that is part of our questions that we asked about 6 7 composite measures. Those aren't always 8 adequately explained or maybe even simply 9 explained. It is sometimes hard to understand 10 just what the quality construct is for some of 11 these measures.

12 And then in terms of the measure 13 specifications, they are often insufficient. 14 Sometimes because they are just incomplete, 15 things just weren't answered.

16 Often though, things are answered 17 but it is hard to understand either what they 18 did or maybe why they did it and then 19 difficult to evaluate the analysis. I'm not 20 sure we can do a lot about the last part 21 because these are just complex analysis and 22 not everybody has the statistical knowledge to

> Neal R. Gross & Co., Inc. 202-234-4433

## Page 51

	Page 52
1	be able to understand every little thing but
2	these are some of the issues that we have run
3	into.
4	DR. DE LONG: I was just going to
5	ask if this is an issue for us. I mean the
6	incomplete and difficult to understand should,
7	I would think, be turned right back. Now, the
8	analyses could be a different issue but it
9	seems that we wouldn't entertain something we
10	couldn't read.
11	DR. BURSTIN: I think the issue is
12	yes, we do try to work with measure
13	developers, try to get information as complete
14	as possible. I think sometimes the problem is
15	it is actually hard to understand what we
16	mean. So part of what our current efforts
17	have been around our new work we have been
18	doing around process improvement around our
19	business development process and just have
20	been piloted a two-stage process has actually
21	been coming up with guidance that says what
22	does good look like. What does this actually

ſ

	Page 53
1	mean? And I think part of what is also really
2	not clear for what we have asked people to
3	submit around composites is what is required.
4	So that half the time people may submit
5	something they think is complete but through
6	our lens it may not be. Or it comes to the
7	committee and they are like well that is
8	wholly inadequate. Well, it kind of meets
9	what it says on paper. So I think again,
10	being able to clearly say to developers this
11	is what is required, this is what good looks
12	like, I think will help us all a lot.
13	So we need your help in making
14	sure we are really asking for just what is
15	needed and nothing more because again, a good
16	number of you have submitted to NQF, it is not
17	an easy process. There is a lot of
18	information and so we don't want to ask people
19	to submit a lot of information committees
20	won't ultimately use. So you want to make
21	sure you are really honing in on what they
22	need to submit and the right way to get it

Page 54

1 evaluated.

2	DR. ZASLAVSKY: Can you give a
3	sense of how much of the work you are doing
4	with these measures, typically these
5	composites is really going through the
6	components and how much of it is looking at
7	the way it is composited? This seems to be
8	just emerging as an issue that the evaluation
9	of the components is becoming a major problem
10	in itself and then thinking about whether the
11	way you evaluate them is different.
12	I could see how, this may be a
13	separate point, that it is a big difference
14	between saying this is a component that
15	wouldn't stand by itself because of a variance
16	and lack of reliability and saying it is a
17	component that wouldn't stand by itself
18	because of bias because it is measuring the
19	wrong thing or it would unfair to some
20	institutions or something like that.
21	And I am not sure how much of the
22	work is going to which side of these two

Page 55

problems.

1

2	DR. BURSTIN: I think it really
3	depends on the measure. It is very measure-
4	dependent. I think there is ones when it has
5	been much more about the construct and there
6	are times when it is more about the
7	components. And I think our goal is to figure
8	out what that right balance is.
9	You know, for example, we just
10	evaluated a very extensive perinatal maternal
11	and child outcomes composite really nicely
12	done. Some of the individual components were
13	very exciting. It wasn't risk-adjusted. And
14	at the end of the day 90 percent of the
15	discussion was about the construct of risk
16	adjustment for an outcome measure like that.
17	And actually not as much about the individual
18	components that everybody agreed were
19	important but not risk-adjusted.
20	So it really is very, you have
21	seen one composite at NQF and you have seen
22	one, I think is truly where we are.

	Page 56
1	So the more we can try to make
2	sense of that, the better.
3	DR. BIRKMEYER: I think with
4	regard to that last bullet, I think there is
5	a couple of issues. And I think the easier
6	one to deal with is just the problem of
7	applications that just aren't clear or are
8	incomplete. I think the tougher challenge and
9	one that value judgments will have to be made
10	are with regards to the more complex
11	statistical or econometric-based of composite
12	measures that may be as clear as they can
13	possibly be but couldn't possibly be evaluated
14	or couldn't be replicated by a large majority
15	of hospitals or users.
16	And that is where I think, that
17	and composite measures are just fundamentally
18	different from the usual business of NQF in
19	evaluating individual indicators.
20	MS. JOHNSON: Okay, and just a
21	little bit more information because we thought
22	you might want to know. We have had six

	Page 5
1	composites that are not currently endorsed and
2	I just wanted to walk you through some of the
3	reasons.
4	One is lack of variability and
5	overall high performance. This came through
б	the central line bundle composite. So that
7	one, basically performance rate was very high
8	at 95 percent. So there was little
9	opportunity for improvement and that is why
10	that one went down.
11	There was lack of evidence
12	supporting components on an all-or-none
13	measure. That one, an example of that with
14	the ventilator bundle measure. And what
15	happened there, it was actually withdrawn by
16	the developer and because of lack of strong
17	evidence to support the measure focus, the
18	current national effort to define ventilator
19	complications and also I think the developer
20	may not have intended the measure to be used
21	for public reporting. So again, lots of
22	reasons the developer decided to withdraw that

	Page 58
1	one.
2	Patrick could probably talk to why
3	one of the AHRQ composite measures was
4	withdrawn. I actually couldn't find that
5	information but again, that one was withdrawn.
6	DR. ROMANO: We actually don't
7	think it was withdrawn. So that is a separate
8	conversation.
9	MS. JOHNSON: Oh. So we will get
10	together offline and try to figure out what
11	happened with that. Maybe I just have the
12	wrong one.
13	The component performance measures
14	were not endorsed and did not meet criteria.
15	Helen already gave you that example. It was
16	the perinatal adverse outcome index. And
17	again the problem with that one is the outcome
18	measures, the components were not risk-
19	adjusted. So they did not meet our criteria
20	around scientific acceptability.
21	Composite measures included some
22	performance measures that lost endorsement or

Page 59 1 missing data had a substantial impact. That 2 happened with the composite measure of hospital quality for AMI. 3 That one was a new measure that we evaluated in 2010 but it had 4 5 a smoking measure that was no longer endorsed 6 by NQF and apparently there was a lot of 7 missing data that was handled by imputation 8 using national means. And that was just not 9 felt to be good enough to pass that measure. 10 And then finally some component 11 measures that were more representative of 12 quality of care were not included in the 13 composite measure. That was another CMS 14 measure of hospital quality for heart failure and that measure specifically didn't have 15 components that dealt with beta blocker use, 16 17 better discharge measures in cardiac rehab. So the committee evaluating that measure felt 18 19 that all of the right components just weren't 20 in the measure. So that is why that one went 21 down. 22 So back to Helen's point, every

	Page 60
1	measure is different. Every composite measure
2	came in differently and possibly went down for
3	many different reasons.
4	MS. PAGET: I think you have
5	already answered my question but we then make
б	the assumption there was no overlap. So each
7	non-endorsed measure is not endorsed for a
8	different reason. We are not seeing patterns,
9	for example.
10	DR. BURSTIN: I don't think we are
11	seeing patterns other than I think some of the
12	issues we have already brought up. But I
13	think also the patterns we are seeing is this
14	issue of the components within a composite.
15	So people may sometimes like the construct but
16	not the components. Or people sometimes like
17	the components but the contract is not risk-
18	adjusted. So I think it is kind of all over
19	the map but interesting this last one as well,
20	you know, we are currently looking at a
21	colonoscopy composite that is being reassessed
22	by our GI committee, for example. You know,

	Page 61
1	one of the concerns was those are some of
2	those indicators as part of the composite were
3	really important and useful. But at the end
4	of the day, the GI folks in particular thought
5	the best way to really look at the quality of
6	a colonoscopy is your adenoma detection rate
7	and all the rest of it was kind of on the path
8	towards getting at what is really important
9	and that wasn't part of the measure.
10	So often times I think we are also
11	hearing this issue of is it really capturing
12	truly the quality construct you care about
13	that the composite is allegedly trying to
14	represent. Exactly. Missing components, yes.
15	DR. DE LONG: Can I ask? On that
16	last point, does the composite have to be
17	comprehensive and where, for example the heart
18	failure one, apparently the components are all
19	individually endorsed and are used as stand-
20	alone measures. Is that correct?
21	DR. BURSTIN: Yes, although many
22	of those measures were topped out, really,

	Page 62
1	really high levels of performance. A couple
2	of them so topped out or in one case the
3	smoking measure had been reviewed by NQF and
4	we didn't really believe it was a valid
5	indicator of smoking cessation in hospitals.
6	It had become sort of a complete checkbox
7	measure. So it was not endorsed. Most of the
8	others were topped out. And so again this
9	issue of what do you do with a composite that
10	essentially gives you information that is not
11	a whole lot different than the individual
12	measures.
13	DR. DE LONG: Okay, my question
14	was a little different.
15	DR. BURSTIN: Okay.
16	DR. DE LONG: In terms of, for
17	example, beta blockers for heart failure, it
18	was not included in the composite but
19	presumably it is a measure that is being used
20	on its own already endorsed. Is that not the
21	case?
22	DR. CHASE: Well I would have an

	Page 63
1	opinion on that, which is I don't think a
2	criteria should be the reviewers could come up
3	with other things that could be included in
4	the composite because that may not be the
5	purpose of how the measure was constructed.
6	And our example in diabetes care, for example,
7	there are some things about treatment that
8	aren't in there because that measure was
9	constructed around a risk reduction. So as
10	you know in diabetes care, the other things
11	like the foot exam that might be really
12	important for care but it wasn't what the
13	purpose of the measure was.
14	So I think it would be dangerous
15	to sort of have committees saying we would
16	like this to be more inclusive when that may
17	not have been the original intent.
18	And while I hope we get to this as
19	we talk later I saw on the construct of this,
20	composite measure, people who are presenting
21	those should be able to articulate what is the
22	purpose of the composite. Why did you

Page 64 1 composite things? 2 And then the test should be is it doing what you intended it to do. Which may 3 not always be everything about a particular 4 5 case. We weren't trying to construct this to 6 try to cover everything about a condition. 7 DR. DE LONG: And I still want to 8 go back to for example Dave said that there 9 have been a proliferation of measures. And I 10 don't think every measure that is being used is a composite. 11 12 DR. BURSTIN: No. 13 DR. DE LONG: There are single 14 measures. 15 DR. BURSTIN: Right. 16 DR. DE LONG: And if they are 17 being used on their own, for example beta blockers after a heart attack, you wouldn't 18 19 necessarily want to double count them as 20 including them also in a composite, 21 necessarily. 22 So leaving out some measures that

	Page 65
1	are already endorsed on their own and felt to
2	be sufficiently important, it seems to me we
3	have to decide. Do they go in a composite or
4	do they stand on their own and not have a lot
5	of overlap there?
6	DR. BRATZLER: Patrick?
7	DR. ROMANO: Go ahead, Dale.
8	DR. BRATZLER: Yes, thanks. The
9	other things that I think has to come into the
10	discussion, we will probably talk about it
11	some later, is the issue of unintended
12	consequences of the composite.
13	So Helen gave the example of
14	composites that were built with largely topped
15	out measures. But particularly if you have a
16	composite where you have a number of
17	relatively high rates of performance, you have
18	other components of the composite that have
19	lower rates of performance the consequence of
20	the way to improve your performance rate is to
21	focus on those aspects of the composite that
22	have low rates of performance or the biggest

Page 66 1 denominators, which may or may not be the most 2 important components of care that might result 3 in better patient outcomes. So there are a lot of unintended 4 5 consequences that can come up when you group 6 measures together. 7 DR. ROMANO: Well I am just mindful of the time and I don't know -- we do 8 9 have some questions that we want to discuss 10 specifically. But if there are additional questions related to Karen's presentation or 11 12 comments on Karen and Helen's presentation, we should get those on the table now. 13 14 If there are more general 15 questions related to our discussion of conceptual framework and so forth, maybe we 16 17 could hold those for a minute or two. 18 DR. KAPLAN: This is just sort of 19 wrapping around the final points that were 20 being made, which is again, what are we 21 measuring? What are you measuring? If you 22 are measuring discrete events like beta

	Page 67
1	blockers following something like that, you
2	are measuring a discrete event. And the
3	measure is good for that purpose and only that
4	purpose.
5	If you are trying to use that
6	measure like two trains left Chicago traveling
7	at a distance of and you are trying to use
8	that to measure something else, that is when
9	you get into trouble and these complex
10	constructs have to be defined.
11	If we don't define what are you
12	trying to measure here and you are using that
13	to measure all of the quality of diabetes care
14	and there are things like foot exams that are
15	relative to that, that is the construct you
16	have got under the microscope. So specifying
17	that has to be really critical when you are
18	talking about these composites.
19	DR. BURSTIN: I think part of the
20	challenges we have seen is sometimes people
21	get so focused on the components that they
22	sometimes get lost and don't get to the

	Page 68
1	detailed, this is the complex construct. Not
2	all the time but sometimes it has been a
3	struggle to say, you know we will ask for
4	quality construct and what they will do is a
5	recitation of the components. Like no, no,
6	no, what is the construct?
7	DR. ZASLAVSKY: I have a question.
8	This is sort of more about how NQF sees its
9	role.
10	Suppose that you have three
11	different groups come in either at the same
12	time or at different times and they want to
13	develop a composite or get approved a
14	composite for a certain construct and they are
15	even using these same components and one of
16	them says we are going to equally weigh them.
17	Another one says we are going to use factor
18	weights. Another one says we have some kind
19	of criterion-based regression and we have done
20	it on some dataset that we have and here is
21	another set of weights. Is it your role as
22	NQF to pick one of these or to let a thousand

	Page 69
1	flowers bloom, or the first one past the gate
2	is it and the next one has to overthrow it?
3	How do you see your role in that kind of
4	situation?
5	DR. BURSTIN: It is a tough role
б	but it is one people increasingly look to NQF
7	to really try to sort out. Again, the
8	proliferation of measures David mentioned the
9	cacophony some might say, there are so many
10	measures at this point that are slightly
11	different, slightly competing with each other
12	that actually have done a lot of work,
13	particularly in the last year trying to figure
14	out exactly how we assess related and
15	competing measures which is what we call them,
16	when it is actually trying to come up with
17	some sets decision rules about when two
18	measure can move forward. For example, the
19	same measure harmonized different settings of
20	care or different data sets, potentially could
21	still move forward as long as they are
22	harmonized.

	Page 70
1	But when things are truly
2	competing, we really do try to have as much as
3	possible committees try to go through them and
4	say which of them is actually best in class or
5	superior. It is often very difficult to do.
6	We don't have data runs for example to be able
7	to go back and say head-to-head, if ideally
8	you could have this measure and this measure
9	of construction on the same dataset, it is
10	often an impossibility.
11	But we do try to, as much as
12	possible, pick what we think is the best in
13	class. And if that is not possible, sometimes
14	we will move both forward. I mean, one
15	example is at the time of the diabetes project
16	in our outcomes project about a year or so
17	ago, we had the all-or-none composite on
18	optimal diabetes care from Minnesota Community
19	Measurement. We also had the weighted
20	composite out of NCQA. At the time, the
21	committee tried very hard and at the end of
22	the day could not say one was necessarily

	Page 71
1	superior. For different end users, one might
2	fit better than another did and they thought
3	the constructs were different enough. And
4	again, we worked with the two developers such
5	that the components within them were
6	harmonized. Meaning that for the individual
7	clinician or somebody being measured, the
8	blood pressure control was the same. The A1C
9	is the same. The lipids are the same. So you
10	have at least harmonized on science but we
11	can't always harmonize on the approach.
12	So for now at least we allowed
13	both of those to move forward, recognizing
14	different end users might use them. And
15	hopefully, as we gain experience, we will have
16	a better sense of that.
17	Sometimes the committees are much
18	more clear. I mean, the cardiovascular
19	committee just came down and could not have
20	been more clear that at this point in time in
21	cardiovascular care an all-or-none was the
22	appropriate approach because these were things

	Page 72
1	that should absolutely always be done to move
2	the needle.
3	But again, this is where I think
4	we still see variability of cross committees,
5	which is why we wanted to bring you guys
6	together to try to have some guidance we could
7	share with the committees that they would
8	always act more consistently.
9	DR. ROMANO: I think this is
10	something else that we will tee up for
11	discussion a little bit later but I know in
12	the case of the AHRQ composites, we actually
13	offered three different weighting schemes and
14	said that different users may apply different
15	weighting schemes, depending on their
16	particular decision-making context and we can
17	talk more about that a little bit later.
18	But it ended up that one of those
19	weighting schemes became the NQF-endorsed
20	weighting scheme. But the other schemes are
21	still out there on the table for other users.
22	So it is an interesting question.
	Page 73
----	--
1	MS. JOHNSON: Okay, so now I think
2	we should just go ahead and hand it over to
3	Patrick and Liz to do the guided panel
4	discussion. And I'm not sure how you want to
5	do that. We have a list of questions that we
6	hope you will address and I will just let you
7	decide if you want to go through them one at
8	a time or how you want to do that, Patrick.
9	DR. ROMANO: Well, I think
10	obviously we didn't get a chance I'm sorry
11	about the train but I think maybe what we will
12	do is to start by talking about the conceptual
13	model. And I think it has already come
14	through in the discussion so far that most of
15	us feel strongly that there should be some
16	conceptual framework for a composite that the
17	developer should be able to articulate a
18	conceptual framework.
19	But the question is is this, there
20	is a model one, model two that is presented.
21	There are a variety of terms. So let's start
22	out by discussing that, if that is an

i	
	Page 74
1	appropriate framework. And then I think we
2	should discuss a little bit about maybe what
3	is not on the table today, what we are not
4	going to consider as composites for the sake
5	of the discussion the rest of the day. And
6	then we can move into some of the other
7	questions. Does that seem fair?
8	MS. JOHNSON: Yes and I do want to
9	just make sure that we understand that we are
10	not saying that XYZ measure is not a composite
11	but just that we might not need to apply extra
12	criteria to evaluate some measures. And that
13	is how we try to construct those tables. So
14	as long as we are good on that.
15	And I think the other thing about
16	those tables is it was just our effort to put
17	something out there. We don't want to get
18	bogged down in taxonomy and all that kind of
19	stuff but hopefully that might be a guide to
20	help us at least know what we are talking
21	about when we are talking about things.
22	DR. ROMANO: Thank you and I

	Page 75
1	really want to compliment the staff work that
2	was done in preparation for this meeting. It
3	was really a very impressive compilation of
4	resources and organization of the key
5	questions. So it really gives us a great
6	foundation for this discussion.
7	So in this memo, NQF staff have
8	sort of put forward these two general models
9	that are described in the field and it is
10	interesting I have heard before the
11	psychometric versus clinimetric distinction
12	but then I read David Streiner's argument here
13	that this is a distinction without a
14	difference.
15	On the other hand, then when I
16	read his second paper, it was like well, he is
17	really talking about the same thing. He talks
18	about it in terms of scales versus indexes.
19	Other people use the term formative versus
20	reflective. Other people talk about whether
21	the indicators are causing the construct or
22	the construct is causing the indicators.

	Page 76
1	But really all of these, it seems
2	like, are different semantic ways of
3	describing the same fundamental distinction,
4	recognizing that the specific approaches that
5	might be used for evaluation are on a
6	continuum really. And so with one model you
7	might emphasize certain approaches, with
8	another model you might emphasize other
9	approaches. But let's just put that on the
10	table for discussion. Do people find this
11	helpful or not? Where should we go?
12	DR. KAPLAN: When Alvin Feinstein
13	first cooked up clinimetrics he used to accuse
14	those of us who were trained in a different
15	discipline as worshiping at the altar of
16	psychometrics. And so I have learned over the
17	years to call it measurement science and it
18	gets you out of a lot of touch calls with your
19	clinical colleagues and your psychologically
20	measurement science is really at the base
21	of everything and it doesn't matter what is
22	under the microscope. All of the principles

1	
	Page 77
1	apply.
2	DR. SHAHIAN: And just to add to
3	support to what you just said, I don't know
4	who put this particular dichotomy together in
5	terms of conception models one and two, but I
6	can tell you that having the STS CABG
7	composite as an example for concept two, that
8	is not the way we thought of it. And in fact
9	we spent probably over a year evaluating this
10	model from a psychometric from a traditional
11	psychometric perspective.
12	So at least that is the way I went
13	about it. And I think most of the people on
14	the team, Liz might want to comment, but so
15	I don't really think it is appropriate to list
16	STS as an example of the clinimetric.
17	DR. DE LONG: I think we are
18	getting into semantics. As a matter of fact,
19	on the phone the other day we discussed
20	whether it really matters how the metric
21	actually came into being. What really matters
22	is what it reflects and whether it is

	Page 78
1	reliable, whether it could be reproduced and
2	it can be used to improve quality.
3	So that may even relieve you from
4	your having to take a part all the methods and
5	put them back together if the developer can
б	actually produce something that leads people
7	like John's company to be able to implement
8	them and they work
9	DR. BIRKMEYER: I didn't say that.
10	DR. DE LONG: then maybe you
11	have got a good measure.
12	DR. BIRKMEYER: I have got very
13	mixed feelings about whether the single most
14	important thing that we need to start with is
15	that there be a conceptual model in place.
16	I totally agree with Sherrie that
17	the most important thing is to be clear what
18	at the end of the day that you are trying to
19	measure and the need to work backwards and see
20	whether that goal is being met why whatever
21	the measure is.
22	But I think, and I am reflecting

Page 79 my bias as a simple country surgeon, that kind 1 2 of at the end of the day, there is a lot of measures out there that really get you to the 3 end result of what you are trying to achieve 4 5 and you don't actually know exactly why that measure was the best one to get you there. 6 7 DR. ROMANO: Well just to pose a 8 practical question. So I agree completely 9 with sort of banning the terms clinimetric and psychometric and focusing on measurement 10 science and recognizing that this distinction 11 12 between model one and model two is really a spectrum, perhaps, and not two bins that you 13 14 have to go into bin A or bin B. 15 But to give an example with David's measure, so you explicitly looked at 16 internal consistency reliability. But someone 17 18 else approaching this same question might say 19 that they don't care about internal 20 consistency reliability because they are 21 looking at five different types of outcomes or 22 complications, if you will, of cardiac surgery

Page 801and it doesn't matter whether those hang2together. Some clinicians may do better at3preventing A. Others may do better at4preventing B. But from the patient5perspective, they are all bad things.6And so from the patient7perspective, it makes sense to add them up in8some way. So how would you respond to9somebody else who said no, we are going to10construct this measure without regard to11internal consistency reliability because we12are approaching it from a different13perspective.14DR. SHAHIAN: I guess my personal15bias is that I guess I am somewhat of a16traditionalist. I would probably, I think17tend to be more along Sherrie's way of1819I think if we haphazardly combine20things just for the sake of combining them and21A as a stand-alone in evaluating the		
2together. Some clinicians may do better at3preventing A. Others may do better at4preventing B. But from the patient5perspective, they are all bad things.6And so from the patient7perspective, it makes sense to add them up in8some way. So how would you respond to9somebody else who said no, we are going to10construct this measure without regard to11internal consistency reliability because we12are approaching it from a different13perspective.14DR. SHAHIAN: I guess my personal15bias is that I guess I am somewhat of a16traditionalist. I would probably, I think17tend to be more along Sherrie's way of18thinking.19I think if we haphazardly combine20things just for the sake of combining them and21don't know whether item B adds value to item		Page 80
<ul> <li>preventing A. Others may do better at</li> <li>preventing B. But from the patient</li> <li>perspective, they are all bad things.</li> <li>And so from the patient</li> <li>perspective, it makes sense to add them up in</li> <li>some way. So how would you respond to</li> <li>somebody else who said no, we are going to</li> <li>construct this measure without regard to</li> <li>internal consistency reliability because we</li> <li>are approaching it from a different</li> <li>perspective.</li> <li>DR. SHAHIAN: I guess my personal</li> <li>bias is that I guess I am somewhat of a</li> <li>traditionalist. I would probably, I think</li> <li>tend to be more along Sherrie's way of</li> <li>thinking.</li> <li>I think if we haphazardly combine</li> <li>things just for the sake of combining them and</li> <li>don't know whether item B adds value to item</li> </ul>	1	and it doesn't matter whether those hang
4       preventing B. But from the patient         5       perspective, they are all bad things.         6       And so from the patient         7       perspective, it makes sense to add them up in         8       some way. So how would you respond to         9       somebody else who said no, we are going to         10       construct this measure without regard to         11       internal consistency reliability because we         12       are approaching it from a different         13       perspective.         14       DR. SHAHIAN: I guess my personal         15       bias is that I guess I am somewhat of a         16       traditionalist. I would probably, I think         17       tend to be more along Sherrie's way of         18       thinking.         19       I think if we haphazardly combine         20       things just for the sake of combining them and         21       don't know whether item B adds value to item	2	together. Some clinicians may do better at
5       perspective, they are all bad things.         6       And so from the patient         7       perspective, it makes sense to add them up in         8       some way. So how would you respond to         9       somebody else who said no, we are going to         10       construct this measure without regard to         11       internal consistency reliability because we         12       are approaching it from a different         13       perspective.         14       DR. SHAHIAN: I guess my personal         15       bias is that I guess I am somewhat of a         16       traditionalist. I would probably, I think         17       tend to be more along Sherrie's way of         18       thinking.         19       I think if we haphazardly combine         20       things just for the sake of combining them and         21       don't know whether item B adds value to item	3	preventing A. Others may do better at
6 And so from the patient 7 perspective, it makes sense to add them up in 8 some way. So how would you respond to 9 somebody else who said no, we are going to 10 construct this measure without regard to 11 internal consistency reliability because we 12 are approaching it from a different 13 perspective. 14 DR. SHAHIAN: I guess my personal 15 bias is that I guess I am somewhat of a 16 traditionalist. I would probably, I think 17 tend to be more along Sherrie's way of 18 thinking. 19 I think if we haphazardly combine 20 things just for the sake of combining them and 21 don't know whether item B adds value to item	4	preventing B. But from the patient
7       perspective, it makes sense to add them up in         8       some way. So how would you respond to         9       somebody else who said no, we are going to         10       construct this measure without regard to         11       internal consistency reliability because we         12       are approaching it from a different         13       perspective.         14       DR. SHAHIAN: I guess my personal         15       bias is that I guess I am somewhat of a         16       traditionalist. I would probably, I think         17       tend to be more along Sherrie's way of         18       thinking.         19       I think if we haphazardly combine         20       things just for the sake of combining them and         21       don't know whether item B adds value to item	5	perspective, they are all bad things.
8 some way. So how would you respond to 9 somebody else who said no, we are going to 10 construct this measure without regard to 11 internal consistency reliability because we 12 are approaching it from a different 13 perspective. 14 DR. SHAHIAN: I guess my personal 15 bias is that I guess I am somewhat of a 16 traditionalist. I would probably, I think 17 tend to be more along Sherrie's way of 18 thinking. 19 I think if we haphazardly combine 20 things just for the sake of combining them and 21 don't know whether item B adds value to item	6	And so from the patient
<ul> <li>somebody else who said no, we are going to</li> <li>construct this measure without regard to</li> <li>internal consistency reliability because we</li> <li>are approaching it from a different</li> <li>perspective.</li> <li>DR. SHAHIAN: I guess my personal</li> <li>bias is that I guess I am somewhat of a</li> <li>traditionalist. I would probably, I think</li> <li>tend to be more along Sherrie's way of</li> <li>thinking.</li> <li>I think if we haphazardly combine</li> <li>things just for the sake of combining them and</li> <li>don't know whether item B adds value to item</li> </ul>	7	perspective, it makes sense to add them up in
10 construct this measure without regard to 11 internal consistency reliability because we 12 are approaching it from a different 13 perspective. 14 DR. SHAHIAN: I guess my personal 15 bias is that I guess I am somewhat of a 16 traditionalist. I would probably, I think 17 tend to be more along Sherrie's way of 18 thinking. 19 I think if we haphazardly combine 20 things just for the sake of combining them and 21 don't know whether item B adds value to item	8	some way. So how would you respond to
11 internal consistency reliability because we 12 are approaching it from a different 13 perspective. 14 DR. SHAHIAN: I guess my personal 15 bias is that I guess I am somewhat of a 16 traditionalist. I would probably, I think 17 tend to be more along Sherrie's way of 18 thinking. 19 I think if we haphazardly combine 20 things just for the sake of combining them and 21 don't know whether item B adds value to item	9	somebody else who said no, we are going to
12       are approaching it from a different         13       perspective.         14       DR. SHAHIAN: I guess my personal         15       bias is that I guess I am somewhat of a         16       traditionalist. I would probably, I think         17       tend to be more along Sherrie's way of         18       thinking.         19       I think if we haphazardly combine         20       things just for the sake of combining them and         21       don't know whether item B adds value to item	10	construct this measure without regard to
13 perspective. 14 DR. SHAHIAN: I guess my personal 15 bias is that I guess I am somewhat of a 16 traditionalist. I would probably, I think 17 tend to be more along Sherrie's way of 18 thinking. 19 I think if we haphazardly combine 20 things just for the sake of combining them and 21 don't know whether item B adds value to item	11	internal consistency reliability because we
14       DR. SHAHIAN: I guess my personal         15       bias is that I guess I am somewhat of a         16       traditionalist. I would probably, I think         17       tend to be more along Sherrie's way of         18       thinking.         19       I think if we haphazardly combine         20       things just for the sake of combining them and         21       don't know whether item B adds value to item	12	are approaching it from a different
15 bias is that I guess I am somewhat of a 16 traditionalist. I would probably, I think 17 tend to be more along Sherrie's way of 18 thinking. 19 I think if we haphazardly combine 20 things just for the sake of combining them and 21 don't know whether item B adds value to item	13	perspective.
16 traditionalist. I would probably, I think 17 tend to be more along Sherrie's way of 18 thinking. 19 I think if we haphazardly combine 20 things just for the sake of combining them and 21 don't know whether item B adds value to item	14	DR. SHAHIAN: I guess my personal
<pre>17 tend to be more along Sherrie's way of 18 thinking. 19 I think if we haphazardly combine 20 things just for the sake of combining them and 21 don't know whether item B adds value to item</pre>	15	bias is that I guess I am somewhat of a
18 thinking. 19 I think if we haphazardly combine 20 things just for the sake of combining them and 21 don't know whether item B adds value to item	16	traditionalist. I would probably, I think
19 I think if we haphazardly combine 20 things just for the sake of combining them and 21 don't know whether item B adds value to item	17	tend to be more along Sherrie's way of
20 things just for the sake of combining them and 21 don't know whether item B adds value to item	18	thinking.
21 don't know whether item B adds value to item	19	I think if we haphazardly combine
	20	things just for the sake of combining them and
22 A as a stand-alone in evaluating the	21	don't know whether item B adds value to item
	22	A as a stand-alone in evaluating the

	Page 81
1	underlying latent construct, or if we don't
2	if they are totally redundant, these are
3	important considerations. And I think frankly
4	there is all too much of this sort of just
5	haphazard pick a bunch of things, and put them
6	together and call them a composite.
7	I would rather, personally, see a
8	more traditional measurement science approach.
9	That is my personal bias.
10	DR. ZASLAVSKY: I have to say that
11	I have been through this argument over and
12	over in development of the CAHPS surveys. And
13	I can't help agree with what Patrick is saying
14	about there being these different perspectives
15	that do lead to different decisions,
16	especially about, not necessarily so much
17	about how you composite once you know what you
18	are compositing, but about what you need to
19	put into the composite in the pursuit of a
20	high alpha leads you in the different
21	direction than sometimes what you will get if
22	you are trying to group things that you think

	Page 82
1	are similar more in the way that Patrick
2	describes as not necessarily being empirically
3	related but being conceptually related or to
4	a similar criterion outcome variable.
5	So I would love to be able to not
6	have this be an argument but I think that
7	these do sometimes pull in different
8	directions.
9	DR. KAPLAN: This is one of the
10	times when I think Alan and I can actually
11	reach common ground about perspective because
12	I think getting the tyranny of psychometrics,
13	if you will, has come out of real traditional
14	latent construct. I have things I can measure
15	about you that get to your IQ, et cetera, et
16	cetera. And sometimes we shoot more in
17	techniques for getting to reliability.
18	Things like physician-level
19	reliability, well how do you tell whether
20	using a set of things about diabetes care, for
21	example, whether those measures are a reliable
22	estimate of physician's performance. The sort

	Page 83
1	of traditional internal consistency of
2	reliability may not be the right approach for
3	that particular measurement task. And then
4	you need to look at intraclass correlation or
5	has the physician got a thumbprint. Is the
6	physician behaving consistently across
7	patients within their practice? So the
8	technique and approach may be different for
9	the different measurement task we have at
10	hand.
11	And I would not like it or maybe
12	it is you know, I hate to test reliability
13	but maybe that is the right approach. There
14	are all other kinds of techniques that you can
15	use to get to capital our reliability and I
16	don't want us to I wouldn't like to see us
17	get bogged down in one "disciplinary
18	perspective."
19	DR. SHAHIAN: I think each of
20	those methods that you are talking about is a
21	measurement science approach. I am not wedded
22	to Cronbach's alpha but all the things you

	Page 84
1	mentioned have an empirical basis.
2	DR. KAPLAN: Absolutely.
3	DR. SHAHIAN: That is all I'm
4	saying.
5	DR. DE LONG: And Alan I think was
6	the first person to say the word outcomes.
7	And it seems that what we really are driving
8	at is something that improves outcomes and it
9	doesn't matter so much how much it was
10	internally consistent or whether it all
11	reflects the same thing. I do agree, they can
12	reflect different components that are not
13	necessarily tied together.
14	MS. PAGET: Just a couple
15	questions. I think I brought this up on our
16	call but my question to the experts here in
17	measurement, do we see this same kind of
18	debate or tension exist in other industries,
19	most specifically I am wondering about
20	educational testing that uses a lot of
21	composite measures. And then my second
22	question I guess maybe is for Helen is how

	Page 8
1	important is it that this group and NQF fall
2	down somewhere on this issue? I mean is it a
3	deliverable of this group to really state
4	something about the conceptual model?
5	DR. BURSTIN: I'll answer the
6	second question. I don't know that we have to
7	say that. I actually think Patrick's comment
8	earlier I think it was Patrick that we
9	potentially will be needing a spectrum. I
10	just think we have to have some guidance for
11	the committees to say what level is
12	acceptable. If they are both acceptable and
13	they are just variants of the spectrum, all
14	based in measurement science, I am fine with
15	that.
16	And I think even as the team was
17	putting this together there was a sense that
18	how much gray is there between these first two
19	models? I just wanted to apologize for
20	mischaracterizing the CABG composite. I just
21	wanted to have something to put together to
22	put in front of you because we do get very

5

	Page 86
1	different approaches that people bring to us.
2	If either is fine, okay, good. I don't think
3	we need to pick one necessarily.
4	MS. PAGET: Yes, just wanted a
5	particularly educational does this kind of
6	question exist or are they before, after,
7	in the middle?
8	DR. ROMANO: Well it is
9	interesting that you raised that question
10	because that question really was what inspired
11	Jeff Geppert's paper, which I think was part
12	of the packet which is currently under review,
13	which is a belief that in some other fields,
14	particularly in financial services, there is
15	a very strong emphasis on what is the
16	decision-making context for a composite. So
17	when a composite like the Dow Jones Industrial
18	Average, for example, or the consumer price
19	index is created, there is a lot of thought
20	that goes into how are people going to use
21	this to inform their decision-making and let's
22	construct the composite in a way that produces

	Page 87
1	the right signal that encourages the right
2	allocation for effort, if you will, the right
3	investment of resources across different
4	sectors.
5	So I would like to put that out
6	for discussion for a couple of minutes to see
7	because to me that gets back to the concept of
8	different weighting schemes and why AHRQ
9	actually offered different weighting schemes.
10	Because if the approach is, for
11	example, we have an indicator that is called
12	patient it is a mortality across multiple
13	procedures. And it composites mortality,
14	risk-adjusted mortality, for different types
15	of procedures. And it was not endorsed. The
16	committee was concerned that it was too
17	heterogeneous because it was bringing together
18	different types of procedures done by
19	different types of surgeons.
20	But there could be a counter
21	argument made that in the right decision-
22	making context, it would be important to

	Page 88
1	signal what the hospital's overall quality was
2	for surgical procedures. And that it might be
3	useful for the hospital to understand
4	something about what is driving that overall
5	performance.
6	So that is a case where perhaps
7	what we should be thinking about more maybe,
8	instead of focusing so much on how these
9	building blocks are put together, maybe we
10	should be focusing more on what is the
11	decision-making context. How do we want
12	people to use this and is the composite
13	constructed in a way that is consistent with
14	that use?
15	DR. KAPLAN: Again it gets back to
16	what you are trying to measure because
17	educational settings and educational
18	circumstances have cognitive performance often
19	usually as their base and that is a
20	different enterprise, measuring cognitive
21	performance from behavioral performance which
22	is usually what you are trying to get at when

	Page 8
1	you are looking at many of the measures of
2	quality. It is the performance of something.
3	And in case of outcomes, it often has somebody
4	else's performance at its base. So behavioral
5	and cognitive are two different exercises by
6	far because those and now teachers' pay-
7	for-performance by the way is trying to use
8	students' performance on standardized testing,
9	so I can compare the same test across students
10	to reinforce teacher performance, as an
11	estimate of teacher performance. But it has
12	the advantage of being standardized because it
13	is cognitively based and it has the advantage
14	of being widely tested on a lot, a lot of
15	folks so we know a lot about that measure at
16	the student level.
17	But now we are looking at patient-
18	level variables and we are trying to wind them
19	up to estimate physician level performance and
20	then we are trying to wind that up to measure
21	clinic or institution-level performance. So
22	we have got a different the behavioral

9

	Page 90
1	stuff is a very, very different measurement
2	exercise. It still needs to respond to what
3	are you trying to measure and all the things
4	about that and are you able to do it
5	consistently and are you able to do it with
6	some level of accuracy?
7	DR. BIRKMEYER: So just to follow
8	up with that, I totally agree with the point
9	that Patrick just made that while being clear
10	about what you are explicitly trying to
11	measure, you can sometimes only answer that
12	question if you consider it in the decision-
13	making context and what types of judgments are
14	people trying to make at varying levels of
15	altitude. The challenge, of course, though,
16	is that runs counter to the NQF mantra of we
17	consider measures sort of agnostically with
18	regards to their application and maybe like
19	that is why composites may be different.
20	DR. DE LONG: I think there is
21	another issue that was in one of the
22	references you sent and I can't remember which

Page 91 1 But there was an experiment where they one. 2 took two different datasets and tried out five different methods. And there was almost no 3 consistency in the results. The top 4 5 performers for one dataset were by one method 6 top and by another method bottom. I think 7 when we look at why we are developing these 8 measures we also need to be thinking about 9 whether they hold up. Whether, for example 10 when the developer puts them out there, they maybe had a big enough sample to split it and 11 12 see if that measure actually performs the same way in the other half of the data. 13 And I'm 14 wondering if something like you are suggesting the reason this is connected to your comments 15 16 is that maybe when you get something so broad as surgical mortality for a whole bunch of 17 different surgeries, that really isn't -- once 18 19 you combine it, you are not reflecting 20 something that is stable. I don't know. 21 DR. CHASE: So kind of back to 22 your question I think about do we -- is it

	Page 92
1	worth spending more time about these two
2	different models? I would be more on the side
3	of no. I am reflecting into what our purpose
4	here it would be a really interesting
5	discussion for us here but when sort of this
6	gets applied at NQF, I think we are trying to
7	get to advice for reviewers about what is
8	different about composite measures.
9	I don't think it is going to be as
10	practical when you get down to so what are
11	unless and I couldn't find this about what I
12	would say. Oh, if you fall into this bin, you
13	have to do these things. And if you fall into
14	this bin, you have to do these. I think in a
15	couple of the other models we do, but the
16	distinction in the first two I was getting a
17	little bit lost. And maybe that is the other
18	thing that I would say about this is is
19	probably a lot of your measurement developers
20	and the reviewers might get lost by this
21	terminology, too. And then it is not going to
22	be helpful.

1	
	Page 93
1	So I would encourage us maybe to
2	move down the list and deal with what are some
3	of the criteria around the other ones. But
4	that would just be my thought here.
5	DR. DUNTON: If we wanted to
6	divide up the world,
7	DR. BRATZLER: This is Dale. I
8	think I also agree with that.
9	DR. DUNTON: I think that rather
10	than think about the model, it might be useful
11	to think about a composite of process
12	measures, versus a composite of outcomes.
13	Because the question for the process measures
14	is was optimal care provided. It could be all
15	or none, a percent of the time, or something.
16	But if you are looking at safety in terms of
17	outcomes, it is probably less likely that you
18	are going to get really reliable measures than
19	you would if you are looking at was care
20	provided. And so the measurement exercise may
21	be different. The committees reviewing them
22	would be maybe have different standards for

1	
	Page 94
1	the measurement level, the scientific
2	acceptability criterion and I think that is
3	all I should say because I am getting into
4	territory where I
5	MS. PAGET: So I guess I agree
6	with what I am hearing completely that not to
7	get hung up and I certainly don't have the
8	knowledge in which to kind of form an opinion.
9	But I do have to say that there are some
10	things about the Geppert paper that are
11	appealing to me. And one is the role in the
12	weighting of process versus outcome and the
13	whole concept of signaling that effort that
14	could be much more in tune to the necessary
15	versus unnecessary care and treatment.
16	And maybe I am reading too much
17	into it but I guess my question about that
18	conceptually is does that open up does that
19	kind of thinking open up an opportunity for
20	NQF to actually be endorsing more measures
21	that are outcome-driven because it has a means
22	by which you can balance these two process and

	Page 95
1	outcome? I know that I hear repeatedly the
2	movement toward more outcome-based measures
3	and I just, when I read this conceptually it
4	feels to me as though there are some themes in
5	here that might be important for us to
6	reiterate in a guidance or whatever product
7	that comes out of here. And that is one that
8	to me feels like it could be conducive to
9	where NQF is hoping to go.
10	DR. ROMANO: Yes, so I think what
11	we are hearing if I am not summarizing
12	correctly please stop me. But I think what I
13	am hearing is that we don't find this two-part
14	conceptual model terribly useful. I mean
15	fundamentally at the end of the day, the
16	purpose of this exercise, the reason we are
17	here is to provide better guidance to measure
18	developers and to steering committees to help
19	them submit composites and to help them
20	evaluate composites.
21	And so from that perspective, we
22	don't we want people to use measurement

	Page 96
1	science. We want people to use the
2	appropriate tools from the armamentarium of
3	measurement science but we don't know
4	necessarily want people to we don't want to
5	force people into a particular bin here based
6	on this conceptual model because this may be
7	an over simplification. This may be to some
8	extent a false dichotomy. Am I correctly
9	capturing what people are thinking?
10	DR. ZASLAVSKY: I agree with that
11	as far as it goes but I think we shouldn't
12	underestimate the importance of having a
13	conceptual orientation in developing
14	something. And the concepts that underlie
15	that dichotomy are useful concepts and could
16	make a real difference.
17	You might end up with several
18	composites where there is a really clear
19	conceptual argument for using one of them for
20	public reporting and for using another of them
21	for pay-for-performance and another one for
22	internal process improvement.

	Page 97
1	And so asking people to make that
2	part of their submission, you know to be very
3	practical about it, not with a view just to
4	putting things in a bin but to giving the
5	reasons why, the way this was constructed
6	makes it particularly good for particular
7	purposes I think really should be part of the
8	exercise of evaluating the composite.
9	DR. ROMANO: Thank you, Alan, that
10	is perfect.
11	DR. KAPLAN: Well I agree because
12	I think that if but maybe what is needed is
13	give people some examples and some guidance.
14	For example, if you are trying to estimate
15	patients' experience with the doctor's
16	communication, here is an approach that
17	includes internal consistency reliability
18	because I have a set of things that I am
19	trying to measure, all of which I think
20	measures a patient's experience of a doctor's
21	ability to communicate with them.
22	If I am trying to measure diabetes

	Page 98
1	outcomes and I am trying to estimate
2	physician's performance with those measures,
3	here is what I need to look at. I need to
4	make sure that if I am using it for physician
5	performance, there is a physician thumbprint
6	that I can show you that there is some
7	doctors behave consistently and they differ
8	from each other. So that is an example of
9	that kind of evaluation.
10	If on the other hand I am trying
11	to get risk adjuster for the total illness
12	burden index, then is a patient with
13	gastroenterologic problems likely to have
14	cardiovascular problems, likely to have
15	difficulties with joint disease. Probably
16	not. So internal consistency reliability in
17	that case wouldn't make any sense. So how am
18	I going to tell if there is consistency across
19	the things I am measuring in sort of a review
20	of systems perspective, so I can get a
21	composite measure that makes sense to me that
22	estimates a patient's complex the totality

	Page 99
1	of a patient's complex comorbidities?
2	So you might want to cluster these
3	things or American Board of Internal Medicine
4	has no trouble with cognitive performance of
5	physicians. They use it to accredit
6	physicians. So if you have got a different
7	kind of performance measure under the
8	microscope, that has a different set of more
9	like a cognitive performance psychometric
10	approach. Maybe some examples by category of
11	things, whether it is and those kinds of
12	things might help people who are submitting
13	measures look at what you are asking them to
14	do.
15	DR. ROMANO: What makes it easiest
16	I think for NQF staff and steering committees
17	is if it is a menu. So you choose. You have
18	composite type A. Then you submit A1, A2, A3,
19	and that leads to this decision. If you
20	choose B, then you submit B1, B2, and B3. But
21	I think what we are saying is it is not that
22	simple.

	Page 100
1	DR. DE LONG: I was just going to
2	ask what are A and B.
3	DR. ROMANO: Well I mean A and B
4	would be hypothetically Model 1 and Model 2
5	here. But I think what we are saying
6	collectively is that it is not that simple.
7	That it does need to be sort of written out.
8	What is the concept that we are trying to
9	measure? And what is the aim of that
10	measurement? And then what are the
11	appropriate tools for evaluating whether the
12	measure is accomplishing those aims. Is that
13	
14	DR. KAPLAN: Yes, from the measure
15	developers' approach.
16	DR. DE LONG: But I understood you
17	to have different concepts, rather than
18	conceptual model one and conceptual model two,
19	that you listed three I think. And I thought
20	we were going down the road of maybe there are
21	different buckets that we could elucidate and
22	then start with A1, A2, and A3 in terms of

	Page 101
1	what the requirements are. Is that not did
2	I misunderstand you?
3	DR. KAPLAN: Well I think what I
4	was trying to say is there are different
5	approaches you would use to reliability for
б	one purpose or for one construct maybe and
7	there are different approaches you would use
8	for another. So if you gave examples, so if
9	you have what is the measurement today what
10	are you trying to measure? How do you know if
11	you are doing that consistently across a
12	composite? What evidentiary approach are you
13	going to use? And then for the validity side,
14	are you going to be accurate? But it is going
15	to vary by what are you trying to measure?
16	DR. ROMANO: Can we predefine all
17	the relevant buckets or is that a task that
18	fundamentally has to be left to future
19	discussion in future steering committees?
20	DR. KAPLAN: Well I don't want to
21	dominate this conversation but I think that
22	you could probably give examples that would

Page 102 1 elucidate that. For most people who are going 2 to come in with measures, you are not going to be people who aren't at least some kind of 3 4 cogency with respect to measurement aren't 5 going to come in with measures to begin with. So if you give them examples, here is the 6 7 kinds of approaches one could use in 8 estimating physician performance, in 9 estimating hospital performance, in estimating 10 this class of variables like if I am going to add up all more mortality for the hospital, 11 12 what evidence is there that that is a measure of the hospital's performance and is it 13 14 consistent across all subcategories of related mortalities that you are trying to evaluate? 15 16 So I don't think you can do it in a here is the Betty Crocker formula and you 17 are going to come out with a cake. You could 18 come out with a can of dog food. 19 20 And you don't want to end up 21 giving people -- being so rigid that you 22 really stifle because I think Alan is right.

1	
	Page 103
1	In this case we are at an interesting sort of
2	stage of the development in the clinical arena
3	of creating these composites and everybody is
4	all edged up about it. So I think if you
5	tried to be rigid about it at this juncture,
6	you would probably even stifle creativity. I
7	don't think it is a good idea yet to kind of
8	really lock people into one approach. If you
9	don't shove a chrome box alpha in there,
10	everybody's head is going to explode. I don't
11	think that is going to that is even
12	rational.
13	DR. SHAHIAN: No. There is a very
14	wide spectrum, however. I mean they are
15	trying to combine all risk-adjusted mortality
16	rates or determining physician reliability and
17	a thumbprint of a physician or a physician
18	group is on one end of the spectrum.
19	Getting the X elements of a
20	central line bundle or a ventilator bundle,
21	which makes no pretense whatsoever of having
22	any empirical basis whatsoever is at the other

	Page 104
	rage 104
1	far end and we are trying to encompass all
2	those within something we call a composite
3	framework. And I am wondering if the latter
4	really even belongs in this evaluation
5	framework.
6	DR. ROMANO: Well that is our next
7	topic for discussion.
8	DR. GOLDSTEIN: Yes, I guess
9	thinking about this, and I keep thinking about
10	the composites we use in my division, so we
11	have the CAHPS ones which are pretty straight-
12	forward. It is doctor communication or access
13	or things like that. But we also use
14	composites and we have never submitted this to
15	NQF so I'm trying to think how it fits in
16	there.
17	For example, for Medicare
18	Advantage we have an overall rating that
19	combines 50 different measures, some
20	individual ones, maybe NQF-endorsed, some not
21	and there are lots of judgments we have made
22	along the way with weighting of measures and

	Page 105
1	how we do the calculations and all of that.
2	So I was kind of struggling listening to this
3	how compositing differs a lot for what we do
4	on our surveys is very different when we are
5	coming up to evaluate a provider and coming up
6	with this overall rating to say this is a high
7	quality provider.
8	I'm trying to figure out how that
9	all fits together. And when you get
10	submissions, you are going to get at that wide
11	spectrum. And what you may do for a survey is
12	going to differ from what you may do for a
13	clinical measure.
14	I remember early on for the
15	composite forms for NQF, and I can't remember
16	if it was a home health survey or one of them,
17	we just struggled filling it out because it
18	was really made for a clinical measure and not
19	a survey measure. And I think it changed over
20	time. But you may need to think of different
21	things for different types of measures,
22	whether it is survey, whether it is process-

	Page 106
1	type measures, or whether you are measuring
2	kind of at that broad level of the quality and
3	performance.
4	DR. CHASE: I like this discussion
5	coming in here again because I was trying to
6	get to I think when you put together a
7	composite again you should have to say what
8	was your thinking about how this gets to be
9	used.
10	And so I take our example with
11	diabetes. It was an interesting one because
12	you have to put that in the context of the
13	reason why we did that composite originally
14	was because when you looked in the gaps in the
15	community, it was completeness of care. You
16	could see there were these five things that
17	were in the guideline and over here they did
18	these three well and over here they did these
19	three well. And there wasn't any rhyme or
20	reason of how that happened, other than just
21	sort of practice how it had rolled forward.
22	So that became the reason why an

	Page 107
1	all-or-nothing made sense to bring those
2	together. It wasn't about now people argue
3	against it around well it doesn't really
4	reflect reducing risk in patients. You know
5	when you do all-or-nothing, it doesn't help
6	you when a patient is at 7.1 for an Alc
7	compared to somebody at 9.0. You get the same
8	credit to bring both of them down to 7.0, so
9	it is no good. And they say well that is a
10	different measure. You can do a different
11	composite that would be about risk reduction
12	and then it would need a different kind of
13	testing because then how you construct a risk
14	reduction measure is going to have different
15	reliability than an all-or-nothing.
16	So I wanted to tell that one
17	because once I go through and say that is a
18	really important thing, then I think there is
19	another kind of measure that people are going
20	to bring to NQF, which was to the earlier
21	point about people are feeling like there is
22	way too many measures out there and it is too

Page 108 1 hard for consumers to understand. So I am 2 trying to get back to your point which is people are going to come and say well we want 3 4 to do a composite prevention measure because 5 it is silly to give people 12 different individual components and all they are trying 6 7 to do is make it simpler for people to see how 8 much prevention there is. 9 So is that good enough? Do we get to where we say we need a construct but at the 10 end of the day one construct may just be 11 12 because it makes it easier to use and are we 13 okay with that or is that -- and maybe there 14 is some science around what is acceptable in making it easier to use by just glomming some 15 16 things together. 17 So I am just curious what people 18 think about. If we are going to set this up, 19 are we really giving any differentiation 20 criteria for a review panel? 21 I wasn't going to DR. DE LONG: 22 posit an answer to that but I am curious about
Page 109

1 your distinction between quality of care and 2 risk reduction. Maybe a naive question, I'm 3 not sure I understand. I would think the 4 purpose would be risk reduction. And your 5 quality of care should be totally in sync with 6 risk reduction.

7 Yes, they both are DR. CHASE: 8 dealing with risk reduction but I am saying 9 you could construct them in two different ways 10 for a different purpose. If you are trying to show patients this is what you need to 11 12 completeness of care, you don't really care that the doctor is good at it with 90 percent 13 14 of the patients. You want to know about it for yourself and again, if that was it, as 15 opposed to this issue around now maybe we have 16 a different goal in the community around -- we 17 18 have pretty much got people accepting here is 19 the guideline and trying to implement it 20 consistently across the population. Now the 21 effort is let's be as efficient with resources 22 as possible. We are trying to get to what for

	Page 110
1	the given effort how much risk are we reducing
2	in a population?
3	So that is why I thought it was
4	really important to when you are bringing a
5	composite measure forward you should be
6	talking about you should have to articulate
7	why the measure is being why it is a
8	composite as opposed to the individual
9	components.
10	DR. BURSTIN: Just to follow up on
11	Jim's point and I think also to touch on what
12	Liz was saying, as well, we have heard
13	interest, for example, from CMS of saying can
14	you take a whole bucket of all these measures
15	that live on Hospital Compare that are cardiac
16	or a whole bucket of these measures that live
17	on Hospital Compare about something else and
18	just create composites? Would that be easier?
19	And so at the end of the day, even
20	if we get away from these conceptual models,
21	I still think it would be helpful, I think to
22	Jim's point of at least seeing if measures

	Page 111
1	came forward that took all 50 and said we have
2	taken all 50 because it is what we have got an
3	we think it is a pretty comprehensive view of
4	cardiovascular care and hospitals. What would
5	be required, other than saying we took the 50
6	we had in hand and here it is?
7	And so again, I am still struck by
8	Patrick's earlier point about this being a
9	spectrum. And I almost wonder for the
10	afternoon if it might be, if it doesn't take
11	us too far off base almost useful to kind of
12	almost create the anchors on the sides of the
13	spectrum and see if there might in fact be
14	different kinds of questions to at least give
15	a sense to developers of what would be
16	required to put forward. If you are bringing
17	a measure forward that truly is the 50
18	measures I have already got in hand in a given
19	topic area, what kind of additional analysis
20	is required for the construct to say it is an
21	acceptable composite versus the detailed
22	analytics David did to create the CABG

Page 112 1 composite, which I think is probably the other 2 anchor or the CAHPS composite. It might just be something to think about. 3 The only problem with 4 DR. KAPLAN: 5 that Helen is you end up sometimes adding up apples and airplanes and you can't. It has to 6 7 be driven at the base by some construct that 8 is clinically and from the -- it is not just, 9 those of us in the measurement science arena 10 can do a lot with the empirical stuff. But at base it has to be driven by the people who are 11 12 -- what is it you are trying to measure? And that is always definitional. That comes from 13 in this case it is probably the clinical and 14 the health services community. What are you 15 16 trying to measure? And then are these a good 17 reflection of it? Because you can add up 18 anything. But then the question is does that 19 make any sense to anybody or are you adding up 20 thing that are very, very different and very, 21 very divergent and although you can certainly 22 add them up and create an index. It makes

Page 113 1 absolutely no sense to anybody. 2 DR. GOLDSTEIN: I quess I was just 3 going to add to, and I don't know how this 4 fits in the NQF process, NQF process tends to 5 be kind of a long process. So if I think of our like our health plan program, we 6 7 reevaluate every single year the measures 8 included in our roll-up. So if we have 9 measures that are topped out, they go off, 10 quickly off. And plans don't like that because they say oh, we improved in that 11 12 That is a measure we are doing well measure. on and you see a mess and took it off. 13 But we 14 are reevaluating and we keep adding new measures to it in areas where we think we are 15 16 missing measures. So it is a really a dynamic 17 process and when the data goes live in October 18 each year, as late as August we may make a 19 This measure, one of our 50-something call. 20 measures there is an issue with it this year 21 and that will come off of it. 22 So it is a very, very, for that at

	Page 114
1	least, a very dynamic process. And when you
2	think of the NQF process, it works very well
3	for like the CAHPS measures or measures like
4	that that don't change basically year to year,
5	although there are differences and reliability
6	and things year to year that we look at for
7	the CAHPS measures and we make a decision to
8	take. We have, I guess one good example from
9	our CAHPS prescription drug plan survey that
10	we are seeing now. You know, very little
11	differentiation across plans. So we are going
12	to actually remove it from our rating system.
13	But how in this process are things
14	reevaluated really quickly and have more
15	dynamic process with NQF?
16	DR. BURSTIN: I don't want to get
17	us off track but we do have a process for
18	annual updates, as well as ad hoc reviews
19	anytime a measure changes. We are doing one
20	on Monday actually. So that is part of our
21	process. We have tried to be more nimble.
22	To me what it really speaks to is,

Page 115 I think, this issue of we have lots of 1 2 discussions with CMS over the years is this idea of are composites more conceptual frames 3 4 of which you pop things in and out or are they 5 actually grounded measures? And I think we 6 have had this debate at times saying it is 7 very hard for those being measured to say it 8 is a conceptual thing, we will pop things in and out. And yet I understand that the 9 10 reality of administering a program is things do sometimes change. It is an interesting 11 12 I'm not sure it is specific to this issue. 13 committee but it is one we have heard a lot 14 about. Well can't I just say I am using 15 endorsed measures and I am creating a 16 composite really essentially what the STARS 17 programs has done without bringing those 18 measures forward to NQF. 19 DR. ROMANO: Yes, I think it is an 20 important question. I mean ultimately at the 21 end of the day it is a choice of CMS or others 22 that are in this space as far as whether to

	Page 116
1	bring their composite to NQF for endorsement.
2	So CMS, others are free to
3	construct a composite and not bring it NQF for
4	endorsement. By bringing it to NQF for
5	endorsement, I think that there is an
6	implication that they are prepared to defend
7	it, that they are prepared to say that it is
8	based on a concept that they can defend, not
9	just because the individual measures are
10	useful but because the overall measure, the
11	composite measure has properties that make it
12	useful to decision makers.
13	So what I am hearing in general is
14	the sense that what we want going forward is
15	for measure developers to present a very
16	clear, articulation of what their measurement
17	concept is and how they designed their
18	composite to operationalize that concept and
19	related to that, how they intend people to use
20	it, how they intend it to inform the
21	audiences, decision-making or whatever.
22	And this is honestly this where I

	Page 117
1	am kind of with Liz in terms of saying well
2	isn't it all about risk. So this argument
3	maybe should be in steering committees. You
4	know you, others would have to defend your
5	concept and say well we think this is a useful
6	concept. And others would say well why is
7	that a useful concept? Because it all comes
8	down to patient outcomes. And if we are not
9	about reducing risk and improving outcomes,
10	why are we doing this at all? And then you
11	would come back with a counter argument. So
12	that argument can take place in steering
13	committees but probably we can't forestall
14	those arguments here.
15	I think that is what I am hearing
16	is we just want clear articulation of these
17	issues. Is that right?
18	DR. CHASE: So I just want to test
19	that because I would agree. But when a non-
20	composite measure comes forward are we putting
21	a new standard on there beyond the composite
22	itself? Because it sounded like you were

	Page 118
1	saying you have got to bring your theory of
2	how it would be used, which I would agree
3	with, but do you have to do the same thing if
4	you are bringing forward a single dimension
5	measure? And I think the answer is yes.
6	DR. BURSTIN: Yes.
7	DR. CHASE: And so all we are
8	adding in this is saying you have to do the
9	same thing in around why it is being
10	composited, as opposed to just again the
11	individual components that you can bring.
12	DR. ROMANO: And how it is being
13	composited because it may influence the
14	weighting methods that you use.
15	DR. SHAHIAN: But to Helen's
16	hypothetical 50 measures that we use and I
17	would just like to roll them up into one, is
18	it sufficient simply for one to articulate
19	that vision of their composite or do we
20	challenge the empirical basis of doing that,
21	as Sherrie has suggested?
22	I am not sure it is sufficient in

	Page 119
1	my mind simply to have the developer
2	articulate that that was what their vision
3	was. Otherwise, this becomes a free for all.
4	DR. DE LONG: I absolutely agree.
5	I am so much less interested in how they
6	developed it as how it works. And it seems to
7	me there has to be evidence that it is doing
8	what it was intended to do. And if you just
9	mash together a bunch of outcomes or processes
10	and they are actually shown to be effective,
11	it doesn't really matter what your perspective
12	was going into this, I think.
13	DR. SHAHIAN: And vice-versa.
14	DR. DE LONG: But you have to have
15	good evidence that they are valid. And we now
16	have some benchmarks to test against because
17	we have different types of measures.
18	For example if you bring forth
19	something developed using item response theory
20	and whatever and you test it against itself in
21	a split sample, you test it against some of
22	the other types of weighting so to speak, all-

	Page 120
1	or-none or whatever and it holds up, you have
2	brought forth evidence, it doesn't really
3	matter that you used item response theory
4	versus hierarchical modeling.
5	DR. KAPLAN: I think you need both
6	things and here is why. I think you need both
7	perspectives and the reason is suppose I had
8	the two trains left Chicago and a bunch of
9	questions like that. And so they were all
10	consistent and everything was great, except I
11	wrote them in French. And so what I really
12	was measuring was your ability to understand
13	French.
14	So yes, you can create composites
15	out of stuff but you will end up with Helen's
16	problem of adding up apples and airplanes
17	unless you have some expert-defined conceptual
18	approach that this is measuring X. And I
19	think it is measuring X. And then you have to
20	test it and make sure it meets the measurement
21	science standards of performance but you
22	bloody well better have a first idea that you

	Page 121
1	weren't measuring French instead of algebra.
2	So you have got to have that
3	undercurrent of understanding conceptual
4	grounding. And I learned this the hard way in
5	clinical circles, you had better be able to
6	defend that this measures diabetes care and
7	not patient sloth or something else that is
8	undercurrent. Maybe I attracted a bunch of
9	patients who are really, really couch potatoes
10	and lazy and yes, okay, it was my job to get
11	them to exercise but I can't come home and be
12	their personal trainer.
13	So you have to have measures of
14	what you are actually trying to measure,
15	physician performance, hospital performance,
16	whatever, grounded in some kind of conceptual
17	base.
18	DR. ROMANO: So I think in
19	response to David's, I think the solution here
20	is not lowering the bar. I'm not saying that
21	a developer can say anything but saying
22	basically that the developer has to articulate

	Page 122
1	the measurement concept and then show
2	empirically how what they have done is
3	consistent with that measurement concept.
4	And so that implies then the
5	Steering Committee can have two separate
6	discussions; one, if they like the measurement
7	concept, one if they accept the empirical
8	evidence, which might be different.
9	And so if I have been in the
10	meeting with Jim, Liz and I would have argued
11	against his conceptual framework but we might
12	have perfectly accepted the empirical evidence
13	but fundamentally those are two separate
14	discussions. Is that fair? But both of them
15	need to happen.
16	DR. ZASLAVSKY: I suggest that
17	maybe the action item here is to commission
18	the paper that organizes it in a kind of
19	simple way some of these different kinds of
20	rationales and conceptual bases for and give
21	some examples, as Sherrie says so that people
22	is it not going to be a dropdown menu. Not

	Page 123
1	in our lifetimes and hopefully never. But
2	there are a number of useful concepts that are
3	rationales for putting things together in
4	particular ways and doing certain kinds of
5	analysis. And people can be encouraged to use
6	one or maybe more than one would be better
7	because if something can be justified on more
8	than one basis or evaluated on more than one
9	basis, you have a strong evidence base and
10	this would be something that people submitting
11	these would be asked to refer to in developing
12	their own short statement of conceptual basis
13	and intended use of their measure.
14	DR. ROMANO: I like that idea. I
15	mean there is some previous work that we can
16	draw on, both I know Sherrie wrote a previous
17	paper I think for NQF. You have written some
18	work. So I think there are some elements that
19	potentially we could borrow from. And
20	obviously NQF staff will have to make a
21	decision about the commissioning per se.
22	Do people generally agree with

-	Page 124
1	that recommendation?
2	MS. PAGET: I like that idea as
3	well but I guess I think this is the place for
4	this comment and maybe it is editorial and
5	maybe it is more than that. But somehow it
6	would be really advantageous if we could, and
7	I think this is in our jurisdiction also help
8	define for these measure developers, when you
9	use terminology such as optimal and your data
10	source doesn't include the patient, I don't
11	know if it is optimal or not. So optimal or
12	universal or any of this kind of terminology
13	that implies that boy you hit that composite
14	and you are golden and yet no one is deriving
15	systematically any information from the
16	patient him or herself. Somehow I would like
17	to be able to embed that into some of these
18	principles that we are talking about.
19	DR. ROMANO: Yes, okay so let's
20	put that on parking lot. There may be more
21	terms that we want definitions around. So
22	when people use the term optimal or when

	Page 125
1	people use the term there are other terms
2	that we have seen. Maybe we ought to have
3	more definitions so let's put that on the
4	parking lot.
5	Before we take a break oh, I'm
6	sorry. Was there another?
7	Oh, before we take a break I would
8	like to see if we can get some discussion or
9	some agreement about these other conceptual
10	models that Karen and her team has summarized
11	here. And I think that the concept here is
12	that although we don't necessarily have to
13	have specific bins within composites, we do
14	have to have a process where people declare
15	whether they have a composite or not. So that
16	we can't avoid. So because NQF has to have a
17	separate forum. They have to have a separate
18	process for evaluating composites.
19	So there is a need, I think, to be
20	clear about what actually represents a
21	composite and what doesn't. And as Karen has
22	suggested, there has been some inconsistently

Page 126 1 in previous NQF processes about that. 2 So let's see if we could -- so the specific terminology that NQF has used is that 3 a composite is a combination of two or more 4 5 individual performance measures in a single 6 measure that results in a single score. So 7 going to table three for example, one 8 implication of this we think is that when you 9 have a "composite" that is actually conceived 10 of as a single measure that is based on multiple items, that would not be considered 11 12 a composite from the standpoint of NQF review. In other words, that is just saying that in 13 14 order to assess this concept, you need to ask 15 seven questions, seven items. And each of 16 those items is not a performance measure in 17 itself. Those are just the components of a 18 single measure. A measure of communication, 19 a measure of timeliness, whatever it is. 20 So that would, I think exclude 21 many of the CAHPS-based composites, wouldn't 22 it, that have actually been reviewed as

Page 127 1 composites? 2 So what do you people think about Do people see that? Because again the 3 that? idea here is that NQF is treating a composite 4 5 in a little different way maybe than what psychometricians do which is that a composite 6 7 is a composite of measures, not a composite of 8 survey items. 9 DR. BIRKMEYER: Can I see if I 10 understand the distinction that you are trying to draw? Because I am not sure that I do. 11 12 Are you saying that an instrument that has multiple items that are trying to 13 14 measure one thing at the patient level, that we know is not a composite measure. 15 But things that are rolling up measures of 16 performance at the provider level, those would 17 18 be. 19 So is this just a patient level 20 versus higher level distinction that you are trying to make or is it subtler than that? 21 22 DR. ROMANO: No, no. I don't No.

1	Page 128
-	
1	think it is subtler. It is just different.
2	I think if you have, for example,
3	and again I am going to defer to the CAHPS
4	experts, but if you have a number of items
5	that are necessary to create a reliable
6	measure of physician-patient communication,
7	that is a single measure of physician-patient
8	communication that is built on a set of items.
9	But if you then say that I am going to create
10	a composite measure of patient experience with
11	physicians or patient experience with
12	hospitals that rolls up five different aspects
13	of the patient's experience with the hospital,
14	that becomes a composite that NQF reviews
15	differently as a composite because it is built
16	on five different measurements.
17	DR. BIRKMEYER: This is a question
18	are the measures rolling up to one domain of
19	performance or multiple domains?
20	DR. DE LONG: That's not how I see
21	it, actually. I see it as you could have an
22	instrument that is for the purposes of

1	
	Page 129
1	assessing patient-doctor communication. You
2	could also apply a question to a doctor. That
3	is the same domain. How do you communicate
4	with your patients? How much time do you
5	spend with them and whatever? That is in the
6	same domain. It is measuring the same thing
7	but it is not it is a different item, a
8	different measure.
9	The other one was a survey that
10	you asked and it had 36 items and the patient
11	filled out all 36, we hope. That is an
12	instrument that has its own measurement
13	properties. You could roll up those two as a
14	composite. They are in the same domain but
15	they are not the same thing. But we are
16	considering all the questions in the survey as
17	in one bucket as the outcome of that survey is
18	the measure.
19	DR. ROMANO: I mean just oh,
20	Helen wants to speak. But just to give a
21	specific example.
22	So in measuring blood pressure for

Page 130 example we commonly say that people need to 1 2 take two or three blood pressures measurements 3 and average those. So conceptually, that is the same thing as asking two or three items on 4 5 a particular domain and saying that we have to use that in order to construct a reliable 6 7 measure of a single clinical concept. 8 DR. BURSTIN: Well let me just 9 follow on the CAHPS example because that is 10 actually one we have thought a lot about and Liz and Alan and others can weigh in here. 11 12 So for example we don't endorse the CAHPS survey. Very clear. Lots of items 13 14 in the individual CAHPS survey. We don't endorse the CAHPS survey or the items within 15 it. We do endorse the score based -- a 16 17 performance measure based on the use of the 18 CAHPS instrument. 19 The question is, if the CAHPS 20 performance measure includes five domains that 21 are separately reported out and publicly 22 reported as separate domains, is that really

	Page 131
1	any different than individual measures, if
2	each of those components becomes essentially
3	a measure to be publicly reported? Is that in
4	some ways a composite performance measure?
5	DR. ROMANO: That is what we are
6	saying. Under this framework, this would be
7	viewed as an individual measure and not
8	treated as a composite measure.
9	DR. BURSTIN: The CAHPS? A CAHPS
10	performance measure would be an individual
11	measure rather than a composite, even if it
12	has individual components to be publicly
13	reported?
14	DR. ROMANO: Oh, no. It is when
15	you are rolling up the five domains that it
16	becomes a composite. The individual domains
17	are not composites.
18	DR. BURSTIN: Yes.
19	DR. KAPLAN: Okay, now I am really
20	lost.
21	So back to sort of where I am
22	trying to kind of get my arms around this.

	Page 132
1	There are things we call higher order
2	constructs like mass that each have I am
3	trying to kind of Shelly hates it when I do
4	the math example, but my husband is a
5	physician so he likes sort of more clinical
б	examples. But math is a good one because it
7	has algebra. It has all of these components
8	we are all familiar with. But if I used a
9	single item to estimate any one of those
10	individual things, you would be very unhappy.
11	And if I published that single item like
12	algebra with one question, you would be really
13	unhappy.
14	Those are also complex constructs.
15	They need multiple items. So just like CAHPS
16	has patients' experience with doctor
17	communication, did you like the front office?
18	The facilities, were they clean or dirty,
19	blah, blah, blah.
20	Now I am going to create a higher
21	order construct and wind those all up into a
22	score.

	Page 133
1	So we have got these complex
2	constructs and then we have higher order
3	constructs. Supposing you wanted to measure
4	obesity. I can use, by the way, also a
5	composite, the body mass index. Then I can
6	add truncal obesity. Then I can add whatever
7	water displacement super-duper thing I have at
8	my hands. Then I can add something else.
9	Your reports about whether or not you gained
10	a belt size in the last six months or a dress
11	size in the last six months.
12	I can add all those things up and
13	I am creating a higher order construct called
14	obesity. So I think we are getting caught up
15	in this composite business. Anything that you
16	use more than one thing to estimate, in my
17	view, is a composite. And what you do with
18	that afterwards and what you are trying to
19	represent become the construct you are
20	actually trying to represent. And as that
21	moves further and further away from and gets
22	larger and larger and much more

Page 134 multidimensional, that is when you get these 1 2 higher order things that have all of this interior that could be separately reported but 3 also needs to be evaluated to the extent it 4 5 represents this higher order construct. 6 DR. ZASLAVSKY: I'm not sure there 7 is an entirely principle of answers to that, 8 the question that you asked Patrick in that if someone came in with an SF-12 and said that we 9 10 wanted to report this out, you are probably not going to start over and form a committee 11 12 to examine whether that is an adequate 13 construct, even though it is a composite. 14 The CAHPS items, there are certain groups of CAHPS items that have been used for 15 16 12 years. You are probably not going to spend a lot of time on that but if someone came in 17 18 with another version of the CAHPS survey, of 19 which we are working on about five of them 20 right now, and had another set of items that 21 were put together as a single construct, you 22 probably would look at that.

	Page 135
1	So it is really, I think, more a
2	question of the history and the existing
3	evidence base of former scrutiny, rather than
4	any real difference in principle between what
5	you are looking at in those different
6	situations.
7	DR. ROMANO: Yes, I think what
8	I am really trying to help NQF here. And so
9	from the NQF perspective, NQF is about
10	performance measures, not items, measures that
11	are used to say something about provider or
12	plan performance that are used to drive the
13	market, that are used for public reporting,
14	that are used for accountability and so forth.
15	And so you may call those things
16	composites just because they have five items
17	that are all algebra questions. And of course
18	it is obvious that you can't say anything
19	about people's ability to do algebra without
20	asking them at least five questions. You may
21	call that a composite but from the NQF
22	perspective, that is not a composite. That is

	Page 136
1	just that you need five questions to address
2	this single concept.
3	What makes it a composite from
4	NQF's perspective is that you are taking
5	multiple measures that are performance
б	measures that are separately reported as
7	performance measures that say something about
8	different domains of performance and you are
9	rolling them up into a higher order, if you
10	will, a higher order composite that addresses
11	a larger concept. Is that helpful?
12	DR. DE LONG: So can we have
13	clarification? You indicated that the SF-12
14	in your terminology is a composite. My
15	understanding, according to what you are
16	saying, is that it is a measure that has 12
17	items.
18	DR. ZASLAVSKY: Well let's take
19	two really clear cut examples. If you do your
20	three blood pressure reading was your blood
21	pressure while doing jumping jacks, your blood
22	pressure while lying on the table and the

	- 105
1	Page 137 blood pressure while eating lunch, those would
2	be three different measures that you composite
3	in a particular way.
4	If it is just taking three
5	randomly chosen algebra questions or three
6	measures just at randomly chosen times under
7	the same circumstances, then that is not a
8	composite. That is just replication of the
9	same measurement.
10	But if you look at the CAHPS, like
11	the CAHPS getting care quickly scale, asks
12	about getting care quickly when you need an
13	urgent visit and getting care quickly for a
14	routine visit, you know, getting appointments
15	for a routine visit. Those are different
16	things. The decision to put those things
17	together is based on a conceptual model of
18	their content, mainly of their content-
19	relatedness, although to some extent, based on
20	psychometric evaluation as well.
21	And so somewhere someone had to
22	look at that and make a judgment about that.

	Page 138
1	Once that is done, you are not going to
2	revisit that every time you use that measure
3	and you may, for future purposes, think of
4	that as being one measure when you think about
5	going up to a higher level super composite.
6	But there was a process initially
7	of treating that as a composite because it
8	wasn't really three different items. The SF-
9	12, you know, I don't know there might be
10	whether you are sad and blue or happy and
11	pink, or whatever the different items there,
12	and they are different questions. And there
13	was again some decision made about how you
14	form those together, which we don't revisit
15	every time we use it. But there was some kind
16	of a process, a lot of process that people
17	went through in order to get there.
18	DR. BURSTIN: Just one thing, and
19	I am not sure if it is helpful but this was a
20	major issue for us as part of this PRO work we
21	just did. And I can't tell you how long it
22	took for the committee to agree on what these

	Page 139
1	things are all called but let me just try this
2	because I think it was helpful.
3	So in the PRO context, the patient
4	reported outcome was the concept and we
5	actually used the Minnesota measure of
6	depression as a way to sort of explain this.
7	So PRO content is want to look at
8	depression. That is the concept, the PRO. We
9	then talked about the PROM. People talk about
10	patient-reported outcome measures. In that
11	case, it is the PHQ-9, which is a standardized
12	tool used to assess depression. To me, the
13	CAHPS is a standardized tool used to assess
14	patient experience of care.
15	We then tried to make a
16	distinction of a PRO-based performance
17	measure, a PRO-PM as we called it, which was
18	the performance measure based on use of the
19	tool.
20	I think what Patrick is trying to
21	say is we are not going to get into the issues
22	of the tool itself or the components of the

	Page 140
1	tool. We will get into it only insofar as it
2	relates to the use of the measure for
3	performance assessment. And I think that is
4	probably enough. And I don't think we need to
5	do too much more on this.
6	DR. DE LONG: But one of our
7	mandates here is to define a composite. And
8	I think we are still not there with respect to
9	whether the CAHPS survey is
10	DR. BURSTIN: Wait a minute.
11	Maybe I am off but I feel like we are there.
12	DR. DE LONG: Okay.
13	DR. BURSTIN: I feel like we have
14	a reasonably good sense that the tool/survey
15	is not the performance measure. It is not
16	what NQF endorses. It is the substrate around
17	which people develop a performance measure.
18	We are only endorsing the performance measure.
19	So there may be complex concepts as part of
20	surveys. That is all well and good but when
21	it gets to NQF, we are talking about the
22	measure around it, rather than the survey or

	Page 141
1	the tool.
2	DR. ROMANO: So it is important, I
3	think, that we need to be clear throughout
4	that we are talking about composite
5	performance measures, not composite measures -
6	_
7	DR. BURSTIN: Correct.
8	Performance measures.
9	DR. ROMANO: but composite
10	performance measures.
11	DR. BURSTIN: Correct. Yes.
12	DR. CHASE: So I would agree with
13	this. I think we can be there with once there
14	is a standardized tool that is not a
15	composite. Because this is helpful because
16	when you are submitting something you want to
17	know if you have to check that box or not.
18	The one I think there were there
19	is another area of gray that you mentioned in
20	this, as I recall, is what about multiple sort
21	of measures of a particular thing? And I will
22	give the example of and let's not get into

	Page 142
1	the clinical stuff because I won't get that.
2	If we were saying LDL control, you
3	could construct a measure that says you either
4	your LDL was either below a certain level or
5	you were on a statin. Those are two things
6	and they are being combined. To me, that is
7	not a composite measure. That is two ways to
8	ask the same, to evaluate the same thing and
9	that might be helpful, too with some guidance
10	of when it is multiple pieces identifying
11	something, unless you are somehow constructing
12	it in a different way. When it is just
13	multiple yes/no to get to the same question,
14	that is not a composite.
15	DR. ROMANO: So you are talking
16	about sort of Boolean logic in general, where
17	there is a set of and statements or or
18	statements that are necessary
19	DR. CHASE: Yes.
20	DR. ROMANO: for the
21	construction of the measure.
22	DR. CHASE: Right. Again, you can

	Page 143
1	take it to a far degree where we might say now
2	you really are a composite. Because again I
3	think these can morph into some gray areas.
4	But there are a lot of things that come
5	probably to measurement where there are
6	multiple things being assessed but they are
7	really still the same thing.
8	DR. BURSTIN: And this comes up
9	with us a lot, people submitting measures as
10	measure pairs. Always look at this measure
11	with this measure. And we struggled actually
12	about whether or not we should bring to you
13	the issues of pairing, tripling, and
14	quadrupling and we decided not to for your
15	sake and ours because it is a complex issue
16	but we don't believe those are composites
17	either.
18	DR. BIRKMEYER: Well then I don't
19	get the definition, then. And I appreciate
20	like how simple that example is. You know,
21	you have got a process measure that a person
22	is or isn't on a statin and you have got some

Page 144

1 continuous measure of the LDL and you are 2 combining that around a construct of LDL 3 management. And I don't understand -- and they 4 5 are measuring different things but it is under the umbrella of a single construct and I don't 6 7 understand how given what the measure is of a 8 composite, why that is not a composite. 9 DR. BURSTIN: Because I think they 10 are not separate measures. I mean let me play that out because actually that is a good 11 12 example. 13 We will sometimes see measures 14 come forward and again, depending on the data 15 source, they may say you can capture LDL control in one of several ways. One way is to 16 17 actually be able to have the actual laboratory 18 data and say LDL is less than 100. 19 One other way may be and there is 20 pretty good evidence in the cardiovascular to 21 say statin alone is probably good enough.

So in some ways even irrespective

Neal R. Gross & Co., Inc. 202-234-4433

22
	Page 145
1	of the LDL level that you would actually
2	combine those constructs and say either of
3	those meets the numerator for this measure.
4	It is not as if they are two separate scores,
5	two separate measures combined into a single
6	score. There are different ways of
7	representing, I think the same concept. It is
8	fuzzy, John. I'm with you.
9	DR. ROMANO: But I think that it
10	is the same. It is the same thing that we
11	just talked about, which is that in order to
12	measure a single concept you have to look at
13	two different pieces of information. Another
14	example is very common in clinical studies to
15	assume that anybody who is on an
16	antidepressant as depression, even if their
17	PHQ-9 score is fine. So it is the same thing.
18	If you define depression as being on an
19	antidepressant or having a PHQ-9 score, you
20	have predefined that that is what is necessary
21	to define that concept. It is not compositing
22	two different performance measures. It is

Page 146 1 saying that you need two different items of 2 information to address a single performance 3 concept. I'm sure that I 4 DR. BIRKMEYER: 5 will learn more but I still haven't guite gotten to the point where this is anything 6 7 more than just a simpler version of the 8 advanced diabetes care instrument roll-up and 9 a much simpler version of the STS version 10 where you are taking like one measure of a process of care and another version of an 11 12 outcome. So but I will stop talking. 13 DR. ROMANO: Well I mean I think 14 we might or might not agree with that 15 particular example. I mean, I think Helen's 16 17 example may be clearer. So you may push back 18 on Jim's example and way well that is not a 19 good example of the phenomena. 20 DR. BIRKMEYER: Well I certainly 21 get kind of the multiple items within one 22 instrument that gets applied at the patient

	Page 147
1	level thing as like one measure and then gets
2	rolled up to a provider. That I get. And
3	that is what the opening document of NQF says
4	and I get that distinction. But this other
5	example to me feels like it is very different.
6	DR. KAPLAN: I'm worried and I
7	don't want to be responsible for delaying our
8	break here but I am worried that this is
9	I'm lost, too. Because for me the data source
10	is irrelevant. If your survey I don't
11	care. If it is a multi-dimensional construct
12	and it comes from a survey, so what? It is
13	still a multi-dimensional construct. What I
14	thought Helen was originally saying was we are
15	treating those little multi-measure and don't
16	get lost on the item versus measure, every
17	single one of these things is a measure, it is
18	just collectively they measure a different
19	concept or a concept together.
20	But the problem that I am having
21	is you are really, I think, NQF is talking
22	about higher order constructs. For me, you

Page 148 are starting to add up patient experience data 1 2 with hospital mortality data, with patient safety data and now you have got a real mega-3 construct about how good this hospital is. 4 Do 5 I want to go there? Whatever that is, that is a real mega-construct. 6 7 Now you have got higher order constructs that are combining information from 8 9 various different sources and that we 10 shouldn't get lost on. They could all come from the same data source but they measure 11 12 different things that collectively now measure something larger. 13 And so if that is NOF's definition 14 of a composite, then strike the one that is in 15 the document now because that is confusing. 16 17 It confused me. Just adding up two or more 18 things, it depends on what you are trying to 19 represent. 20 And I think, Helen, what I 21 understand you guys trying to represent is 22 something larger than the patient experience

	Page 149
1	data or collectively or even taking all the
2	patient experience data collectively. It is
3	something higher order than these measures of
4	stuff that can be multi-item, multi-component.
5	But it is a real higher order construct that
б	you are talking about.
7	DR. BURSTIN: It is always higher
8	order. I think at times we have seen I
9	mean in the last year we had a cardiovascular
10	project. A series of measures came in for
11	patients who had implantable defibrillators.
12	They should be on this. They should be on
13	this. They should be on this. Cardiovascular
14	was like, this is nonsense. They should be on
15	all of those. Make it a composite. So ACC
16	took it back and made it a composite.
17	It is not necessarily something
18	higher again, I don't want to get hung up
19	on what is higher order to me versus higher
20	order to you. I just think the end of the day
21	the idea was those individual measures they
22	stood alone told very incomplete parts of the

Page 150 picture and the cardiovascular committee was 1 2 left uncomfortable that anybody would use any one of those measures in isolation and assess 3 4 the quality of care that that cardiological 5 service was providing for patients with ICDs. DR. KAPLAN: Well let me come back 6 7 to them and ask a question. Supposing I have 8 a new measure of participatory decision-making 9 so it is not a new measure. But supposing now 10 I have -- I am trying to get a sense of whether or not doctors include patients in 11 12 treatment decisions. And I have seven items that measure that. They all come from a 13 14 survey. That is a composite measure but --15 DR. BURSTIN: A composite 16 performance measure. Okay, now I am still 17 DR. KAPLAN: 18 stuck on -- and if I am lost, the odds are at 19 least 50-50 that somebody else will be lost. 20 DR. BURSTIN: I think it is 21 measure/tool -- I mean, people call those 22 things all kinds of things.

	Page 151
1	DR. KAPLAN: Well first of all I
2	like instrument because a tool is to dig and
3	shovel and an instrument is to make smaller
4	things with. But if you have got so then
5	you have to, I think, inform the field about
6	what you are meaning by performance assessment
7	composites and make the definition more
8	related to that. Because it is still
9	performance if the physician is being
10	evaluated on a set of skills if they come from
11	the patient, they come from the chart, they
12	come from here. They are still being
13	evaluated on a set of skills. If you don't
14	mean to include interpersonal care as that set
15	of skills, then that is an important
16	distinction to make.
17	DR. ROMANO: Well we are overdue
18	for a break. So I think we might have a
19	couple of offline conversations during the
20	break but everybody rejuvenate themselves on
21	coffee or whatever your preferred beverage is
22	and we will come back in ten minutes, I guess.

Page 152 (Whereupon, the above-entitled 1 2 matter went off the record at 10:55 a.m. and 3 went back on the record at 11:13 a.m.) DR. ROMANO: Well let's go ahead 4 5 and reconvene. Dale, are you still with us on the phone? 6 7 DR. BRATZLER: Yes, I am. 8 DR. ROMANO: Wow. Thank you for 9 your patience. 10 DR. BRATZLER: I set aside the whole day to be completely available. 11 12 DR. ROMANO: Okay. We can't read 13 your body language so just feel free to 14 interrupt as you deem appropriate and we will 15 respect that. 16 DR. BRATZLER: Yes. It was a very fascinating discussion. I'm not sure I could 17 have added much. 18 19 DR. BURSTIN: Dale, this is Helen. 20 So I think we are going to talk a little bit 21 about all-or-none. You might want to give us 22 some of your insights from those measures you

Page 153 guys were using in the QIOs as well. 1 2 DR. BRATZLER: Okay. So would you like for me to go ahead at this point? 3 4 DR. BURSTIN: Not quite yet. 5 DR. ROMANO: Wait a second. DR. BRATZLER: Yes, okay. All 6 7 right. 8 DR. ROMANO: So I think that the 9 bad news is that we have gotten through one out of a whole list of questions. 10 11 (Laughter.) 12 DR. ROMANO: But the good news is 13 that that question is so big it has really 14 encompassed some of the other questions within So we may have made more progress than we 15 it. think and we have certainly come to recognize 16 the complexity of this space. 17 I think one of the lessons that 18 19 came out of my offline discussions during the 20 break is that really the measurement science 21 tools that many members of this committee 22 bring to the enterprise that these tools need

Page 154 1 to be brought into the discussion of all 2 measures, including measures that we may describe as not being composite measures for 3 the purpose of this discussion. And this kind 4 5 of leads into some discussion of these Boolean measures. And so I wanted to get those issues 6 7 on the table and then we will go into a little 8 bit more about this business of component 9 measures. So we have had a number of 10 measures that have had Boolean logic, either 11 12 a series of, if you will, as Alan mentioned in the break, serious reportable events where it 13 14 is a series of things that did the patient have this, or this, or this, or this, A, or B, 15 or C, or D. It is a long list of 16 17 complications, typically. Those are sometimes viewed as 18 19 composite measures. Sometimes they are viewed 20 simply as a single measure that may have 21 several different components. 22 Similarly, we have these all-or-

Page 155 none composites that are based on the premise 1 2 that providers must do A and B and C and D and If they do all those things, they get 3 Ε credit. If they don't do all those things, 4 5 they don't get credit. And so the question is are these 6 7 scoring methods for composites or are these 8 different types of measures? Should these be viewed -- and I think our discussion, your 9 chair's discussion with staff before suggested 10 that these types of measures should really be 11 12 viewed as single measures, where the developers are coming to NQF and saying that 13 we think that in order to measure this 14 construct, it needs to be done with a series 15 of ten questions and it needs to be formulated 16 17 as A and B and C and D and E. And so the 18 notion then is that these are not separate 19 performance measures but these are ten items 20 that are necessary in order to tally a single 21 performance measure. 22 So is that a distinction without a

Page 156 Is that useful? 1 difference? 2 So with that construct then, allor-none scoring and any from a list would not 3 be considered composites for a separate review 4 5 They would go through the process process. 6 being considered as individual measures. Is 7 that -- am I summarizing that, Karen? So what 8 do people think? 9 DR. BRATZLER: Patrick? 10 I'm sorry. DR. BIRKMEYER: We discussed this a little bit at the break. 11 Tt. 12 seems like we are trying to draw a dotted line at like what altitude do you need to get to be 13 14 a composite lover. But at the end of the day, 15 does this matter only to the extent of like 16 which committee or group to these measures go 17 to or is it more important than that? 18 DR. BURSTIN: It is more 19 substantive in that it then leads to a whole 20 set of questions about whether we need to get 21 into a deep dive on the components within the 22 composites.

	Page 157
1	So this is one issue. If an all-
2	or-none is not considered a composite, then
3	how do we handle the components within them
4	and the efforts to harmonize with existing
5	measures?
б	DR. BIRKMEYER: But just to
7	follow-up, you know, if it went to the
8	composite evaluation process versus the
9	regular, would there be a different level of
10	scrutiny on the components that roll up into
11	whatever it is that is being measured to get
12	more slack of you go one way or the other?
13	DR. BURSTIN: According to our
14	criteria, yes. In that
15	DR. BIRKMEYER: Which is more
16	stringent?
17	DR. BURSTIN: The composite
18	measure evaluation criteria would specifically
19	require that the component measures either be
20	evaluated to see if they are stand-alone
21	measures or at least meet criteria for
22	appropriateness within the composite, even if

Page 158 not endorsed as stand-alones. 1 2 DR. BIRKMEYER: So if you had a measure that could be demonstrative -- whose 3 validity and usefulness could be demonstrated 4 5 at the summary level but not at the component 6 level, then it would be one would 7 preferentially not want to go through the 8 composite evaluation process. Am I 9 understanding that right? 10 DR. BURSTIN: I actually never thought of it that way before but I guess that 11 12 is one way to flip that on its head. I always think of it in the other direction of saying 13 14 then you have to go look at the components as 15 opposed to the flip of not. 16 DR. BIRKMEYER: Because I would 17 have guessed just the opposite. I mean, 18 before I got into this process I would have 19 guessed just the opposite, that the whole 20 process of breaking out in evaluation process 21 for the composites is the focus on sort of the 22 measure characteristics at the summary level

	Page 159
1	and not at all of the little pieces.
2	We already have a process in place
3	that can evaluate all of the little pieces.
4	DR. BURSTIN: Should the little
5	pieces then be submitted separately?
6	DR. KAPLAN: I wasn't going to say
7	anything before lunch
8	(Laughter.)
9	DR. KAPLAN: but now I am a
10	little bit I am even more lost. Because if
11	take the diabetes I hate to harp on
12	diabetes but it is an example I know the best.
13	If you were going to say and we just told the
14	National Association of Public Hospitals to
15	push back CMS on this very issue about the
16	all-or-none scoring for the diabetes measures
17	taken as a group. So if there are nine of
18	them, say, and I was going to create a
19	composite for institutional-level performance
20	and it was going to be an all-or-none, it
21	wouldn't go to the composite. You have to
22	have A and B and C and all the way to nine.

	Page 160
1	It wouldn't go through the composite process
2	but if I was going to say I am going to
3	evaluate how many of these you got and give
4	you a score however I do that, then it would
5	go through the composite process.
6	DR. BURSTIN: That is why we have
7	always treated all-or-nones or weighted
8	composites the same. And they do go through
9	the composite process.
10	DR. KAPLAN: All-or-none scoring
11	of it would still not be enough would be
12	enough wouldn't trip it into some separate
13	review process. It is still a composite?
14	DR. BURSTIN: In our current
15	parlance, it is still a composite and that is
16	a question for you. Is that reasonable?
17	But at the same time we do ask the
18	committees to go through we just went
19	through this. We have a colonoscopy quality
20	index that just came to NQF, was submitted on
21	a single form, all nine components or ten
22	components on a single form. The committee

	Page 161
1	had some concerns with two or three of the
2	components out of nine of being perhaps not as
3	evidence-based as they would prefer.
4	So at the end of the day, do they
5	thrown out the entire composite because two or
6	three of them they didn't think rose to the
7	level of the others? Should that have been
8	submitted on nine separate forms so that we
9	actually can take the deeper dive. Ultimately
10	we will end up re-reviewing the measure and
11	force the committee to go component by
12	component because otherwise we just couldn't
13	make sense of it.
14	DR. ROMANO: Well, okay. So let
15	me get radical here, which is so I am feeling
16	a lot of confusion and a lot of push back or
17	concern about sort of trying to draw this
18	bright line between what is a composite and
19	what is not a composite and what undergoes
20	composite review and what doesn't.
21	So maybe we should throw out this
22	whole distinction and just go back to measures

Page 162 1 and we just have measures. And so if a 2 measure developer comes to NOF and says I have It happens to roll up five other 3 a measure. measures but at the end of the day, it is 4 5 supposed to measure some concept. And that 6 measure can be evaluated using the appropriate 7 tools. 8 Is it conceptually -- I mean I 9 think this is getting to your point. Is it 10 conceptually different to have all or none scoring versus some kind of weighted scoring, 11 12 to have a separate process for those two to be evaluated? An easier process for one than the 13 14 other doesn't feel right. Is that what you are getting at? It doesn't feel right. 15 16 DR. KAPLAN: Yes. To me, you have 17 got nine things that you are measuring and 18 your collectivizing them some way or the 19 other, the scoring is irrelevant. You are 20 still collectivizing them. If you turn them 21 and score them, if you all-or-none score them, 22 if you do mean scores, you are still pulling

I	
	Page 163
1	together a set of things that measure what we
2	are going to call diabetes quality. And maybe
3	I don't even have enough of them for certain
4	levels of performance assessment or maybe I
5	can get away with fewer at other levels of
6	performance assessment but together they
7	measure diabetes quality. And that is what,
8	for me, represents a composite.
9	DR. CHASE: So I would agree. I
10	don't think it makes sense to just totally
11	so all-or-nothing composites never have to
12	come through a process. But how they are
13	dealt with once they are there could clearly
14	be different because I think what would be
15	nice to avoid is and correct me if I am
16	wrong. But it has felt like sometimes there
17	is a discussion that has gone on about those
18	that like all-or-nothings and those that
19	don't. And so that becomes the discussion, as
20	opposed to if an all-or-nothing measure came
21	through and its four components are all
22	endorsed measures, what seems to be in front

	Page 164
1	of the committee is really just a question of
2	do we think those four things hang together?
3	Do they make sense? There shouldn't be a lot
4	of additional review about it, whether an all-
5	or-nothing is the right to do, especially if
б	NQF is saying as a principle, we endorse that
7	under certain circumstances.
8	There are other situations where
9	if somebody is bringing a composite that
10	weights those in different ways, then I think
11	there is an extra step, which is does the
12	weighting make sense. I mean then I would
13	think that you move into a different direction
14	with the committee of saying you also need to
15	assess whether the weighting is okay.
16	Now that may also not be a fair
17	distinction because why shouldn't the
18	committee say we want to assess whether all-
19	or-nothing is a kind of weighting. And so we
20	should have the same rights to do that.
21	So maybe there is no distinction
22	there at all.

	Page 165
1	DR. BIRKMEYER: But I actually get
2	that distinction. Kind of the all-or-none
3	measures for which at the end of the day there
4	is no empirical criterion standard at which
5	you are assessing this composite against.
б	There is no science underlying the weighting,
7	other than the collective judgment of somebody
8	that put these things together.
9	In that particular instance, sort
10	of the validity of the components is really
11	the only thing that you could assess. There
12	is the complete opposite end of the spectrum
13	with composites that they are being evaluated
14	against some criterion standard like mortality
15	with a procedure and all of the science is not
16	around the components and whether they are
17	valid but the statistical or other weighting
18	approach by which they get put together and
19	those to me feel like they need to be
20	evaluated with a different lens. And I don't
21	care like where they go or what they are
22	called, but they are very different.

	Page 166
1	DR. ZASLAVSKY: I will just repeat
2	the point I made to Patrick on the break is
3	that the kinds of issues that come up when you
4	put together, call them measures or items
5	I guess we are not calling them measures if
6	they are not reported out. Whatever we are
7	putting together, the kinds of issues that
8	come up are some of the same issues come up
9	regardless of whether you are putting together
10	a bunch of things that are never events in
11	surgery or something like that or putting
12	together items on the CAHPS scale. And there
13	are different ways of doing that. And what I
14	am concerned about is that there should be
15	people in the room when those measures, those
16	consolidated measures, whether you call them
17	composites or not, are being evaluated who
18	understand some of the issues in deciding to
19	do all-or-none scoring versus a weighted
20	scoring versus an equally weighted scoring,
21	you know, different options that you might do
22	and that that kind of thinking is part of the

Page 167

1 evaluation.

2	Whether administratively you want
3	to track things as being composites or not
4	composites, you know, that is more of an
5	internal NQF matter which I don't have an
6	opinion but it is the kind of thinking that is
7	brought to bear on analyzing these things.
8	Because I don't want a whole bunch of things
9	to be done as all-or-none things because
10	surgeons think of it that way or because
11	endocrinologists or cardiologists or whoever
12	is involved thinks about it that way without
13	having also some of the statistical
14	measurement expertise brought to bear in
15	examining that. And I am looking at whether
16	that makes that sense as the best of reporting
17	out that information.
18	DR. DE LONG: So I am under the
19	impression that not only is there a different
20	process but developers have to declare whether
21	it is a composite. And they have to follow
22	certain guidelines that are specific to

	Page 168
1	composites. I sort of side with Patrick that
2	maybe trying to make a distinction and forcing
3	them to recognize some of these things that we
4	don't seem to be in tune on could create more
5	confusion than is necessary. But I am not
6	sure what hoops they are jumping through that
7	they wouldn't ordinarily have to jump through
8	if it weren't a composite.
9	DR. BURSTIN: I think it is really
10	just what we are going to and you have it
11	in your packet, the distinction of what are
12	the additional requirements around evaluation
13	and submission that is different? And much of
14	this comes to the construct, how it comes
15	together, the testing around it. And at least
16	I think an important distinction from where I
17	sit is we are spending so much of our energy
18	these days focusing on related and competing
19	measures is how do we handle the component
20	measures within them? And do they need to get
21	fully evaluated on their own in a way that
22	allows us to do the related and competing and

	Page 169
1	make assessments of whether or not they are in
2	fact best in class. It becomes very complex
3	out there, whether there are measures that are
4	living in composites that don't necessarily
5	relate to the measures you are being paid on
6	for other kinds of purposes. So how do we
7	make sense of that?
8	So for me, I am being less
9	theoretical and more just practical of what do
10	we ask developers to submit? What do we ask
11	committees to consider? And those criteria
12	will be important.
13	DR. ROMANO: So initially NQF created a
14	composite measure evaluation committee that
15	produced this report that we all have. But
16	going forward, perhaps you could elaborate a
17	little bit, my understanding is that NQF is
18	expecting the individual topic-specific
19	steering committees to review composites
20	within their clinical or subject area domains.
21	Do we have people on each of those
22	committees that have the kind of expertise

	Page 170
1	that Alan is describing? We won't call it
2	psychometric expertise. We will call it
3	measurement science expertise. Do we have
4	people on all the committees that understand
5	these concepts about that the pros and cons,
6	the strengths and weaknesses of different ways
7	of combining multiple items or measures
8	together?
9	DR. BURSTIN: Right. We strive to
10	at least put a couple of methodologists on
11	every committee but it is a couple. It is not
12	like this room, certainly, where the
13	methodologists outweigh poor country
14	internists, as I will put myself in. But you
15	know at the end of the day we do have people
16	sitting there.
17	But one of the approaches we have
18	taken which we did as part of our large
19	outcomes project a couple of years back, is
20	every outcome measure got reviewed by a
21	statistician. Actually, Sean, which was
22	brilliant, worked really well. And one

	Page 171
1	question might be as a recommendation to this
2	committee is that we say outcomes and
3	composites should have a statistical review.
4	Almost like the annals always sends papers to
5	statisticians for a secondary review for
6	complex models. Is this complex enough that
7	you think that the average committee member
8	couldn't necessarily handle it?
9	I will tell you we have seen the
10	committees not necessarily get as worried
11	about the constructs as much as the fact that
12	this measure has all the components I think
13	are really clinically important. It is often
14	more clinically driven I think than it is
15	methodologically driven.
16	DR. ROMANO: Yes, and at the end
17	of the day this whole discussion is about how
18	to make NQF's processes work better to
19	provider clearer guidance for developers and
20	for steering committees.
21	DR. KAPLAN: I think that the
22	world has changed, as they said in one of

Page 172 1 those trilogy of "The Lord of the Rings," 2 because I think CMS amped up the stakes up 3 when now they are going to start -- you know, when these are starting to be used for 4 5 compensation and I think one of the committee meetings next week is going to look at some of 6 7 those very issues. 8 But I think the stakes are 9 different now and I think NQF is right to 10 worry about when you create these measures and they get put out there and they get used for 11 12 paying people, you just ratcheted the fire up substantially. So I think the shakedown might 13 14 even -- I don't know, Helen, what you think but I think the shakedown now might have to 15 look different as things go forward. 16 17 DR. BURSTIN: Part of it Karen just reminded me as well, as part of our 18 19 submission form, we already have a whole 20 section on risk adjustment if it is an 21 outcome. And maybe we don't have a separate 22 composite form per se but that every single

Page 173 submission form, if it is a composite, answer 1 2 the following set of questions but not necessarily create a whole separate event, but 3 maybe have those risk adjustment and those 4 5 composite approaches considered by experts as 6 well. 7 So I think that is DR. ROMANO: 8 sort of where we are sort of going that 9 instead of having a completely separate 10 process, that this would be viewed, the composites would be viewed within the 11 12 ordinary, if you will, measure endorsement process but that there might be some specific 13 14 declarations that measure developers are asked 15 to make to articulate what the higher order 16 composite, what the construct is, if you will, 17 and then what -- how they formed the composite based on that construct. Does that summarize 18 19 people's views? Is that --20 DR. DE LONG: We're still talking 21 about development because I think it does go 22 further in terms of evaluation and experience

	Page 174
1	with the measure as time goes on.
2	DR. ROMANO: So from that
3	framework then if I am getting this correct,
4	then we are not going to worry so much about
5	all of these different conceptual models,
6	three, four, five, six, seven and eight
7	because basically developers would simply be
8	asked to explain what their model was, what
9	their measurement construct was.
10	DR. BURSTIN: And then if you look
11	through it, I mean the only reason to actually
12	I think go through these a bit is there are
13	some special considerations, for example,
14	around the submission. So for example, what
15	you require is listed under one of these
16	specific testing at the performance score
17	level for composite measures. So we currently
18	allow testing at either the data element level
19	or the performance score level. If it is a
20	composite, does it have to also always be a
21	performance score level? We will come to that
22	when we start going through the criteria this

DR. SHAHIAN: So will -- if we were to combine this in one measure form, submission form and no longer had a separate composite, would we be in any way diluting the additional requirements that we imposed in our previous document for a composite measure or simply be putting them into a different pathway once you declare your composite? DR. BURSTIN: I think it is the latter, yes. So we would just not have a whole separate forum. We would just try to build in whatever those components are, if this is a composite answer the phone and questions as well.

DR. ROMANO: That leads into, I 16 17 think the third bullet point here, which is 18 there is this guidance that NQF has had before 19 that the components of composite measures have 20 to be separately endorsed or have to meet the 21 criteria for endorsement.

> So does that even make sense? Ι

Neal R. Gross & Co., Inc. 202-234-4433

afternoon.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

22

	Page 176
1	mean if we are taking this broader view of
2	composites, then it may be that for certain
3	types of composites there is no need to even
4	consider the performance properties of the
5	individual components. For others it may be
б	more important. I don't know. Do people have
7	thoughts?
8	DR. ZASLAVSKY: I think I want to
9	return to a comment I made earlier that it is
10	sort of a question of bias versus variance.
11	At least that is the simplest way to look at
12	it and if something would fail as an
13	individual measure because it is
14	insufficiently reliable, like something that
15	happens in one out of every hundred cases,
16	that doesn't exclude it from a composite
17	because you are putting it together with 20
18	other things that happen in one out of a
19	hundred cases and you are up to 20 percent and
20	there is a fair amount of information there.
21	So that is the kind of criterion
22	that you would not have to apply to the

Page 177 individual components. But if something is 1 2 not acceptable as a performance measure because it discriminates against hospitals 3 4 that treat sicker patients or because it is 5 something that should be adjusted for age and it isn't or something of that sort, then that 6 7 criterion should be applied to the individual 8 measures. 9 You might, in some cases say that I am putting together A and B and A catches 10 this group and B catches that group and when 11 12 you put them together you get something that is fair, that would be legitimate. 13 And so 14 that would be a case where you have kind of offsetting biases of the different components. 15 But in general if something really 16 is either scientifically not valid or the data 17 usually can't be collected, if you have any of 18 19 those kinds of criteria or it is biased in the 20 senses I have been talking about, then I think 21 those criteria would apply even if it is being 22 put into a composite.

	Page 178
1	DR. DE LONG: So for example with
2	the HDL was it HDL or LDL you had an
3	either/or. And I think what you are saying is
4	that those two measures would not necessarily
5	be endorsed as stand-alone measures because
6	they don't really tell the story. You
7	wouldn't want to grade somebody on having the
8	LDL lower than something if the patient was on
9	a statin. But some measures really do need
10	introspection.
11	DR. ZASLAVSKY: Yes, that would be
12	a case where either measured by itself
13	wouldn't work and you have heterogeneous
14	patient populations with regard to their risk
15	for hyperlipidemia but put together you have
16	a fair measure of what cuts to this
17	appropriate practice.
18	MS. PAGET: How does this impact
19	the unpacking ability requirement that
20	currently sits in the criteria?
21	DR. ROMANO: What do you mean by
22	unpacking?

	Page 179
1	DR. BURSTIN: I used that term.
2	MS. PAGET: My understanding is it
3	is actually called decomposition, I mean
4	deconstruction, something but decomposing is
5	just like so when she said unpacking this
6	morning I said oh, I like that a lot better.
7	But my understanding is that we
8	want to be able to do kind of like of a
9	"Consumer Reports" type thing where you get
10	the red circle but then you can also look
11	across the chart because I often find that
12	there is not a lot of difference sometimes.
13	And even though you have got a bright red
14	circle, it is only a difference between a 94
15	and a 96 or something to that effect.
16	So I think the unpackability is
17	important and I just didn't know how this
18	relates to this issue of the individual
19	components being NQF-endorsed.
20	DR. DE LONG: It seems that the
21	developer should need to specify how this
22	measure if it contains more than one indicator

	Page 180
1	should be unpacked. Because in the example we
2	were just talking about, I don't think you
3	would unpack, would you?
4	DR. KAPLAN: To me compositing is
5	a lot like composting. So if you put together
6	a bunch of stuff in the compost heap and you
7	end up with fertilizer. But if you take any
8	of the eggshells and other stuff in there out,
9	they are still eggshells. But once they
10	interact with all the other stuff, now it is
11	fertilizer.
12	So decomposing, if you will, these
13	measures in some cases may not make any sense.
14	But making universal out of it isn't going to
15	work for you either. Because if you are
16	trying to some of these things may very
17	well stand alone and you are creating this
18	higher order or whatever we are calling it,
19	composite, to represent something else.
20	So that is where you get into the
21	now you are going to have to put people
22	through a different level of it is the same
	Page 181
----	--
1	measurement principles but they have to
2	demonstrate that they are actually now
3	measuring that something else, whatever it is,
4	fertilizer.
5	MS. PAGET: I guess I would just
6	say I would still want to know the pieces and
7	maybe in this case, it is not meaningful as an
8	individual but knowing what went into the
9	fertilizer, helpful.
10	DR. CHASE: I was trying to
11	understand that practically, too, I think we
12	want to avoid we want to have some guidance
13	here so we are not making measure submitters
14	or committees rehash stuff that has already
15	been decided. So again, when a component has
16	already been endorsed, that should give you
17	I don't want say it gives you a pass but it
18	certainly should be a different level of
19	scrutiny. Because that I have experienced in
20	the committee work is you get a different
21	committee together, they may make a different
22	decision with the same evidence. So you don't

	Page 182
1	like to see that happening but that is what
2	you will start to build if you make people
3	rehash the same question over and over again.
4	So I think that is good but I think there
5	should be a different standard then or
6	guidance is when there is pieces that aren't
7	endorsed and they are there for a reason, you
8	have got to justify that and talk about what
9	is the there is a different level obviously
10	of review for those pieces, without making
11	them be submitted on separate forms. I was a
12	little worried when you mentioned
13	deconstructing shouldn't mean you have to
14	submit each piece to different committees,
15	unless it is totally different.
16	DR. BURSTIN: So just to follow up
17	on that, again if you think about what is in
18	our criteria and much of what Alan was talking
19	about was really about the scientific
20	acceptability of the properties. A lot of
21	what we are often talking about is the
22	evidence, though, for the individual

Page 183 1 components. And so the question is, you have 2 got to be able to look up, if we are saying those are not currently NOF-endorsed measures, 3 they have not been reviewed, the committee 4 5 needs to have enough information to really 6 understand whether the evidence for the 7 components is there. I mean, I am agnostic as 8 to whether it is a separate form or some other 9 little box that pops up or something but you 10 have got to be able to provide enough -assuming we want to continue on the idea that 11 12 assuming we think the individual components are really important, they are not endorsed, 13 14 they may add huge value to people out there to 15 actually have those individual measures out there, what do we need to do to get the 16 17 committees enough information to make that That is sort of where I am stuck 18 assessment? 19 a bit. 20 DR. ROMANO: Well does it -- if 21 the measure developer is supporting the 22 unpacking concept, the drill-down concept, if

	Page 184
1	you will, then I think the implication of that
2	is that the unpacked measures have to be able
3	to stand on their own.
4	But if the measure developer is
5	not supporting an unpacking concept. In other
6	words, if the measure developer is saying that
7	you can't unpack this, that this is what is
8	necessary to measure the construct, my
9	construct, it might not be your construct or
10	somebody else's construct, in order to measure
11	my construct you have to include all of these
12	items. Maybe some of them have been
13	previously endorsed, some have not.
14	What is wrong with that?
15	DR. BURSTIN: I don't think there
16	is anything wrong with it. I guess I was just
17	questioning at times is the measure developer
18	always as a single entity, not a multiple
19	stakeholder environment, always the right
20	group to make the decision of whether it
21	should or should not be unpacked. If that is
22	value to a consumer let's think about Lynne

1 for example. 2 If she wants to be able to go 3 across the "Consumer Reports" page and in fact 4 see which of the component measures are really 5 driving that overall score, maybe one of them 6 is really important to her not having a 7 stroke. 8 I'm just making this up, David, a 9 bit. But you know, if stroke prevention --10 not having a stroke plus CABG is really important to her and she makes that decision, 11 12 should it always be in the decision of the developer to say what should be unpacked and 13 14 what shouldn't? Just playing devil's 15 advocate. 16 DR. SHAHIAN: One of my concerns 17 is as we give more and more flexibility to 18 developers in how they navigate through the 19 system and which path to take, I think there 20 will always be a tendency to take the path of 21 least resistance and to choose the path which 22 requires the least oversight, the least

Page 186 1 empirical justification and so forth. 2 So I am a little concerned that in an era when we should, I think, be becoming 3 even more fastidious about how we approach 4 5 these measures, we may in fact be taking things in an opposite direction and I would 6 7 hate to see that happen. 8 DR. CHASE: To make sure T 9 understand this, I think it would be helpful 10 to have guidance, too, around the opportunity. You presented one earlier where I think it was 11 12 the GI where there were components that the committee liked and some they didn't. 13 Ιt 14 seems a shame that the only alternative now is to just say no. And if we say each submitter 15 should have the right to decide whether it is 16 17 packed or unpacked, people are always going to 18 say I think it all has to go together. But 19 the committee should have the ability to say, 20 we will endorse the four out of the five here, 21 we just can't go to five, and not force it to 22 have to go to a resubmission which, and

	Page 187
1	process-wise may mean you can't get it back in
2	a door for a while because we are wasting an
3	opportunity to get something valuable out
4	there sooner.
5	So I think it would be nice to
6	allow the composite committees to offer an
7	endorsement of less than the whole if it makes
8	sense to them. And the measure steward is
9	going to get to decide whether they want to
10	continue with it based on it. They could say
11	nice for you guys but then you go collect the
12	data, we are not going to do that.
13	DR. BURSTIN: The challenge there
14	then is that the measure testing that has been
15	put forward is based on what was submitted.
16	And this was an issue that has just recently
17	come up. If they would then say okay we hear
18	you, let's take out two of those components,
19	is their testing still valid? Is that okay?
20	DR. KAPLAN: Yes no. No. I
21	mean if for example you have got a seven-item
22	measure and now you are going to remove two of

1	
	Page 188
1	those measures, you are going to take a
2	reliability hit just because of the way we
3	compute these composite or depending on the
4	way you compute these composite measures, the
5	odds are good that you are going to take a
6	reliability hit. The more things I measure
7	about a construct, the better I am about being
8	able to repeat it. So the consistency is
9	about repeatability, reproducibility. So more
10	things are better.
11	If you take two things out, now am
12	I good enough to compare one hospital to
13	another? What is my measurement area going to
14	be?
15	So without that kind of support,
16	but I think you should be restricting people
17	from adding things that they think improve the
18	precision of an estimate is not a good idea.
19	If we think that it is important
20	to estimate a complex construct with more
21	things, then what evidence does the measure
22	steward provide that that does actually

	Page 189
1	contribute to the reliability of the estimate.
2	If on the other hand you are going
3	to just toss the whole thing out and not allow
4	them some rejoinder to say well, we are not
5	sure but here is the evidence and here is the
6	face validity for these new things and here is
7	our guess at what it is going to do, and let
8	them model it, how much it is going to improve
9	the precision of this estimate. Why make it
10	go back to ground zero and just toss the whole
11	thing out?
12	DR. BURSTIN: I'm not saying it
13	has to. I am just saying those are the
14	realities of what we try to do in the course
15	of a project. I'm just being very honest
16	here.
17	But maybe that does speak to the
18	question if you are allowing the developer to
19	make the decision of pack/unpacked, then maybe
20	you have to have some pretty clear
21	requirements on the statistical evidence you
22	put forward for your packing. And I think

	Page 190
1	that is where we have actually seen a fair
2	amount of lacking in terms of saying if you
3	actually pulled out these, what would you
4	and frankly, we see very little of that when
5	it is submitted to us, with a few exceptions.
6	DR. DE LONG: And I think that
7	speaks to current tension between the
8	proliferation of measures and having to record
9	all of these data when some of them aren't
10	really necessary to add into the mix.
11	So that proof that you mentioned,
12	I think is very important that each component
13	needs to provide some more information.
14	DR. BURSTIN: And not to forget
15	about one of our other requirements is
16	feasibility. There is a huge measurement
17	burden associated sometimes with the
18	collection of these data. And if you are
19	adding components and they are not having a
20	measurable impact on the outcome and it is a
21	lot of work to collect them, they probably
22	shouldn't be added. And then people also make

	Page 191
1	the case it is not always just data collection
2	burden, it is actually opportunity costs of
3	having to look at those 19 components to make
4	sure you are doing okay on the composite.
5	DR. CHASE: The burden goes the
6	other way, too, to the measure submitter that
7	we don't want to make it such a barrier. Say
8	you have got 19 components, you have got to
9	tell us the validity of each one, when you
10	only may have been able to test the 19
11	together.
12	And so that, I think there may be
13	some of these where it can go one way or the
14	other as far as that you could choose. In
15	other words if the committee felt like all 19
16	aren't valid, then you might have to provide
17	some data but you wouldn't always be required
18	to do all 19 because the committee may accept
19	it makes sense to have all the pieces
20	together.
21	DR. ROMANO: Yes, so let's say one
22	were to propose a composite that included a

	Page 192
1	bunch of process measures, for example. And
2	let's say that each of those process measures
3	or let's say that maybe some of them have been
4	NQF-endorsed, some of them haven't but they
5	are all just different processes of care. If
6	the developer can empirically demonstrate that
7	this composite is predictive of patient
8	outcomes and that it identifies providers,
9	hospitals, if you will, where patients will
10	have better outcomes, then do they need to
11	justify that there isn't bias in the
12	measurement of each of those components? Or
13	is it sufficient to say that the composite in
14	itself has desirable reliability and validity
15	properties and that supersedes, essentially,
16	issues about the validity of individual
17	components.
18	DR. BURSTIN: It is a great
19	question, Patrick. I will give a and not
20	to keep diabetes is such an obvious one, so I
21	am going to keep beating on it for a second
22	longer.

Page 193 So let's say for example you have 1 2 got great evidence you have submitted that the composite, the diabetes composite you have 3 submitted is highly predictive of outcomes, 4 5 clearly identifies patients where they would 6 have better outcomes, but there is individual 7 measures that directly compete with the 8 measures inside the composite, such that 9 clinicians are getting the individual measures 10 also put forward to them and they are getting differing levels of performance requirements 11 12 across those. Should there at least be a requirement that they are harmonized so that 13 you don't wind up with a clinician, doc, 14 whoever over here, saying I have got to do 15 140/80 over here but over here they have 16 140/90, they say Alc 8 base -- diabetes is of 17 18 course the worst example because it creates 19 more fights than any condition I have ever 20 seen in my entire life with the possible 21 exception of readmissions. 22 And so that is the issue for us.

1	
	Page 194
1	Should we at least insist that there be
2	even if you don't dive deep on the individual
3	reliability and validity of the components, do
4	you at least need to harmonize to the science,
5	I guess?
6	DR. DE LONG: Is there any reason
7	not to? Are there examples?
8	DR. BURSTIN: Yes, because people
9	have measures in use they have used for years.
10	It is not easy for people to flip on a dime
11	and change their measures. In this particular
12	example, to the current measurement they did.
13	They changed the blood pressure control level
14	so it matched the national measure of blood
15	pressure control. Is that something we should
16	push on for everyone? Is that important
17	enough to say that at least as they review the
18	evidence and we look at competing measures,
19	that even if we say it is fine, this measure,
20	the thing Patrick just rattled off that I
21	thought was great, it is clearly predictive of
22	outcomes. It clearly identifies patients

	Page 195
1	where they should go. It is valid. There is
2	no bias. Do we still need to at least unpack
3	to the extent of saying the evidence is sound
4	and if there are related or competing
5	measures, they are harmonized?
6	DR. DE LONG: Well you are asking
7	two questions.
8	DR. BURSTIN: I know.
9	DR. DE LONG: In the
10	harmonization, the reason not to is it is
11	inconvenient because of historical precedent.
12	But it is also inconvenient for people who are
13	trying to deal with these and which one weighs
14	more.
15	DR. BRATZLER: This is Dale. I
16	think Helen, wherever possible it makes sense
17	to try to harmonize the metrics, particularly
18	where there is a strong evidence base to
19	support perhaps the individual measure that
20	you are comparing to. I just think it is
21	really hard for clinicians to deal with
22	competing measures.

Page 1961MS. PAGET: Just one other comment2on the unpacking and the science and the3underlying pieces of the unpacking.4You know I think if we look ahead5at where we are going from a technology6standpoint and usability and accessibility of7information for both patients, providers,8institutions, and payers, we are going to have9 it is going to be easier and not harder.10And so I think to move in a direction where we11weren't offering the kind of transparency that12people are experiencing in other aspects of13their lives would probably be somewhat of a14mistake. I think the transparency also about15the purpose of the measurement and the pieces16that went into the packing has to be really17clear, particularly to consumers, so that we18don't run into that problem with people19wanting to identify one thing that may not20have the scientific rigor that we wanted to.21Eut I do kind of come back to that22Consumer Reports model and I think your point,		
2on the unpacking and the science and the underlying pieces of the unpacking.3You know I think if we look ahead at where we are going from a technology6standpoint and usability and accessibility of information for both patients, providers, institutions, and payers, we are going to have it is going to be easier and not harder.10And so I think to move in a direction where we weren't offering the kind of transparency that people are experiencing in other aspects of their lives would probably be somewhat of a mistake. I think the transparency also about the purpose of the measurement and the pieces that went into the packing has to be really clear, particularly to consumers, so that we don't run into that problem with people wanting to identify one thing that may not have the scientific rigor that we wanted to.21But I do kind of come back to that		Page 196
3underlying pieces of the unpacking.4You know I think if we look ahead5at where we are going from a technology6standpoint and usability and accessibility of7information for both patients, providers,8institutions, and payers, we are going to have9 it is going to be easier and not harder.10And so I think to move in a direction where we11weren't offering the kind of transparency that12people are experiencing in other aspects of13their lives would probably be somewhat of a14mistake. I think the transparency also about15the purpose of the measurement and the pieces16that went into the packing has to be really17clear, particularly to consumers, so that we18don't run into that problem with people19wanting to identify one thing that may not20But I do kind of come back to that	1	MS. PAGET: Just one other comment
4You know I think if we look ahead5at where we are going from a technology6standpoint and usability and accessibility of7information for both patients, providers,8institutions, and payers, we are going to have9 it is going to be easier and not harder.10And so I think to move in a direction where we11weren't offering the kind of transparency that12people are experiencing in other aspects of13their lives would probably be somewhat of a14mistake. I think the transparency also about15the purpose of the measurement and the pieces16that went into the packing has to be really17clear, particularly to consumers, so that we18don't run into that problem with people19wanting to identify one thing that may not20have the scientific rigor that we wanted to.21But I do kind of come back to that	2	on the unpacking and the science and the
5at where we are going from a technology6standpoint and usability and accessibility of7information for both patients, providers,8institutions, and payers, we are going to have9 it is going to be easier and not harder.10And so I think to move in a direction where we11weren't offering the kind of transparency that12people are experiencing in other aspects of13their lives would probably be somewhat of a14mistake. I think the transparency also about15the purpose of the measurement and the pieces16that went into the packing has to be really17clear, particularly to consumers, so that we18don't run into that problem with people19wanting to identify one thing that may not20have the scientific rigor that we wanted to.21But I do kind of come back to that	3	underlying pieces of the unpacking.
6 standpoint and usability and accessibility of 7 information for both patients, providers, 8 institutions, and payers, we are going to have 9 it is going to be easier and not harder. 10 And so I think to move in a direction where we 11 weren't offering the kind of transparency that 12 people are experiencing in other aspects of 13 their lives would probably be somewhat of a 14 mistake. I think the transparency also about 15 the purpose of the measurement and the pieces 16 that went into the packing has to be really 17 clear, particularly to consumers, so that we 18 don't run into that problem with people 19 wanting to identify one thing that may not 10 have the scientific rigor that we wanted to. 21 But I do kind of come back to that	4	You know I think if we look ahead
information for both patients, providers, institutions, and payers, we are going to have it is going to be easier and not harder. And so I think to move in a direction where we weren't offering the kind of transparency that people are experiencing in other aspects of their lives would probably be somewhat of a mistake. I think the transparency also about the purpose of the measurement and the pieces that went into the packing has to be really clear, particularly to consumers, so that we don't run into that problem with people wanting to identify one thing that may not have the scientific rigor that we wanted to. But I do kind of come back to that	5	at where we are going from a technology
<ul> <li>institutions, and payers, we are going to have</li> <li> it is going to be easier and not harder.</li> <li>And so I think to move in a direction where we</li> <li>weren't offering the kind of transparency that</li> <li>people are experiencing in other aspects of</li> <li>their lives would probably be somewhat of a</li> <li>mistake. I think the transparency also about</li> <li>the purpose of the measurement and the pieces</li> <li>that went into the packing has to be really</li> <li>clear, particularly to consumers, so that we</li> <li>don't run into that problem with people</li> <li>wanting to identify one thing that may not</li> <li>have the scientific rigor that we wanted to.</li> </ul>	6	standpoint and usability and accessibility of
<ul> <li>9 it is going to be easier and not harder.</li> <li>10 And so I think to move in a direction where we</li> <li>11 weren't offering the kind of transparency that</li> <li>12 people are experiencing in other aspects of</li> <li>13 their lives would probably be somewhat of a</li> <li>14 mistake. I think the transparency also about</li> <li>15 the purpose of the measurement and the pieces</li> <li>16 that went into the packing has to be really</li> <li>17 clear, particularly to consumers, so that we</li> <li>18 don't run into that problem with people</li> <li>19 wanting to identify one thing that may not</li> <li>10 have the scientific rigor that we wanted to.</li> <li>21 But I do kind of come back to that</li> </ul>	7	information for both patients, providers,
And so I think to move in a direction where we weren't offering the kind of transparency that people are experiencing in other aspects of their lives would probably be somewhat of a mistake. I think the transparency also about the purpose of the measurement and the pieces that went into the packing has to be really clear, particularly to consumers, so that we don't run into that problem with people wanting to identify one thing that may not have the scientific rigor that we wanted to. But I do kind of come back to that	8	institutions, and payers, we are going to have
11 weren't offering the kind of transparency that 12 people are experiencing in other aspects of 13 their lives would probably be somewhat of a 14 mistake. I think the transparency also about 15 the purpose of the measurement and the pieces 16 that went into the packing has to be really 17 clear, particularly to consumers, so that we 18 don't run into that problem with people 19 wanting to identify one thing that may not 120 have the scientific rigor that we wanted to. 21 But I do kind of come back to that	9	it is going to be easier and not harder.
12people are experiencing in other aspects of13their lives would probably be somewhat of a14mistake. I think the transparency also about15the purpose of the measurement and the pieces16that went into the packing has to be really17clear, particularly to consumers, so that we18don't run into that problem with people19wanting to identify one thing that may not20have the scientific rigor that we wanted to.21But I do kind of come back to that	10	And so I think to move in a direction where we
13 their lives would probably be somewhat of a 14 mistake. I think the transparency also about 15 the purpose of the measurement and the pieces 16 that went into the packing has to be really 17 clear, particularly to consumers, so that we 18 don't run into that problem with people 19 wanting to identify one thing that may not 10 have the scientific rigor that we wanted to. 21 But I do kind of come back to that	11	weren't offering the kind of transparency that
14 mistake. I think the transparency also about 15 the purpose of the measurement and the pieces 16 that went into the packing has to be really 17 clear, particularly to consumers, so that we 18 don't run into that problem with people 19 wanting to identify one thing that may not 20 have the scientific rigor that we wanted to. 21 But I do kind of come back to that	12	people are experiencing in other aspects of
15 the purpose of the measurement and the pieces 16 that went into the packing has to be really 17 clear, particularly to consumers, so that we 18 don't run into that problem with people 19 wanting to identify one thing that may not 120 have the scientific rigor that we wanted to. 21 But I do kind of come back to that	13	their lives would probably be somewhat of a
16 that went into the packing has to be really 17 clear, particularly to consumers, so that we 18 don't run into that problem with people 19 wanting to identify one thing that may not 20 have the scientific rigor that we wanted to. 21 But I do kind of come back to that	14	mistake. I think the transparency also about
<pre>17 clear, particularly to consumers, so that we 18 don't run into that problem with people 19 wanting to identify one thing that may not 20 have the scientific rigor that we wanted to. 21 But I do kind of come back to that</pre>	15	the purpose of the measurement and the pieces
18 don't run into that problem with people 19 wanting to identify one thing that may not 20 have the scientific rigor that we wanted to. 21 But I do kind of come back to that	16	that went into the packing has to be really
<ul> <li>19 wanting to identify one thing that may not</li> <li>20 have the scientific rigor that we wanted to.</li> <li>21 But I do kind of come back to that</li> </ul>	17	clear, particularly to consumers, so that we
<ul> <li>20 have the scientific rigor that we wanted to.</li> <li>21 But I do kind of come back to that</li> </ul>	18	don't run into that problem with people
21 But I do kind of come back to that	19	wanting to identify one thing that may not
	20	have the scientific rigor that we wanted to.
22 Consumer Reports model and I think your point,	21	But I do kind of come back to that
	22	Consumer Reports model and I think your point,

	D 107
1	Page 197 Helen, is right on. I mean I often find
2	myself saying well that piece is, I'm okay
3	that they didn't score that high there but I
4	am really happy that they got this other
5	score. I mean I have got a kid I hope is
6	going to go to college next year. And you
7	know you go through all these numbers but it
8	is when you piece them apart that the tool
9	that you use becomes much more advantageous,
10	I think, in that kind of decision-making.
11	So I just think if we keep in mind
12	where we are headed around how we are using
13	our phones and everything else that that piece
14	is going to become more important.
15	DR. ROMANO: If I am sensing where
16	we are, so I think that what we are saying is
17	that certainly NQF should continue to endorse
18	measures that contain measures that aren't
19	separately endorsed. And if they are
20	separately endorsed, that may streamline the
21	process a bit because you may be able to rely
22	on the validity evidence in particular that

	Page 198
1	was presented through that separate
2	endorsement process to say that these
3	components are assumed to be valid as
4	components, not for the higher order construct
5	but as components. They are assumed to be
6	valid.
7	But if there are other measures
8	that are rolled up into a composite that are
9	not NQF-endorsed, then what do measure
10	developers need to do? So do measure
11	developers need to present evidence that those
12	other unendorsed components are in and of
13	themselves valid or do they simply have to
14	present evidence that those other unendorsed
15	components contribute favorably to the overall
16	composite?
17	DR. SHAHIAN: Going back to my
18	work with the evidence task force, perhaps we
19	could say that for component measures that
20	were not NQF-endorsed that at least the
21	developer would present the kind of evidence
22	that normally would lead to endorsement such

	Dama 100
1	Page 199 as the quality, quantity, and consistency, and
2	magnitude of net benefit of the proposed
3	measure.
4	So parallel the kind of grading
5	system that NQF uses, which is based on grade
6	and USPS United States Public I always
7	get that acronym you know what I mean.
8	(Laughter.)
9	DR. BURSTIN: USPSTF.
10	DR. SHAHIAN: But at least have
11	some sort of explicitly defined criteria by
12	which those non-NQF-endorsed components could
13	be evaluated.
14	DR. BIRKMEYER: I agree with
15	everything that has been said but I think it
16	is also important to not lose sight of how
17	heterogeneous these measures are, in terms of
18	how they are put together and how they are
19	used. And I think ultimately we might want to
20	insist that we grade each of like several
21	measures that are put forward, have them get
22	graded in each of three or four different

	Page 200
1	domains. But at the end of the day, there
2	needs to be like some holistic judgment that
3	sort of rates those component grades against
4	how it is to be used and it would be very
5	analogous to how we rate grants that are
6	submitted to the NIH, get a letter grade for
7	the significance, a letter grade for the
8	innovation and environment and methods, et
9	cetera, et cetera. But at the end of the day
10	what determines whether it is in or out or
11	where it ranks is the impact, which is not
12	just an averaging of those letters. It is
13	basically weighting them according to a
14	variety of other factors.
15	So a composite approach to scoring
16	the composites.
17	DR. KAPLAN: Sometimes the
18	evidence also comes from different levels. And
19	now there is a new purpose. So now you have
20	got these diabetes measures that we know some
21	of the hemoglobin Alc, for example, predicts
22	photocoagulation somewhere down the way. So

	Page 201
1	we know at the patient level that that is what
2	these individual components do.
3	What we don't know is when you add
4	them all up are you evaluating physician
5	components? What components of the variation
б	belong to the patient? There is nothing the
7	doctor can do about that. What components of
8	the variation belong to the doctor?
9	So are you asking, and I am just
10	throwing this out, when you are using it for
11	a different reason than the evidence
12	substantiates its intent for, are you now
13	going to challenge the stewards to provide
14	evidence that actually it is okay? What is
15	the reliability and validity for use at a
16	different level than the evidence supports?
17	DR. ZASLAVSKY: Just to elaborate
18	on what I think both John and Sherrie were
19	saying. I think that often as a practical
20	matter, measures are developed based on a
21	limited amount of data in some pilot study
22	that someone has done. So you go out and you

i	
	Page 202
1	test something in seven hospitals or with 30
2	physicians or whatever. And you come up with
3	a model that looks like it is pretty good, it
4	seems scientifically plausible and so forth.
5	But now what you would really like
6	to know is whether you can use this to make
7	comparisons among hospitals. And you can't
8	say anything based on the ten hospitals you
9	are able to recruit to your pilot study about
10	whether it really predicts outcomes at that
11	level.
12	So in that case, I think you need
13	to give a kind of a qualified or kind of
14	provisional approval that says on the evidence
15	we have, there is enough here that makes it
16	worthwhile to do what is a substantial
17	investment people are going to have to do
18	before it is fully validated at the level that
19	you want to validate it at.
20	And then take note of the fact
21	that it is really a requirement that the data
22	that further implementation that takes place

Page 203 be brought back for either confirmation or 1 2 improvements or maybe invalidation, you hope not, of what you did provisionally based on a 3 more limited evidence base because you are not 4 5 going to get those big evidence bases that you 6 really need to be really confident that this 7 is doing the right thing until you have 8 actually given some level of endorsement to 9 it. 10 DR. SHAHIAN: I guess I would just respond to that by saying that in 2012 and 11 12 going forward, the stakes are so high that I would say it ought to be incumbent on the 13 14 developer to do whatever needs to be done to prove that before they come to NQF. 15 I mean, 16 we just can't have more and more measures for which we don't have sufficient evidence. 17 18 DR. BURSTIN: So this is actually 19 very helpful. It sounds to me that we are 20 saying still yes, we should at least assess 21 the evidence of the component measures. It is 22 important to note that the Evidence Task Force

	Page 204
1	in our final guidance, at least, indicated
2	that for outcome measures, there was only a
3	requirement for a rationale. So it doesn't
4	have quite as much and a lot of these wind up
5	being outcomes. So I think that is just, I
6	want to at least put that on the table.
7	The final bullet up here though is
8	what I am hearing and tell me if I am hearing
9	this correctly is that what is sort of at the
10	highest level is the reliability and validity
11	and the performance of the final composite
12	performance measure but that whether or not we
13	require additional analyses of the components
14	is something that might be a decision that the
15	developer may put forward to say this measure
16	actually really only operates at the level of
17	a composite performance measure. We don't
18	necessarily think the individual ones do but
19	they are important for the sake of the
20	composite.
21	So I am getting the sense we are
22	leaning towards saying no for the final bullet

	Page 205
1	there, additional analyses for the components,
2	unless the developer believes those are stand-
3	alone measures that should be evaluated for
4	endorsement.
5	Am I am capturing this discussion?
6	DR. DE LONG: I thought there was
7	another issue which is are they necessary.
8	DR. BURSTIN: Right but necessary
9	still to me seems like necessary to the final
10	composite performance measure
11	DR. DE LONG: Yes.
12	DR. BURSTIN: as opposed to
13	individually.
14	DR. DE LONG: Right.
15	DR. BURSTIN: And we haven't done
16	anything new on that.
17	DR. DE LONG: Okay.
18	DR. ROMANO: Just to make sure I
19	understand this concept of necessary.
20	So are you talking about necessary
21	conceptually or necessary empirically? There
22	may be a distinction where you may have

	Page 206
1	things, for example, that don't contribute
2	anything empirically because they are highly
3	correlated with other things or because they
4	are almost always done.
5	But people might argue from the
6	face validity perspective that it is a
7	fundamental component of what should be done.
8	It is or from the outcomes perspective, that
9	it is an important outcome. So even if it
10	doesn't I'm just posing sort of a devil's
11	advocate question.
12	DR. DE LONG: No, I think that is
13	a good question. I am coming from the
14	empirical evidence and the point of view that
15	I believe we have kind of overshot the target
16	in terms of how many performance measures we
17	are getting people to record and report and
18	look at. And to the extent that we can be
19	more parsimonious I think that will be very
20	helpful.
21	So if there are, for example,
22	aspirin on discharge for an AMI, apparently

	Page 207
1	that contributes nothing. Is it important
2	because it makes sense to include it in a
3	composite when it doesn't add? I would say no
4	but others may yes.
5	DR. ROMANO: The question is does
6	the developer have to show that it adds
7	empirically or is it sufficient to show that
8	it adds conceptually, in other words that
9	clinicians, patients feel that this is
10	important or do you also have to show that it
11	adds empirically? That is the standard for
12	review.
13	DR. KAPLAN: I was at a meeting of
14	a bunch of physicians, a very large group of
15	physicians and I was basically the lone
16	psychometrician in the group but I was
17	presenting the physician-level performance
18	measures for diabetes. And it turns out that
19	blood pressure outcome does not hang together
20	with the other outcome measures empirically.
21	So I said well we got rid of it.
22	It actually improved the precision estimate.

	Page 208
1	We did a chrome block alpha. It improved the
2	precision estimate at the physician level. I
3	must have had 20 hands up exploding at me
4	saying my patients are more likely to die of
5	a stroke than anything if their hemoglobin Alc
6	is in control for their whole life. So what
7	are you doing throwing out blood pressure as
8	a measure?
9	Well it was justifiable and
10	actually very justifiable at the empirical
11	level but there are times when it is just so
12	entrenched in the credibility of a measure.
13	If you leave it out, you do it at your peril.
14	So just so you know, sometimes crass
15	empiricism can really taking you down a dark
16	hole and for NQF's sake, I would like at least
17	the inclusion of the potential for if not
18	empirically supported, at least the
19	substantive rationale and leave it the way it
20	is.
21	DR. ROMANO: Thank you for stating
22	my concern more clearly.

	Page 209
1	DR. SHAHIAN: But the other side
2	of that, of course, is when NQF endorses a
3	measure, it goes to CMS. CMS rolls it out.
4	It has a two or three percent impact on
5	hospital reimbursement for all Medicare
6	admissions. Hospitals push back and say I
7	would like to see the evidence for that
8	component of that measure. And you say well,
9	people thought that that was important. That
10	is the other side.
11	DR. ROMANO: Well perhaps some of
12	it gets back to what the construct is. In
13	other words, the clinicians who exploded at
14	Sherrie's meeting were right in that stroke is
15	an important outcome for diabetic patients and
16	hypertension is an important risk factor for
17	stroke and, therefore, controlling blood
18	pressure has to be recognized as an important
19	component of treatment for diabetic patients.
20	Even if it doesn't hang together empirically
21	and add to the composite, it clearly is
22	related to patient outcomes. So if we are

	Page 210
1	trying to pitch a composite as being useful
2	for decision making by patients, how can we
3	ignore hypertension?
4	DR. DE LONG: That brings up what
5	was this measure for?
6	DR. KAPLAN: It's actually we
7	published it and it was for assessment of
8	physician performance of diabetes care. And
9	so we took the NCQA diabetes recognition
10	program data and sampled patients at the
11	physician level and all that stuff and got
12	these performance estimates at the physician
13	level. That was supposed to be and it was
14	used in whatever the acronym is for the
15	recognition program in diabetes and NCQA. So
16	it was to be used at the physician level.
17	The question is not whether or not
18	high blood pressure at the patient level is a
19	bad thing to happen. The question is whether
20	used as a performance measure for estimating
21	physician performance, it contributes, and it
22	does not.

	Page 211
1	So if you look at the physician
2	effect on blood pressure, forgive me for the
3	clinicians, it is buckshot. There is no
4	signal for physician effect on the blood
5	pressure outcome measure.
6	There is a signal for glycated
7	hemoglobin. There is a signal for LDL. But
8	there is no signal for the blood pressure
9	outcome and that is why it wasn't able to
10	contribute to the variability and physician
11	performance measure.
12	So it kind of depends. I wouldn't
13	put anybody through that analysis. That is
14	way in the future. But for the sake of, and
15	because I got myself into terrible trouble by
16	excluding that, for credibility sake, and I
17	appreciate the issue of credibility versus
18	evidence, I think they are going to be a
19	tension going forward in how we put these
20	measures together until we are much more
21	sophisticated in our audience.
22	DR. DE LONG: Not to dwell on a

Page 212 1 minor point but the physicians were up in arms 2 because you weren't measuring was it blood 3 pressure control? 4 DR. BURSTIN: Yes. 5 DR. DE LONG: Even though they have no impact on it? 6 7 Well I think that is DR. BURSTIN: 8 debatable. 9 DR. KAPLAN: Apparently they think 10 they do and empirically it didn't show up. 11 DR. BURSTIN: Dual versus group. 12 DR. KAPLAN: Yes. 13 DR. BURSTIN: Of course. I do 14 impact blood pressure, I am convinced of it. So I think that is a tough example. 15 16 I do have one question that raises for me, though, which is that we do oftentimes 17 as we get into the criteria discussion this 18 19 afternoon, we have rating scales for some of 20 these things. So one question might be for 21 the composite do you get extra points if you 22 do both empiric and conceptual. And there may

	Page 213
1	be it is modern and acceptable if you do one
2	or the other but to David's point, if these
3	really are sort of some of the higher stakes
4	measures, people may not be happy having it
5	just be one or the other. Moderate may not be
6	good enough going forward. But that may just
7	be one way to do it. So quantity, quality,
8	consistency it is as clear as could be that is
9	high. You have to have consistency. That is
10	a no-brainer. You are low if you don't have
11	consistency. And maybe there is sort of a
12	similar construct we need to think through
13	about what is the requirements for the
14	composite.
15	DR. WRIGHT: But that implies
16	value. So you want to be clear about that
17	that you are evaluating one type over another.
18	And if that is what you want to do, fine.
19	DR. BURSTIN: Another thing
20	valuing one or the other, the question is is
21	there value of having both that is additive
22	beyond one or the other. I'm not saying I

	Page 214
1	wouldn't even know how to pick between the two
2	of them. But is there added value, if in fact
3	you have demonstrated both?
4	DR. WRIGHT: Yes, both would be
5	fine but I would want to differentiate between
6	the two.
7	DR. DE LONG: And once again, you
8	are measuring physician performance. There
9	are outcomes like stroke that are being sort
10	of also evaluated among these patients.
11	Wouldn't do we want blood pressure in both
12	of those measurements measures?
13	DR. KAPLAN: This is where you get
14	into the weeds. I think it is probably not
15	worthwhile pursuing all this stuff. But the
16	point was if there is a clinical rationale for
17	including something versus an empirical
18	rationale, maternal mortality is probably a
19	better example. It never happens but when it
20	does, it is really bad.
21	So even though probably
22	empirically it wouldn't make it into a measure

Page 215 1 of hospital performance, clinically it is so 2 devastating, you had better put it in there as a reflection of -- you know, that is just an 3 example. But I think sometimes we get into 4 5 the crass empiricism way too much. 6 DR. ROMANO: So lunch is here. 7 Should we -- okay. 8 DR. BURSTIN: Do you want to just 9 see if Dale wants to say something? 10 DR. ROMANO: Yes, so I think we are reaching a breaking point in our 11 discussion. 12 13 (Laughter.) 14 DR. ROMANO: Dale, would you like to add anything at this point? 15 16 DR. BRATZLER: No. It has been a fascinating conversation. 17 DR. ROMANO: Okay, should we open 18 19 to public comment, then? Is there anyone else 20 on the line? Can we open the line? 21 DR. BURSTIN: And also in the 22 room.

Page 216
DR. BURSTIN: Monica, can you open
the lines for us for public comment, please?
OPERATOR: At this time, I would
like to remind everyone in order to ask a
question, press *, then number 1 on your
telephone keypad. We will pause for just a
moment to compile the Q&A roster.
At this time, there are no
questions.
DR. BURSTIN: Thank you.
MS. CRAWFORD: Thank you. I just
wanted to speak really briefly.
Thank you. My name is Alyssa
Crawford. I am here from Mathematica Policy
Research and we have a number of measure
development projects with a number of other
partners and for a number of agencies.
I just wanted to speak up really
briefly because I think a lot of the
discussion in the past 30 minutes, in
particular, has applied to a lot of the things
we have discussed internally. And I wanted to
Page 217 put out a plug that I think there is a 1 2 difference between a lack of evidence and evidence of a lack of effect when it comes to 3 4 scientific acceptability. And to some extent 5 when it comes to evidence, sometimes there is 6 just a lack of evidence to support whether a 7 concept is actually improving outcomes and 8 that doesn't necessarily mean it doesn't 9 improve. 10 We have seen this in particular in 11 certain measure development areas such as 12 behavioral health, where there is just not as 13 much evidence out there to support. And there 14 aren't as many measure out there in the field 15 for people to choose from. So I just wanted 16 to bring that to the group for consideration. 17 DR. BURSTIN: I'm sorry. Lack of 18 evidence versus -- could you just do the 19 second --20 MS. CRAWFORD: Sorry. I think 21 there is a difference between evidence of a 22 lack of effect and a lack of evidence of an

	Page 218
1	effect. So whether or not you have evidence
2	to prove that there isn't reliability and
3	validity, versus the evidence doesn't
4	necessarily support it.
5	DR. BURSTIN: Right. And NQF has
6	an evidence exception specifically for those
7	areas that we invoke as necessary. We try not
8	to use it very often but specifically to say
9	we recognize there are times when the evidence
10	is just not there yet. We don't invoke it
11	very often, for example, spiritual care and
12	palliative care. Again, weighting for those
13	studies seem unnecessary and we specifically
14	allow the committee to put forward their
15	expert judgment and invoke the exception to
16	say in this instance, the benefits
17	significantly outweigh the risks to patients.
18	But thank you.
19	DR. ROMANO: Okay, so not hearing
20	any other questions, we will break for lunch.
21	What time will we come back, for
22	Dale's benefit? One o'clock. So we will

	Page 219
1	reconvene at one o'clock.
2	DR. BRATZLER: Okay, I am going to
3	hang up and I will call back in.
4	(Whereupon, the above-entitled
5	matter went off the record at 12:20 p.m. and
6	resumed at 1:10 p.m.)
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
ļ	Nool P. Grogg & Co. Ing

	Page 220
1	A-F-T-E-R-N-O-O-N S-E-S-S-I-O-N
2	(1:10 p.m.)
3	DR. ROMANO: Okay, so we will
4	reconvene. Thank you again for joining us,
5	those of you who are on the phone. I think
6	our task for this afternoon really shifts into
7	the weeds, where we go from kind of a broader
8	conceptual discussion into looking at the
9	specific measure evaluation criteria. Do we
10	have a side on that by the way? We probably
11	shouldn't keep that slide up.
12	So I think all of you in your
13	packets have a number of relevant materials.
14	So you have the measure evaluation criteria
15	from January 2011 that are currently used by
16	NQF and you have a table that summarizes, it
17	is called Table 1. It summarizes individual
18	and composite measure evaluation criteria.
19	And this is a nice table because in the left
20	panel it highlights the criteria that are used
21	for evaluating individual measures and then on
22	the right panel, it shows how those criteria

ſ

Page 221 are altered or added to if a measure developer 1 2 declares that they are submitting a composite 3 measure. And then there is another sort of 4 5 12-page document here that represents what measure developers actually have to fill out 6 7 currently for composite measures. We will not 8 go through the 12-page version of this 9 although some of us have done so but it is 10 here for your reference and the message is that each time we say that there should be a 11 certain criterion or a sub-criterion, that NQF 12 staff has to convert that into a box, an item 13 on this form or a set of boxes or items that 14 measure developers then fill out. 15 16 So if you have thoughts about how that should be done, please feel free. 17 We 18 won't be going through the form in detail but 19 please feel free to offer your thoughts as we 20 go through the discussion. 21 Now I think Karen and Karen was it 22 also came up with this table that is part of

	Page 222
1	the first agenda packet, the briefing memo.
2	It is called DRAFT Table 4. So I would ask
3	that people sort of have in front of them
4	okay, we have it on the screen as well. So
5	there is DRAFT Table 4. So this shows the
6	current additional criteria for composites and
7	considerations that have been raised by NQF
8	staff and through previous NQF steering
9	committee processes.
10	So what we will be doing is we
11	will be going through Table 1 that is in your
12	packet with the current individual and
13	composite measure evaluation criteria. We
14	will be going through the considerations that
15	are shown here for this DRAFT Table 4 and we
16	will be making recommendations to NQF about
17	specific wording changes, specific
18	operationalization.
19	So to start in Table 1, just to
20	give everybody a frame because some of you
21	have gone through the process as developers or
22	as Steering Committee members but others may

not have. So there are four conditions for
 consideration that must be met before proposed
 measures may be considered and evaluated for
 suitability. This is true across the entire
 enterprise.

The measure has to be in a public 6 7 domain or an intellectual property agreement 8 as signed. There has to be a responsible 9 entity and process to maintain and update the 10 measure. The measure has to be intended for both public reporting and quality improvement 11 12 and those terms are defined broadly. So it 13 could be public reporting in any context, 14 quality improvement in any context. And then D, the measure submission itself has to be 15 16 complete. 17 So those four considerations I don't think would be altered here because they 18 19 apply across the enterprise. Right? 20 DR. BURSTIN: Right. 21 DR. ROMANO: Okay. So we will go 22 into the next -- everybody with me?

> Neal R. Gross & Co., Inc. 202-234-4433

## Page 223

	Page 224
1	So we will go into now the first
2	of the four formal criteria for measure
3	evaluation, that is, importance to measure and
4	report. So importance to measure oh.
5	Okay so before we do that. So I
6	think that we have agreed this is on what is
7	labeled as page nine of this Table 1, criteria
8	for evaluation. So currently composites have
9	this higher level criteria for evaluation that
10	says that the individual measures included in
11	the composite must be either NQF-endorsed or
12	assessed to have met the individual measure
13	evaluation criteria as the first step in
14	evaluating composite measures. So I think we
15	have agreed that we are actually dropping the
16	second part of that or statement.
17	Can we put that up on the screen?
18	Do you have that? Okay, let's put it up on
19	the screen just so everybody is clear about
20	it.
21	Because this is kind of the first
22	step. So what Liz and I heard, I think, and

	Page 225
1	Karen and Helen from this morning's discussion
2	was that rather than requiring every component
3	of a composite to be either NQF-endorsed or to
4	have met the measure evaluation criteria for
5	endorsement, what we are asking for instead if
6	the components are not NQF-endorsed is that
7	there be some evidence for its inclusion in
8	the composite. If we could scroll down a
9	little bit. Okay.
10	So the second part of this or
11	statement would be that there should be some
12	evidence for the inclusion of components that
13	are not already NQF-endorsed. And that
14	evidence could be either based on the or
15	probably both. Maybe it is both. But it
16	should be based on the individual performance
17	characteristics of the component, particularly
18	validity as Alan pointed out earlier.
19	Reliability may be completely immaterial for
20	a component of a composite but there may be
21	evidence based on individual characteristics.
22	Next page. There we are. Thank you.

	Page 226
1	Okay, so rather than saying or
2	assessed to have met the individual measure
3	evaluation criteria I think what we are
4	looking at is or there is evidence for its
5	inclusion in the composite based on either the
6	individual its performance characteristics
7	and individual measure or based on its
8	contribution to the performance of the overall
9	composite.
10	That contribution could be
11	described, in most cases empirically but in
12	some cases it might be described conceptually
13	as we discussed with Sherrie's example of
14	blood pressure this morning.
15	Does that capture the sense of the
16	discussion in the latter part of the morning?
17	Okay, so we are fairly fundamentally changing
18	the second part of that or statement.
19	Okay. So given that, then let's
20	move on to criterion one, which is importance
21	to measure and report.
22	DR. SHAHIAN: So just before we go

Page 227
on, just in terms of the optics of what we are
doing, we just went through a process two
some-odd years ago where we tightened the
evidence criteria and made them much more
explicit. Will this be viewed as a weakening
of the evidence criterion? I'm just asking.
DR. BURSTIN: It is actually
interesting because I thought we were going to
just go to the criteria first and then try to
figure out where we are on the bigger one
because it is a little fuzzy for me still.
Because I think what we said earlier was we
still wanted evidence until we get to the next
criteria. We are still expecting evidence
and, I would argue, performance gap as well
for the components.
So we may need to nuance this
wording a bit.
DR. BIRKMEYER: But I think that
while I agree that we shouldn't roll back the
tide with regards to evidence, I think that
the focus should be on sort of the evidence

1	
	Page 228
1	around how well the summary score works in the
2	context of what we are talking about here,
3	rather than each component that rolls up into
4	it.
5	DR. ROMANO: So in a way we may be
б	lowering the bar for components but we may be
7	raising the bar for the composite as a whole
8	and for ensuring that the construction of the
9	composite is based on a clear construct, a
10	clear quality construct.
11	DR. BURSTIN: Does that work for
12	you?
13	DR. BIRKMEYER: I think so.
14	DR. BURSTIN: Okay. Since you
15	chaired the evidence Task Force.
16	DR. ROMANO: Okay, so let's look
17	at the importance issue. And so what was done
18	before, three years ago was it, was that
19	criteria la, b, and c were retained but new
20	criteria 1d and e were added for composites.
21	So la is about a high impact
22	aspect of healthcare; 1b is about a

	Page 229
1	demonstration of opportunities for
2	improvement; and 1c is about the evidence
3	base, if you will. Is that an appropriate
4	summary? Okay.
5	So the additional evaluation
6	criteria that were added for composites, ld
7	was that the purpose/objective of the
8	composite measure and the construct are
9	clearly described and le is that the
10	components are consistent with and
11	representative of the construct.
12	So could everybody just read 1d
13	and le as we are talking and think about how
14	those should be changed or adapted, based on
15	our discussion?
16	Basically what NQF staff said here
17	is that this has been difficult to apply in
18	practice. These criteria 1d and particularly
19	le. 1d would seem to be relevant to every
20	performance measure and not unique to
21	composites but I think we have already said
22	that there is a blurry line and probably most

Page 230 of the measures that are endorsed by NOF are 1 2 composites if you really look at them closely. And le seems difficult to apply in 3 4 practice. So any thoughts or responses to 5 those considerations? 6 DR. ZASLAVSKY: It seems that the 7 piece of 1d that might need to be made more 8 explicit is that the method of forming the 9 composite has to be justified by reference to 10 the objective of the composite measure and the conceptual basis of the composite measure. 11 12 That is what we were talking about this 13 morning and it isn't really in that -- that is 14 what is different for a composite as opposed 15 to anything else. 16 DR. ROMANO: The method of forming 17 the composite from the components has to be 18 clearly linked to the purpose and objective of 19 the composite measure. Is that what you are 20 saying? 21 DR. KAPLAN: Yes, I was missing 22 the appropriate part. And they have to be --

	Page 231
1	the purpose has to be described and it has to
2	be appropriate.
3	DR. ZASLAVSKY: Not related by
4	virtue of being involved with this.
5	(Laughter.)
6	DR. ROMANO: Anything can be
7	described. So you can describe a method for
8	adding together apples and elephants.
9	DR. CHASE: So let me test this
10	forward because I can see where this gets
11	difficult. Again, if a purpose could be well
12	there is a whole bunch of criteria that we
13	have collected and they are individually
14	valuable, it makes them easier to understand
15	if we combine. Then just about everything
16	people are going to bring is going to meet
17	this. Or are we saying that is never a reason
18	to do composites and yet I think that is a
19	reason why people are doing composites
20	sometimes.
21	Again, take a prevention
22	composite, which would stand alone on each one

	Page 232
1	of its components and I might well want to
2	bring it just because why give people nine
3	things to look at when they could look at just
4	one.
5	DR. ROMANO: Well let me just push
6	back a little bit and say that making it
7	easier is not clear enough. That you have to
8	say making it easier to do what. Making it
9	easier for making what decision that is
10	relevant in this marketplace?
11	DR. KAPLAN: Yes, I mean the
12	purpose I would separate those two. The
13	purpose has to be explicitly articulated. The
14	rationale for creating a composite has to be
15	explicitly articulated and then the
16	appropriate of use for whatever construct for
17	the purpose of is appropriate.
18	So I would separate the two
19	things. One, you have to have the purpose
20	has to be explicitly articulated and then the
21	methods and the construct have to be
22	appropriate for that purpose.

1	Page 233 DR. ROMANO: So then what I am
2	
Ц	hearing is that 1d has essentially two
3	subcomponents, where the first subcomponent is
4	related to explicit articulation of the
5	purpose and the second subcomponent is related
6	to how the methods follow from that purpose,
7	the appropriateness of the methods based on
8	that purpose. Is that what people are saying?
9	I see some nodding.
10	DR. BURSTIN: It might be helpful
11	to actually just to use an example. Let's
12	keep on Jim's example for a moment.
13	So somebody takes all the
14	currently endorsed NQF-endorsed measures
15	around prevention and screening. Let's just
16	make it easier, just a screening composite and
17	brings it forward. What would need to be
18	just give me a sense of what you think would
19	be an acceptable explicitly articulated
20	purpose for a screening composite.
21	DR. CHASE: My argument would be
22	again when I said ease, I meant for a consumer

Page 234
to look at one indicator of the overall
prevention that a given provider organization
provides.
DR. BURSTIN: That works for me.
I'm just curious if it works for everybody
else.
DR. CHASE: And later in the
process might come the test of is that a valid
thing to do, to combine all seven for
performance.
DR. ROMANO: But I think what is
maybe needs to be a little bit clearer again
relative to what developers are used to doing
is that this is intended as a measure that
consumers could use to choose physician
organizations, provider organizations that
provide a higher quality care in prevention
and screening.
Is that yes. So that makes it
different, for example, from a measure that
so you could formulate a different composite
where some of the words would change but it

	Page 235
1	would have a very different construction
2	because it would be designed for payment
3	determination, for example, for providing a
4	financial reward to provider organizations
5	that are improving patient outcomes.
6	DR. BURSTIN: for specific
7	purposes so that gets funky.
8	DR. ROMANO: All right, I
9	understand that.
10	DR. KAPLAN: Well like
11	DR. ROMANO: You can't avoid the
12	problem.
13	DR. KAPLAN: American Board of
14	Internal Medicine did these performance
15	improvement modules and they created
16	prevention, chronic care and acute care as the
17	performance things they were trying to
18	evaluate. Well the prevention thing didn't
19	work so well. It doesn't hang together too
20	well. The acute care not so well but the
21	chronic disease care worked really well at the
22	physician level.

	Page 236
1	So the point of those measures was
2	to create a composite out of the things they
3	have already you know that are already
4	around that looked at the doctor's ability to
5	provide high quality chronic disease care for
б	their patients. So that was the underlying
7	purpose and then they combined all these
8	measures in ways that we helped them with to
9	provide the empirical, the evidentiary support
10	that actually those measures were appropriate
11	for evaluating physician performance in terms
12	of the chronic disease care provider.
13	So that is another it is a
14	different example but it is another kind of
15	way of looking at if you have got a new
16	purpose out there, you are going to combine
17	these things differently and then we are going
18	to ask you to state what that purpose is and
19	how you are going to do it.
20	DR. ROMANO: If they don't
21	let's take that example. If they don't hang
22	together empirically, then what do you say?

	Page 237
1	Do you go back to Jim and say you cannot do
2	this because they don't hang together
3	empirically or do you say you can do this but
4	consumers ought to know that prevention for
5	men's health doesn't necessarily correlate
6	with prevention for women's health or
7	prevention related to breast cancer screening
8	doesn't necessarily correlate with prevention
9	in other domain. How do we respond?
10	DR. KAPLAN: Well I am not NQF.
11	So how I would respond is differently. I
12	would say those measures that you just handed
13	over don't look to be good measures of
14	physician performance. They may be very good
15	measures of planned performance or they may be
16	very good measures of patient something or
17	other but they don't look like they are very
18	good measures of physician performance unless
19	you have more of the same things. In other
20	words, as a measure of physician performance,
21	this may not shake up.
22	Now, should that paralyze us from

	Page 238
1	never doing physician performance levels of
2	prevention or are we at such a crude state of
3	understanding this process that we will take
4	whatever it is they offer us up because we are
5	not sure that they are not very good measures
6	of physician performance, for exactly the
7	reason I stated. There may not be enough of
8	them. They may have too much patient
9	variability. The doctors may be attracting
10	patients with certain kind of wellness
11	profiles and so on.
12	But I would at least like to hear
13	some language in there about here is what you
14	are trying to do. Here is what your intention
15	is, and here is the methods you are setting
16	about to accomplish that.
17	DR. BURSTIN: It feels like we are
18	blending two criteria. So for me at least
19	there is the evidence, which I think is
20	different. This one about impact evidence and
21	opportunity for improvement feels different to
22	me than the empiric basis that we are now

Page 239

1 talking about.

2	So I guess one question is going
3	back to David's comment that if we are raising
4	the bar on the composite overall around
5	evidence, I mean is this essentially the
6	conceptual piece you were talking about
7	earlier that you have to really be able to
8	provide the evidence for the composite
9	conceptually and then the more empiric
10	assessment winds up in the next criteria
11	outside acceptability where you actually show
12	the data on reliability and validity for the
13	composite?
14	DR. DE LONG: Can I have some
15	clarification about evidence? When we talk
16	about evidence, are we now talking about
17	evidence for the composite for what it is
18	doing and not for the components? Because
19	that is a whole different set of evidence.
20	DR. BURSTIN: Yes, we are talking
21	about the composites.
22	DR. DE LONG: All right.

1	
	Page 240
1	DR. ZASLAVSKY: I've been
2	grappling with this question that Patrick
3	posed of what the bar is for a composite which
4	didn't have an immediate answer. And I think
5	I was trying to figure out what the bar is for
6	something which isn't going through the
7	composite process. And it doesn't in that
8	section anyway say anything about showing that
9	it is useful for a particular purpose. It
10	just says it has to be a measure. Maybe I am
11	missing something there.
12	DR. BURSTIN: You are absolutely
13	right. Useful is really about usability.
14	That is a different criteria.
15	DR. ZASLAVSKY: Yes, and usability
16	doesn't actually necessarily imply usefulness
17	either.
18	DR. BURSTIN: Actually now
19	usability and use which is intended to imply
20	usefulness as it has been changed.
21	DR. ZASLAVSKY: But anyway one
22	place I came to is maybe we do have a higher

	Page 241
1	standard for a composite to get an NQF seal on
2	it. Anyone can take a bunch of numbers that
3	come out of measurement processes that have
4	been validated and so forth and throw them
5	together any way they want to and put it on
6	their reports and maybe even get paid for it.
7	But I don't think that the fact that they
8	bring that in front of NQF and the components
9	are all okay necessarily means that NQF wants
10	to say anything, give any kind of approval to
11	that.
12	I think that there this additional
13	step of creating the composite that NQF is
14	being asked to approve and that it is
15	reasonable for us to ask that there actually
16	be value added in that step as evidenced by
17	there being thought about what conceptually it
18	is getting at, what its purpose is and the
19	appropriate kind of evidence to meet the
20	standard required for that purpose.
21	So I feel okay about having these
22	additional requirements which go a little

Pa 1 beyond what we do with the individual 2 measures. 3 DR. DUNTON: Can we step back to 4 the purpose discussion for a minute? If we	ge 242
2 measures. 3 DR. DUNTON: Can we step back to	
3 DR. DUNTON: Can we step back to	
4 the purpose discussion for a minute? If we	
5 have to have measure that are for all	
6 purposes, and in usability we have to descri	be
7 how that works, can we narrow it down to one	
8 into such a statement for a specific	
9 composite?	
10 DR. BURSTIN: You know again, th	is
11 is really in a different section. This is	
12 about is this important to measure and repor	t.
13 So I think it is fair game for the developer	
14 to put forward their conceptualization that	
15 this measure be especially important for the	
16 following uses.	
17 But again, that doesn't mean that	t
18 measure will only be endorsed for the specif	ic
19 uses, I guess.	
20 I would be curious David as you	
21 think about, just because you have been	
22 through this, is you think about the	

Page 243 1 individual CABG measures you have already 2 developed and then you think about the CABG composite. If you were filling this out, what 3 would you say that would be higher? I can 4 5 tell you are smiling already. I mean to me, 6 that is the question. Is this something 7 substantial or is this something that sounds 8 like a little mom and apple pie? 9 DR. SHAHIAN: Well this is a 10 little scary, I think you reading my mind because I was thinking about the CABG 11 12 composite and I think it is probably going to be true of many composites. 13 14 There is an incredible amount of evidence out there for the individual 15 components of the CABG composite and there are 16 zero evidence per se that a composite of CABG 17 measures makes any difference. 18 19 So the evidence was solely at the 20 level of the individual domains and measures 21 but not at the level of the composite. And I 22 suspect that that is going to be true in many

Page 244 1 cases because we don't have a lot of testing 2 on composites. Is that what you were getting 3 at? Well is it really 4 DR. BURSTIN: 5 that it is maybe evidence is again we are trying to pound this square peg into a round 6 7 hole. Are we really talking about evidence 8 for the composite or are we saying maybe it is 9 really impact? So what is the added impact of 10 having these measures in a composite versus individual? Maybe it is evidence -- we are 11 12 really talking about evidence for the measure focus. Evidence, I am not quite sure it is 13 14 the right --15 DR. SHAHIAN: And in the case of 16 the CABG composite the reason we devised it --17 well there were many reasons. One is that it 18 is increasingly difficult to distinguish 19 levels of performance based on mortality 20 So that is number one. alone. 21 Number two, there was when we 22 developed this five or six years ago an

Page 2451increasing realization that quality2measurement should be multi-dimensional. And3we had one very narrow dimension of quality4that we were measuring. And this was a way to5incorporate mortality, morbidity, process6measures.7And then number three was consumer8interpretability.9So there were many reasons that we10did it and absolutely no evidence prior to the11introduction of the composite that it was12really a good thing.13SDR. BURSTIN: And to me those14three are quite strong conceptual reasons why15we would have a composite. Maybe it is really16a conceptualization rather than evidence.17DR. ZASLAVSKY: The nature of18evidence is pretty broad because we have a lot19of alternative conceptualizations. So the20conceptualization here is maybe that these are21all things which are either measures of22outcome that affect patient well-being for		
<ul> <li>measurement should be multi-dimensional. And</li> <li>we had one very narrow dimension of quality</li> <li>that we were measuring. And this was a way to</li> <li>incorporate mortality, morbidity, process</li> <li>measures.</li> <li>And then number three was consumer</li> <li>interpretability.</li> <li>So there were many reasons that we</li> <li>did it and absolutely no evidence prior to the</li> <li>introduction of the composite that it was</li> <li>really a good thing.</li> <li>DR. BURSTIN: And to me those</li> <li>three are quite strong conceptual reasons why</li> <li>we would have a composite. Maybe it is really</li> <li>a conceptualization rather than evidence.</li> <li>DR. ZASLAVSKY: The nature of</li> <li>evidence is pretty broad because we have a lot</li> <li>of alternative conceptualizations. So the</li> <li>conceptualization here is maybe that these are</li> <li>all things which are either measures of</li> </ul>		Page 245
<ul> <li>we had one very narrow dimension of quality</li> <li>that we were measuring. And this was a way to</li> <li>incorporate mortality, morbidity, process</li> <li>measures.</li> <li>And then number three was consumer</li> <li>interpretability.</li> <li>So there were many reasons that we</li> <li>did it and absolutely no evidence prior to the</li> <li>introduction of the composite that it was</li> <li>really a good thing.</li> <li>DR. BURSTIN: And to me those</li> <li>three are quite strong conceptual reasons why</li> <li>we would have a composite. Maybe it is really</li> <li>a conceptualization rather than evidence.</li> <li>DR. ZASLAVSKY: The nature of</li> <li>evidence is pretty broad because we have a lot</li> <li>of alternative conceptualizations. So the</li> <li>conceptualization here is maybe that these are</li> <li>all things which are either measures of</li> </ul>	1	increasing realization that quality
<ul> <li>that we were measuring. And this was a way to</li> <li>incorporate mortality, morbidity, process</li> <li>measures.</li> <li>And then number three was consumer</li> <li>interpretability.</li> <li>So there were many reasons that we</li> <li>did it and absolutely no evidence prior to the</li> <li>introduction of the composite that it was</li> <li>really a good thing.</li> <li>DR. BURSTIN: And to me those</li> <li>three are quite strong conceptual reasons why</li> <li>we would have a composite. Maybe it is really</li> <li>a conceptualization rather than evidence.</li> <li>DR. ZASLAVSKY: The nature of</li> <li>evidence is pretty broad because we have a lot</li> <li>of alternative conceptualizations. So the</li> <li>conceptualization here is maybe that these are</li> <li>all things which are either measures of</li> </ul>	2	measurement should be multi-dimensional. And
<ul> <li>incorporate mortality, morbidity, process</li> <li>measures.</li> <li>And then number three was consumer</li> <li>interpretability.</li> <li>So there were many reasons that we</li> <li>did it and absolutely no evidence prior to the</li> <li>introduction of the composite that it was</li> <li>really a good thing.</li> <li>DR. BURSTIN: And to me those</li> <li>three are quite strong conceptual reasons why</li> <li>we would have a composite. Maybe it is really</li> <li>a conceptualization rather than evidence.</li> <li>DR. ZASLAVSKY: The nature of</li> <li>evidence is pretty broad because we have a lot</li> <li>of alternative conceptualizations. So the</li> <li>conceptualization here is maybe that these are</li> <li>all things which are either measures of</li> </ul>	3	we had one very narrow dimension of quality
6       measures.         7       And then number three was consumer         8       interpretability.         9       So there were many reasons that we         10       did it and absolutely no evidence prior to the         11       introduction of the composite that it was         12       really a good thing.         13       DR. BURSTIN: And to me those         14       three are quite strong conceptual reasons why         15       we would have a composite. Maybe it is really         16       a conceptualization rather than evidence.         17       DR. ZASLAVSKY: The nature of         18       evidence is pretty broad because we have a lot         19       of alternative conceptualizations. So the         20       conceptualization here is maybe that these are         21       all things which are either measures of	4	that we were measuring. And this was a way to
7And then number three was consumer8interpretability.9So there were many reasons that we10did it and absolutely no evidence prior to the11introduction of the composite that it was12really a good thing.13DR. BURSTIN: And to me those14three are quite strong conceptual reasons why15we would have a composite. Maybe it is really16a conceptualization rather than evidence.17DR. ZASLAVSKY: The nature of18evidence is pretty broad because we have a lot19of alternative conceptualizations. So the20conceptualization here is maybe that these are21all things which are either measures of	5	incorporate mortality, morbidity, process
<ul> <li>8 interpretability.</li> <li>9 So there were many reasons that we</li> <li>10 did it and absolutely no evidence prior to the</li> <li>11 introduction of the composite that it was</li> <li>12 really a good thing.</li> <li>13 DR. BURSTIN: And to me those</li> <li>14 three are quite strong conceptual reasons why</li> <li>15 we would have a composite. Maybe it is really</li> <li>16 a conceptualization rather than evidence.</li> <li>17 DR. ZASLAVSKY: The nature of</li> <li>18 evidence is pretty broad because we have a lot</li> <li>19 of alternative conceptualizations. So the</li> <li>20 conceptualization here is maybe that these are</li> <li>21 all things which are either measures of</li> </ul>	6	measures.
9       So there were many reasons that we         10       did it and absolutely no evidence prior to the         11       introduction of the composite that it was         12       really a good thing.         13       DR. BURSTIN: And to me those         14       three are quite strong conceptual reasons why         15       we would have a composite. Maybe it is really         16       a conceptualization rather than evidence.         17       DR. ZASLAVSKY: The nature of         18       evidence is pretty broad because we have a lot         19       of alternative conceptualizations. So the         20       conceptualization here is maybe that these are         21       all things which are either measures of	7	And then number three was consumer
10did it and absolutely no evidence prior to the11introduction of the composite that it was12really a good thing.13DR. BURSTIN: And to me those14three are quite strong conceptual reasons why15we would have a composite. Maybe it is really16a conceptualization rather than evidence.17DR. ZASLAVSKY: The nature of18evidence is pretty broad because we have a lot19of alternative conceptualizations. So the20conceptualization here is maybe that these are21all things which are either measures of	8	interpretability.
11 introduction of the composite that it was 12 really a good thing. 13 DR. BURSTIN: And to me those 14 three are quite strong conceptual reasons why 15 we would have a composite. Maybe it is really 16 a conceptualization rather than evidence. 17 DR. ZASLAVSKY: The nature of 18 evidence is pretty broad because we have a lot 19 of alternative conceptualizations. So the 20 conceptualization here is maybe that these are 21 all things which are either measures of	9	So there were many reasons that we
12 really a good thing. 13 DR. BURSTIN: And to me those 14 three are quite strong conceptual reasons why 15 we would have a composite. Maybe it is really 16 a conceptualization rather than evidence. 17 DR. ZASLAVSKY: The nature of 18 evidence is pretty broad because we have a lot 19 of alternative conceptualizations. So the 20 conceptualization here is maybe that these are 21 all things which are either measures of	10	did it and absolutely no evidence prior to the
13DR. BURSTIN: And to me those14three are quite strong conceptual reasons why15we would have a composite. Maybe it is really16a conceptualization rather than evidence.17DR. ZASLAVSKY: The nature of18evidence is pretty broad because we have a lot19of alternative conceptualizations. So the20conceptualization here is maybe that these are21all things which are either measures of	11	introduction of the composite that it was
14 three are quite strong conceptual reasons why 15 we would have a composite. Maybe it is really 16 a conceptualization rather than evidence. 17 DR. ZASLAVSKY: The nature of 18 evidence is pretty broad because we have a lot 19 of alternative conceptualizations. So the 20 conceptualization here is maybe that these are 21 all things which are either measures of	12	really a good thing.
15 we would have a composite. Maybe it is really 16 a conceptualization rather than evidence. 17 DR. ZASLAVSKY: The nature of 18 evidence is pretty broad because we have a lot 19 of alternative conceptualizations. So the 20 conceptualization here is maybe that these are 21 all things which are either measures of	13	DR. BURSTIN: And to me those
16a conceptualization rather than evidence.17DR. ZASLAVSKY: The nature of18evidence is pretty broad because we have a lot19of alternative conceptualizations. So the20conceptualization here is maybe that these are21all things which are either measures of	14	three are quite strong conceptual reasons why
DR. ZASLAVSKY: The nature of evidence is pretty broad because we have a lot of alternative conceptualizations. So the conceptualization here is maybe that these are all things which are either measures of	15	we would have a composite. Maybe it is really
18 evidence is pretty broad because we have a lot 19 of alternative conceptualizations. So the 20 conceptualization here is maybe that these are 21 all things which are either measures of	16	a conceptualization rather than evidence.
19 of alternative conceptualizations. So the 20 conceptualization here is maybe that these are 21 all things which are either measures of	17	DR. ZASLAVSKY: The nature of
20 conceptualization here is maybe that these are 21 all things which are either measures of	18	evidence is pretty broad because we have a lot
21 all things which are either measures of	19	of alternative conceptualizations. So the
	20	conceptualization here is maybe that these are
22 outcome that affect patient well-being for	21	all things which are either measures of
	22	outcome that affect patient well-being for

	Page 246
1	which there is evidence that the processes are
2	things that contribute to those outcomes.
3	So that is an offset of arguments.
4	It is not a set of the empirical exceptions so
5	as far as you refer to the empirical evidence
6	that the processes have contributed to
7	outcomes. But it is information that some of
8	them put together and say this is a reason for
9	this to be a composite, rather than just
10	saying I group together ten things arbitrarily
11	and say put a label on them.
12	DR. KAPLAN: To me this is still
13	winding around the issue of purpose. Because
14	if collectively these things are telling you
15	something new than they would tell you
16	individually, it is a different purpose you
17	are putting them to.
18	So now I want to evaluate
19	physician performance or I want to evaluate
20	the hospital performance on a construct I
21	could measure individually but collectively,
22	these things tell me something more robust.

1	
	Page 247
1	And that new whatever, you can call it a
2	higher order construct, you can call it a
3	robust composite. You can call it something
4	but it is something else that hasn't been,
5	that these individual components don't tell
6	you. This new collective enterprise, whatever
7	construct, whatever you are calling it, the
8	new higher order thing is telling you
9	something different and it is a new purpose.
10	Now you are putting these things to a new
11	purpose and the purpose is blah, blah, blah,
12	blah, blah and here is why that is important,
13	if you are leaving it to the impact.
14	That is important because we don't
15	have right now a good measure of this new
16	blank to estimate whatever it is we are trying
17	to estimate.
18	DR. CHASE: So
19	DR. BURSTIN: I agree with whatever
20	you say except the word purpose is throwing
21	me. That's all.
22	DR. CHASE: So can I I just

	Page 248
1	want to devil's advocate on this. We talked
2	a lot about how this would be used but is this
3	one ever going to screen anything out?
4	DR. BURSTIN: That's what I was
5	asking.
6	DR. CHASE: Can somebody give me
7	an example of where you wouldn't be able to
8	just for just about anything? Because again,
9	at some level it is just I am putting it
10	together so your point earlier, so consumers
11	will find it easier to see and to use.
12	And when you take many things and
13	put them into one, unless you go through the
14	other pieces where they are invalid, those
15	individual pieces or invalid or one of them
16	doesn't add to it, I am just
17	DR. KAPLAN: I guess I would have
18	said what are you measuring. If I am
19	measuring physician performance, is this a new
20	measure?
21	I mean you can add up everything.
22	Don't limit it to the whatever 50 measures of

	Page 249
1	safety you have or whatever. Add up
2	everything NQF ever endorsed ever and what
3	have you got? You know, that is ridiculous.
4	You can't start at it that way. You have to
5	have some construct you are trying to
6	estimate.
7	So what are you trying to measure?
8	And then does this new composite thing reflect
9	that better than individual elements do?
10	DR. ROMANO: Yes, I might argue
11	that if people are really forced to describe
12	their thinking here clearly, that it will open
13	them up. It will at least foster some robust
14	discussion in steering committees that may
15	lead for example so if we are talking about
16	diabetes care, not to pick on you
17	specifically. But so what is the concept
18	behind is optimal diabetes care? Is that
19	the measure? So what is the concept behind
20	that measure? So you could say well this is
21	to facilitate consumer decision-making. But
22	then I might say well if you want to

	Page 250
1	facilitate consumer decision-making, getting
2	back to Liz's argument, shouldn't that be done
3	in a way that encourages consumers to lower
4	their risk to improve their outcomes? And
5	therefore isn't the implication of that, as we
6	get later into the evidence, isn't the
7	implication of that that a variety of measures
8	should be included in a way that is all
9	correlated with diabetes-related outcomes.
10	So it is not so much that people
11	would reject the rationale is that people
12	would then say well the construction of the
13	measure may not be fully consistent with that
14	rationale.
15	DR. CHASE: So the diabetes one I
16	think fits here well in the sense of part of
17	the argument with that one is those individual
18	components getting all of the components are
19	not just additive. It is they interact with
20	each other so if your blood pressure and your
21	LDL is in control, there is some evidence that
22	you are going to be better off than just a

Page 251 1 patient with LDL control only or just blood 2 pressure control. We don't have to argue the 3 veracity of that now. But I mean I can see where there are many cases where you would say 4 5 absolutely makes sense to have a composite. 6 I was trying to find the case of where you 7 would say it doesn't. There shouldn't be 8 composites unless you can actually show some 9 argument about again why it makes sense to put 10 them together and that is all we are asking. DR. BURSTIN: Or maybe taking the 11 12 example where we have actually looked at measures before that didn't make it through 13 14 where you put together a whole lot of topped out measures and you still have got a topped 15 out measure. Is that really adding value? 16 17 Maybe it does go back to whoever 18 said it, but maybe part of this is actually 19 weaving in the what are you trying to measure 20 better than the individual elements on their 21 own do? That goes to some of what I think 22 David listed off. Maybe that is part of the

	Page 252
1	way to structure it because it has got to be
2	better.
3	Let's just try the higher bar.
4	Why is it better than simply taking the
5	individual measures? And obviously I think
6	the real tough part is going to be when we get
7	to the testing. So you probably I think
8	DR. ZASLAVSKY: Patrick had a good
9	reformulation. The rationale isn't to make it
10	easier for consumers to look at it, it is to
11	make it easier for consumers to be informed by
12	it. So the composite has to be informative.
13	It has to be able to convey valid information,
14	which is not just a hodgepodge of stuff thrown
15	together. It has got to have some thought
16	behind it that this is a good thing for them
17	to see.
18	DR. ROMANO: And the implication
19	then is that it sets up the next stage, which
20	is evaluating the evidence because the
21	evidence then is evaluated in the context of
22	the developer's stated purpose and in fact is.
Page 253 1 DR. BIRKMEYER: That's right. Ι 2 was just going to say the same thing that I view 1d as not a screening tool to identify 3 applications, this shouldn't be here, but a 4 5 way to reinforce what the primary purpose is 6 to make it easier for the reviewers to judge 7 the ultimate value. 8 DR. ROMANO: Okay, so given that, so there will be, obviously rewording that I 9 10 quess NQF staff will work on and we may discuss that in a subsequent conference call. 11 12 So anything else that we should 13 discuss in the context of evaluation criteria 14 and one here for importance? One thing maybe 15 that struck me in looking through this is that 1c becomes a bit difficult to answer in the 16 17 context of a composite. la is about is it 18 high impact. That is usually sort of a 19 qualitative argument that is fairly easy for 20 people to make, although sometimes people fail 21 in it. 22 1b is about variation. That is

Page 254
usually empirically demonstrated with in this
case the composite measure as a whole showing
the composite has performance variation,
opportunities for improvement.
But 1c is a bit awkward because
some of our composites actually combine
process and outcome measures. So how would
people answer 1c for those types of
composites?
DR. BURSTIN: I think we said
earlier they would have to look at the
individual components evidence.
DR. ROMANO: Their 1c wouldn't
apply then.
DR. DUNTON: Well just add a
category for both.
DR. ROMANO: Well should let me
I think it was Karen posed this question.
Should there be for all measures, not just
self-declared composite measures, should there
be a ld statement that developers are required
to make about the purpose or objective of the

Page 255 1 measure? Forget composite. Not really, there 2 is a description. 3 DR. DUNTON: Okay, it's a good 4 point. 5 DR. ROMANO: What do people think? 6 Should this be something that is required of 7 every measure? 8 DR. DUNTON: It is there in 1b, 9 really. 10 DR. BURSTIN: I was going to say 11 that. 12 It is implied in 1b. DR. ROMANO: 13 DR. BURSTIN: It would be fine to 14 have that explicit and then the additional 15 burden for composite is and how is that better than the individual ones. That is fine. 16 We 17 can consider that. But could we talk about are we 18 19 still on -- and we talked about this earlier 20 that we did think that for the components of 21 the composite that they needed to be evidence-22 based. So the evidence for the measure focus

	Page 256
1	should be there, particularly also to allow us
2	to then compare existing measures in the
3	harmonization issues.
4	DR. BIRKMEYER: But again there
5	the evidence means that there is either
6	evidence of good performance as a stand-alone
7	measure or evidence that it contributes to the
8	performance of the composite as a whole.
9	DR. BURSTIN: No, this isn't
10	evidence for the measure focus. This is
11	literally the quality, quantity and
12	consistency of the evidence for the measure
13	focus. Is there evidence that blood pressure
14	of 140/80 is the right number, if it is one of
15	the components?
16	DR. KAPLAN: When you get new
17	measures, something that is actually going to
18	make the composite more robust and there is
19	good expert opinion that that is what is going
20	to do. But there isn't good empirical support
21	for it but the measures developers can create
22	a rationale such that you are adding things

ſ

	Page 257
1	that actually reflect whatever it is your
2	performance at the physician level,
3	performance at the hospital level, whatever it
4	is you are trying to measure. These things
5	are conceptually very good contributors to
6	this, we think they are. Are you going to
7	stifle, are you going to cause problems here
8	in creating composites that are better and
9	more robust by limiting it to an evidentiary
10	base for some different purpose or some
11	different level?
12	DR. BIRKMEYER: I thought we
13	talked about this earlier at length.
14	DR. BURSTIN: I did, too. I
15	thought we had actually when we had this
16	discussion maybe I am off base but I
17	thought when I talked about this earlier, we
18	did say that the components within the
19	composite should pass the evidence test, I
20	thought. That we weren't going to require
21	them to have individual testing and they could
22	definitely be not reliable on their own but,

Page 258 1 personally, as a clinician I wouldn't feel 2 very comfortable that there is measures within a composite that are not evidence-based. 3 Ι 4 mean we are going to get huge push back on 5 that. Evidence, not that it adds to the composite but that evidence backed, 6 7 particularly if it is a clinical issue is 8 evidence-based, unless it is an outcome, for 9 which case you just need a rationale for why 10 It is more so on the it is appropriate. process side that I think it is an issue. 11 12 DR. BIRKMEYER: On the process side I can see that this is the discussion 13 14 that we had earlier with regards to the example that Sherrie had around a clinically 15 credible measure that if you take it out, it 16 just deflates sort of the oomph of the broader 17 18 measure. 19 DR. ROMANO: Okay so if I think 20 what I am hearing is that with respect to 1c 21 and this idea of the evidence base according 22 to the type of measure, that if it is

	Page 259
1	composite that includes process measures, then
2	each of the processes within that composite
3	should meet the evidence criteria. Whatever
4	it is.
5	So each of the components within
6	the composite should meet the criteria that
7	are relevant for that component.
8	DR. BURSTIN: Yes.
9	DR. ROMANO: Sherrie says no.
10	DR. KAPLAN: Well not necessarily
11	for the new purpose you are putting it to.
12	Because there may not be any evidence that
13	that contributes to the new purpose, just like
14	the blood pressure example is important at the
15	patient level. We know that. But for
16	estimating physician performance, it doesn't
17	contribute.
18	So it depends
19	DR. ROMANO: You are talking about
20	evidence for a purpose.
21	DR. KAPLAN: For a purpose, right.
22	DR. ROMANO: She's talking about

Page 260 1 2 DR. KAPLAN: That's what I'm trying to clarify. 3 DR. ROMANO: -- rationale sort of. 4 5 DR. BURSTIN: And that is what 1c 6 is. It is evidence for the measure focus. 7 DR. KAPLAN: All right. 8 DR. ROMANO: Okay, so are we okay, then? If the evidence for the measure focus 9 10 is is it actually better to have a blood pressure of 140/90 than to have a higher blood 11 12 pressure? 13 DR. BURSTIN: Right. 14 DR. ROMANO: That is an intermediate outcome measure. 15 16 DR. BURSTIN: Yes. 17 Currently, NOF would DR. ROMANO: 18 require evidence from clinical studies that 19 that is a good thing and that should still be 20 required if it is included in a composite. 21 Right? 22 DR. BURSTIN: Yes.

	Page 261
1	DR. ROMANO: Okay.
2	DR. BURSTIN: What about the gap
3	or variation? Gap in care or variation, would
4	you require that the individual components
5	have a gap in care or variation? You would be
6	fine with topped out measures in a composite
7	if justified?
8	DR. CHASE: Well we gave the
9	examples where maybe for you might include
10	it where it is important for patient
11	communication. We brought that up as an
12	example where there is not a lot of variation
13	but you want patients to still know that that
14	is an important thing to do.
15	DR. BRATZLER: This is Dale. So I
16	think you have to be a little bit cautious
17	about topped out measures that don't
18	discriminate. Particularly, it gets to some
19	of the experience we have had with the all-or-
20	none measures. But if you have topped out
21	measures particularly that have a big
22	denominator, they can make your composite not

	Page 26:
1	particularly valid. So you just have to be
2	cautious about including topped out measures.
3	DR. KAPLAN: This is Sherrie.
4	There is an old saying in measurement science:
5	you don't measure what doesn't vary. So you
6	wouldn't want to measure in the old days
7	you wouldn't want to measure diversity using
8	gender in the VA. But now the reverse is not
9	true, however. For floor effect problems,
10	things like maternal mortality. If it
11	happens, it is so bad that you need to include
12	it, even though the variability is so limited
13	that you are not going to be able to use it
14	alone. And this is what I think we were
15	talking about before. It is insufficient by
16	itself to constitute a quality indicator but
17	collectively it could contribute to an overall
18	quality indicator because when it happens, it
19	is so terrible. So we wouldn't want to put
20	the same criterion on a floor effect problem.
21	DR. ZASLAVSKY: So I think that
22	means a modification of 1b for the measures

2

Page 263

1 going into a composite.

2	DR. BURSTIN: And I guess it
3	depends on what is the modification. I am
4	hearing, tell me if I am hearing correctly,
5	that in general you agree there should be a
6	gap but there may be extenuating circumstance
7	that perhaps you could justify inclusion of a
8	measure as part of a composite. But I think
9	it would require some justification. Does
10	that sound fair? Okay.
11	DR. ROMANO: Yes, I mean it is
12	also important to keep in mind, I mean Dale
13	raised an important point but that can be
14	dealt with through appropriate weighting. In
15	other words, if there isn't undue weight put
16	on the topped out components of a composite,
17	then they can be retained without skewing the
18	overall results of the composite, if it is
19	important to do so for conceptual reasons.
20	DR. ZASLAVSKY: I actually meant
21	to refer to la, high impact.
22	DR. ROMANO: Yes, I think that

	Page 264
1	DR. ZASLAVSKY: You might want to
2	soften that up. I think we have a real
3	problem that you combine with a lot of other
4	things into a composite in an appropriate way.
5	DR. ROMANO: I think we actually
6	agreed la does not apply to individual
7	components. Right? 1a only applies to the
8	composite as a whole.
9	DR. BURSTIN: Yes.
10	DR. ROMANO: So 1a applies clearly
11	to the composite as a whole. 1c still applies
12	to individual components and 1b, as I am
13	hearing were somewhere in-between. There are
14	circumstances.
15	DR. BURSTIN: Got you.
16	DR. DE LONG: So I do think it is
17	going to become relatively cumbersome to keep
18	track of all of the topped out measures. I
19	mean we are expanding at a fast rate here.
20	And even if they make incredible sense, they
21	are going to be taken for granted. I mean,
22	they are automatically performed so they are

Page 265 not performance measures. 1 2 DR. ROMANO: So I mean that is where people argue for all-or-none scoring, 3 for example, that is a checklist and people 4 5 should do everything on the checklist and if 6 they miss anything on the checklist, it 7 indicates a bad system of care. 8 We could argue about that but that 9 is a rationale that is out there. 10 So let's move on to criterion 2, scientific acceptability. And scientific 11 12 acceptability currently has a number of components. 2a has to do with the definition 13 14 or specification of the measure, that is just very clear how it is defined and specified so 15 that it can be implemented. 2a has been 16 17 adapted for composite measures, basically to include components of how the composite is 18 19 constructed. This seems reasonably 20 straightforward. Any arguments about 2a, what 21 should be added or subtracted from 2a? 22 DR. SHAHIAN: I think it is

	Page 266
1	actually quite well written. I like it.
2	DR. ROMANO: Okay. So moving on
3	then to 2b. 2b is about reliability testing.
4	It is framed in terms of the repeatability of
5	the measure results when assessed in the same
6	population, in the same time period. And of
7	course it references Footnote 8 which is about
8	examples of inter-rater or intra-rater
9	reliability, internal consistency, reliability
10	for multi-item scales, test reliability for
11	survey items.
12	So how does reliability testing
13	differ for composites?
14	DR. SHAHIAN: We have the whole
15	additional issue of inter-item reliability,
16	which we don't really talk about here.
17	DR. ROMANO: Well I mean I guess I
18	would argue based on our discussion this
19	morning that it may not matter. In other
20	words if you are coming in with what you call
21	a single measure from a CAHPS survey about
22	physician patient communication, then you are

Page 267 1 going to have to show the internal consistency 2 reliability of that domain measure based on the construction of the survey. 3 And similarly, if you are framing it as a 4 5 composite, you are going to be showing the same thing. 6 7 So what does it mean DR. DE LONG: 8 to show? I mean it seems to me that if you 9 are going to use something to rate performance 10 then you should demonstrate in some manner that you get the same ratings if you use it 11 12 on, for example half of your data versus the 13 other half. There has to be some consistency 14 in the way this measure performs. 15 DR. ZASLAVSKY: Generally if you have done that for each of the components of 16 17 the composite, then you can deduce that for -especially since usually the different 18 19 components of the composites often will be 20 independent sources. If they are not, if you 21 are taking two things off of the same survey, 22 then you have to do the analysis where you put

Page 268 1 them together. But in any case, the 2 mechanisms for calculating that reliability estimate is going to be similar for the 3 composite. So that is from the original --4 5 DR. DE LONG: I would think that it would depend on the weighting of the 6 7 individual components. 8 DR. ZASLAVSKY: Well it might 9 depend on the weighting of the components. Ιt 10 might depend on the relationship about the So it does require an analysis but 11 measures. 12 there is nothing terribly different from that analysis from what you would do with a single 13 14 measure that was a combination of different 15 diamonds. 16 DR. ROMANO: Well so I guess where 17 we get into some trouble here possibly is that this reliability concept is operationalized 18 19 currently in different ways. 20 So for outcome measures, the way 21 it is often operationalized is that the 22 measure score -- is about the precision of the

	Page 269
1	measure score, basically the imprint, if you
2	will, of the provider physician, the hospital
3	in the case of the AHRQ measures. So we
4	basically justify reliability based on
5	demonstrating the hospital imprint, or in your
6	studies the physician imprint, not based on
7	internal consistency reliability.
8	So is everybody still okay with
9	that? In other words that depending on what
10	people have said in Section 1 about the
11	conceptual framework for the composite, that
12	may lead in different directions in terms of
13	the reliability measures that are presented.
14	DR. KAPLAN: Yes, I mean it
15	depends on the purpose you are trying to put
16	it to and even the levels of reliability will
17	tolerate I mean reliability is the
18	question I was struggling with should NQF
19	require standard reporting out of a kind of
20	standard error of measurement or something
21	that says here is the precision of this
22	estimate for this purpose. Because for

1	
	Page 270
1	example, in the certification process, ABIM
2	really need you have to have a fairly, a
3	really high bar of reliability because they
4	are going to flunk somebody. So for that
5	purpose, you really want to make sure that the
6	estimate is very high. For big group
7	comparisons, like I am going to compare
8	specialists to generalists or somebody to
9	somebody, large groups of folks, precision of
10	the estimate may not have to be that big.
11	So if we are going to float this
12	business about composites and purpose, maybe
13	we should talk a little bit about what the
14	tolerance is around error. You know, what are
15	the consequences of making a mistake and what
16	kinds of error can we tolerate?
17	Composites usually, you know
18	falling on what Alan was talking about,
19	composites usually buy you better precision.
20	But usually with a composite you get
21	improvements in precision, not reductions in
22	precision.

	Page 271
1	DR. CHASE: Except I am worried
2	about that sometimes you get improvement
3	because you make assumptions about that the
4	denominator is the same. I mean one of the
5	things I worried about when we construct
6	composites you take a prevention on an entire
7	population and we do it from how many of the
8	patients got everything they were supposed to
9	but in reality the test is really I mean
10	men don't get cervical cancer screening. So
11	right there the real denominator is smaller.
12	And then we just to make it easy we just
13	assumed that the denominator is the full
14	thing. And I don't know that it makes a
15	difference probably practically but I do worry
16	that we should be paying a little bit of
17	attention when we do composites that we are
18	looking at the reliability related to how the
19	composite is put together, whether the
20	denominators make sense.
21	DR. ROMANO: If there are no other
22	comments on reliability, we can move to

Page 272 1 validity. 2 2c is about validity testing to demonstrate that the quality of care provided 3 distinguishes good and poor quality. 4 And 5 there are various levels or approaches to 6 validity that are allowed in the measure 7 evaluation criteria. 8 2b.1, 2b.2, 2b.3 -- so 2b.1 is 9 about capturing the target population. 2b.2 10 is about the accuracy of the score and inflecting quality and 2b.3 is about the 11 exclusions. 12 So any comments -- oh, and what is 13 14 Oh wait, disparities is in here, too. 2b.4? 15 DR. SHAHIAN: Are you in Table 4 now in the other document? 16 17 DR. ROMANO: I am looking at the measure evaluation criteria table along with 18 19 So 2b or validity is broken down into this. 20 sub-components of validity. 21 DR. BURSTIN: Right, page 11 of 22 the other document.

1	
1	Page 273 DR. ROMANO: Page 11 of the other
T	DR. ROMANO: Page II OI the Other
2	document.
3	DR. SHAHIAN: It is actually b sub
4	1, 2, 3, 4, 5. Right?
5	DR. ROMANO: Correct. Right.
6	DR. SHAHIAN: Okay.
7	DR. ROMANO: Yes. Okay, so if you
8	look at the left-hand column on page 11 there,
9	2b.1 is specifications consistent with
10	evidence; 2b.2, validity testing for data
11	elements or the performance measure score;
12	2b.3, justification of exclusions; 2b.4,
13	justification of risk adjustment; and 2b.5
14	identifying differences in performance; and
15	2b.6 comparability of multiple data sources.
16	So issues in how these differ for
17	composite measures.
18	DR. BRATZLER: Patrick, this is
19	Dale. So again the denominator I think
20	eventually comes up here, too. In your
21	composite, if you have a measure with a large
22	denominator, it will definitely have a bigger

	Page 274
1	impact on overall performance of the
2	composite, depending on the methodology and
3	particularly if you don't weight it.
4	So certain performance measures,
5	you know, the composites may look like they
6	are performing relatively well if you have a
7	large denominator for one of the measures that
8	has high performance and other measures that
9	may have smaller denominators with much lower
10	levels of performance.
11	So without weighting, the
12	denominator may affect the validity of the
13	measure.
14	DR. KAPLAN: Can I ask a question?
15	The validity the purpose of the composite
16	measure estimates some collective that is not
17	represented better by individual components.
18	So by definition you are measuring something
19	different or somewhat different. So validity
20	answers the question are you measuring what
21	you think you are measuring.
22	So in that sense, the evidence

Page 275 that is referred to in 1c isn't the right 1 2 evidence. It is evidence at the patient level but it is not evidence at this level. 3 So when 4 you talk about validity testing, I think I 5 would appreciate some clarification about what you mean by are you measuring what you think 6 7 you are measuring if now you are creating some 8 new collective of things that together are 9 something else. 10 DR. ROMANO: Exactly. I think that is the point. I mean the evidence that 11 12 we were talking about in 1c again is about the evidence about the components, not the 13 14 evidence about the overall composite. So this is where we have to 15 16 demonstrate that, speaking as a developer now, 17 that we are actually measuring what we claim we are measuring. And how do we do that? 18 19 These forms are difficult to fill 20 out and when you get into these individual 21 components, they don't seem to pertain, 22 necessarily, to composites. I mean exclusions

i	
	Page 276
1	what does that mean in the context of a
2	composite because every measure that is part
3	of that composite will have its own
4	exclusions. But it is not that doesn't
5	tell us about the performance of the
6	composite, the validity of the composite as a
7	whole.
8	DR. BURSTIN: Although we have
9	seen exclusions at the composite level as
10	well. So not at the individual component
11	level but actually only at the composite.
12	Patients who never make it into the bundle,
13	for example. The resuscitation over sepsis as
14	an example.
15	DR. BIRKMEYER: Well I think this
16	criterion is going to be easier for some
17	composite measure issuers than others. Those
18	that have composite measures that are derived
19	against some empirical standard and we talked
20	about this before the leapfrog survival
21	predictor, you could easily assess the extent
22	to which that measure does better or more

Page 277 1 poorly against like other measures of 2 mortality. 3 If you took the composite measure for CABG by STS, which is basically kind of a 4 5 four-part equally-weighted piece of mortality 6 and processes of care and a few other things 7 that are all kind of measuring different 8 things, you would have no way of judging 9 whether it measures what you think it is 10 measuring empirically by the same way that you would in other context. 11 12 DR. ROMANO: So in that case, the validity would be intrinsically based on the 13 14 validity of the individual components and the 15 conceptual framework that they all belong 16 together. 17 DR. BIRKMEYER: Face validity, 18 too. 19 DR. ROMANO: Face validity. 20 DR. KAPLAN: But so for example, I 21 am trying to estimate physician performance and I want to be able to attribute whatever 22

Page 278 care is being provided to an individual. 1 Ι 2 could say well I am only going to apply this measure to people who the doctor has seen at 3 least twice in the last calendar year because 4 5 otherwise, I am attributing this care to a provider when that is really -- that isn't the 6 7 primary provider of this patient's care. 8 So from the exclusion standpoint, 9 that might be a very reasonable thing to do. 10 But then I am still stuck with am I measuring 11 physician performance? Am I measuring what I 12 think I am measuring? And how are you going to tell? 13 14 And so doctors who provide good diabetes quality should do what? You know, 15 should provide other kinds of quality, have 16 lower overall something rates? What should 17 18 doctors -- so that is how you tell if you are 19 measuring what you think you are measuring. 20 You either get construct validity -- you have 21 no criterion validity, so you can't use that.

But at least you should have some idea and if

22

	Page 279
1	you haven't already tested it, a direction, I
2	would think, Helen, might be a direction to
3	go, at least point us in a direction. If you
4	don't have good evidence now, at least tell
5	something about how you are going to evaluate
6	what you think you are measuring going
7	forward.
8	And people who are developing
9	measures should be able to tell you at least
10	something along those lines.
11	DR. DE LONG: And that relates to
12	the comment about the STS measure. Because if
13	it truly is a valid measure, then as time goes
14	on complications, the individual complications
15	should go down. If it is used for quality
16	improvement, mortality should go down. That
17	measure should be going up. And those should
18	correlate as time goes on.
19	DR. BIRKMEYER: But those comments
20	are no more true of the composite as they
21	would be applied to the components.
22	DR. DE LONG: Well, it includes

	Page 280
1	the process measures. And if we are driving
2	up those process measures, are we seeing the
3	whole profile improve?
4	DR. BURSTIN: This is again an
5	issue for us about individual measures as well
6	as well as composites. It is often hard to
7	figure out what the gold standard is against
8	which to compare to know that you have got a
9	valid indicator.
10	So I don't know that I see
11	anything unique and different about
12	composites, beyond what is written here.
13	DR. ROMANO: Yes, I think what we
14	heard is that there may not be criterion
15	validity, for example, because we are talking
16	about a measure like let's say we are
17	talking about outcome measures.
18	So if we are talking about an
19	outcome measure of a particular type of post-
20	operative complication, then we can present
21	evidence of criterion validity based on some
22	gold standard of medical record review or

Page 281 1 But if we are then putting together whatever. 2 a bunch of those measures into some kind of a 3 composite measure of patient outcomes, then either we have to fall back on the individual 4 5 components and say that the individual 6 components had criterion validity and 7 therefore the composite does or we have to use 8 a different validation framework and say well 9 this composite is valid because it predicts 10 the future outcomes of the patients. And so I have some other evidence 11 12 that I am going to use to show that this in fact predicts which hospitals or which doctors 13 14 will provide better care in the future or 15 better long-term outcomes. 16 DR. KAPLAN: Yes, see I think it 17 is different from the individual component measures because the evidence base is 18 19 attributable back to patients and what happens 20 to patients over time. But those measures 21 aren't necessarily a reflection of physician 22 performance or an individual physician's

	Page 282
1	performance. It could be a collective of
2	physicians' performance but I think the
3	evidentiary base for using it now to reflect
4	physician performance as opposed to good
5	health outcomes for a patient, is a different
6	that is a different measurement task and it
7	needs a different kind of support.
8	DR. BURSTIN: I think I could
9	probably have the exact same argument about
10	some individual level measures as well. I am
11	just trying to keep us on task. I agree
12	completely those are really important
13	conceptual issues. I just don't know that
14	they are any different for a complex
15	individual measure versus a composite. We
16	have just as many issues with those kinds of
17	things for an individual intermediate outcome
18	for most docs, too or clinicians at all.
19	DR. ROMANO: Well I guess the
20	question is just that developers should be
21	asked to clarify whether their evidence of
22	validity comes from the validity of the

Page 283

individual components or whether they are
making some broader argument that is based on
the validity of the composite and testing the
validity of the composite through construct
validity or possibly criterion validity or
something else.

7 At the end of the day, steering 8 committees can decide what is acceptable and 9 what is not acceptable but I think the idea 10 would be just to force that decision point. Because if the developer is saying I don't 11 12 have any evidence about the validity of this overall concept, aside from face validity, it 13 14 makes sense to put all these things together, then it forces people to look at the 15 16 individual components and to put more 17 attention to whether the individual components 18 are valid. And at the end of the day, they 19 may decide that despite that, they are still 20 not totally convinced that the composite is 21 valid. 22 DR. BURSTIN: So does that go back

	Page 284
1	to the point we were talking about earlier,
2	perhaps that you would give, it would be
3	acceptable to have validity of the individual
4	components but you might get higher points if
5	you actually have validity of individual
б	components and validity of the composite?
7	Would that be a higher level of a
8	pass on validity, for example?
9	What if you only had validity of
10	the composite and not the that was the
11	third one. Sorry, I couldn't help myself.
12	You are on a roll. What if you only had
13	validity of the composite but not validity of
14	the individual components?
15	DR. CHASE: Well again, I think
16	that is only a problem when somebody is
17	questioning whether all the components are
18	necessary. I mean if you sort of already come
19	to I think all of the components are necessary
20	and then I am testing the validity of them
21	all, that doesn't seem to be Great. You
22	don't need to test the individual if you could

1	
	Page 285
1	actually do it. I think the problem is
2	generally you don't have, you haven't tested
3	them altogether. You haven't been able to do
4	that. And so most often I would guess you get
5	people who would bring a composite in with the
6	validity around each one.
7	But I don't think we should bind
8	this to say oh, if you can't prove both, it
9	doesn't work.
10	DR. ZASLAVSKY: If someone handed
11	me an example like this, I would scratch my
12	head and go back and once we really look
13	closely about why I didn't think that the
14	components were valid but the culmination was
15	because maybe my events for the validity of
16	the composite has to be examined more closely.
17	You know, you can have a
18	regression model that is predictive using a
19	bunch of really inane valuables and then you
20	figure out it is really because they are
21	measuring the quality of the reporting or
22	something else like that as irrelevant.

	Page 286
1	So I don't know. We don't need to
2	belabor this. I don't think it is going to go
3	into the criteria but it is certainly that
4	something in practice that you probably look
5	at more closely when you can't understand why
6	the composite is valid but there is some
7	evidence, there is some empirical nature.
8	DR. KAPLAN: That is like the
9	betas are significant but the model is not.
10	You end up with the individual components
11	having significant beta coefficients and the
12	whole model is not significant. So yes,
13	individual components can contribute to
14	something but it is meaningless.
15	So I think if the model is
16	significant and the individual components are
17	not, then you really are in trouble.
18	DR. ROMANO: There is this concept
19	is described in the briefing memo to a
20	balancing measures within a composite. So for
21	example if you are concerned with readmissions
22	that by focusing on readmissions you are going

	Page 287
1	to basically encourage hospitals to keep
2	patients longer in the hospital and basically
3	never discharge patients so they don't have to
4	worry about readmitting them, then on the
5	other hand, other people are measuring length
6	of stay and putting all the focus on
7	efficiency and get the patients out. And then
8	who cares if they get readmitted?
9	So by putting the two measures
10	together, you could argue that they are
11	balancing each other's weaknesses and leading
12	to a more valid composite measure than either
13	of the components alone.
14	DR. BURSTIN: I mean a specific
15	measure, this was when I first came to NQF,
16	was a measure Leapfrog had actually put
17	forward that looked at it was actually a
18	length of stay measure. And what they put in
19	am a balancing measure, which I think
20	ultimately got redone and isn't this way
21	anymore, but just for the sake of argument,
22	they included a seven-day readmission measure

	Page 288
1	in it as part of it to actually show that if
2	you are pushing down on length of stay, are
3	you actually going to then see it bubble up
4	with early readmissions. I think that is the
5	logic of it. And in fact, there is a lot of
6	concern these days as we have moved to sort of
7	bundle payments and lots of other purchase.
8	Do they need to be measures that sort of get
9	a stenting or potentially these balancing
10	kinds of measures. That is an interesting
11	argument of why you might have measures within
12	a composite that aren't going to would
13	never really work as a stand-alone.
14	DR. ROMANO: It would be a clear
15	conceptual basis.
16	DR. BURSTIN: Yes.
17	DR. ROMANO: Okay, so other
18	concepts on validity? Okay. So I think
19	what is next?
20	DR. BURSTIN: Can I just clarify
21	what you are saying what you are saying so I
22	understand? So we are saying that you could
	Page 289
----	--
1	validity of the individual components or you
2	could have validity of the composite either.
3	And that if you do both, that is like gravy.
4	That is even better. Yes? Okay, just
5	checking.
6	DR. BIRKMEYER: But you can't have
7	neither.
8	DR. BURSTIN: You cannot have
9	neither.
10	DR. ROMANO: You cannot have
11	neither and it may be sufficient I mean
12	when you say it is better to have both, it may
13	be sufficient to have one without the other,
14	particularly to have validity at the composite
15	level without demonstrated validity of all the
16	individual components.
17	DR. KAPLAN: It is really hard for
18	me to do this in the abstract because I
19	said that backwards, by the way Alan, it is
20	like having a significant model with no
21	significant data. Sorry. But you know trying
22	to think through, Helen, what would be an

	Page 290
1	example where for the purpose of assessing
2	something new, creating a collective out of
3	that that had no accuracy individually that
4	now you are going to summarize and make into
5	now something that has accuracy for some new
6	purpose.
7	You know I am still struggling
8	with how that would work.
9	DR. BIRKMEYER: This isn't my
10	particular field of expertise but sort of the
11	implementation side of this can point to lots
12	of illustration where bundles of processes of
13	care, if they are all done together lead to
14	salutary effects whereby all of the evidence
15	shows very negligible effects of any one
16	thing, like UTIs or SSIs after surgery.
17	DR. ROMANO: And I think the more
18	common scenario even is where you really are
19	unable to get evidence about the individual
20	the validity of individual components because
21	if it is a rare event and it is just not
22	feasible to assess the criteria and validity

	Page 291
1	of some of those components.
2	DR. KAPLAN: Right. Again, it
3	comes back I don't want to get tangled up
4	in evidence because this is a very theoretical
5	discussion. But it is about are you measuring
6	what you think you are measuring?
7	So adding those things up in
8	quality terms, the evidence support comes from
9	a different purpose. Now I am creating a new
10	purpose of measurement. Now I am going to
11	create a physician performance measure out of
12	this. What is the evidence that that is what
13	you are measuring is physician performance,
14	not patient outcomes or patient something or
15	other.
16	So that is where I still am
17	struggling with the composite versus the
18	individual components when it leads back to
19	the evidence that NQF is required for all the
20	individual components.
21	DR. ROMANO: 2f in the current
22	measure evaluation criteria for composite is

	Page 292
1	about methods scoring and analysis that allow
2	for identification of statistically
3	significant and practically or clinically
4	meaningful differences in performance.
5	Any questions or concerns about
6	that? So it is basically the same criteria
7	the same criteria exists for individual
8	measures. So that seems fairly
9	straightforward.
10	Disparities, 2h again is the same
11	criteria I think as for individual measures.
12	DR. BURSTIN: Yes.
13	DR. ROMANO: Right? Okay. So
14	what is different for composites in the
15	current framework is 2i, j, k, and l. So
16	let's focus our remaining discussion on those
17	items, 2i, j, k, and l. And this is where
18	people have a little trouble.
19	So 2i is about that components
20	empirical analysis showing that components fit
21	the conceptual construct; 2j is about
22	contributing to the variation and the overall

	Page 293
1	composite score; 2k is about weighting rules
2	that are consistent with the conceptual
3	construct; and 21 is about how missing data
4	are handled.
5	DR. SHAHIAN: I think those are
6	pretty good.
7	DR. ZASLAVSKY: I'm a little
8	uncomfortable with 2i because I think if you
9	are doing composites you are probably moving
10	to or likely to be moving in a direction of a
11	broader kind of construct for which the
12	internal consistency is not going to be as
13	high.
14	I think there is certainly
15	circumstances where you might look at it but
16	it is only one of the possible arguments for
17	creating a composite.
18	DR. SHAHIAN: Would the or
19	statement take care of that?
20	DR. ZASLAVSKY: Well I would
21	rather not see one thing highlighted there and
22	then other things being something you would

Page 294 1 have to justify. 2 DR. ROMANO: Yes, I would agree with that. Personally, I am comfortable with 3 the assumption that internal consistency 4 5 reliability has to be met or if not, there 6 needs to be justification because, as we have 7 discussed earlier in some cases internal 8 consistency reliability is just not 9 appropriate for the purpose of the composite. So how do we reframe this in a 10 way that it is more inclusive in terms of 11 12 linking the methods that are presented with the purpose of the composite? 13 14 DR. DE LONG: Can we just take out what is in parentheses? 15 DR. ZASLAVSKY: Yes, there might 16 17 be some -- I don't know if there is some 18 explanatory material maybe a footnote that 19 would refer to some of the different types of 20 analysis that would be relevant to different 21 purposes but I wouldn't put it into the item 22 itself.

	Page 295
1	DR. ROMANO: So I guess looking
2	together at 2i and j, I think my concern would
3	be that these two items put too much emphasis
4	on the components and not enough emphasis on
5	the overall properties of the composite. So
6	is there a way to shift that methodologic
7	focus a bit?
8	DR. ZASLAVSKY: I think i and j
9	were written with a view to particularly the
10	value of a composite for improving
11	reliability. And since we are looking at a
12	broader set of purposes, that might be one
13	thing you might look at that would be one
14	reason for the composite, one support for the
15	composite but it is not other rationales which
16	would not involve that. I'm not quite sure
17	how to deal with that. It sort of makes that
18	a default the way it is written now.
19	Maybe the point should be more a
20	rationale should be given for inclusion for
21	all of the items or something like that. We
22	had a bit of a discussion about that before

Page 296 about whether you would want to have a bias in 1 2 favor of more parsimonious composites when there isn't an argument for including 3 everything just to make them easier to create 4 and reduce the data collection burden. 5 But is a very qualified argument. So it is a little 6 7 hard to formulate it as a general criterion. 8 DR. ROMANO: So is there a way of 9 taking 2i and 2 j and reframing them so that it is linked a bit more like an if-then sort 10 of logic? Like if the developer says that the 11 12 purpose is to increase reliability, then we 13 look for evidence related to internal 14 consistency reliability. 15 Helen doesn't like that idea. 16 DR. BURSTIN: It doesn't lead to 17 consistency in our committees and it leaves it 18 up too much to the developer to make that 19 call. 20 DR. ROMANO: Well I am trying to 21 come up with a way to improve consistency so 22 that it would be clear that if the developer

Page 2971says A, then the committee is expecting to see2B. If the developer says C, the committee is3expecting to see D. So I am actually trying4to see if that can be improved by tightening5the linkage between the measurement construct6and the evidence, the validity testing7evidence that is presented in support of that.8DR. ZASLAVSKY: Patrick, here is9another tact for 2j. What if we asked that10the application shows reasonable attention to11parsimony as a value? If that is the reason12for this, let's just state it as a value13directly and then the developer can respond by14saying this is why all of these items are15important or they can get that one and say you16know I could have dropped out five things and17it would be just as good. Is that what we are18trying to get at there?19DR. ROMANO: Feedback on Alan's20idea?21DR. KAPLAN: The way it is worded22now you can't do it with an index anyway		
<ul> <li>B. If the developer says C, the committee is</li> <li>expecting to see D. So I am actually trying</li> <li>to see if that can be improved by tightening</li> <li>the linkage between the measurement construct</li> <li>and the evidence, the validity testing</li> <li>evidence that is presented in support of that.</li> <li>DR. ZASLAVSKY: Patrick, here is</li> <li>another tact for 2j. What if we asked that</li> <li>the application shows reasonable attention to</li> <li>parsimony as a value? If that is the reason</li> <li>for this, let's just state it as a value</li> <li>directly and then the developer can respond by</li> <li>saying this is why all of these items are</li> <li>important or they can get that one and say you</li> <li>know I could have dropped out five things and</li> <li>it would be just as good. Is that what we are</li> <li>trying to get at there?</li> <li>DR. ROMANO: Feedback on Alan's</li> <li>idea?</li> <li>DR. KAPLAN: The way it is worded</li> </ul>		Page 297
<ul> <li>expecting to see D. So I am actually trying</li> <li>to see if that can be improved by tightening</li> <li>the linkage between the measurement construct</li> <li>and the evidence, the validity testing</li> <li>evidence that is presented in support of that.</li> <li>DR. ZASLAVSKY: Patrick, here is</li> <li>another tact for 2j. What if we asked that</li> <li>the application shows reasonable attention to</li> <li>parsimony as a value? If that is the reason</li> <li>for this, let's just state it as a value</li> <li>directly and then the developer can respond by</li> <li>saying this is why all of these items are</li> <li>important or they can get that one and say you</li> <li>know I could have dropped out five things and</li> <li>it would be just as good. Is that what we are</li> <li>trying to get at there?</li> <li>DR. ROMANO: Feedback on Alan's</li> <li>idea?</li> <li>DR. KAPLAN: The way it is worded</li> </ul>	1	says A, then the committee is expecting to see
4to see if that can be improved by tightening5the linkage between the measurement construct6and the evidence, the validity testing7evidence that is presented in support of that.8DR. ZASLAVSKY: Patrick, here is9another tact for 2j. What if we asked that10the application shows reasonable attention to11parsimony as a value? If that is the reason12for this, let's just state it as a value13directly and then the developer can respond by14saying this is why all of these items are15important or they can get that one and say you16know I could have dropped out five things and17it would be just as good. Is that what we are18trying to get at there?19DR. ROMANO: Feedback on Alan's20idea?21DR. KAPLAN: The way it is worded	2	B. If the developer says C, the committee is
5the linkage between the measurement construct6and the evidence, the validity testing7evidence that is presented in support of that.8DR. ZASLAVSKY: Patrick, here is9another tact for 2j. What if we asked that10the application shows reasonable attention to11parsimony as a value? If that is the reason12for this, let's just state it as a value13directly and then the developer can respond by14saying this is why all of these items are15important or they can get that one and say you16know I could have dropped out five things and17it would be just as good. Is that what we are18trying to get at there?19DR. ROMANO: Feedback on Alan's20idea?21DR. KAPLAN: The way it is worded	3	expecting to see D. So I am actually trying
<ul> <li>and the evidence, the validity testing</li> <li>evidence that is presented in support of that.</li> <li>DR. ZASLAVSKY: Patrick, here is</li> <li>another tact for 2j. What if we asked that</li> <li>the application shows reasonable attention to</li> <li>parsimony as a value? If that is the reason</li> <li>for this, let's just state it as a value</li> <li>directly and then the developer can respond by</li> <li>saying this is why all of these items are</li> <li>important or they can get that one and say you</li> <li>know I could have dropped out five things and</li> <li>it would be just as good. Is that what we are</li> <li>trying to get at there?</li> <li>DR. ROMANO: Feedback on Alan's</li> <li>idea?</li> </ul>	4	to see if that can be improved by tightening
evidence that is presented in support of that. DR. ZASLAVSKY: Patrick, here is another tact for 2j. What if we asked that the application shows reasonable attention to parsimony as a value? If that is the reason for this, let's just state it as a value directly and then the developer can respond by saying this is why all of these items are important or they can get that one and say you know I could have dropped out five things and it would be just as good. Is that what we are trying to get at there? DR. ROMANO: Feedback on Alan's idea? DR. KAPLAN: The way it is worded	5	the linkage between the measurement construct
8DR. ZASLAVSKY: Patrick, here is9another tact for 2j. What if we asked that10the application shows reasonable attention to11parsimony as a value? If that is the reason12for this, let's just state it as a value13directly and then the developer can respond by14saying this is why all of these items are15important or they can get that one and say you16know I could have dropped out five things and17it would be just as good. Is that what we are18trying to get at there?19DR. ROMANO: Feedback on Alan's20idea?21DR. KAPLAN: The way it is worded	6	and the evidence, the validity testing
<ul> <li>another tact for 2j. What if we asked that</li> <li>the application shows reasonable attention to</li> <li>parsimony as a value? If that is the reason</li> <li>for this, let's just state it as a value</li> <li>directly and then the developer can respond by</li> <li>saying this is why all of these items are</li> <li>important or they can get that one and say you</li> <li>know I could have dropped out five things and</li> <li>it would be just as good. Is that what we are</li> <li>trying to get at there?</li> <li>DR. ROMANO: Feedback on Alan's</li> <li>idea?</li> <li>DR. KAPLAN: The way it is worded</li> </ul>	7	evidence that is presented in support of that.
10the application shows reasonable attention to11parsimony as a value? If that is the reason12for this, let's just state it as a value13directly and then the developer can respond by14saying this is why all of these items are15important or they can get that one and say you16know I could have dropped out five things and17it would be just as good. Is that what we are18trying to get at there?19DR. ROMANO: Feedback on Alan's20idea?21DR. KAPLAN: The way it is worded	8	DR. ZASLAVSKY: Patrick, here is
11parsimony as a value? If that is the reason12for this, let's just state it as a value13directly and then the developer can respond by14saying this is why all of these items are15important or they can get that one and say you16know I could have dropped out five things and17it would be just as good. Is that what we are18trying to get at there?19DR. ROMANO: Feedback on Alan's20idea?21DR. KAPLAN: The way it is worded	9	another tact for 2j. What if we asked that
12 for this, let's just state it as a value 13 directly and then the developer can respond by 14 saying this is why all of these items are 15 important or they can get that one and say you 16 know I could have dropped out five things and 17 it would be just as good. Is that what we are 18 trying to get at there? 19 DR. ROMANO: Feedback on Alan's 20 idea? 21 DR. KAPLAN: The way it is worded	10	the application shows reasonable attention to
13 directly and then the developer can respond by 14 saying this is why all of these items are 15 important or they can get that one and say you 16 know I could have dropped out five things and 17 it would be just as good. Is that what we are 18 trying to get at there? 19 DR. ROMANO: Feedback on Alan's 20 idea? 21 DR. KAPLAN: The way it is worded	11	parsimony as a value? If that is the reason
14saying this is why all of these items are15important or they can get that one and say you16know I could have dropped out five things and17it would be just as good. Is that what we are18trying to get at there?19DR. ROMANO: Feedback on Alan's20idea?21DR. KAPLAN: The way it is worded	12	for this, let's just state it as a value
<pre>15 important or they can get that one and say you 16 know I could have dropped out five things and 17 it would be just as good. Is that what we are 18 trying to get at there? 19 DR. ROMANO: Feedback on Alan's 20 idea? 21 DR. KAPLAN: The way it is worded</pre>	13	directly and then the developer can respond by
16 know I could have dropped out five things and 17 it would be just as good. Is that what we are 18 trying to get at there? 19 DR. ROMANO: Feedback on Alan's 20 idea? 21 DR. KAPLAN: The way it is worded	14	saying this is why all of these items are
<pre>17 it would be just as good. Is that what we are 18 trying to get at there? 19 DR. ROMANO: Feedback on Alan's 20 idea? 21 DR. KAPLAN: The way it is worded</pre>	15	important or they can get that one and say you
<pre>18 trying to get at there? 19 DR. ROMANO: Feedback on Alan's 20 idea? 21 DR. KAPLAN: The way it is worded</pre>	16	know I could have dropped out five things and
19       DR. ROMANO: Feedback on Alan's         20       idea?         21       DR. KAPLAN: The way it is worded	17	it would be just as good. Is that what we are
20 idea? 21 DR. KAPLAN: The way it is worded	18	trying to get at there?
21 DR. KAPLAN: The way it is worded	19	DR. ROMANO: Feedback on Alan's
	20	idea?
22 now you can't do it with an index anyway	21	DR. KAPLAN: The way it is worded
	22	now you can't do it with an index anyway

	Page 298
1	because each item has a zero/one probability
2	to contributing to the variants in the
3	outcome. So you couldn't even use this for
4	indices.
5	So for me, if the intent is that
6	you want to have items that improve precision
7	to the level you are shooting for for the
8	purpose you are trying to put it to and the
9	addition of items beyond that that don't
10	contribute unique variation if there is unique
11	variation to contribute to the overall score,
12	then your rationale for including them has to
13	be something other than improvements in
14	precision.
15	I didn't know the way that reads
16	if that was your intent. What was the purpose
17	of writing 2i and j, Helen?
18	DR. BURSTIN: I'm not sure I
19	remember exactly but I do think part of this
20	was because everything above it, 2a through 2f
21	was all about the composite itself at a higher
22	level. I think this really reflected the

Page 299 1 concerns about the component measures. So I 2 think this was again a look -- this was why I think we have had that discussion is about 3 composite level of the individual score level 4 5 or both. And I think the composite committee 6 last time squarely came down the side of both. 7 And so I think the question for me is are we 8 still in that same place? I'm not sure we 9 are. But I think it was to say can you also 10 justify the individual's inclusion in an empiric way? 11 12 So Sherrie, what DR. ROMANO: 13 would you propose instead of 2i and 2j? Ι 14 mean I completely agree with what you said. 15 I am just not sure how to frame it in these evaluation criteria. 16 17 DR. KAPLAN: I think I get the 18 principle that they should, that the 19 components of the composite should share 20 something in common. I think that is what you 21 are shooting for empirically. Right? 22 DR. ROMANO: They should tell us

Page 300 1 something about the construct. 2 DR. KAPLAN: That they should share something in common that reflects an 3 underlying construct, the latent construct, 4 5 whatever it is. All of the things it used to 6 represent that should at least share something 7 in common. 8 DR. ROMANO: Well they don't 9 actually have to share any variants, do they? 10 DR. KAPLAN: No. DR. ROMANO: Right. Okay. 11 12 DR. KAPLAN: No, not at all. 13 Because if you do an index, by definition you 14 are going to limit your ability. And for 15 things like a collective measure of 16 comorbidity, it doesn't make any sense to do 17 that kind of analysis. 18 DR. ROMANO: So when you are 19 talking about sharing something, you are 20 talking about sharing something at the 21 conceptual level. 22 DR. KAPLAN: Well either -- yes,

	Page 301
1	either the conceptual they have to have one
2	of three things. One is first they have to
3	have some kind of conceptual nod from the
4	people who are experts. They had better share
5	that in common. You are measuring what you
6	think are measuring or you are doing your
7	measurement error isn't going to be too great
8	so that you are actually reflecting physician
9	performance or hospital performance or
10	something, one.
11	The second thing is is I would ask
12	for some kind of either plan for or supporting
13	evidence for the composite different from the
14	individual elements of it for the reliability.
15	And then I would ask for some evidence that
16	individual components contribute uniquely to
17	the overall construct, that you are not just
18	adding more things because you can measure 50
19	things about somebody's quality of care but
20	you chose the eight things that really are
21	sensitive indicators to good quality.
22	DR. ROMANO: Okay so that gets

	Page 302
1	back to Alan's idea about parsimony, that
2	there has been attention to parsimony and the
3	construction of the composite and that
4	therefore the components of the composite have
5	to have some justification either an empirical
б	justification or a conceptual justification.
7	If we are relying entirely on a
8	conceptual justification, presumably it should
9	be a fairly strong concept. Is that fair?
10	DR. DE LONG: So how does that
11	take us away from what is written? It seems
12	that that is consistent with what we have
13	here.
14	DR. ROMANO: Well it basically
15	erases 2i and 2j as they are currently written
16	and rewrites it in a more general context.
17	DR. ZASLAVSKY: I think the
18	concept of 2i is still pretty much there
19	except we have taken out the specific of the
20	item. But I think 2j is a very specific
21	notion of why you would include items and we
22	are just broadening it. We are saying you

Page 303
just have to had paid attention to having a
rationale for including the items. It doesn't
have to be about reliability.
DR. ROMANO: I think in general
where we are agreed is that 2i and 2j are too
embedded, as they are currently written are to
embedded in a particular framework or approach
and that we have to come up with much more
general language that encompasses a variety of
different applications. The devil will be in
the details of the wording here.
DR. BURSTIN: And actually just to
pull from the old report because you asked why
that was, so they specifically had in this
section on scientific acceptability, several
approaches might be used to combine measures.
One approach might be the psychometric
approach developed, blah, blah, blah, create
a complex construct that is not directly
measurable using multi-item scales.
With the psychometric approach,
the component items are measures that

Page 304 generally are measuring the same underlying 1 2 construct and should be correlated with one another, although not perfectly and they would 3 4 be redundant. Some composite measures may not 5 reflect this classic psychometric construct, depending on the types of items or measures 6 7 that are included in the composite. 8 When the components are not 9 correlated, the rationale and justification for their inclusion must be provided and 10 appropriate analyses identified. 11 So that matches our discussion. 12 We will just have to see how that translates. 13 14 That is actually, from this discussion they have got this wording. So we will need to see 15 16 how those play together. 17 DR. KAPLAN: Just to follow up on that Helen, so for example, if you are looking 18 19 at physician performance and sort of how you 20 get to reliability at the physician level. So 21 one common way to do that is interclass 22 correlation. So you look at how much do

Page 3051doctors, are they consistent across patients2in their practice and do they differ from3other doctors in your comparison group?4So that is a different approach to5sort of the same principle, the issues of6principle. But this sounds to me like I did7a total correlation matrix and that doesn't8make any sense for a lot purposes.9DR. ROMANO: It is also a little10bit confusing about whether it is a11reliability concept or a validity concept,12frankly. Because I would think of item total13correlations and Cronbach's alpha as being14measures but they are here under validity15measures but they are here under validity16DR. KAPLAN: But you could an17exploratory factor analysis, for example, and18then you are sounding very similar and that is19often used as an evidence for validity.20DR. ZASLAVSKY: Or you might do21something like a criterion regression like22regression of mortality on a bunch of		
2in their practice and do they differ from3other doctors in your comparison group?4So that is a different approach to5sort of the same principle, the issues of6principle. But this sounds to me like I did7a total correlation matrix and that doesn't8make any sense for a lot purposes.9DR. ROMANO: It is also a little10bit confusing about whether it is a11reliability concept or a validity concept,12frankly. Because I would think of item total13correlations and Cronbach's alpha as being14reliability measures, not as being validity15measures but they are here under validity.16DR. KAPLAN: But you could an17exploratory factor analysis, for example, and18then you are sounding very similar and that is19DR. ZASLAVSKY: Or you might do21Something like a criterion regression like		Page 305
3other doctors in your comparison group?4So that is a different approach to5sort of the same principle, the issues of6principle. But this sounds to me like I did7a total correlation matrix and that doesn't8make any sense for a lot purposes.9DR. ROMANO: It is also a little10bit confusing about whether it is a11reliability concept or a validity concept,12frankly. Because I would think of item total13correlations and Cronbach's alpha as being14reliability measures, not as being validity15measures but they are here under validity.16DR. KAPLAN: But you could an17exploratory factor analysis, for example, and18then you are sounding very similar and that is19DR. ZASLAVSKY: Or you might do21something like a criterion regression like	1	doctors, are they consistent across patients
4So that is a different approach to5sort of the same principle, the issues of6principle. But this sounds to me like I did7a total correlation matrix and that doesn't8make any sense for a lot purposes.9DR. ROMANO: It is also a little10bit confusing about whether it is a11reliability concept or a validity concept,12frankly. Because I would think of item total13correlations and Cronbach's alpha as being14reliability measures, not as being validity15measures but they are here under validity.16DR. KAPLAN: But you could an17exploratory factor analysis, for example, and18then you are sounding very similar and that is19often used as an evidence for validity.20DR. ZASLAVSKY: Or you might do21something like a criterion regression like	2	in their practice and do they differ from
5       sort of the same principle, the issues of         6       principle. But this sounds to me like I did         7       a total correlation matrix and that doesn't         8       make any sense for a lot purposes.         9       DR. ROMANO: It is also a little         10       bit confusing about whether it is a         11       reliability concept or a validity concept,         12       frankly. Because I would think of item total         13       correlations and Cronbach's alpha as being         14       reliability measures, not as being validity         15       measures but they are here under validity.         16       DR. KAPLAN: But you could an         17       exploratory factor analysis, for example, and         18       then you are sounding very similar and that is         19       often used as an evidence for validity.         20       DR. ZASLAVSKY: Or you might do         21       something like a criterion regression like	3	other doctors in your comparison group?
6principle. But this sounds to me like I did7a total correlation matrix and that doesn't8make any sense for a lot purposes.9DR. ROMANO: It is also a little10bit confusing about whether it is a11reliability concept or a validity concept,12frankly. Because I would think of item total13correlations and Cronbach's alpha as being14reliability measures, not as being validity15measures but they are here under validity.16DR. KAPLAN: But you could an17exploratory factor analysis, for example, and18then you are sounding very similar and that is19often used as an evidence for validity.20DR. ZASLAVSKY: Or you might do21something like a criterion regression like	4	So that is a different approach to
7       a total correlation matrix and that doesn't         8       make any sense for a lot purposes.         9       DR. ROMANO: It is also a little         10       bit confusing about whether it is a         11       reliability concept or a validity concept,         12       frankly. Because I would think of item total         13       correlations and Cronbach's alpha as being         14       reliability measures, not as being validity         15       measures but they are here under validity.         16       DR. KAPLAN: But you could an         17       exploratory factor analysis, for example, and         18       then you are sounding very similar and that is         19       often used as an evidence for validity.         20       DR. ZASLAVSKY: Or you might do         21       something like a criterion regression like	5	sort of the same principle, the issues of
<ul> <li>make any sense for a lot purposes.</li> <li>DR. ROMANO: It is also a little</li> <li>bit confusing about whether it is a</li> <li>reliability concept or a validity concept,</li> <li>frankly. Because I would think of item total</li> <li>correlations and Cronbach's alpha as being</li> <li>reliability measures, not as being validity</li> <li>measures but they are here under validity.</li> <li>DR. KAPLAN: But you could an</li> <li>exploratory factor analysis, for example, and</li> <li>then you are sounding very similar and that is</li> <li>often used as an evidence for validity.</li> <li>DR. ZASLAVSKY: Or you might do</li> <li>something like a criterion regression like</li> </ul>	6	principle. But this sounds to me like I did
9DR. ROMANO: It is also a little10bit confusing about whether it is a11reliability concept or a validity concept,12frankly. Because I would think of item total13correlations and Cronbach's alpha as being14reliability measures, not as being validity15measures but they are here under validity.16DR. KAPLAN: But you could an17exploratory factor analysis, for example, and18then you are sounding very similar and that is19often used as an evidence for validity.20DR. ZASLAVSKY: Or you might do21something like a criterion regression like	7	a total correlation matrix and that doesn't
<ul> <li>bit confusing about whether it is a</li> <li>reliability concept or a validity concept,</li> <li>frankly. Because I would think of item total</li> <li>correlations and Cronbach's alpha as being</li> <li>reliability measures, not as being validity</li> <li>measures but they are here under validity.</li> <li>DR. KAPLAN: But you could an</li> <li>exploratory factor analysis, for example, and</li> <li>then you are sounding very similar and that is</li> <li>often used as an evidence for validity.</li> <li>DR. ZASLAVSKY: Or you might do</li> <li>something like a criterion regression like</li> </ul>	8	make any sense for a lot purposes.
11 reliability concept or a validity concept, 12 frankly. Because I would think of item total 13 correlations and Cronbach's alpha as being 14 reliability measures, not as being validity 15 measures but they are here under validity. 16 DR. KAPLAN: But you could an 17 exploratory factor analysis, for example, and 18 then you are sounding very similar and that is 19 often used as an evidence for validity. 20 DR. ZASLAVSKY: Or you might do 21 something like a criterion regression like	9	DR. ROMANO: It is also a little
12frankly. Because I would think of item total13correlations and Cronbach's alpha as being14reliability measures, not as being validity15measures but they are here under validity.16DR. KAPLAN: But you could an17exploratory factor analysis, for example, and18then you are sounding very similar and that is19often used as an evidence for validity.20DR. ZASLAVSKY: Or you might do21something like a criterion regression like	10	bit confusing about whether it is a
13 correlations and Cronbach's alpha as being 14 reliability measures, not as being validity 15 measures but they are here under validity. 16 DR. KAPLAN: But you could an 17 exploratory factor analysis, for example, and 18 then you are sounding very similar and that is 19 often used as an evidence for validity. 20 DR. ZASLAVSKY: Or you might do 21 something like a criterion regression like	11	reliability concept or a validity concept,
<ul> <li>reliability measures, not as being validity</li> <li>measures but they are here under validity.</li> <li>DR. KAPLAN: But you could an</li> <li>exploratory factor analysis, for example, and</li> <li>then you are sounding very similar and that is</li> <li>often used as an evidence for validity.</li> <li>DR. ZASLAVSKY: Or you might do</li> <li>something like a criterion regression like</li> </ul>	12	frankly. Because I would think of item total
15 measures but they are here under validity. 16 DR. KAPLAN: But you could an 17 exploratory factor analysis, for example, and 18 then you are sounding very similar and that is 19 often used as an evidence for validity. 20 DR. ZASLAVSKY: Or you might do 21 something like a criterion regression like	13	correlations and Cronbach's alpha as being
16DR. KAPLAN: But you could an17exploratory factor analysis, for example, and18then you are sounding very similar and that is19often used as an evidence for validity.20DR. ZASLAVSKY: Or you might do21something like a criterion regression like	14	reliability measures, not as being validity
<ul> <li>exploratory factor analysis, for example, and</li> <li>then you are sounding very similar and that is</li> <li>often used as an evidence for validity.</li> <li>DR. ZASLAVSKY: Or you might do</li> <li>something like a criterion regression like</li> </ul>	15	measures but they are here under validity.
18 then you are sounding very similar and that is 19 often used as an evidence for validity. 20 DR. ZASLAVSKY: Or you might do 21 something like a criterion regression like	16	DR. KAPLAN: But you could an
<pre>19 often used as an evidence for validity. 20 DR. ZASLAVSKY: Or you might do 21 something like a criterion regression like</pre>	17	exploratory factor analysis, for example, and
20 DR. ZASLAVSKY: Or you might do 21 something like a criterion regression like	18	then you are sounding very similar and that is
21 something like a criterion regression like	19	often used as an evidence for validity.
	20	DR. ZASLAVSKY: Or you might do
22 regression of mortality on a bunch of	21	something like a criterion regression like
	22	regression of mortality on a bunch of

Page 306 variables that would say these are all 1 2 contributors to mortality. DR. ROMANO: I think back to the 3 work that John did with Leapfrog. Basically 4 5 and correct me if I get this wrong but I thought it was very clever because the idea 6 7 was that consumers and people acting on behalf 8 of consumers, employers, purchasers, whatever, 9 want to pick hospitals based on where is the best place to go today for esophageal surgery. 10 But what we have are these data 11 12 from two or three years ago. And so what we 13 really want is to figure out a way to bring 14 together multiple measures to get the best 15 estimate of current performance. And that may involve compositing several different types of 16 measures in order to provide the best 17 prediction, if you will, of current 18 19 performance to inform current decision-making. 20 So this gets back to my fixation 21 on decision-making but if the decision-making 22 framework is about helping consumers and

Page 307 1 purchasers make decisions today about where is 2 the best hospital to go, then you can develop a conceptual rationale and you can test the 3 validity based on how those components 4 5 contribute to a better prediction, a less biased prediction. 6 7 DR. BIRKMEYER: To be fair, I 8 think we were also a little bit unique using 9 the tool of seeing how well historical 10 measures forecast outcomes in future years, as a twist on the usual splits sample approach 11 12 but again trying to get back to what you are trying to simulate or what the consumers are 13 actually using the data for and it is to make 14 a decision here and now. 15 DR. ROMANO: Okay, so let's look 16 17 at 2k, the scoring/aggregation and weighting 18 rules are consistent with the conceptual 19 construct. And then there is some stuff in 20 parentheses that I would disagree with. I'm 21 not sure how others feel. 22 But I guess the question is do we

	Page 308
1	want to indicate a preference for a particular
2	weighting scheme? I would argue in general
3	that any weighting scheme involves value
4	judgments and, therefore, equal weighting
5	entails a particular set of judgments that
6	doesn't make it any better than anything else.
7	DR. SHAHIAN: I would just say
8	that the justification for any weighting
9	scheme or lack thereof must be given.
10	DR. ROMANO: And what guidance
11	will we give to steering committees to
12	evaluate that weighting scheme?
13	DR. SHAHIAN: I think you have to
14	ask if they do choose weighting how are the
15	weights derived from factor analysis, from
16	you know we actually in the STS we tried to
17	figure out among the various morbidities what
18	is most important to patients. We tried to
19	figure out what providers who had seen many
20	patients with strokes versus death versus
21	internal infection, how they graded the
22	relative importance of those complications.

	Page 309
1	Let me just tell you that in cardiac surgery
2	it is very hard to do that but I'm sure in
3	other areas people have done that, sort of
4	quality of life impact and that sort of thing,
5	expert opinion, delta, whatever. I think one
6	just has to use one of those methods.
7	DR. ROMANO: Well I like that
8	because it puts the emphasis on kind of a
9	patient-centered weighting scheme of what is
10	most important to patients, what has the most
11	impact on patients. And I really like that.
12	It would be nice to encourage more of that
13	sort of thing.
14	DR. BIRKMEYER: Well we just to
15	need to acknowledge that in the short-term
16	that a lot of those judgments are going to be
17	based on expert opinion.
18	DR. KAPLAN: Just as an
19	experiential cautionary note, anytime you mess
20	with any sort of otherwise sort of
21	straightforward activity like adding things up
22	and you move it further and further way from

	Page 310
1	common sense, you get harder and harder to
2	explain to people and it is less and less
3	transparent.
4	So I would like to make the case
5	for at least they better bloody well compare
6	it to what happened with a simple algebraic
7	sum or some simple add them up of criteria
8	that is such an improvement that it shuffles
9	the whole distribution around. It does
10	something else that is a substantial
11	improvement over what would otherwise be a
12	little very much easier to translate and
13	transmit measurement activity.
14	DR. ROMANO: You are favoring
15	equal weighting as a default.
16	DR. KAPLAN: I'm favoring a
17	summary of things that is easy to transmit and
18	on the face of it looks like not a
19	transformation that is going to introduce
20	hocus-pocus.
21	DR. BRATZLER: It almost comes
22	down to whether you weight them equally or

	Page 311
1	with regard to weight composite measures, the
2	individual components about whether you should
3	even include some of your components. I mean
4	you almost to need to make some argument if
5	something has to be de-rated, perhaps it would
6	need to be in the composite.
7	DR. DE LONG: I think it is not
8	altogether clear when we talk about equal
9	weighting because, for example, some
10	components will have fewer observations
11	involved. So do we transform them and then
12	add them equally or do we add them in equally
13	de novo?
14	So I think we are always going to
15	get into some complexities that just need to
16	be explained and rationalized.
17	DR. ZASLAVSKY: I'm going to
18	suggest something parallel to what I suggested
19	on the inclusion of items that you just
20	expressed the principle of parsimony that here
21	we should just say with due regard to
22	simplicity and presentability as well as other

	Page 312
1	justifications, something like that. Just
2	express what the value is and then the
3	committee is going to know they are supposed
4	to look for that and see whether there is a
5	rationale if things are very complicated.
б	DR. DE LONG: I just wanted to say
7	they should recognize that the more
8	complicated they make it, the harder it is to
9	get evaluated. So they are probably going to
10	want to make it as simple as possible anyway.
11	DR. ROMANO: I mean I guess I sort
12	of agree with what you said earlier that even
13	there is no avoiding complexity. And that
14	even things that seem simple aren't really
15	simple because they involved certain
16	assumptions that are pretty wild assumptions.
17	So when I see process measure
18	composites that just add together ten
19	processes and the denominator is five times
20	bigger for one of those than another one and
21	another one has five times the impact on death
22	as another one, I just wonder what the hell.

	Page 313
1	I mean, it doesn't have face
2	validity for me to add those up because they
3	are so different in terms of their impact on
4	patient outcomes on what really matters.
5	DR. SHAHIAN: Yes, and just to
6	support what Sherrie said about messing with
7	simplicity, after trying all the things that
8	I mentioned in the STS we ultimately defaulted
9	to equal waiting of the various components.
10	And in fact most of the literature that I
11	could find at the time including what I think
12	is the single best reference on devising
13	composite measures, at least for healthcare is
14	this OECD document by Nardo which I think is
15	great. But they all suggest equal weighting.
16	So I think we have some justification for
17	that.
18	So I think just providing a
19	justification for the approach that you do and
20	whether we acknowledge that sometimes simpler
21	is better.
22	DR. GOLDSTEIN: And I guess I

	Page 314
1	would second some of the things that people
2	have said that just really providing a
3	justification for the weighting scheme, I mean
4	for your health plan ratings for example, we
5	got actually lots of complaints from
6	stakeholders when we when we did equal
7	weighting. So we did spend a lot of time
8	getting input from clients and consumer
9	advocates and all different experts on
10	alternative weighting schemes. And then in
11	the end we talk about input, and it was a
12	policy call as well, and incorporated
13	weighting. And that is probably one of the
14	things that we did at least for that rating
15	system that we got the least amount of
16	complaints or concern about because people
17	generally agreed we weighted outcomes the
18	highest, process measures the least, patient
19	experience kind of falls in the middle.
20	So where people quibbled is the
21	size of the weights but I think in general we
22	moved the industry in the right direction. I

	Page 315
1	mean everyone agreed all stakeholder outcomes
2	ultimately is where you want to go. So that
3	should, in any composite measure for combining
4	different types of measures should be weighted
5	the highest.
6	So I think in any submission you
7	really want to understand the rationale and
8	what are you trying to do with the
9	measurement. What are you trying to drive in
10	terms of quality improvement. What is the
11	most important indicators? Maybe those are
12	the ones that get the highest weight.
13	DR. BURSTIN: How does all-or-none
14	fit in here or does it?
15	DR. ROMANO: Well presumably it
16	would require a rationale that is consistent
17	with the conceptual construct. Right?
18	DR. BURSTIN: Right.
19	DR. ROMANO: So the developer
20	would have to present a conceptual construct
21	in which all or none weighting would make
22	sense.

1	
	Page 316
1	DR. BURSTIN: Right. Well I'm
2	just wondering if we need the first sentence
3	at all or do we just being the parentheses
4	with weights are determined by empirical
5	analysis or a systematic assessment of expert
6	opinion. I mean it just seems like I don't
7	know that we need to state that equal waiting
8	is preferred.
9	DR. ROMANO: Right. I think that
10	is I am certainly agreeing with that. I
11	mean there is some in place of that wording
12	there is some suggestion of again perhaps more
13	general wording saying that in general
14	simplicity is good. That doesn't necessarily
15	mean because even in the concept of equal
16	weighting is not entirely clear, as Liz
17	pointed out is what does that mean in terms of
18	how an indicator is actually constructed. Is
19	it the denominators are equal? Is it the
20	numerators are equal? Is it the standard
21	errors that are equal?
22	DR. KAPLAN: Just empirically, the

Page 317 1 most robust scores are the ones that are 2 robust across weighting schemes. So you get 3 the same answer no matter what you do. So in some ways this falls back to the measure and 4 5 how they are constructed, rather than ultimately how they are weighted or not 6 7 weighted for a scoring scheme. 8 DR. BRATZLER: Well and again, it 9 is part of the reason we have never submitted 10 any of the composite all-or-none measures that we have developed in the past and have used 11 12 them for performance improvement but not for a calibraity. If you have one measure that 13 14 particularly in the classic all-or-none calculation, if you will then measure it with 15 a very large denominator, when your composite 16 17 really ends up simply reflecting to a large 18 extent performance on that individual measure 19 and not your other measures that you may have 20 as part of this composite. So you do have to 21 worry about denominators in all-or-none 22 measures and if they are all rated equally,

1 then the composite may just reflect what is in
2 the measure.

3 DR. ROMANO: At least in the AHRO 4 composites we have incorporated reliability 5 weighting so that the measures that have more 6 hospital level signal get more weight based on 7 the constructs that we are trying to inform 8 the market about hospital performance in a 9 particular domain. So it would make sense 10 that measures that have more signal at the hospital level would better inform that 11 12 overall decision but might not be right for all cases. 13 14 DR. BRATZLER: Well that certainly 15 would be the approach that CDC is looking at for some of the infection measures now, which 16 17 is reliability rated. 18 DR. ROMANO: Okay. So any other 19 comments about scoring and weighting rules, 20 what developers should be told there? We can 21 talk about 21, which is about missing 22 component scores. Do we want to revise that,

> Neal R. Gross & Co., Inc. 202-234-4433

## Page 318

Page 319 1 delete that, add to it, clarify it? 2 DR. SHAHIAN: I wonder if we should say anything specifically about the 3 management of missing scores in all-or-none 4 5 measures. There I think it becomes there really missing data on one component of an 6 7 all-or-none can affect the all-or-none measure 8 in a way that it doesn't affect other sorts of I don't know how others feel about 9 measures. 10 that. DR. ROMANO: Well, the same thing 11 12 is true for validity of components. Right? So I mean in an all-or-none construction, the 13 14 validity of one component may drive the validity of the entire composite in a way that 15 16 wouldn't happen with other weighting schemes. 17 DR. ZASLAVSKY: I think I agree 18 with the content of 21 but I can't parse the 19 sentence. Am I the only one who finds this 20 sentence hard to read? 21 Analysis of missing component 22 scores supports the specifications for

	Page 320
1	scoring/aggregation and handling.
2	Isn't there something about what
3	we want that to actually show that it will
4	eliminate bias associated with will
5	minimize bias associated with missing data,
6	something like that.
7	DR. ROMANO: I like that emphasis
8	on minimizing bias.
9	DR. KAPLAN: And specification.
10	They have to say what their missing data, how
11	the missing data treatment, what treatment of
12	missing data is and then how that treatment
13	minimizes bias. I would stick with some
14	language with that. I agree with Alan, that
15	is a very complicated sentence.
16	DR. ZASLAVSKY: And they should
17	tell us how much missing data there was in
18	their pilot data as well. If that is really
19	high, you have to really question the
20	feasibility.
21	DR. CHASE: And the only thing I
22	would caution about this would be not having

Page 321 1 a preference for missing data isn't a reason 2 to score people low. I think many in the measurement feel for example smoking status, 3 if you didn't take it, it is alright to count 4 5 it as not having -- you know you get a zero 6 for that. 7 So to me that isn't a measurement 8 error, as opposed to other things where data 9 just wasn't available or you didn't pick it up 10 in certain places where you should have. And then how you deal with that I think is 11 12 important, especially because a lot of these composites, as you know, would take the mean 13 14 of the whole or something and that adds extra 15 change to the measure that may not be fair to 16 everybody. 17 DR. KAPLAN: Helen, are you going 18 to use this? Are you going to score this? 19 Like in the Cochrane stuff, if you didn't put 20 anything in about how you treated missing data 21 you get a zero. If you put some lame thing in 22 that isn't very good but at least you told

Page 322 people, you get a one. And then if you did a really super-duper job of it you get a two. So are you going to score this? DR. BURSTIN: They will get rated overall on the score for validity and the score for reliability. So this will factor into it, yes. And just one last thing in here, I think part of the reason this was also here is some of the composites DR. ROMANO: It is not necessarily a point scheme. Right? DR. BURSTIN: No, it is not a point a scheme but it is factored in. So if is left out, we would send it back to the developer to finish. It has got to be complete. Yes. But just one other point about this. I think one of the reasons this was here is we had seen some composites, for example, that had assigned the mean national value for example for missing data which		
really super-duper job of it you get a two. So are you going to score this? DR. BURSTIN: They will get rated overall on the score for validity and the score for reliability. So this will factor into it, yes. And just one last thing in here, I think part of the reason this was also here is some of the composites DR. ROMANO: It is not necessarily a point scheme. Right? DR. BURSTIN: No, it is not a point a scheme but it is factored in. So if is left out, we would send it back to the developer to finish. It has got to be complete. Yes. But just one other point about this. I think one of the reasons this was here is we had seen some composites, for example, that had assigned the mean national		Page 322
3       So are you going to score this?         4       DR. BURSTIN: They will get rated         5       overall on the score for validity and the         6       score for reliability. So this will factor         7       into it, yes.         8       And just one last thing in here, I         9       think part of the reason this was also here is         10       some of the composites         11       DR. ROMANO: It is not necessarily         12       a point scheme. Right?         13       DR. BURSTIN: No, it is not a         14       point a scheme but it is factored in. So if         15       is left out, we would send it back to the         16       developer to finish. It has got to be         17       complete. Yes.         18       But just one other point about         19       this. I think one of the reasons this was         20       here is we had seen some composites, for         21       example, that had assigned the mean national	1	people, you get a one. And then if you did a
4DR. BURSTIN: They will get rated5overall on the score for validity and the6score for reliability. So this will factor7into it, yes.8And just one last thing in here, I9think part of the reason this was also here is10some of the composites11DR. ROMANO: It is not necessarily12a point scheme. Right?13DR. BURSTIN: No, it is not a14point a scheme but it is factored in. So if15is left out, we would send it back to the16developer to finish. It has got to be17complete. Yes.18But just one other point about19this. I think one of the reasons this was20here is we had seen some composites, for21example, that had assigned the mean national	2	really super-duper job of it you get a two.
5       overall on the score for validity and the         6       score for reliability. So this will factor         7       into it, yes.         8       And just one last thing in here, I         9       think part of the reason this was also here is         10       some of the composites         11       DR. ROMANO: It is not necessarily         12       a point scheme. Right?         13       DR. BURSTIN: No, it is not a         14       point a scheme but it is factored in. So if         15       is left out, we would send it back to the         16       developer to finish. It has got to be         17       complete. Yes.         18       But just one other point about         19       this. I think one of the reasons this was         20       here is we had seen some composites, for         21       example, that had assigned the mean national	3	So are you going to score this?
<ul> <li>score for reliability. So this will factor</li> <li>into it, yes.</li> <li>And just one last thing in here, I</li> <li>think part of the reason this was also here is</li> <li>some of the composites</li> <li>DR. ROMANO: It is not necessarily</li> <li>a point scheme. Right?</li> <li>DR. BURSTIN: No, it is not a</li> <li>point a scheme but it is factored in. So if</li> <li>is left out, we would send it back to the</li> <li>developer to finish. It has got to be</li> <li>complete. Yes.</li> <li>But just one other point about</li> <li>this. I think one of the reasons this was</li> <li>here is we had seen some composites, for</li> <li>example, that had assigned the mean national</li> </ul>	4	DR. BURSTIN: They will get rated
<ul> <li>into it, yes.</li> <li>And just one last thing in here, I</li> <li>think part of the reason this was also here is</li> <li>some of the composites</li> <li>DR. ROMANO: It is not necessarily</li> <li>a point scheme. Right?</li> <li>DR. BURSTIN: No, it is not a</li> <li>point a scheme but it is factored in. So if</li> <li>is left out, we would send it back to the</li> <li>developer to finish. It has got to be</li> <li>complete. Yes.</li> <li>But just one other point about</li> <li>this. I think one of the reasons this was</li> <li>here is we had seen some composites, for</li> <li>example, that had assigned the mean national</li> </ul>	5	overall on the score for validity and the
8And just one last thing in here, I9think part of the reason this was also here is10some of the composites11DR. ROMANO: It is not necessarily12a point scheme. Right?13DR. BURSTIN: No, it is not a14point a scheme but it is factored in. So if15is left out, we would send it back to the16developer to finish. It has got to be17complete. Yes.18But just one other point about19this. I think one of the reasons this was20here is we had seen some composites, for21example, that had assigned the mean national	6	score for reliability. So this will factor
<ul> <li>9 think part of the reason this was also here is</li> <li>10 some of the composites</li> <li>11 DR. ROMANO: It is not necessarily</li> <li>12 a point scheme. Right?</li> <li>13 DR. BURSTIN: No, it is not a</li> <li>14 point a scheme but it is factored in. So if</li> <li>15 is left out, we would send it back to the</li> <li>16 developer to finish. It has got to be</li> <li>17 complete. Yes.</li> <li>18 But just one other point about</li> <li>19 this. I think one of the reasons this was</li> <li>20 here is we had seen some composites, for</li> <li>21 example, that had assigned the mean national</li> </ul>	7	into it, yes.
<pre>10 some of the composites 11 DR. ROMANO: It is not necessarily 12 a point scheme. Right? 13 DR. BURSTIN: No, it is not a 14 point a scheme but it is factored in. So if 15 is left out, we would send it back to the 16 developer to finish. It has got to be 17 complete. Yes. 18 But just one other point about 19 this. I think one of the reasons this was 20 here is we had seen some composites, for 21 example, that had assigned the mean national</pre>	8	And just one last thing in here, I
11DR. ROMANO: It is not necessarily12a point scheme. Right?13DR. BURSTIN: No, it is not a14point a scheme but it is factored in. So if15is left out, we would send it back to the16developer to finish. It has got to be17complete. Yes.18But just one other point about19this. I think one of the reasons this was20here is we had seen some composites, for21example, that had assigned the mean national	9	think part of the reason this was also here is
12a point scheme. Right?13DR. BURSTIN: No, it is not a14point a scheme but it is factored in. So if15is left out, we would send it back to the16developer to finish. It has got to be17complete. Yes.18But just one other point about19this. I think one of the reasons this was20here is we had seen some composites, for21example, that had assigned the mean national	10	some of the composites
DR. BURSTIN: No, it is not a DR. BURSTIN: No, it is not a point a scheme but it is factored in. So if is left out, we would send it back to the developer to finish. It has got to be complete. Yes. But just one other point about this. I think one of the reasons this was here is we had seen some composites, for example, that had assigned the mean national	11	DR. ROMANO: It is not necessarily
14 point a scheme but it is factored in. So if 15 is left out, we would send it back to the 16 developer to finish. It has got to be 17 complete. Yes. 18 But just one other point about 19 this. I think one of the reasons this was 20 here is we had seen some composites, for 21 example, that had assigned the mean national	12	a point scheme. Right?
15 is left out, we would send it back to the 16 developer to finish. It has got to be 17 complete. Yes. 18 But just one other point about 19 this. I think one of the reasons this was 20 here is we had seen some composites, for 21 example, that had assigned the mean national	13	DR. BURSTIN: No, it is not a
16 developer to finish. It has got to be 17 complete. Yes. 18 But just one other point about 19 this. I think one of the reasons this was 20 here is we had seen some composites, for 21 example, that had assigned the mean national	14	point a scheme but it is factored in. So if
<pre>17 complete. Yes. 18 But just one other point about 19 this. I think one of the reasons this was 20 here is we had seen some composites, for 21 example, that had assigned the mean national</pre>	15	is left out, we would send it back to the
But just one other point about 19 this. I think one of the reasons this was 20 here is we had seen some composites, for 21 example, that had assigned the mean national	16	developer to finish. It has got to be
19 this. I think one of the reasons this was 20 here is we had seen some composites, for 21 example, that had assigned the mean national	17	complete. Yes.
20 here is we had seen some composites, for 21 example, that had assigned the mean national	18	But just one other point about
21 example, that had assigned the mean national	19	this. I think one of the reasons this was
	20	here is we had seen some composites, for
22 value for example for missing data which	21	example, that had assigned the mean national
	22	value for example for missing data which

Page 323 committees just didn't think were kosher and 1 2 make sure that is okay that that is captured. 3 DR. ROMANO: There are some 4 variance problems there. 5 So what I am hearing maybe for both 2k and 2l is that we actually want more 6 7 specificity. In other words, we are maybe not 8 going to be prescriptive about what developers 9 must do but we are going to demand more in terms of explanation and justification. 10 So in the case of missing data, 11 12 they should show us how much missing data there is on each component and what their 13 14 approach was to handling the missing data. 15 As Jim pointed out, a perfectly 16 acceptable approach might be to assume it didn't happen for the sake of some measures 17 but that should be explicit. 18 19 In other cases, they may have done 20 some imputation but if that did some 21 imputation, it better be an approach that 22 incorporates some variants and just assume the

Page 324 1 same value. 2 So we will expect that to be submitted as part of the process. And perhaps 3 the same for 2k that developers have to show 4 5 that their weighting scheme is consistent with 6 the conceptual construct. And to the extent 7 that they might have compared their scheme 8 with a simpler scheme, they should share that 9 finding. 10 So other thoughts about these components? I think is it time for us to take 11 12 our afternoon break probably? Okay. 13 All right, well let's take a ten-14 minute break. We will reconvene at 3:15. 15 (Whereupon, the above-entitled 16 matter 17 went off the record at 3:01 p.m. and went back 18 on the record at 3:16 p.m.) 19 DR. ROMANO: Okay, so we are 20 reconvening. Thank you, Dale, for staying 21 with us. 22 DR. BRATZLER: I am here.
Page 325 DR. ROMANO: Okay, so now we are 1 2 moving on to talk about NQF measure evaluation criteria three and four; three is usability, 3 four is feasibility. And here we are actually 4 5 doing a little last minute work because the 6 usability criteria are about to change in a 7 fairly substantial way. 8 DR. BURSTIN: It is correct on 12. 9 Page 12 is correct. 10 DR. ROMANO: Yes, right, except it is so cryptic there that I asked them to bring 11 12 it up the full version. 13 So what is now called usability 14 will be called usability and use. And if you 15 look at page 12 of this briefing document, the DRAFT Table 4, it lists very cryptically three 16 17 criteria for usability and use but we are trying to pull up a more specific version so 18 19 then we can see how these would be modified 20 for composites. 21 (Pause.) 22 DR. ROMANO: Okay. Anyway, sorry

Page 326 1 for the technical delay. But the two 2 additional criteria you can see 3d and 3e. We can start talking about that a little bit. 3 So 3d is saying that data detail is maintained 4 5 such that the composite measure can be 6 decomposed into its components to facilitate 7 transparency and understanding. 8 So let's --9 MS. PAGET: Patrick? 10 DR. ROMANO: Yes. Just to add a little 11 MS. PAGET: 12 light to the afternoon. If you do a thesaurus 13 check on decompose, you get rot, decay, 14 crumble, fester, putrefy. 15 (Laughter.) MS. PAGET: So if we do want to 16 17 stay away from that word, I think we could simply say data detail is maintained such that 18 19 the components of the composite measure are 20 transparent. I mean, you know, --21 DR. KAPLAN: We could use 22 disaggregated.

Page 327 1 MS. PAGET: It has to have a fancy 2 word. 3 DR. ZASLAVSKY: I am going to look 4 up the thesaurus definition of transparent and 5 you are going to pull that back. Can be seen 6 through, invisible. 7 MS. PAGET: Try unpack, unravel, 8 and deconstruct. 9 DR. ZASLAVSKY: How about 10 disaggregate? DR. ROMANO: Well I think the 11 12 conceptual problem is that we have already 13 talked about some scenarios earlier today 14 where in fact a composite is being constructed 15 of components that do not support disaggregation, at least for public reporting 16 17 applications. So is that okay? I mean 18 19 disaggregation may be desirable to providers 20 to see where they went wrong, so to speak, 21 within the composite. But if the component 22 completely randomly distributed, then it

	Page 328
1	doesn't actually inform public reporting.
2	DR. KAPLAN: I was waiting to see
3	if Helen turned my microphone off.
4	So to the extent that people are
5	going to want to know how to improve their
6	scores, they are going to want to know where
7	did I fall down. So these things, if you kind
8	of report them back out in any kind of
9	disaggregated form, I think people are going
10	to be bummed out. That is a technical term.
11	DR. ROMANO: Right. So does the
12	disaggregation have to be subject to public
13	reporting?
14	DR. BURSTIN: I think the question
15	is it could certainly be used for internal QI.
16	I mean people use all kinds of back of the
17	envelope stuff for internal QI. I guess the
18	question is, for example, if you have several
19	component QIs in some of your components that
20	you don't feel are reliable, estimates on
21	their own, you would certainly would not want
22	to use those for accountability. So I think

	Page 329
1	there probably needs to be some statement that
2	they should really only be used in that way if
3	they are indicated as being reliable at the
4	individual level. Beyond QI only. Does that
5	make sense?
6	DR. ZASLAVSKY: Well they might
7	not be yes, I guess for public reporting,
8	yes, or for payment. For QI any level of
9	detail is fine.
10	But even there in some cases the
11	components aren't meaningful at all. You know
12	like if it is an A or B type of thing. So you
13	don't want to impose too high a standard there
14	breaking down something that isn't really
15	meant to be meaningful in its pieces.
16	MS. PAGET: Well there is
17	transparency and then there is intended uses
18	for purposes of so could the developer be
19	asked I mean at minimum we want
20	transparency, I would hope, just to be able to
21	define what is making up the composite. And
22	then perhaps secondarily they can indicate its

	Page 330
1	uses for other purposes. I don't know.
2	DR. ROMANO: Yes, I guess what
3	does this mean in practice? Data detail is
4	maintained such that the composite measure can
5	be disaggregated. What does that actually
6	mean?
7	DR. BURSTIN: I think the intent
8	was simply that for putting forward a
9	composite measure there should still be the
10	capacity to be able to look under the hood and
11	look at the five component measure scores that
12	went into it.
13	This does seem like pretty
14	highfalutin language to just say that. And
15	maybe it is just something as simple as saying
16	that when appropriate, based on measure score
17	performance not measure score performance
18	but performance of the measure characteristics
19	being able to examine the individual
20	components should be encouraged for something
21	along those lines.
22	MS. PAGET: Well and if we really

1think that we are someday using these2composites for value-based purchasing and3comparative reporting, et cetera, et cetera,4you have to be able to look under the hood, I5would think.6DR. ROMANO: So would anybody ever7fail on that criterion? I mean is that just8something that is expected or9DR. BURSTIN: I mean well I guess10that is the question. I mean not to pick on11the AHRQ example but if you have a composite12that you feel very comfortable has great13performance at the composite level but you14don't have great comfort, necessarily, in some15of the performance at the individual component16level, would you always want those to be17reported out such that you know we just18talked about this earlier. Would you want a19consumer looking at a non-reliable indicator?20Is that what we want to do?21So I guess for me that is the one		
composites for value-based purchasing and comparative reporting, et cetera, et cetera, you have to be able to look under the hood, I would think. DR. ROMANO: So would anybody ever fail on that criterion? I mean is that just something that is expected or DR. BURSTIN: I mean well I guess that is the question. I mean not to pick on that is the question. I mean not to pick on the AHRQ example but if you have a composite that you feel very comfortable has great performance at the composite level but you don't have great comfort, necessarily, in some of the performance at the individual component level, would you always want those to be reported out such that you know we just talked about this earlier. Would you want a consumer looking at a non-reliable indicator? So I guess for me that is the one		Page 331
<ul> <li>comparative reporting, et cetera, et cetera,</li> <li>you have to be able to look under the hood, I</li> <li>would think.</li> <li>DR. ROMANO: So would anybody ever</li> <li>fail on that criterion? I mean is that just</li> <li>something that is expected or</li> <li>DR. BURSTIN: I mean well I guess</li> <li>that is the question. I mean not to pick on</li> <li>the AHRQ example but if you have a composite</li> <li>that you feel very comfortable has great</li> <li>performance at the composite level but you</li> <li>don't have great comfort, necessarily, in some</li> <li>of the performance at the individual component</li> <li>level, would you always want those to be</li> <li>reported out such that you know we just</li> <li>talked about this earlier. Would you want a</li> <li>consumer looking at a non-reliable indicator?</li> <li>Is that what we want to do?</li> </ul>	1	think that we are someday using these
<ul> <li>you have to be able to look under the hood, I</li> <li>would think.</li> <li>DR. ROMANO: So would anybody ever</li> <li>fail on that criterion? I mean is that just</li> <li>something that is expected or</li> <li>DR. BURSTIN: I mean well I guess</li> <li>that is the question. I mean not to pick on</li> <li>the AHRQ example but if you have a composite</li> <li>that you feel very comfortable has great</li> <li>performance at the composite level but you</li> <li>don't have great comfort, necessarily, in some</li> <li>of the performance at the individual component</li> <li>level, would you always want those to be</li> <li>reported out such that you know we just</li> <li>talked about this earlier. Would you want a</li> <li>consumer looking at a non-reliable indicator?</li> <li>Is that what we want to do?</li> </ul>	2	composites for value-based purchasing and
<ul> <li>would think.</li> <li>DR. ROMANO: So would anybody ever</li> <li>fail on that criterion? I mean is that just</li> <li>something that is expected or</li> <li>DR. BURSTIN: I mean well I guess</li> <li>that is the question. I mean not to pick on</li> <li>the AHRQ example but if you have a composite</li> <li>that you feel very comfortable has great</li> <li>performance at the composite level but you</li> <li>don't have great comfort, necessarily, in some</li> <li>of the performance at the individual component</li> <li>level, would you always want those to be</li> <li>reported out such that you know we just</li> <li>talked about this earlier. Would you want a</li> <li>consumer looking at a non-reliable indicator?</li> <li>Is that what we want to do?</li> </ul>	3	comparative reporting, et cetera, et cetera,
6DR. ROMANO: So would anybody ever7fail on that criterion? I mean is that just8something that is expected or9DR. BURSTIN: I mean well I guess10that is the question. I mean not to pick on11the AHRQ example but if you have a composite12that you feel very comfortable has great13performance at the composite level but you14don't have great comfort, necessarily, in some15of the performance at the individual component16level, would you always want those to be17reported out such that you know we just18talked about this earlier. Would you want a19consumer looking at a non-reliable indicator?20Is that what we want to do?21So I guess for me that is the one	4	you have to be able to look under the hood, I
fail on that criterion? I mean is that just something that is expected or DR. BURSTIN: I mean well I guess that is the question. I mean not to pick on the AHRQ example but if you have a composite that you feel very comfortable has great performance at the composite level but you don't have great comfort, necessarily, in some of the performance at the individual component level, would you always want those to be reported out such that you know we just talked about this earlier. Would you want a consumer looking at a non-reliable indicator? Is that what we want to do?	5	would think.
<ul> <li>something that is expected or</li> <li>DR. BURSTIN: I mean well I guess</li> <li>that is the question. I mean not to pick on</li> <li>the AHRQ example but if you have a composite</li> <li>that you feel very comfortable has great</li> <li>performance at the composite level but you</li> <li>don't have great comfort, necessarily, in some</li> <li>of the performance at the individual component</li> <li>level, would you always want those to be</li> <li>reported out such that you know we just</li> <li>talked about this earlier. Would you want a</li> <li>consumer looking at a non-reliable indicator?</li> <li>Is that what we want to do?</li> </ul>	6	DR. ROMANO: So would anybody ever
9DR. BURSTIN: I mean well I guess10that is the question. I mean not to pick on11the AHRQ example but if you have a composite12that you feel very comfortable has great13performance at the composite level but you14don't have great comfort, necessarily, in some15of the performance at the individual component16level, would you always want those to be17reported out such that you know we just18talked about this earlier. Would you want a19consumer looking at a non-reliable indicator?20Is that what we want to do?21So I guess for me that is the one	7	fail on that criterion? I mean is that just
10 that is the question. I mean not to pick on 11 the AHRQ example but if you have a composite 12 that you feel very comfortable has great 13 performance at the composite level but you 14 don't have great comfort, necessarily, in some 15 of the performance at the individual component 16 level, would you always want those to be 17 reported out such that you know we just 18 talked about this earlier. Would you want a 19 consumer looking at a non-reliable indicator? 20 Is that what we want to do? 21 So I guess for me that is the one	8	something that is expected or
11the AHRQ example but if you have a composite12that you feel very comfortable has great13performance at the composite level but you14don't have great comfort, necessarily, in some15of the performance at the individual component16level, would you always want those to be17reported out such that you know we just18talked about this earlier. Would you want a19consumer looking at a non-reliable indicator?20Is that what we want to do?21So I guess for me that is the one	9	DR. BURSTIN: I mean well I guess
12that you feel very comfortable has great13performance at the composite level but you14don't have great comfort, necessarily, in some15of the performance at the individual component16level, would you always want those to be17reported out such that you know we just18talked about this earlier. Would you want a19consumer looking at a non-reliable indicator?20Is that what we want to do?21So I guess for me that is the one	10	that is the question. I mean not to pick on
13 performance at the composite level but you 14 don't have great comfort, necessarily, in some 15 of the performance at the individual component 16 level, would you always want those to be 17 reported out such that you know we just 18 talked about this earlier. Would you want a 19 consumer looking at a non-reliable indicator? 20 Is that what we want to do? 21 So I guess for me that is the one	11	the AHRQ example but if you have a composite
14don't have great comfort, necessarily, in some15of the performance at the individual component16level, would you always want those to be17reported out such that you know we just18talked about this earlier. Would you want a19consumer looking at a non-reliable indicator?20Is that what we want to do?21So I guess for me that is the one	12	that you feel very comfortable has great
15 of the performance at the individual component 16 level, would you always want those to be 17 reported out such that you know we just 18 talked about this earlier. Would you want a 19 consumer looking at a non-reliable indicator? 20 Is that what we want to do? 21 So I guess for me that is the one	13	performance at the composite level but you
<ul> <li>level, would you always want those to be</li> <li>reported out such that you know we just</li> <li>talked about this earlier. Would you want a</li> <li>consumer looking at a non-reliable indicator?</li> <li>Is that what we want to do?</li> <li>So I guess for me that is the one</li> </ul>	14	don't have great comfort, necessarily, in some
<pre>17 reported out such that you know we just 18 talked about this earlier. Would you want a 19 consumer looking at a non-reliable indicator? 20 Is that what we want to do? 21 So I guess for me that is the one</pre>	15	of the performance at the individual component
18 talked about this earlier. Would you want a 19 consumer looking at a non-reliable indicator? 20 Is that what we want to do? 21 So I guess for me that is the one	16	level, would you always want those to be
<pre>19 consumer looking at a non-reliable indicator? 20 Is that what we want to do? 21 So I guess for me that is the one</pre>	17	reported out such that you know we just
<ul> <li>20 Is that what we want to do?</li> <li>21 So I guess for me that is the one</li> </ul>	18	talked about this earlier. Would you want a
21 So I guess for me that is the one	19	consumer looking at a non-reliable indicator?
	20	Is that what we want to do?
22 gualification is you should really only put	21	So I guess for me that is the one
	22	qualification is you should really only put

Page 332 out there what you feel comfortable is in fact 1 2 a valid representation of quality to consumers and purchasers. 3 I think the 4 DR. SHAHIAN: 5 providers, though, and we certainly have seen 6 situations with the STS CABG composite where 7 the providers really wanted to know or 8 challenge how a particular domain score was 9 arrived at and we can provide that to them now 10 routinely. So I think at the very least 11 12 providers have to have the ability to get to the detail level. Some may not be appropriate 13 14 for public reporting but at the very least the providers that are being judged by these 15 16 measures need that. 17 DR. ROMANO: So then what I am 18 hearing is the emphasis really is on the last 19 part of this. It is on facilitating 20 transparency and understanding. And somehow 21 we need to rewrite the first part of this to 22 make it clearer that we are not -- that what

Page 333 we want to ensure is that the data are 1 2 collected and composited in a way that permits 3 this disaggregation. But we are not necessarily asking developers to support that 4 5 disaggregation for every application of the 6 measure. 7 DR. SHAHIAN: I think the ideal 8 scenario is one in which a less-informed 9 consumer can look at something simple and 10 visual like a star, a more sophisticated consumer can drill down to the next level of 11 12 detail what is behind that rating. I don't 13 know if we want to express a preference for 14 that but multiple levels of detail are available, something like that. 15 I think that various stakeholder 16 17 differ in how much information they can want 18 or digest. 19 DR. BURSTIN: We don't want to go 20 into that here. That is not without 21 controversy, as we have seen. 22 But I mean this is change from the

	Page 334
1	prior version. I did pull up the prior
2	version. The idea over there was that it is
3	critical that a composite measure when
4	reported is readily decomposable into its
5	constituent domains and individual measures.
6	This will focus and facilitate quality
7	improvement activities by providers and
8	increased transparency and understanding of
9	the measured results by all potential
10	audiences. Additionally, it should be
11	demonstrated the purpose of creating a
12	composite measure was achieved.
13	So they are actually stronger.
14	They are saying that and again part of this
15	was because they required that the individual
16	components had to essentially meet all
17	criteria. So in that case of course you would
18	put them out there. But if that is a
19	potential change that this committee is
20	recommending, then I think that does need to
21	be qualified.
22	DR. ROMANO: Okay, so people could

1	
	Page 335
1	look at the white board or the screen. Sorry.
2	I guess I spend too much time in the
3	classroom.
4	So the current criteria or the new
5	criteria here focus on no this is not the
6	new criteria, are they?
7	(Pause.)
8	DR. ROMANO: There it is. There
9	it is. Okay. So 4a is about so what I
10	want people to do is just look at these
11	because this is what is coming down the pike
12	as of January, I guess.
13	So do these need to be adapted or
14	modified for composite measures? So 4a is
15	about accountability and transparency. And
16	the idea here is to focus on use. In other
17	words, usability is manifested by use. If an
18	indicator is really usable, then it should be
19	used. And so criterion 4a is putting forward
20	a specific criterion about the actual use of
21	a measure. Is there any reason why this
22	criterion would not apply or would differ for

Page 336 1 composites? 2 Not hearing any, let's look at 4b. So 4b is about demonstrating improvement, 3 ultimately this is all about improvement, 4 5 achieving the goal of high quality efficient 6 healthcare for individuals or populations. So 7 new measures get a pass here but the idea is 8 that -- not a complete pass -- the idea is that there should be a rationale for how the 9 10 performance results could be used to prove the goal of high quality efficient healthcare for 11 12 individuals or populations. And if a measure 13 has been in use, then in fact that would be 14 demonstrated. 15 Any thoughts about how this 16 applies to composites? 17 DR. KAPLAN: Are we in 4c or still 18 on 4b? 19 DR. ROMANO: We are on 4b. 20 DR. CHASE: So it is interesting, 21 I don't see a difference in this for 22 composites versus not. But it is -- I only

	Page 337
1	question this now in looking at it in the
2	sense of something like consumer satisfaction,
3	which we might want to measure and people
4	might find valuable and so forth. And even if
5	didn't change, people might still want to look
6	at that.
7	Now again, I am all into all the
8	stuff we do we are always trying to improve so
9	I hope there is change but I would hate to see
10	us stop doing something only because we didn't
11	improve it.
12	And what this sort of implies is
13	an overall that after three or four years if
14	you can't show any improvement in a measure
15	then the measure goes away. Yay! We don't
16	have to worry about that anymore. It didn't
17	do any good.
18	DR. ROMANO: I mean at some point
19	you would say that if you haven't caused any
20	change that it is probably because you can't
21	change that thing, even though you would like
22	to be able to change it. You wish you could

	Page 338
1	change it. But gosh, people have tried for 20
2	years, they haven't been able to change it.
3	There is probably a reason for that. But I
4	agree that three years is too short a time
5	horizon for something that is salient to
б	consumers and patients.
7	DR. GOLDSTEIN: We actually for
8	patient experience measures I think from the
9	hospital side and health plan side, we have
10	been seeing things big improvements.
11	DR. ROMANO: But there are
12	certainly some outcome measures where we have
13	not been able to seen an improvement and I
14	think there is a reasonable argument to be
15	made there that maybe those outcomes are
16	actually much harder to improve than we think.
17	Maybe we don't really know the mechanisms for
18	how to improve them.
19	DR. GOLDSTEIN: I mean we are
20	seeing for the Medicare program on the health
21	plan side, we saw some measures that hadn't
22	changed for years and years and years but once

	Page 339
1	you put the money all of a sudden they are
2	increasing a lot and there is more emphasis on
3	quality improvement. So maybe things they can
4	move if they have the rate incentives.
5	DR. ROMANO: So you shouldn't give
6	up until you have tried a wider range of
7	incentives.
8	Okay, so I think we are agreed 4a
9	and 4b are generally consistent for composites
10	but it really, I do want to emphasize for 4b
11	that it links back to the conceptual
12	framework, the measurement construct. So the
13	rationale that is described here has to be a
14	rationale that links back to that construct.
15	Okay, 4c is about unintended
16	negative consequences. So this criterion
17	emerged from a lot of discussion. I happen to
18	be on this committee but it emerged from a lot
19	of discussion about unintended consequences of
20	performance measurement in practice. And
21	consequences that may not manifest within a
22	single performance measure but maybe if you

	Page 340
1	had another measure you would see that
2	something else is deteriorating, that people
3	are gaming the system, whatever.
4	So this is now embedded from the
5	evaluative framework under usability and use.
6	Thoughts about how this applies to composites?
7	DR. BRATZLER: This is Dale. So I
8	think it definitely does apply to composites.
9	And one of the concerns that we had is we
10	started to working with composites such as the
11	all or none measures but when you had a group
12	of individual performance measures that
13	perhaps had substantial variation and
14	opportunity for improvement but as they
15	improved, when you look at composite weights
16	performance it made the opportunity to look
17	much greater with the composite measure. But
18	then the only way you could get very, very
19	high levels of performance on the composite
20	measure was to achieve near 100 percent target
21	on the individual measures and I think that is
22	problematic, particularly in the

	Page 341
1	accountability since there are not many
2	performance measures that have 100 percent on
3	the target, unless you have perfect
4	specifications that will either be no
5	exception to the performance measure. So by
6	our experience with all-or-none composites was
7	that it tended to drive you towards trying to
8	achieve 100 performance on every single
9	component of the composite, which could lead
10	to unintended consequences.
11	DR. BURSTIN: Especially among
12	measures that are otherwise at very high
13	levels of performance. I don't think it is
14	much of an issue when you are not at those
15	high levels of performance.
16	DR. BRATZLER: That's true. And
17	you know Helen, the one thing that we have
18	seen in virtually every measurement we have
19	pulled out in some accountability format has
20	fairly rapid improvement in rates on the
21	measures, you know versus the individual
22	measures but they tend to improve fairly

Page 342

1 quickly.

2	DR. KAPLAN: I got stuck on the
3	word evidence because evidence of unintended
4	consequences is a pretty strange concept,
5	especially if you are going to get it by the
6	journal editors who may want to love to
7	publish bad things about quality assessment
8	but evidence of negative consequences is
9	and it may uniquely apply to composite
10	measures because you are not sure what the
11	collective of those things is going to do to
12	you, especially in things like the all-or-none
13	situation.
14	DR. ROMANO: Well so let's talk
15	about that because again I happened to be part
16	of that discussion. So I think there was
17	concern that there is a lot of hand-waving
18	about unintended consequences, where people
19	say oh, terrible things could happen. This
20	could happen, doctors could discriminate.
21	They could send all the patients to Canada or
22	Mexico. And you know at the end of the day,

	Page 343
1	it is all hand-waving because it is very hard
2	to demonstrate that in fact doctors and
3	hospitals stop being professionals and start
4	behaving like three-year-olds.
5	But so that was the goal here was
6	to say that there actually had to be
7	affirmative evidence of unintended negative
8	consequences. But maybe the wording is not
9	right. Is it different for composites than it
10	is for individual measures?
11	DR. KAPLAN: I'm just concerned
12	that there may not be the caliber of evidence
13	you wanted, evidence counting, capital
14	evidence as opposed to bellyaching.
15	But if there is evidence of actual
16	documented, published evidence that passes
17	peer review and all that scrutiny, different
18	from other I'm getting stuck because the
19	composite measures won't immediately be able
20	to tell you that.
21	Further, unless you disaggregate
22	you won't know if it was the fault of one of

Page 344 1 the individual components of the composite 2 measure or the fault of the collective taken 3 as a group. I am listening to a lot of 4 complaints about I won't even -- all cause 5 admission. 6 But you know, there is a lot of 7 complaining about what is going to happen, oh 8 hand wringing and everything else with yet when we meet the evidentiary criteria here. 9 10 So for a composite measure I am a little bit more concerned that the evidence is 11 12 never going to be there to the extent that you want it to be there. Because again it will 13 14 depend on who you studied, whether that was 15 just a squirrely group or whether it was 16 generalizable to a bigger population, et 17 cetera. DR. SHAHIAN: Yes, I don't think 18 19 there is any difference between individual and 20 composite measures with regard to this 21 particular concern. I must say, though, it is 22 a very subjective assessment because there

	Page 345
1	are, for example, at least eight papers in
2	CABG and PCI literature over a span now of 15
3	years showing evidence of risk aversion
4	associated with public reporting.
5	Most people have assumed that the
6	benefits outweigh that risk aversion but I
7	don't know how you would ever make an
8	assessment of which is more important, the
9	advantages or disadvantages. But I think
10	there is evidence in some fields.
11	DR. BIRKMEYER: And that is
12	probably the only instance in which there is
13	published evidence
14	DR. SHAHIAN: Yes.
15	DR. BIRKMEYER: about the
16	unintended consequences. And even then it
17	doesn't dissuade anybody's view about
18	measurement being the right thing to do. I
19	wouldn't object to scratching the whole thing.
20	DR. BURSTIN: Well these are
21	actually the general criteria that have been
22	approved for NQF for all measures. This isn't

	Page 346
1	specific to composites. We could certainly
2	take a look at that question. But as Patrick
3	pointed out, the real reason for putting
4	evidence there was the concern that people
5	would just put anybody could say oh I have
6	real theoretical concerns about this measure
7	going forward. And it is specifically
8	supposed to be balanced to the benefits.
9	There have been published papers,
10	I mean for example the ED antibiotic
11	administration within four hours clearly
12	published demonstrated. But you are right,
13	they are few and far between.
14	DR. SHAHIAN: Premature activation
15	at cath lab for BCI.
16	DR. BURSTIN: Right. So there are
17	some examples. There are not very many. It
18	is not as if it requires published Big E
19	evidence to use your term. But I think there
20	has to be some accumulating evidence out there
21	that there is potential harm to patients and
22	populations because of it.

	Page 347
1	DR. ROMANO: Okay well so relating
2	this to composites though, it becomes trickier
3	because there might be what if one component
4	in the composite has such evidence but then
5	there are nine other components of the
6	composite that don't. So does that mean you
7	should drop the one that does or does that
8	mean that you should assume that the nine
9	others counterbalance the one that does and so
10	it all comes out in the wash.
11	DR. KAPLAN: Yes, that is very
12	well said because that is what I was trying to
13	get at. You don't with a composite,
14	different from individual measures, you don't
15	really know what caused the trouble unless you
16	study it in a disaggregated way.
17	So you would have to build on the
18	evidence that comes from the individual
19	measures and make some assumptions about the
20	composite or you would have to study the
21	composite and then internal to the composite
22	disaggregate it and look at the individual

Page 348 1 what caused trouble. 2 DR. ZASLAVSKY: Does anybody -can I have an example of a problem of this 3 sort that would arise with the composite that 4 5 would not exist within the component measures? It seems like in general it has to just --6 7 Sherrie suggested the composite would tend to 8 soften the impact of any -- let's say the over-incentivizing of any one thing because it 9 10 is going to be mixing with a bunch of other 11 things. 12 So you would usually expect the composite to be less likely to produce, as 13 14 anytime you average together a bunch of things, it kind of generalizes and avoids 15 over-incentivizing some narrow piece. 16 17 So I'm not sure that we need to 18 state this as an issue for composites unless 19 the only kind of thing I could think of is 20 that someone would look at a composite that 21 combines several things and misinterpret it as 22 actually being due to this, when it is really

	Page 349
1	due to that other component of the composite.
2	But that seems like a very weak kind of
3	unintended consequence.
4	DR. DE LONG: I would think the
5	more relevant concern would be that there is
6	demonstration that one of the composites is
7	doing harm. What do you? As was mentioned,
8	do you throw it out and still use the rest of
9	the components or do you go back to the
10	drawing board for the composite?
11	DR. ROMANO: The options here, it
12	seems, are that we could, at one extreme we
13	could say that 4c simply doesn't apply to
14	composites because composites, in general,
15	dilute, as Alan has stated very well, dilute
16	problems, unintended consequences that come
17	from a single component. So that would be
18	extreme to say 4c just doesn't apply to
19	composites.
20	But if we don't go to that
21	extreme, then how do we rewrite or refrain 4c
22	so that it seems applicable to composites?

	Page 350
1	DR. BURSTIN: I guess I am sort of
2	lost. I mean to me it is what it is. I think
3	it still applies. There may be some special
4	circumstances in understanding what is causing
5	it but to me, again if the composite submitted
6	is required to do 4c, this is the general
7	criteria. This is not unique to composites,
8	but there may be issues where perhaps in the
9	guidance the considerations you would say to
10	the committee, if there is evidence of
11	unintended consequences related to composite,
12	the developer should provide information
13	trying to locate the locus of the issue within
14	the composite. Something like that. I don't
15	know that we need to get into more detail than
16	that.
17	DR. ROMANO: Right. So maybe then
18	the way to frame this is because 4a and 4b, as
19	I read it are about the composite as a whole,
20	4c really is going to be about the components
21	of the composite. So maybe the argument in 4c
22	is that if there is evidence of unintended

1	
	Page 351
1	negative consequences for one of the
2	components of the composite, then the
3	developer should explain how that is handled
4	or justify why that component still belongs in
5	the composite. Is that
6	DR. SHAHIAN: That's good.
7	DR. BURSTIN: Good work.
8	DR. ROMANO: Okay, so 4a and 4b
9	basically are applicable to the composite as
10	a whole; 4c is applied to individual
11	components with simply a rationale statement
12	or an argument the developer has to make. Is
13	that where we are? Okay.
14	And in some cases the argument
15	might be that the weighting is really low. In
16	other cases the argument might be that it is
17	balanced by something else within the
18	composite. In other cases it might be that
19	they dropped the measure, in the case of
20	pneumonia, I think, where thy increased the
21	time limit actually. That is one that they
22	dealt with it.

Page 352 1 Okay, so is that it for usability 2 in use? All right. 3 So we go on to -- then end is in 4 sight. So feasibility. We are back up here 5 with the list. Are the feasibility criteria 6 changing? 7 DR. BURSTIN: Not yet. 8 DR. ROMANO: Not yet. There may be a process in the future for changing 9 10 feasibility criteria? DR. BURSTIN: We are actually in 11 12 the middle of a project right now looking at 13 eMeasure feasibility and how to assess it. So 14 I think it is going to potentially have some spillover into -- at some point we are going 15 to have to re-do feasibility. It is such a 16 17 new and different world than it was when we 18 wrote it five years ago. 19 DR. ROMANO: I mean to me the key 20 part of it is really the first part. On the 21 left column it is the extent to which the 22 required data are readily available and

	Page 353
1	retrievable without undue burden and can be
2	implemented for performance measurement.
3	Everything under there is just kind of
4	operationalizing that general principle.
5	So let's look at 4a, b, d, and e
6	on the right side and see if anybody has any
7	comments or suggestions related to those
8	criteria as they are applied to composite
9	measures.
10	MS. PAGET: Patrick, I have a
11	comment and this might be more a general NQF
12	comment. But under 4a where we state
13	routinely generated, right now it is not
14	routine that we generate patient-reported data
15	and maybe, Helen, the PRO project is going to
16	inform these criteria ultimately. But it
17	seems to me that again turning back to the
18	vision that these composite measures are going
19	to be used in areas like purchasing and so
20	forth that we are still making it fairly easy.
21	It is existing data sources that you can
22	readily get to. And I just didn't know

	Page 354
1	whether it is an opportunity for us to put in
2	some different language that recognizes that
3	we hope to get further along with patient-
4	reported data.
5	DR. BURSTIN: That is definitely
6	something you will see woven all through the
7	PRO report. I'm just not sure I know where to
8	put it here but I hear what you are saying.
9	DR. ROMANO: But it is a crucial
10	point because this feasibility framework
11	doesn't incorporate patient-reported data at
12	all.
13	I mean I think the original
14	intent, for example, for the clinical measures
15	was that we didn't want NQF doesn't want
16	measures that actually force clinicians to do
17	tests that they are not otherwise doing. You
18	know to send patients to x-ray or do lab
19	tests.
20	So they should be things that are
21	routinely generated concurrent with and as a
22	byproduct of care processes because we are not

	Page 355
1	trying to influence the care process by
2	forcing people to measure things that they
3	wouldn't otherwise measure.
4	DR. KAPLAN: How do you get that
5	from the language that is there?
6	DR. ROMANO: Well there could be a
7	footnote, maybe to clarify what is meant by
8	exclusion there is not forcing people to do
9	tests or to spend money that they wouldn't
10	otherwise do.
11	DR. BURSTIN: I mean it is really
12	about the burden of measurement is really what
13	it is saying. Is the juice worth the squeeze.
14	DR. ROMANO: The burden, including
15	the harm of measurement. I mean potentially
16	you could create a situation where you are
17	actually causing harm by having people do
18	things that aren't a routine part of the care.
19	DR. BURSTIN: I've never really
20	thought about it that way, Patrick. I have
21	always thought about it more as just as the
22	burden of measurement.

Page 356

	Page 3
1	DR. CHASE: I would just say the
2	exception to that may be where the collection
3	of data is actually part of the care process
4	and collection of PHQ-9 for patients with
5	depression is argued to be one of those. I
6	don't know if that is what you are
7	DR. ROMANO: Well the counter
8	argument for example is a lot of people have
9	used albumin measures in hospitalized patients
10	because it is a strong predictor of various
11	adverse outcomes. But the argument is that
12	testing albumin leads people to do strange
13	things like giving albumin to try to raise the
14	albumin value, which is not therapeutic.
15	DR. BURSTIN: The only thing again
16	is you go back to the report last time around
17	since it was literally one paragraph on
18	feasibility just indicate that since
19	composites are more complex, the data
20	collection methods are going to need to make
21	sure you can pull in all the different
22	components.

	Page 357
1	So the data collection strategy
2	for obtaining all required components needs to
3	be combined in the composite measure to
4	demonstrate it is feasible. So if you are
5	getting data from all different data sources,
6	all that should come into play as you are
7	looking at the feasibility of composite.
8	Other than that, there was nothing distinct
9	and different.
10	DR. ZASLAVSKY: Are there any
11	issues here about feasibility that are
12	emergent with composite measures in
13	particular? All I can think of is whether
14	maybe you would want to be able to get all of
15	the measures at the same time or something
16	like that, whether there would be I don't
17	know whether it is even worth mentioning.
18	DR. ROMANO: I mean it would seem
19	that in general there is presumption that in
20	order for the composite to be feasible that
21	all of the individual components are feasible.
22	Right?

	Page 358
1	DR. BURSTIN: Yes.
2	DR. ROMANO: Because the
3	feasibility will be driven by the least
4	feasible component.
5	DR. ZASLAVSKY: What if you have
6	had a composite that required you to link at
7	the patient level things which come from
8	different sources? That is about the only
9	emergent feasibility issue that I can think
10	of.
11	DR. ROMANO: It's a good question.
12	So how would you frame that in this context,
13	that developers should identify any
14	feasibility issues related to the composite
15	above and beyond the individual measures?
16	DR. ZASLAVSKY: I guess if we just
17	repeat the same language for the composite
18	that we have for the individual measures, that
19	that would cover it.
20	DR. SHAHIAN: The same deficiency
21	does apply though to apply the same problem
22	does potentially apply to individual measures.

	Page 359
1	We just did a 30-day CABG readmission measure
2	where we linked the STS clinical database with
3	MedPAR. And that of course was done long
4	after the delivery of care. So it is a
5	general problem, it is not just a composite
6	problem.
7	DR. ROMANO: So I'm not hearing
8	any specific suggestions about things to
9	change in 4a, b, d, and e here recognizing
10	that probably some of the ongoing work related
11	to patient-reported outcome measures and
12	related to eMeasures should drive a more
13	general rethinking of this entire category.
14	DR. GOLDSTEIN: I was going to
15	say, and this isn't I think specific for
16	composites but relates to the individuals,
17	something about auditing the data but if they
18	have like a plan how they are going to audit
19	the data or does it need to be audited or does
20	it need to be checked against other measures.
21	For some of our systems, in particular for
22	high stake systems we spend that is a huge,

Page 360 1 huge area that we spend a lot of time focusing 2 is it audited. Is it audited by independent review? And if it is not, are there other 3 sources of information to validate the data, 4 5 especially if it is used for pay-for-6 performance, eventually any of these measures 7 that incentives for gaming increase. 8 So we put penalties if they do 9 anything to bias the rates there is a huge 10 penalty in terms of what we publically report. DR. BURSTIN: That is interesting. 11 12 I don't think of audibility or auditing under feasibility, more so under validity. And 13 14 actually it has been something that is, you know, it's too bad David has left the room, 15 that is a big part of what the STS measures 16 17 have brought forward is the percent sample and 18 auditing et cetera. 19 I have been having DR. ROMANO: 20 trouble with 4d here in general terms. It is 21 a hard sentence to parse, to borrow Alan's 22 description earlier. It is just difficult
	Page 361
1	because the data on inaccuracies and errors
2	and unintended consequences are being
3	described under other evaluation criteria.
4	So this is somehow about the
5	ability to do it. It just seems odd in this
6	context.
7	DR. KAPLAN: I'm confused about b,
8	d, and e buy you for the composite that you
9	don't already have for the individual items.
10	I mean they look to me identical except
11	yes, so why do you need them?
12	DR. BURSTIN: Because the idea
13	would be sometimes you only just have a
14	composite and are they applicable or not. So
15	all this is saying is yes, those are
16	applicable, same wording applies.
17	DR. KAPLAN: Okay so b then needs
18	all the other junk that is in 4b on the other
19	side? Because right now it is written as
20	assertional versus aspirational. Right?
21	Because some of the data like the
22	patient experience data, supposing you were

	Page 362
1	creating a composite that included patient
2	reported data with other kind of data, that is
3	not in the electronic form right now.
4	DR. BURSTIN: You are right. I
5	don't understand why the difference.
б	DR. ROMANO: So we have raised a
7	number of questions about these criteria in
8	general. Any final comments, suggestions
9	regarding the feasibility criteria?
10	Okay, great! So I think we want
11	to have another opportunity for public
12	comment. We, I think, have basically
13	discarded the idea of a taxonomy, per se.
14	DR. BURSTIN: Yes.
15	DR. ROMANO: So we are not going
16	to discuss that.
17	Do we want to talk at all in
18	terms of the submission form, we decided sort
19	of not to go through the submission form in
20	detail because that would be a very tedious
21	exercise. It doesn't add anything.
22	But we do want to give NQF staff

Page 363 quidance about how to redesign or tailor the 1 2 submission form. 3 And I guess what I would like to hear a little bit of discussion about maybe 4 5 for five minutes is do we -- I think earlier we decided that there isn't a bright line 6 7 between composites and other types of measures 8 and that we weren't comfortable with having an 9 entirely different process for composites than 10 for other types of measures. In principle many of the measures that NQF has endorsed as 11 individual measures could be viewed as 12 composites and some of the measures that have 13 14 been endorsed as composites could be viewed as individual measures, depending on your 15 perspective. So what matters a lot more is 16 17 the measurement concept or the constructural 18 framework. 19 So how does this relate to the 20 form? Are we going to ask people to declare 21 their measure as a composite or not? Are we 22 going to have questions embedded within the

	Page 364
1	forum that says that if you are building your
2	measure on other measures then you must go
3	over and answer this additional set of
4	questions? Any thoughts about how to
5	structure that in general so that the review
6	process is uniform across steering committees?
7	DR. ZASLAVSKY: I guess one thing
8	would be to have an option to indicate which
9	existing measures are incorporated into your
10	measure. So you sort of incorporate by
11	reference the whatever approval has been done.
12	I guess the other side of it is
13	what the thing we have been struggling with
14	is when do you kick in these additional
15	criteria? In a sense, anytime you rely on
16	existing measures, then the new criteria for
17	combining things should kick in. The question
18	is, are there situations where you are not
19	relying on any existing approved measures but
20	you would still want to bring in these
21	criteria. That is where we run into this
22	territory where we have a hard time drawing

	Page 365
1	the line between what is the composite measure
2	and what is just a single measure that happens
3	to incorporate a bunch of different elements?
4	So you know I think we have heard
5	the argument there from several people,
б	including myself that a lot of these criteria
7	we have introduced for the composite measures
8	actually should apply to things that are
9	called single measures but that combine a
10	number of different things. So I am not sure
11	how we address this questions of whether to
12	just make this part of anything that isn't
13	really just completely one thing or do we
14	really try to distinguish the subset for which
15	this is applicable?
16	DR. ROMANO: Very well described.
17	Anyone able to answer Alan's question?
18	DR. DUNTON: Well if you don't
19	have an opportunity to declare it as a
20	composite, then it doesn't trigger in some of
21	the other things which may or may not be
22	added, such as a purpose in the conceptual

	Page 366
1	model. And so I'm not sure you can get away
2	forever with not defining what a composite is,
3	although I don't have a solution.
4	DR. KAPLAN: I have a separate
5	issue, which is the issue of harmonization
6	with related measures and then the competing
7	measures things, e2 and e3. Harmonization is
8	kind of the activity that is involved in
9	creating the composite measures. You are
10	pulling things together that theoretically
11	assess some other construct. So you will try
12	
13	DR. BURSTIN: No, it is different.
14	So what we are referring to there is
15	essentially comparing what you have inside
16	your composite to other measures.
17	DR. KAPLAN: Other parallel
18	composites.
19	DR. BURSTIN: Other similar
20	constructs.
21	DR. KAPLAN: How often is that
22	going to happen?

	Page 367
1	DR. BURSTIN: Not necessarily just
2	constructs, the individual measures happens
3	half the time in our lives.
4	DR. KAPLAN: Well I know it does
5	with individual measures. I am trying to get
6	at so say you have forgive me for math
7	again, but you have your four test questions
8	in algebra. Now somebody else has four other
9	questions that they assert measure algebra.
10	They are very different questions. They both
11	measure algebra. So you are asserting that
12	that other test that has these components is
13	different from my measure in the following
14	ways, blah, blah, blah, blah, blah? Or are
15	you suggesting that now I make an eight-item
16	version of my algebra measure? I am confused
17	with respect to the composite issue. I am a
18	little confused about how this plays out.
19	DR. ROMANO: I think it ties with
20	the broader context and the concern about
21	measurement burden.
22	So just to cite one example from

	Page 368
1	AHRQ's composite. So there is a patient
2	safety composite that includes a measure of
3	central venous catheter associated infections.
4	It is based on administrative data. At the
5	time that was chosen because it was a feasible
6	measure to include in that composite. But
7	there is a practical problem which is now we
8	have another measure which is in Hospital
9	Compare which is based on National Healthcare
10	Safety Network reporting, using specific
11	definitions that come from the CDC. So that
12	is not harmonized.
13	So we have a measure of CLABSI
14	within the PSI composite that is not
15	harmonized with a different measure of CLABSI
16	that is also publicly reported at a national
17	level that is defined by CDC.
18	So one solution to that approach,
19	for example, would be for AHRQ to reconstruct
20	its composite to actually include the CDC
21	measure instead of the measure based on
22	administrative data.

	Page 369
1	Another approach would be to
2	justify why they can't be harmonized based on
3	some superiority of the administrative
4	database measure for this particular
5	application. But I think that is what we are
6	getting at. Does that make sense?
7	DR. KAPLAN: Yes, it just has a
8	different flavor when you are talking about a
9	composite versus I get it at the individual
10	measures level. You guys are trying to make
11	sure that you are both coming at this from the
12	same direction. You end up agreeing on
13	denominators and all that other stuff.
14	What is a little different is now
15	you have got three measures that are the same
16	and one measure now that looks oddball and you
17	are going to figure out how to grab that in.
18	What is it going to do to the composite which
19	is a little bit different issue when you are
20	talking about harmonization.
21	DR. CHASE: So the only thing I
22	would hope about this is that we don't put a

Page 370 1 different burden on composite measures just 2 because we can. Because harmonization should 3 affect, I think, all measures as they come through and I think that is the intent. 4 So 5 when other measures come renewed as well, so 6 in both cases it wouldn't just put it on to 7 the composite measure developers to align with 8 what others have already done. 9 DR. ROMANO: I am not sure that 10 this issue has arisen but theoretically it could arise that different developers could 11 12 come in with different measures of what they 13 claim is the same thing. 14 DR. DE LONG: Diabetes. We have already done it in diabetes. 15 16 DR. ROMANO: Right. So then --17 but actually NOF had decided in that case to 18 endorse both, presumably based on some rich 19 discussion and some rationale. 20 DR. BIRKMEYER: But also --21 DR. BURSTIN: Rich! I think it 22 was rich.

	Page 371
1	DR. BIRKMEYER: But also just
2	given the possibility that sort of NQF views
3	its role as deciding when a measure is
4	rigorous and even if there are two things that
5	are ostensibly measuring the same things with
6	slightly different tradeoffs, there is a
7	marketplace public and private that will sort
8	out which one ultimately gets used.
9	DR. BURSTIN: Although in that
10	case, the individual components were
11	harmonized. So where the measures overlapped
12	the science was harmonized for the level of
13	blood pressure control, LDL, and Alc.
14	DR. ROMANO: Anyway, there is a
15	separate process I think that AHRQ is
16	currently that NQF is currently undertaking
17	internally to review its approaches to
18	harmonization. So that is on the back burner
19	for today.
20	DR. BURSTIN: I'm not getting a
21	whole sense of energy left to do the
22	composite.

	Page 372
1	DR. ROMANO: No, I think people
2	are fading.
3	DR. BURSTIN: I think it might be
4	more useful once we have tried to write up the
5	criteria to come back. I do think that, Karen
6	and I talked about this a little bit earlier
7	that I guess Karen has also suggested that in
8	some ways since there is so much uncertainty
9	that likely the best approach would be to not
10	have a whole separate composite submission
11	form. Have this just like do if it is an
12	outcome, is there risk adjustment. If it is
13	a composite, you answer this series of
14	questions. And maybe the question is going to
15	be do we allow the developer to self-trigger
16	is it a composite. We can have our guidance
17	what we think they are. But maybe part of
18	this is also an assessment on the part of the
19	committee of well we actually think this is a
20	composite, you need to go back and answer
21	those questions.
22	So we will play with that a bit.

Page 373 1 DR. ROMANO: And I think Alan's 2 idea is definitely useful of bringing in other measures by reference and where that cannot be 3 done, then the question is does the developer 4 5 have to submit separate information about 6 individual components that have not been 7 separately endorsed? So would there be a 8 requirement for a separate submission form for 9 individual measures that are not currently endorsed? 10 DR. BURSTIN: I think some of 11 12 that, again, comes back to the clarity of what 13 we are actually saying has to be submitted for 14 the components. 15 At least I continue to hear that 16 we talked about the importance to measure 17 report, still needing to be there for both the 18 overall and the components and not always for 19 the -- it is a big waste to have the form have 20 sort of pop out boxes if it is -- you know, be 21 able to fill in the additional information 22 required.

i	
	Page 374
1	But some of this will come back
2	down to the developer as well. Do you want to
3	put forward the new components within your
4	composite as stand-alones for endorsement?
5	And if that is the case, then something else
6	would pop up that they would complete. But
7	that may not always be the case.
8	DR. ROMANO: But if you don't,
9	then there should be a way to invoke a simpler
10	process.
11	DR. BURSTIN: Yes.
12	DR. ROMANO: Yes.
13	DR. ZASLAVSKY: So I don't think
14	there are many of the things that are in the
15	overall criteria that aren't in the component
16	criteria but there are a few that are at least
17	softened or modified so you maybe have a
18	modified version of the form.
19	DR. ROMANO: Should we open to
20	public comment?
21	DR. BURSTIN: Yes.
22	DR. ROMANO: Is there anyone else

1	
	Page 375
1	in the room who would like to comment? In the
2	meantime, we can open the telephone lines.
3	OPERATOR: At this time, if you
4	would like to ask a question, please press *,
5	then number 1. And there are no questions.
6	DR. ROMANO: Going, going, gone.
7	DR. BURSTIN: We're gone.
8	DR. ROMANO: So the public comment
9	period is closed for right now. Next steps.
10	MS. MUNTHALI: So in terms of our
11	next steps, the panel will reconvene via
12	conference call in about two weeks actually,
13	November 15th and we will follow up on any
14	issues that we have.
15	In the process, our team is going
16	to start drafting the technical report with
17	your recommendations. You may be seeing some
18	emails for clarification. We have been taking
19	notes. We also have Eric in the back who is
20	our court reporter and so we will be looking
21	through all of that. I am going through the
22	recording as well.

1	Also after we draft a report, we
2	will give you an opportunity to look at the
3	report before we post it on the NQF website
4	for our member and public comment and that is
5	a 30-day period.

6 But because this is very important 7 work that will influence evaluation guidance 8 for composites, we want to have our Consensus Standards Approval Committee review the draft 9 10 report before we receive comments from our members and public. We want them to start 11 12 looking at the material, get comfortable with 13 the issues that you have raised. And so we 14 will go to the CSAC on December 10th and we 15 will have a call to adjudicate the comments that we received during the comment period on 16 17 January third and go back to CSAC with final recommendations, which also considers our 18 19 member and public comment on January 8th. And 20 we hope to have Board ratification a few weeks 21 after that, hopefully by the end of January. 22 I don't know if you have any

Page 377 1 questions on our time line. And of course you 2 can contact Karen Johnson, Karen Pace, or I hope you 3 myself. We are on SharePoint. 4 guys are using it. I'm sorry for any issues 5 you have had if you had any issues. 6 And we just wanted to thank Liz 7 and Patrick for leading such a great 8 discussion today and to thank all of you for 9 coming and we look forward to communicating 10 again online and via phone and safe travel back home. 11 12 DR. ROMANO: Just a question just to clarify. Any changes to the submission form 13 14 and procedures would follow this entire 15 process? 16 DR. BURSTIN: Yes. 17 DR. ROMANO: Or would they be done concurrently? We would follow the process? 18 19 MS. MUNTHALI: Yes. 20 DR. ZASLAVSKY: Will you be able 21 to tell us soon what time the next call is at 22 because some of our schedules are filling up.

	Page 378
1	MS. MUNTHALI: Yes, we are sending
2	that to you. I can tell you it will be in the
3	afternoon but I don't know the exact time. It
4	will be a two-hour block. We have been trying
5	to make sure we accommodate time for the
6	DR. BURSTIN: Three to five.
7	MS. MUNTHALI: three to five,
8	right?
9	DR. BURSTIN: Yes, 3:00 to 5:00 on
10	November 15th.
11	MS. MUNTHALI: So we will send that
12	in an email and post it on SharePoint as well.
13	DR. ROMANO: Okay and if there are
14	any other suggestions for NQF or for me and
15	Liz, please let us know. Thanks again.
16	DR. BURSTIN: Thank you for such
17	able facilitation of a tough topic. And thank
18	you all. This was an interesting
19	methodologically challenging day. Thank you
20	for your brain power for the day.
21	(Whereupon, the above-entitled
22	matter went off the record at 4:13 p.m.)

	202.0.0.204.2	. 1 4. 1000 14	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	10 5 0
A	283:8,9 284:3	adapted 229:14	adequate 134:12	<b>agenda</b> 19:5,9
<b>ability</b> 97:21	323:16	265:17 335:13	adequately 51:8	222:1
120:12 135:19	accepted 122:12	add 77:2 80:7	Adjourn 3:22	agnostic 183:7
178:19 186:19	accepting 109:18	102:11 112:17,22	adjudicate 376:15	agnostically 90:17
236:4 300:14	access 104:12	113:3 133:6,6,8	adjusted 58:19	ago 70:17 227:3
332:12 361:5	accessibility 196:6	133:12 148:1	60:18 177:5	228:18 244:22
<b>ABIM</b> 270:1	accommodate	183:14 190:10	adjuster 98:11	306:12 352:18
<b>able</b> 29:11,12 31:5	378:5	201:3 207:3	adjustment 55:16	<b>agree</b> 47:2 78:16
31:11,21 45:14	accomplish 18:12	209:21 215:15	172:20 173:4	79:8 81:13 84:11
47:18 52:1 53:10	25:20 42:19	248:16,21 249:1	273:13 372:12	90:8 93:8 94:5
63:21 70:6 73:17	238:16	254:15 310:7	administering	96:10 97:11
78:7 82:5 90:4,5	accomplishing	311:12,12 312:18	115:10	117:19 118:2
121:5 124:17	100:12	313:2 319:1	administration 2:8	119:4 123:22
144:17 179:8	accountability 16:5	326:11 362:21	15:7 346:11	138:22 141:12
183:2,10 184:2	20:2,4,17 22:5,16	added 37:15	administrative	146:15 163:9
185:2 188:8	22:19,20 135:14	152:18 190:22	368:4,22 369:3	199:14 227:20
191:10 197:21	328:22 335:15	214:2 221:1	administratively	247:19 263:5
202:9 211:9 239:7	341:1,19	228:20 229:6	167:2	282:11 294:2
248:7 252:13	accredit 99:5	241:16 244:9	admission 344:5	299:14 312:12
262:13 277:22	accumulating	265:21 365:22	admissions 209:6	319:17 320:14
279:9 285:3	346:20	adding 112:5,19	advanced 146:8	338:4
329:20 330:10,19	<b>accuracy</b> 90:6	113:14 118:8	advantage 10:22	<b>agreed</b> 55:18 224:6
331:4 337:22	272:10 290:3,5	120:16 148:17	11:3 89:12,13	224:15 264:6
338:2,13 343:19	<b>accurate</b> 101:14	188:17 190:19	104:18	303:5 314:17
357:14 365:17	<b>accuse</b> 76:13	231:8 251:16	advantageous	315:1 339:8
373:21 377:20	<b>achieve</b> 79:4	256:22 291:7	124:6 197:9	agreeing 316:10
378:17	340:20 341:8	301:18 309:21	advantages 345:9	369:12
above-entitled	<b>achieved</b> 334:12	addition 298:9	<b>adverse</b> 58:16	agreement 125:9
152:1 219:4	achieving 336:5	additional 35:7	356:11	223:7
324:15 378:21	acknowledge	66:10 111:19	<b>advice</b> 92:7	<b>ahead</b> 16:16 65:7
absence 19:3	309:15 313:20	164:4 168:12	advise 11:11	73:2 152:4 153:3
absolutely 24:11	<b>ACO</b> 49:10	175:6 204:13	advised 14:5	196:4
72:1 84:2 113:1	acronym 199:7	205:1 222:6 229:5	advocate 14:6	<b>AHRQ</b> 6:14 13:19
119:4 240:12	210:14	241:12,22 255:14	185:15 206:11	13:22 14:13 17:18
245:10 251:5	<b>act</b> 72:8	266:15 326:2	248:1	46:7 58:3 72:12
abstract 289:18	acting 8:7 306:7	364:3,14 373:21	advocates 314:9	87:8 269:3 318:3
ACC 149:15	action 122:17	Additionally	Affairs 8:6	331:11 368:19
accept 122:7	activation 346:14	334:10	affect 245:22	371:15
191:18	activities 15:18	additive 213:21	274:12 319:7,8	AHRQ's 368:1
acceptability 18:3	334:7	250:19	370:3	<b>aim</b> 100:9
58:20 94:2 182:20	activity 309:21	address 73:6 136:1	affirmative 343:7	<b>aims</b> 100:12
217:4 239:11	310:13 366:8	146:2 365:11	afternoon 111:10	airplanes 112:6
265:11,12 303:15	actual 18:20 19:17	addresses 136:10	175:1 212:19	120:16
acceptable 85:12	37:11 144:17	adds 80:21 207:6,8	220:6 324:12	<b>Alan</b> 2:9 8:14 27:8
85:12 108:14	335:20 343:15	207:11 258:5	326:12 378:3	82:10 84:5 97:9
111:21 177:2	acute 235:16,20	321:14	<b>age</b> 177:5	102:22 130:11
213:1 233:19	<b>ad</b> 114:18	<b>adenoma</b> 61:6	agencies 216:17	154:12 170:1
			•	

				Page Sol
182:18 225:18	<b>alpha</b> 81:20 83:22	365:17 372:13,20	216:21 279:21	77:15 96:2 100:11
270:18 289:19	103:9 208:1	answered 51:15,16	351:10 353:8	152:14 162:6
320:14 349:15	305:13	60:5	<b>applies</b> 264:7,10,11	178:17 229:3
Alan's 297:19	<b>alright</b> 321:4	answering 35:15	336:16 340:6	230:22 231:2
302:1 360:21	<b>altar</b> 76:15	answers 134:7	350:3 361:16	230:22 231:2
365:17 373:1	<b>altered</b> 221:1	274:20	apply 36:15 72:14	236:10 241:19
<b>albumin</b> 356:9,12	223:18	<b>antibiotic</b> 346:10	74:11 77:1 129:2	258:10 263:14
356:13,14	<b>alternative</b> 186:14	antidepressant	176:22 177:21	264:4 294:9
algebra 42:4 121:1	245:19 314:10	145:16,19	223:19 229:17	304:11 330:16
132:7,12 135:17	<b>altitude</b> 90:15	anybody 16:10	230:3 254:14	332:13
135:19 137:5	156:13	112:19 113:1	264:6 278:2	appropriately
367:8,9,11,16	altogether 285:3	145:15 150:2	335:22 340:8	40:10
<b>algebraic</b> 310:6	311:8	211:13 331:6	342:9 349:13,18	appropriateness
align 19:12 370:7	<b>Alvin</b> 76:12	346:5 348:2 353:6	358:21,21,22	157:22 233:7
allegedly 61:13	Alyssa 216:13	anybody's 345:17	365:8	appropriate/inap
allocation 87:2	American 99:3	anymore 287:21	applying 3:16	39:19
<b>allow</b> 174:18 187:6	235:13	337:16	36:10	approval 202:14
189:3 218:14	<b>AMI</b> 59:3 206:22	anytime 114:19	appointments	241:10 364:11
256:1 292:1	amount 176:20	309:19 348:14	137:14	376:9
372:15	190:2 201:21	364:15	appreciate 143:19	<b>approve</b> 241:14
allowed 71:12	243:14 314:15	anyway 6:18 240:8	211:17 275:5	approved 68:13
272:6	amped 172:2	240:21 297:22	approach 26:5	345:22 364:19
allowing 189:18	amplify 13:15	312:10 325:22	33:15 34:11 71:11	<b>arbitrarily</b> 246:10
allows 168:22	analogous 200:5	371:14	71:22 81:8 83:2,8	ArborMetrix 12:18
All-Cause 21:7	analyses 35:7 52:8	apart 197:8	83:13,21 87:10	area 5:4 111:19
all-or 33:18 154:22	204:13 205:1	apologize 85:19	97:16 99:10	141:19 169:20
261:19	304:11	apparently 59:6	100:15 101:12	188:13 360:1
all-or-none 9:11	analysis 51:19,21	61:18 206:22	103:8 120:18	areas 7:12 113:15
29:2 33:15 34:1,2	111:19 123:5	212:9	165:18 186:4	143:3 217:11
35:6 36:15 44:18	211:13 267:22	appealing 94:11	200:15 303:7,17	218:7 309:3
48:22 49:8,16	268:11,13 292:1	apple 243:8	303:18,21 305:4	353:19
57:12 70:17 71:21	292:20 294:20	<b>apples</b> 112:6	307:11 313:19	<b>arena</b> 103:2 112:9
152:21 159:16,20	300:17 305:17	120:16 231:8	318:15 323:14,16	argue 24:17 107:2
160:10 162:21	308:15 316:5	applicable 349:22	323:21 368:18	206:5 227:15
165:2 166:19	319:21	351:9 361:14,16	369:1 372:9	249:10 251:2
167:9 265:3	analytics 111:22	365:15	approaches 46:2	265:3,8 266:18
315:13 317:10,14	analyzing 167:7	application 13:22	76:4,7,9 86:1	287:10 308:2
317:21 319:4,7,7	anchor 112:2	21:11 22:14 40:16	101:5,7 102:7	argued 122:10
319:13 341:6	anchors 111:12	90:18 297:10	170:17 173:5	356:5
342:12	annals 171:4	333:5 369:5	272:5 303:16	argument 75:12
all-or-nones 46:1	<b>annual</b> 114:18	applications 20:4	371:17	81:11 82:6 87:21
160:7	answer 29:13 49:18	20:18 21:13 22:13	approaching 79:18	96:19 117:2,11,12
all-or-nothing	85:5 90:11 108:22	22:16,20 24:18	80:12	233:21 250:2,17
107:1,5,15 163:11	118:5 173:1	26:19 56:7 253:4	appropriate 18:13	251:9 253:19
163:20	175:14 240:4	303:10 327:17	21:14 23:7 26:19	282:9 283:2
all-or-nothings	253:16 254:8	applied 92:6	40:2,20 41:6	287:21 288:11
163:18	317:3 364:3	146:22 177:7	46:13 71:22 74:1	296:3,6 311:4
				,
	1	1	1	1

			1	1
338:14 350:21	139:12,13 150:3	attributing 278:5	361:17	121:20 228:6,7
351:12,14,16	164:15,18 165:11	audibility 360:12	<b>back</b> 5:6 20:14	239:4 240:3,5
356:8,11 365:5	203:20 276:21	audience 211:21	23:22 34:15 35:20	252:3 270:3
arguments 117:14	290:22 352:13	audiences 116:21	36:7 40:8 50:10	<b>barrier</b> 191:7
246:3 265:20	366:11	334:10	50:21 52:7 59:22	<b>base</b> 76:20 88:19
293:16	assessed 143:6	audit 359:18	64:8 70:7 78:5	89:4 111:11 112:7
arisen 370:10	224:12 226:2	audited 359:19	87:7 88:15 91:21	112:11 121:17
armamentarium	266:5	360:2,2	108:2 117:11	123:9 135:3
96:2	assessing 129:1	auditing 359:17	131:21 146:17	193:17 195:18
<b>arms</b> 131:22 212:1	165:5 290:1	360:12,18	149:16 150:6	203:4 229:3
arrived 332:9	assessment 10:13	August 113:18	151:22 152:3	257:10,16 258:21
articulate 63:21	11:18 140:3 151:6	automatically	159:15 161:16,22	281:18 282:3
73:17 110:6	163:4,6 183:18	264:22	170:19 187:1	<b>based</b> 6:9 27:11,13
118:18 119:2	210:7 239:10	available 152:11	189:10 196:21	29:2 85:14 89:13
121:22 173:15	316:5 342:7	321:9 333:15	198:17 203:1	96:5 116:8 126:10
articulated 17:14	344:22 345:8	352:22	209:6,12 218:21	130:16,17 137:17
34:16 232:13,15	372:18	average 31:9 86:18	219:3 227:20	137:19 139:18
232:20 233:19	assessments 169:1	130:3 171:7	232:6 237:1 239:3	155:1 173:18
articulation 116:16	assigned 39:4	348:14	242:3 250:2	187:10,15 199:5
117:16 233:4	322:21	averaging 200:12	251:17 258:4	201:20 202:8
<b>aside</b> 152:10	Assistant 11:6	aversion 345:3,6	281:4,19 283:22	203:3 225:14,16
283:13	associated 42:13	avoid 125:16	285:12 291:3,18	225:21 226:5,7
asked 19:18 51:6	190:17 320:4,5	163:15 181:12	302:1 306:3,20	228:9 229:14
53:2 123:11	345:4 368:3	235:11	307:12 317:4	233:7 244:19
129:10 134:8	Association 159:14	avoiding 312:13	322:15 324:17	255:22 266:18
173:14 174:8	<b>assume</b> 26:17	avoids 348:15	327:5 328:8,16	267:2 269:4,6
241:14 282:21	145:15 323:16,22	<b>AVR</b> 13:8	339:11,14 349:9	277:13 280:21
297:9 303:13	347:8	awkward 254:5	352:4 353:17	283:2 306:9 307:4
325:11 329:19	assumed 198:3,5	A-F-T-E-R-N-O	356:16 371:18	309:17 318:6
asking 51:4 53:14	271:13 345:5	220:1	372:5,20 373:12	330:16 368:4,9,21
97:1 99:13 130:4	assuming 183:11	<b>a.m</b> 1:13 4:2 152:2	374:1 375:19	369:2 370:18
135:20 195:6	183:12	152:3	376:17 377:11	<b>bases</b> 122:20 203:5
201:9 225:5 227:6	assumption 20:21	A1 99:18 100:22	backed 258:6	<b>basic</b> 32:21
248:5 251:10	21:2 22:22 60:6	A1c 71:8 107:6	background 8:10	basically 57:7
333:4	294:4	193:17 200:21	backwards 78:19	114:4 121:22
<b>asks</b> 137:11	assumptions 271:3	208:5 371:13	289:19	174:7 200:13
aspect 228:22	312:16,16 347:19	A2 99:18 100:22	<b>bad</b> 80:5 153:9	207:15 229:16
aspects 65:21	attack 64:18	A3 99:18 100:22	210:19 214:20	265:17 269:1,4
128:12 196:12	attempted 45:3		262:11 265:7	277:4 287:1,2
aspirational 361:20	attention 4:11	<u> </u>	342:7 360:15	292:6 302:14
<b>aspirin</b> 44:2,11	271:17 283:17	<b>b</b> 79:14 80:4,21	<b>balance</b> 55:8 94:22	306:4 351:9
206:22	297:10 302:2	99:20 100:2,3	balanced 346:8	362:12
<b>assert</b> 367:9	303:1	154:15 155:2,17	351:17	<b>basics</b> 19:16
asserting 367:11	attracted 121:8	159:22 177:10,11	<b>balancing</b> 286:20	<b>basis</b> 45:10 84:1
assertional 361:20	attracting 238:9	228:19 273:3	287:11,19 288:9	103:22 118:20
assess 20:8,9 23:4	attributable 281:19	297:2 329:12	banning 79:9	123:8,9,12 230:11
69:14 126:14	attribute 277:22	353:5 359:9 361:7	<b>bar</b> 22:3 47:22	238:22 288:15
L				

Battelle 13:18 25:8	193:6 214:19	56:3 78:9,12 90:7	136:20,20,21	156:11 166:2
BCI 346:15	215:2 249:9	127:9 128:17	137:1 194:13,14	218:20 324:12,14
bear 167:7,14	250:22 251:20	143:18 146:4,20	207:19 208:7	breakdowns 29:1
beating 192:21	252:2,4 255:15	156:10 157:6,15	209:17 210:18	breakfast 5:6
becoming 54:9	257:8 260:10	158:2,16 165:1	211:2,4,8 212:2	breaking 158:20
186:3	270:19 274:17	199:14 227:19	212:14 214:11	215:11 329:14
<b>behalf</b> 306:7	276:22 281:14,15	228:13 253:1	226:14 250:20	breast 237:7
behave 98:7	289:4,12 301:4	256:4 257:12	251:1 256:13	briefing 19:6 222:1
behaving 83:6	307:5 308:6 310:5	258:12 276:15	259:14 260:10,11	286:19 325:15
343:4	313:21 318:11	277:17 279:19	371:13	briefly 216:12,19
behavioral 88:21	323:21	289:6 290:9 307:7	bloody 120:22	bright 161:18
89:4,22 217:12	Betty 102:17	309:14 345:11,15	310:5	179:13 363:6
<b>belabor</b> 286:2	beverage 151:21	370:20 371:1	<b>bloom</b> 69:1	<b>brilliant</b> 170:22
<b>belief</b> 86:13	beyond 5:3 19:3,21	<b>bit</b> 6:15 13:15	<b>blue</b> 138:10	bring 4:11 72:5
<b>believe</b> 49:10,12	117:21 213:22	14:10 17:8 19:20	<b>blurry</b> 229:22	86:1 107:1,8,20
62:4 143:16	242:1 280:12	22:11 28:12 41:18	<b>board</b> 99:3 235:13	116:1,3 118:1,11
206:15	298:9 329:4	50:10,17 56:21	335:1 349:10	119:18 143:12
believes 205:2	358:15	72:11,17 74:2	376:20	153:22 217:16
bellyaching 343:14	<b>bias</b> 7:13 9:10	92:17 152:20	<b>bodies</b> 42:21	231:16 232:2
<b>belong</b> 201:6,8	54:18 79:1 80:15	154:8 156:11	<b>body</b> 133:5 152:13	241:8 285:5
277:15	81:9 176:10	159:10 169:17	<b>bogged</b> 74:18 83:17	306:13 325:11
belongs 104:4	192:11 195:2	174:12 183:19	<b>bolts</b> 18:20	364:20
351:4	296:1 320:4,5,8	185:9 197:21	<b>Boolean</b> 142:16	bringing 87:17
<b>belt</b> 133:10	320:13 360:9	225:9 227:18	154:5,11	110:4 111:16
benchmarks	biased 177:19	232:6 234:12	<b>borrow</b> 123:19	115:17 116:4
119:16	307:6	253:16 254:5	360:21	118:4 164:9 373:2
<b>benefit</b> 9:22 30:6	biases 8:12 177:15	261:16 270:13	<b>Boston</b> 9:14	brings 210:4
199:2 218:22	<b>big</b> 21:6 23:16	271:16 295:7,22	<b>bottom</b> 27:16 91:6	233:17
<b>benefits</b> 218:16	27:15 34:5 54:13	296:10 305:10	<b>box</b> 103:9 141:17	broad 91:16 106:2
345:6 346:8	91:11 153:13	307:8 326:3	183:9 221:13	245:18
<b>best</b> 17:5 61:5 70:4	203:5 261:21	344:11 363:4	<b>boxes</b> 221:14	broadening 302:22
70:12 79:6 159:12	270:6,10 338:10	369:19 372:6,22	373:20	broader 176:1
167:16 169:2	346:18 360:16	<b>blah</b> 42:5,5,6	<b>boy</b> 124:13	220:7 258:17
306:10,14,17	373:19	132:19,19,19	<b>brain</b> 378:20	283:2 293:11
307:2 313:12	<b>bigger</b> 227:10	247:11,11,11,12	Bratzler 1:18 15:2	295:12 367:20
372:9	273:22 312:20	247:12 303:18,18	15:5,6 65:6,8 93:7	broadly 223:12
<b>beta</b> 59:16 62:17	344:16	303:18 367:14,14	152:7,10,16 153:2	broken 272:19
64:17 66:22	<b>biggest</b> 39:15 65:22	367:14,14,14	153:6 156:9	<b>brought</b> 43:12
286:11	<b>bin</b> 79:14,14 92:12	<b>blank</b> 247:16	195:15 215:16	60:12 84:15 120:2
<b>betas</b> 286:9	92:14 96:5 97:4	blending 238:18	219:2 261:15	154:1 167:7,14
<b>better</b> 6:5 22:7 56:2	<b>bind</b> 285:7	<b>block</b> 208:1 378:4	273:18 310:21	203:1 261:11
59:17 66:3 71:2	<b>bins</b> 79:13 125:13	<b>blocker</b> 59:16	317:8 318:14	360:17
71:16 80:2,3	Bioinformatics	<b>blockers</b> 62:17	324:22 340:7	<b>bubble</b> 288:3
95:17 120:22	5:22	64:18 67:1	341:16	<b>bucket</b> 19:4 110:14
121:5 123:6	<b>Biostatistics</b> 5:22	<b>blocks</b> 88:9	break 125:5,7	110:16 129:17
171:18 179:6	Birkmeyer 1:18	<b>blood</b> 44:1,5 45:3	147:8 151:18,20	buckets 100:21
188:7,10 192:10	11:19,20 21:21	71:8 129:22 130:2	153:20 154:13	101:17

buckshot 211:3	153:4 156:18	374:11,21 375:7	81:6 84:16 104:2	63:6,10,12 66:2
<b>build</b> 175:13 182:2	157:13,17 158:10	377:16 378:6,9,16	113:19 132:1	67:13 69:20 70:18
347:17	159:4 160:6,14	business 52:19	135:15,21 150:21	71:21 79:19 82:20
<b>building</b> 88:9 364:1	168:9 170:9	56:18 133:15	163:2 166:4,16	93:14,19 94:15
<b>built</b> 65:14 128:8	172:17 174:10	154:8 270:12	170:1,2 219:3	106:15 109:1,5,12
128:15	175:10 179:1	buy 270:19 361:8	247:1,2,3 253:11	109:12 111:4
<b>bullet</b> 56:4 175:17	182:16 184:15	<b>buzz</b> 41:5	266:20 296:19	121:6 137:11,12
204:7,22	187:13 189:12	byproduct 354:22	314:12 375:12	137:13 139:14
<b>bummed</b> 328:10	190:14 192:18	<b>B1</b> 99:20	376:15 377:21	146:8,11 147:11
<b>bunch</b> 81:5 91:17	194:8 195:8 199:9	<b>B2</b> 99:20	<b>called</b> 9:16 12:18	150:4 151:14
119:9 120:8 121:8	203:18 205:8,12	<b>B3</b> 99:20	21:11 87:11	165:21 192:5
166:10 167:8	205:15 212:4,7,11		133:13 139:1,17	210:8 218:11,12
180:6 192:1	212:13 213:19	<u> </u>	165:22 179:3	234:17 235:16,16
207:14 231:12	215:8,21 216:1,10	<b>c</b> 154:16 155:2,17	220:17 222:2	235:20,21 236:5
241:2 281:2	217:17 218:5	159:22 228:19	325:13,14 365:9	236:12 249:16,18
285:19 305:22	223:20 227:7	297:2	<b>calling</b> 166:5	261:3,5 265:7
348:10,14 365:3	228:11,14 233:10	CABG 13:7 14:17	180:18 247:7	272:3 277:6 278:1
<b>bundle</b> 57:6,14	234:4 235:6	32:3 77:6 85:20	<b>calls</b> 76:18	278:5,7 281:14
103:20,20 276:12	238:17 239:20	111:22 185:10	<b>Canada</b> 342:21	290:13 293:19
288:7	240:12,18 242:10	243:1,2,11,16,17	<b>cancer</b> 237:7	301:19 354:22
<b>bundles</b> 290:12	244:4 245:13	244:16 277:4	271:10	355:1,18 356:3
<b>burden</b> 98:12	247:19 248:4	332:6 345:2 359:1	capacity 13:20	359:4
190:17 191:2,5	251:11 254:10	cacophony 69:9	330:10	carefully 30:4
255:15 296:5	255:10,13 256:9	CAHPS 8:20 10:14	capital 83:15	<b>cares</b> 287:8
353:1 355:12,14	257:14 259:8	10:16 27:2,12,14	343:13	case 14:15 35:14
355:22 367:21	260:5,13,16,22	29:3 34:21 81:12	capture 4:16 39:17	62:2,21 64:5
370:1	261:2 263:2 264:9	104:11 112:2	40:10 144:15	72:12 88:6 89:3
<b>burner</b> 371:18	264:15 272:21	114:3,7,9 128:3	226:15	98:17 103:1
Burstin 2:14 3:4,7	276:8 280:4 282:8	130:9,13,14,15,18	captured 323:2	112:14 139:11
5:10,12,13 6:21	283:22 287:14	130:19 131:9,9	capturing 61:11	177:14 178:12
14:21 15:4 16:9	288:16,20 289:8	132:15 134:14,15	96:9 205:5 272:9	181:7 191:1
20:19 22:9,21	292:12 296:16	134:18 137:10,11	cardiac 13:6 59:17	202:12 244:15
25:17 27:6 29:21	298:18 303:12	139:13 140:9	79:22 110:15	251:6 254:2 258:9
32:14 34:4 37:12	315:13,18 316:1	166:12 266:21	309:1	268:1 269:3
37:15 38:9 41:14	322:4,13 325:8	CAHPS-based	cardiological 150:4	277:12 310:4
43:5 45:21 48:5	328:14 330:7	126:21	cardiologists	323:11 334:17
48:19 50:12 52:11	331:9 333:19	cake 102:18	167:11	351:19 370:17
55:2 60:10 61:21	341:11 345:20	calculating 268:2	cardiovascular	371:10 374:5,7
55:2 60:10 61:21 62:15 64:12,15	341:11 345:20 346:16 350:1	calculation 317:15	<b>cardiovascular</b> 31:3,7 71:18,21	371:10 374:5,7 <b>cases</b> 176:15,19
62:15 64:12,15 67:19 69:5 85:5	346:16 350:1 351:7 352:7,11	calculation 317:15 calculations 105:1	31:3,7 71:18,21 98:14 111:4	<b>cases</b> 176:15,19 177:9 180:13
62:15 64:12,15 67:19 69:5 85:5 110:10 114:16	346:16 350:1 351:7 352:7,11 354:5 355:11,19	calculation 317:15 calculations 105:1 calculus 42:5	31:3,7 71:18,21 98:14 111:4 144:20 149:9,13	<b>cases</b> 176:15,19 177:9 180:13 226:11,12 244:1
62:15 64:12,15 67:19 69:5 85:5 110:10 114:16 118:6 130:8 131:9	346:16 350:1 351:7 352:7,11 354:5 355:11,19 356:15 358:1	calculation 317:15 calculations 105:1 calculus 42:5 calendar 278:4	31:3,7 71:18,21 98:14 111:4 144:20 149:9,13 150:1	<b>cases</b> 176:15,19 177:9 180:13 226:11,12 244:1 251:4 294:7
62:15 64:12,15 67:19 69:5 85:5 110:10 114:16 118:6 130:8 131:9 131:18 138:18	346:16 350:1 351:7 352:7,11 354:5 355:11,19 356:15 358:1 360:11 361:12	calculation 317:15 calculations 105:1 calculus 42:5 calendar 278:4 caliber 343:12	31:3,7 71:18,21 98:14 111:4 144:20 149:9,13 150:1 <b>care</b> 8:15 9:6 10:9	<b>cases</b> 176:15,19 177:9 180:13 226:11,12 244:1 251:4 294:7 318:13 323:19
62:15 64:12,15 67:19 69:5 85:5 110:10 114:16 118:6 130:8 131:9 131:18 138:18 140:10,13 141:7	346:16 350:1 351:7 352:7,11 354:5 355:11,19 356:15 358:1 360:11 361:12 362:4,14 366:13	calculation 317:15 calculations 105:1 calculus 42:5 calendar 278:4 caliber 343:12 calibraity 317:13	31:3,7 71:18,21 98:14 111:4 144:20 149:9,13 150:1 <b>care</b> 8:15 9:6 10:9 12:7 25:6 31:5,21	<b>cases</b> 176:15,19 177:9 180:13 226:11,12 244:1 251:4 294:7 318:13 323:19 329:10 351:14,16
62:15 64:12,15 67:19 69:5 85:5 110:10 114:16 118:6 130:8 131:9 131:18 138:18 140:10,13 141:7 141:11 143:8	346:16 350:1 351:7 352:7,11 354:5 355:11,19 356:15 358:1 360:11 361:12 362:4,14 366:13 366:19 367:1	calculation 317:15 calculations 105:1 calculus 42:5 calendar 278:4 caliber 343:12 calibraity 317:13 California 1:23	31:3,7 71:18,21 98:14 111:4 144:20 149:9,13 150:1 <b>care</b> 8:15 9:6 10:9 12:7 25:6 31:5,21 38:18 40:3 42:17	<b>cases</b> 176:15,19 177:9 180:13 226:11,12 244:1 251:4 294:7 318:13 323:19 329:10 351:14,16 351:18 370:6
62:15 64:12,15 67:19 69:5 85:5 110:10 114:16 118:6 130:8 131:9 131:18 138:18 140:10,13 141:7 141:11 143:8 144:9 149:7	346:16 350:1 351:7 352:7,11 354:5 355:11,19 356:15 358:1 360:11 361:12 362:4,14 366:13 366:19 367:1 370:21 371:9,20	<b>calculation</b> 317:15 <b>calculations</b> 105:1 <b>calculus</b> 42:5 <b>calendar</b> 278:4 <b>caliber</b> 343:12 <b>calibraity</b> 317:13 <b>California</b> 1:23 6:10 11:11 14:5,7	31:3,7 71:18,21 98:14 111:4 144:20 149:9,13 150:1 <b>care</b> 8:15 9:6 10:9 12:7 25:6 31:5,21 38:18 40:3 42:17 43:3,20 46:19	<b>cases</b> 176:15,19 177:9 180:13 226:11,12 244:1 251:4 294:7 318:13 323:19 329:10 351:14,16 351:18 370:6 <b>catches</b> 177:10,11
62:15 64:12,15 67:19 69:5 85:5 110:10 114:16 118:6 130:8 131:9 131:18 138:18 140:10,13 141:7 141:11 143:8	346:16 350:1 351:7 352:7,11 354:5 355:11,19 356:15 358:1 360:11 361:12 362:4,14 366:13 366:19 367:1	calculation 317:15 calculations 105:1 calculus 42:5 calendar 278:4 caliber 343:12 calibraity 317:13 California 1:23	31:3,7 71:18,21 98:14 111:4 144:20 149:9,13 150:1 <b>care</b> 8:15 9:6 10:9 12:7 25:6 31:5,21 38:18 40:3 42:17	<b>cases</b> 176:15,19 177:9 180:13 226:11,12 244:1 251:4 294:7 318:13 323:19 329:10 351:14,16 351:18 370:6

	1	1	1	1
99:10 254:16	<b>chaired</b> 41:16	<b>check</b> 141:17	class 70:4,13	211:3 282:18
359:13	228:15	326:13	102:10 169:2	354:16
cath 346:15	chairs 47:8	checkbox 62:6	classic 304:5	clinics 11:14
catheter 368:3	<b>chair's</b> 155:10	<b>checked</b> 359:20	317:14	clinimetric 75:11
caught 133:14	challenge 45:22	checking 289:5	classroom 335:3	77:16 79:9
<b>cause</b> 257:7 344:4	56:8 90:15 118:20	<b>checklist</b> 265:4,5,6	<b>clean</b> 132:18	clinimetrics 76:13
caused 337:19	187:13 201:13	<b>CHF</b> 38:22	<b>clear</b> 21:22 28:2	<b>closed</b> 375:9
347:15 348:1	332:8	<b>Chicago</b> 67:6 120:8	30:15 39:16 53:2	<b>closely</b> 32:15 230:2
causing 75:21,22	challenges 45:7	Chief 12:17	56:7,12 71:18,20	285:13,16 286:5
350:4 355:17	67:20	<b>child</b> 55:11	78:17 90:9 96:18	cluster 99:2
caution 320:22	challenging 37:21	<b>chime</b> 29:17	116:16 117:16	<b>CMS</b> 10:13,17
cautionary 309:19	378:19	<b>choice</b> 115:21	125:20 130:13	14:12 38:17 40:8
cautious 261:16	<b>chance</b> 44:20 73:10	<b>choose</b> 25:10 99:17	136:19 141:3	59:13 110:13
262:2	Chancellor 11:6	99:20 185:21	189:20 196:17	115:2,21 116:2
<b>CDC</b> 318:15	<b>change</b> 25:6 114:4	191:14 217:15	213:8,16 224:19	159:15 172:2
368:11,17,20	115:11 194:11	234:15 308:14	228:9,10 232:7	209:3,3
<b>CDC's</b> 46:20	234:22 321:15	<b>chose</b> 49:12 301:20	265:15 288:14	Cochrane 321:19
<b>Center</b> 1:16,19,21	325:6 333:22	<b>chosen</b> 137:5,6	296:22 311:8	code 40:1
10:5 11:21	334:19 337:5,9,20	368:5	316:16	coefficients 286:11
Centers 1:22	337:21,22 338:1,2	<b>chrome</b> 103:9	<b>clearer</b> 146:17	<b>coffee</b> 151:21
<b>central</b> 57:6 103:20	359:9	208:1	171:19 234:12	<b>cogency</b> 102:4
368:3	<b>changed</b> 105:19	<b>chronic</b> 235:16,21	332:22	<b>cognitive</b> 88:18,20
<b>certain</b> 68:14 76:7	171:22 194:13	236:5,12	<b>clearly</b> 26:12 30:11	89:5 99:4,9
123:4 134:14	229:14 240:20	<b>circle</b> 179:10,14	53:10 163:13	cognitively 89:13
142:4 163:3 164:7	338:22	circles 121:5	193:5 194:21,22	<b>Collaboration</b> 9:17
167:22 176:2	changes 114:19	circumstance	208:22 209:21	colleagues 12:2
217:11 221:12	222:17 377:13	263:6 circumstances	229:9 230:18	76:19
238:10 274:4 312:15 321:10	<b>changing</b> 226:17	88:18 137:7 164:7	249:12 264:10 346:11	<b>collect</b> 10:7 187:11 190:21
	352:6,9 characteristics	264:14 293:15	<b>clever</b> 306:6	<b>collected</b> 177:18
<b>certainly</b> 23:21 41:15 94:7 112:21	158:22 225:17,21	350:4	<b>clients</b> 314:8	231:13 333:2
146:20 153:16	226:6 330:18	<b>cite</b> 367:22	clinic 11:14 89:21	<b>collection</b> 190:18
170:12 181:18	<b>chart</b> 151:11	<b>CLABSI</b> 46:21	clinical 76:19 103:2	191:1 296:5 356:2
197:17 286:3	179:11	368:13,15	105:13,18 112:14	356:4,20 357:1
293:14 316:10	<b>Chase</b> 1:19 9:1,2	<b>claim</b> 275:17	121:5 130:7 132:5	<b>collective</b> 165:7
318:14 328:15,21	45:5 62:22 91:21	370:13	142:1 145:14	247:6 274:16
332:5 338:12	106:4 109:7	claims-based 44:12	169:20 214:16	275:8 282:1 290:2
346:1	117:18 118:7	46:22	258:7 260:18	300:15 342:11
certification 270:1	141:12 142:19,22	clarification 25:14	354:14 359:2	344:2
cervical 271:10	163:9 181:10	136:13 239:15	clinically 112:8	collectively 100:6
cessation 44:10	186:8 191:5 231:9	275:5 375:18	171:13,14 215:1	147:18 148:12
62:5	233:21 234:7	clarify 260:3	258:15 292:3	149:1,2 246:14,21
<b>cetera</b> 11:15,15	247:18,22 248:6	282:21 288:20	clinician 71:7	262:17
82:15,16 200:9,9	250:15 261:8	319:1 355:7	193:14 258:1	collectivizing
331:3,3 344:17	271:1 284:15	377:13	clinicians 80:2	162:18,20
360:18	320:21 336:20	clarity 26:5 28:18	193:9 195:21	college 15:8,9,15
<b>chair</b> 5:21 13:3	356:1 369:21	373:12	207:9 209:13	197:6
	•	•	•	•

	I	I		
colonoscopy 60:21	95:7 112:13 117:7	160:22 161:11	company 12:18	140:19 143:15
61:6 160:19	117:20 143:8	164:1,14,18	37:16 78:7	169:2 171:6,6
<b>column</b> 273:8	147:12 162:2	169:14 170:11	comparability	188:20 282:14
352:21	168:14,14 200:18	171:2,7 172:5	273:15	303:19 356:19
combination 126:4	217:3,5 273:20	181:20,21 183:4	comparative 331:3	complexities
268:14	282:22 291:3,8	186:13,19 191:15	compare 89:9	311:15
combinations 29:5	310:21 347:10,18	191:18 218:14	110:15,17 188:12	complexity 153:17
<b>combine</b> 80:19	373:12	222:9,22 297:1,2	256:2 270:7 280:8	312:13
91:19 103:15	comfort 331:14	299:5 312:3	310:5 368:9	complicated 312:5
145:2 175:3	comfortable 258:2	334:19 339:18	compared 107:7	312:8 320:15
231:15 234:9	294:3 331:12	350:10 372:19	324:7	complication
236:16 254:6	332:1 363:8	376:9	comparing 195:20	280:20
264:3 303:16	376:12	committees 35:3	366:15	complications
365:9	coming 7:10 21:6	53:19 63:15 70:3	comparison 305:3	57:19 79:22
combined 142:6	30:13 33:4 52:21	71:17 72:4,7	comparisons 202:7	154:17 279:14,14
145:5 236:7 357:3	105:5,5 106:5	85:11 93:21 95:18	270:7	308:22
<b>combines</b> 104:19	155:13 206:13	99:16 101:19	compensation	compliment 75:1
348:21	266:20 335:11	117:3,13 160:18	172:5	component 36:12
combining 80:20	369:11 377:9	169:11,19,22	<b>compete</b> 47:1 193:7	36:21 37:2 39:21
144:2 148:8 170:7	<b>comment</b> 3:15,20	170:4 171:10,20	competing 38:3	45:20 50:15,18
315:3 364:17	41:3 45:5 48:12	181:14 182:14	69:11,15 70:2	54:14,17 58:13
come 23:18 25:22	77:14 85:7 124:4	183:17 187:6	168:18,22 194:18	59:10 154:8
26:1,10 28:6,17	176:9 196:1	249:14 283:8	195:4,22 366:6	157:19 158:5
32:5,18,19 34:17	215:19 216:2	296:17 308:11	compilation 39:9	161:11,12 168:19
34:22 50:9,21	239:3 279:12	323:1 364:6	75:3	181:15 185:4
63:2 65:9 66:5	353:11,12 362:12	<b>common</b> 82:11	<b>compile</b> 216:7	190:12 198:19
68:11 69:16 73:13	374:20 375:1,8	145:14 290:18	complaining 344:7	200:3 203:21
82:13 102:2,5,18	376:4,16,19	299:20 300:3,7	complaints 314:5	206:7 209:8,19
102:19 108:3	comments 4:17	301:5 304:21	314:16 344:4	225:2,17,20 228:3
113:21 117:11	66:12 91:15	310:1	complete 52:13	259:7 276:10
121:11 143:4	271:22 272:13	commonly 130:1	53:5 62:6 165:12	281:17 299:1
144:14 148:10	279:19 318:19	communicate	223:16 322:17	303:22 318:22
150:6,13 151:10	353:7 362:8	97:21 129:3	336:8 374:6	319:6,14,21
151:11,12,22	376:10,15	communicating	completely 25:7	323:13 327:21
153:16 163:12	commission 14:13	377:9	34:13 39:22 79:8	328:19 330:11
166:3,8,8 174:21	28:1 122:17	communication	94:6 152:11 173:9	331:15 341:9
187:17 196:21	commissioning	97:16 104:12	225:19 282:12	347:3 348:5 349:1
202:2 203:15	123:21	126:18 128:6,8	299:14 327:22	349:17 351:4
218:21 234:8	committee 7:11	129:1 132:17	365:13	358:4 374:15
241:3 284:18	23:1,1 31:4 40:6	261:11 266:22	completeness	components 36:19
296:21 303:8	41:16 44:3,19	community 1:19	106:15 109:12	37:20 38:2,12,19
349:16 357:6	46:13 53:7 59:18	9:3,12 31:3 43:22	complex 28:15	40:7,19 44:1,21
358:7 368:11	60:22 70:21 71:19	,	41:20,22 42:4,11	45:9 47:13,17
370:3,5,12 372:5	87:16 115:13	109:17 112:15	42:15 43:3,14	48:16 49:13,15
374:1	122:5 134:11	comorbidities 99:1	51:21 56:10 67:9	54:6,9 55:7,12,18
comes 31:16 32:12	138:22 150:1	comorbidity	68:1 98:22 99:1	57:12 58:18 59:16
32:22 43:21 53:6	153:21 156:16	300:16	132:14 133:1	59:19 60:14,16,17
		-		
	1	1	1	1

61:14,18 65:18	330:20 334:16	128:14,15 129:14	252:12 253:17	366:2,9,16 367:17
66:2 67:21 68:5	344:1 347:5 349:9	131:4,8,11,16	254:2,3,20 255:1	368:1,2,6,14,20
68:15 71:5 84:12	350:20 351:2,11	133:5,15,17	255:15,21 256:8	369:9,18 370:1,7
108:6 110:9	356:22 357:2,21	134:13 135:21,22	256:18 257:19	371:22 372:10,13
118:11 126:17	367:12 371:10	136:3,10,14 137:2	258:3,6 259:1,2,6	372:16,20 374:4
131:2,12 132:7	373:6,14,18 374:3	137:8 138:5,7	260:20 261:6,22	composited 33:17
139:22 154:21	<b>composite</b> 1:3 3:10	140:7 141:4,5,9	263:1,8,16,18	54:7 118:10,13
156:21 157:3,10	3:17 4:4 6:5 9:8	141:15 142:7,14	264:4,8,11 265:17	333:2
158:14 160:21,22	11:8 12:5,10,12	143:2 144:8,8	265:18 267:5,17	composites 9:12
161:2 163:21	12:14 14:4,17	148:15 149:15,16	268:4 269:11	10:10 11:2,17
165:10,16 171:12	15:20,22 16:3	150:14,15 154:3	270:20 271:19	13:6,22 16:6 17:4
175:13,19 176:5	17:9,12,15 18:7	154:19 156:14	273:17,21 274:2	24:12 26:1 28:11
177:1,15 179:19	18:14,16,19 19:13	157:2,8,17,22	274:15 275:14	32:19 33:2 34:19
183:1,7,12 186:12	19:16,19 20:5,6	158:8 159:19,21	276:2,3,6,6,9,11	34:20 35:11,16
187:18 190:19	22:1 24:1 27:1	160:1,5,9,13,15	276:17,18 277:3	41:15 42:2 46:3
191:3,8 192:12,17	28:17 31:5,14,18	161:5,18,19,20	279:20 281:3,7,9	53:3 54:5 57:1
194:3 198:3,4,5	32:11 34:1 35:8	163:8 164:9 165:5	282:15 283:3,4,20	65:14 67:18 72:12
198:12,15 199:12	35:14,19 36:18	167:21 168:8	284:6,10,13 285:5	74:4 87:13 90:19
201:2,5,5,7	37:2 38:18 39:10	169:14 172:22	285:16 286:6,20	95:19,20 96:18
204:13 205:1	40:4,13,18 44:17	173:1,5,16,17	287:12 288:12	103:3 104:10,14
225:6,12 227:16	44:19 45:9 47:14	174:17,20 175:5,7	289:2,14 291:17	110:18 115:3
228:6 229:10	48:3,16 50:1,18	175:9,14,19	291:22 293:1,17	120:14 125:13,18
230:17 232:1	51:7 55:11,21	176:16 177:22	294:9,13 295:5,10	126:21 127:1
239:18 241:8	56:11,17 57:6	180:19 187:6	295:14,15 298:21	131:17 135:16
243:16 247:5	58:3,21 59:2,13	188:3,4 191:4,22	299:4,5,19 301:13	143:16 151:7
250:18,18 254:12	60:1,14,21 61:2	192:7,13 193:3,3	302:3,4 304:4,7	155:1,7 156:4,22
255:20 256:15	61:13,16 62:9,18	193:8 198:8,16	311:1,6 313:13	158:21 160:8
257:18 259:5	63:4,20,22 64:1	200:15 204:11,17	315:3 317:10,16	163:11 165:13
261:4 263:16	64:11,20 65:3,12	204:20 205:10	317:20 318:1	166:17 167:3,4
264:7,12 265:13	65:16,18,21 68:13	207:3 209:21	319:15 326:5,19	168:1 169:4,19
265:18 267:16,19	68:14 70:17,20	210:1 212:21	327:14,21 329:21	171:3 173:11
268:7,9 274:17	73:16 74:10 77:7	213:14 220:18	330:4,9 331:11,13	176:2,3 200:16
275:13,21 277:14	81:6,17,19 84:21	221:2,7 222:13	332:6 334:3,12	222:6 224:8
279:21 281:5,6	85:20 86:16,17,22	224:11,14 225:3,8	335:14 340:15,17	228:20 229:6,21
283:1,16,17 284:4	88:12 92:8 93:11	225:20 226:5,9	340:19 341:9	230:2 231:18,19
284:6,14,17,19	93:12 97:8 98:21	228:7,9 229:8	342:9 343:19	239:21 243:13
285:14 286:10,13	99:18 101:12	230:9,10,11,14,17	344:1,10,20 347:4	244:2 251:8 254:6
286:16 287:13	104:2 105:15	230:19 231:22	347:6,13,20,21,21	254:9 257:8
289:1,16 290:20	106:7,13 107:11	232:14 233:16,20	348:4,7,13,20	266:13 267:19
291:1,18,20	108:4 110:5,8	234:21 236:2	349:1,10 350:5,11	270:12,17,19
292:19,20 295:4	111:21 112:1,2	239:4,8,13,17	350:14,19,21	271:6,17 274:5
299:19 301:16	115:16 116:1,3,11	240:3,7 241:1,13	351:2,5,9,18	275:22 280:6,12
302:4 304:8 307:4	116:18 117:20,21	242:9 243:3,12,16	353:8,18 357:3,7	292:14 293:9
311:2,3,10 313:9	118:19 124:13	243:17,21 244:8	357:12,20 358:6	296:2 312:18
319:12 324:11	125:15,21 126:4,9	244:10,16 245:11	358:14,17 359:5	318:4 321:13
326:6,19 327:15	126:12 127:4,6,7	245:15 246:9	361:8,14 362:1	322:10,20 325:20
328:19 329:11	127:7,15 128:10	247:3 249:8 251:5	363:21 365:1,7,20	331:2 336:1,16,22

339:9 340:6,8,10	115:3,8 120:17	193:19	98:18 188:8 199:1	271:5 278:20
341:6 343:9 346:1	121:3,16 122:11	conditions 38:22	213:8,9,11 256:12	283:4 292:21
347:2 348:18	122:20 123:12	223:1	266:9 267:1,13	293:3,11 297:5
349:6,14,14,19,22	125:9 137:17	conducive 95:8	269:7 293:12	300:1,4,4 301:17
350:7 356:19	174:5 212:22	conduct 5:11	294:4,8 296:14,17	303:19 304:2,5
359:16 363:7,9,13	220:8 230:11	conference 1:12	296:21	307:19 315:17,20
363:14 366:18	239:6 245:14	253:11 375:12	consistent 84:10	324:6 339:12,14
376:8	263:19 269:11	confident 203:6	88:13 102:14	366:11
compositing 14:9	277:15 282:13	confirmation 203:1	120:10 122:3	constructed 45:11
81:18 105:3	288:15 292:21	conflicts 7:7	229:10 250:13	49:1 63:5,9 88:13
145:21 180:4	293:2 300:21	confused 148:17	273:9 293:2	97:5 265:19
306:16	301:1,3 302:6,8	361:7 367:16,18	302:12 305:1	316:18 317:5
compost 180:6	307:3,18 315:17	confusing 47:10	307:18 315:16	327:14
composting 180:5	315:20 324:6	148:16 305:10	324:5 339:9	constructing 47:14
comprehensive	327:12 339:11	confusion 161:16	consistently 72:8	142:11
61:17 111:3	365:22	168:5	83:6 90:5 98:7	construction 14:8
comprehensively	conceptualization	connected 91:15	101:11 109:20	70:9 142:21 228:8
22:18	242:14 245:16,20	connection 32:9,13	consolidated	235:1 250:12
<b>compute</b> 188:3,4	conceptualizations	<b>cons</b> 170:5	166:16	267:3 302:3
conceived 126:9	245:19	Consensus 376:8	constituent 334:5	319:13
<b>concept</b> 40:5 47:16	conceptually 82:3	consequence 65:19	constitute 262:16	constructs 11:13
49:22 77:7 87:7	94:18 95:3 130:3	349:3	construct 41:21	42:16 67:10 71:3
94:13 100:8 116:8	162:8,10 205:21	consequences 30:9	42:1,4 43:3,14	132:2,14 133:2,3
116:17,18 117:5,6	207:8 226:12	65:12 66:5 270:15	45:16,18 46:12	145:2 147:22
117:7 122:1,3,7	239:9 241:17	339:16,19,21	51:5,10 55:5,15	148:8 171:11
125:11 126:14	257:5	341:10 342:4,8,18	60:15 61:12 63:19	318:7 366:20
130:7 136:2,11	<b>concern</b> 39:16	343:8 345:16	64:5 67:15 68:1,4	367:2
139:4,8 145:7,12	40:17 161:17	349:16 350:11	68:6,14 74:13	constructural
145:21 146:3	208:22 288:6	351:1 361:2	75:21,22 80:10	363:17
147:19,19 162:5	295:2 314:16	consider 22:18	81:1 82:14 86:22	consumer 10:12
183:22,22 184:5	342:17 344:21	47:2 74:4 90:12	101:6 107:13	31:16 86:18 179:9
205:19 217:7	346:4 349:5	90:17 169:11	108:10,11 109:9	184:22 185:3
249:17,19 268:18	367:20	176:4 255:17	111:20 112:7	196:22 233:22
283:13 286:18	concerned 49:22	consideration	116:3 130:6	245:7 249:21
302:9,18 305:11	87:16 166:14	217:16 223:2	132:21 133:13,19	250:1 314:8
305:11 316:15	186:2 286:21	considerations	134:5,13,21 142:3	331:19 333:9,11
342:4 363:17	343:11 344:11	18:15 81:3 174:13	144:2,6 147:11,13	337:2
conception 77:5	concerns 16:10	222:7,14 223:17	148:4 149:5	consumers 9:22
concepts 49:3	33:10 34:9,14	230:5 350:9	155:15 156:2	108:1 196:17
96:14,15 100:17	39:11,20 46:19	considered 19:22	168:14 173:16,18	234:15 237:4
123:2 140:19	61:1 161:1 185:16	126:11 156:4,6	174:9 184:8,9,9	248:10 250:3
170:5 288:18	292:5 299:1 340:9	157:2 173:5 223:3	184:10,11 188:7	252:10,11 306:7,8
conceptual 40:5	346:6	considering 129:16	188:20 198:4	306:22 307:13
66:16 73:12,16,18	concurrent 354:21	considers 376:18	209:12 213:12	332:2 338:6
78:15 85:4 95:14	concurrently	consistency 79:17	228:9,10 229:8,11	contact 377:2
96:6,13,19 100:18	377:18	79:20 80:11 83:1	232:16,21 246:20	<b>contain</b> 197:18
100:18 110:20	condition 64:6	91:4 97:17 98:16	247:2,7 249:5	contains 179:22
100.10 110.20		>1.1 > > 0.10	217.2,7 219.5	
	1	1	1	1

<b>content</b> 137:18,18	convening 6:19	193:18 209:2	157:21 169:11	<b>crumble</b> 326:14
139:7 319:18	conversation 58:8	212:13 266:7	174:22 175:21	<b>cryptic</b> 325:11
<b>context</b> 3:9 17:8	101:21 215:17	334:17 359:3	177:19,21 178:20	cryptically 325:16
19:20 28:5 43:10	conversations	377:1	182:18 199:11	<b>CSAC</b> 376:14,17
72:16 86:16 87:22	151:19	<b>court</b> 375:20	212:18 220:9,14	culmination 285:14
88:11 90:13	<b>convert</b> 221:13	<b>cover</b> 64:6 358:19	220:18,20,22	cultural 25:5
106:12 139:3	<b>convey</b> 252:13	<b>covers</b> 19:16	222:6,13 224:2,7	cumbersome
223:13,14 228:2	convinced 212:14	<b>co-chairs</b> 1:13 4:9	224:9,13 225:4	264:17
252:21 253:13,17	283:20	co-committee 7:20	226:3 227:4,9,14	curious 108:17,22
276:1 277:11	<b>cooked</b> 76:13	crass 208:14 215:5	228:19,20 229:6	234:5 242:20
302:16 358:12	Coordinator 32:16	Crawford 216:11	229:18 231:12	current 50:18
361:6 367:20	<b>correct</b> 61:20 141:7	216:14 217:20	238:18 239:10	52:16 57:18
contextual 32:9	141:11 163:15	create 11:1 42:2	240:14 253:13	160:14 190:7
continue 5:10	174:3 273:5 306:5	48:3 110:18	259:3,6 272:7,18	194:12 222:6,12
183:11 187:10	325:8,9	111:12,22 112:22	286:3 290:22	291:21 292:15
197:17 373:15	correctly 42:7	120:14 128:5,9	291:22 292:6,7,11	306:15,18,19
continued 15:16	95:12 96:8 204:9	132:20 159:18	299:16 310:7	335:4
continuous 144:1	263:4	168:4 172:10	325:3,6,17 326:2	currently 8:7 14:1
continuum 76:6	<b>correlate</b> 237:5,8	173:3 236:2	334:17 335:4,5,6	15:14 19:14 20:2
contract 15:17	279:18	256:21 291:11	344:9 345:21	20:16 21:10 23:12
60:17	correlated 206:3	296:4 303:18	350:7 352:5,10	28:22 57:1 60:20
contractor 15:13	250:9 304:2,9	355:16	353:8,16 361:3	86:12 174:17
contracts 15:14	correlation 83:4	created 17:13 36:1	362:7,9 364:15,16	178:20 183:3
contribute 189:1	304:22 305:7	86:19 169:13	364:21 365:6	220:15 221:7
198:15 206:1	correlations 305:13	235:15	372:5 374:15,16	224:8 233:14
211:10 246:2	<b>costs</b> 191:2	creates 193:18	criterion 82:4 94:2	260:17 265:12
259:17 262:17	<b>couch</b> 121:9	creating 11:8 103:3	165:4,14 176:21	268:19 302:15
286:13 298:10,11	<b>council</b> 31:17	115:15 133:13	177:7 221:12	303:6 371:16,16
301:16 307:5	counseling 44:10	180:17 232:14	226:20 227:6	373:9
contributed 246:6	<b>count</b> 41:10 42:10	241:13 257:8	262:20 265:10	<b>cut</b> 136:19
contributes 207:1	42:21 64:19 321:4	275:7 290:2 291:9	276:16 278:21	<b>cuts</b> 178:16
210:21 256:7	<b>counter</b> 87:20	293:17 334:11	280:14,21 281:6	C-O-N-T-E-N-T-S
259:13	90:16 117:11	362:1 366:9	283:5 296:7	3:1
contributing	356:7	creativity 103:6	305:21 331:7	
292:22 298:2	counterbalance	credibility 208:12	335:19,20,22	<u> </u>
contribution 226:8	347:9	211:16,17	339:16	<b>d</b> 1:18 154:16 155:2
226:10	counting 42:8	credible 258:16	criterion-based	155:17 175:4
contributors 257:5	343:13	credit 107:8 155:4	68:19	223:15 297:3
306:2	country 79:1	155:5	critical 28:7 67:17	353:5 359:9 361:8
<b>control</b> 44:2,5 71:8	170:13	criteria 3:17 17:16	334:3	<b>daily</b> 44:2,11
142:2 144:16	<b>couple</b> 4:10 9:9	17:20,22 18:1,17	Crocker 102:17	<b>Dale</b> 1:18 14:21
194:13,15 208:6	26:12 56:5 62:1	19:11,13 23:4,18	Cronbach's 83:22	15:5 16:9 65:7
212:3 250:21	84:14 87:6 92:15	23:19 28:19 30:1	305:13	93:7 152:5,19
251:1,2 371:13	151:19 170:10,11	33:5 35:22 36:14	<b>cross</b> 72:4	195:15 215:9,14
controlling 209:17	170:19	37:5 58:14,19	crucial 21:22 22:1	261:15 263:12
controversy 333:21	<b>course</b> 35:4 90:15	63:2 74:12 93:3	354:9	273:19 324:20
convened 17:10	135:17 189:14	108:20 157:14,18	<b>crude</b> 238:2	340:7
L				

<b>Dale's</b> 218:22	<b>Davis</b> 1:17 6:10	debatable 212:8	deconstructing	demonstrate 181:2
dangerous 63:14	13:16	<b>debate</b> 84:18 115:6	182:13	192:6 267:10
dark 208:15	day 25:20 27:9	decay 326:13	deconstruction	272:3 275:16
Dartmouth 12:3	29:11 40:3 44:16	<b>December</b> 376:14	179:4	343:2 357:4
<b>data</b> 9:6 10:7 29:14	44:22 55:14 61:4	<b>decide</b> 65:3 73:7	<b>deduce</b> 267:17	demonstrated
30:15 31:6 32:11	70:22 74:5 77:19	186:16 187:9	<b>deem</b> 152:14	158:4 214:3 254:1
36:3 59:1,7 69:20	78:18 79:2 95:15	283:8,19	deep 156:21 194:2	289:15 334:11
70:6 91:13 113:17	108:11 110:19	decided 57:22	<b>deeper</b> 161:9	336:14 346:12
124:9 144:14,18	115:21 149:20	143:14 181:15	<b>default</b> 295:18	demonstrating
147:9 148:1,2,3	152:11 156:14	362:18 363:6	310:15	269:5 336:3
148:11 149:1,2	161:4 162:4 165:3	370:17	defaulted 313:8	demonstration
174:18 177:17	170:15 171:17	<b>deciding</b> 166:18	defend 116:6,8	229:1 349:6
187:12 190:9,18	200:1,9 283:7,18	371:3	117:4 121:6	demonstrative
191:1,17 201:21	342:22 378:19,20	<b>decision</b> 24:8 69:17	<b>defer</b> 128:3	158:3
202:21 210:10	days 168:18 262:6	87:21 90:12 99:19	defibrillators	denominator 45:11
239:12 267:12	288:6	114:7 116:12	149:11	45:22 46:2 49:3
273:10,15 289:21	<b>de</b> 5:20 14:16 20:14	123:21 137:16	deficiency 358:20	261:22 271:4,11
293:3 296:5	37:10,14 41:3	138:13 181:22	<b>define</b> 57:18 67:11	271:13 273:19,22
306:11 307:14	52:4 61:15 62:13	184:20 185:11,12	124:8 140:7	274:7,12 312:19
319:6 320:5,10,11	62:16 64:7,13,16	189:19 204:14	145:18,21 329:21	317:16
320:12,17,18	77:17 78:10 84:5	210:2 232:9	<b>defined</b> 67:10	denominators 66:1
321:1,8,20 322:22	90:20 100:1,16	283:10 307:15	199:11 223:12	271:20 274:9
323:11,12,14	108:21 119:4,14	318:12	265:15 368:17	316:19 317:21
326:4,18 330:3	128:20 136:12	decisions 9:19	defining 366:2	369:13
333:1 352:22	140:6,12 167:18	81:15 150:12	definitely 50:12	deny 23:21
353:14,21 354:4	173:20 178:1	307:1	257:22 273:22	department 5:21
354:11 356:3,19	179:20 190:6	decision-making	340:8 354:5 373:2	5:21 8:5,17 15:6
357:1,5,5 359:17	194:6 195:6,9	72:16 86:16,21	definition 17:13	39:3
359:19 360:4	205:6,11,14,17	88:11 116:21	43:4 143:19	<b>depend</b> 268:6,9,10
361:1,21,22 362:2	206:12 210:4	150:8 197:10	148:14 151:7	344:14
362:2 368:4,22	211:22 212:5	249:21 250:1	265:13 274:18	dependent 55:4
database 10:6 13:4	214:7 239:14,22	306:19,21,21	300:13 327:4	depending 72:15
359:2 369:4	264:16 267:7	declarations	definitional 112:13	144:14 188:3
dataset 68:20 70:9	268:5 279:11,22	173:14	definitions 124:21	269:9 274:2 304:6
91:5	294:14 302:10	<b>declare</b> 125:14	125:3 368:11	363:15
datasets 91:2	311:7,13 312:6	167:20 175:9	deflates 258:17	<b>depends</b> 50:20 55:3
<b>date</b> 30:18	349:4 370:14	363:20 365:19	<b>degree</b> 143:1	148:18 211:12
<b>Dave</b> 6:2 13:1	<b>deal</b> 40:17 50:6	declares 221:2	<b>delay</b> 326:1	259:18 263:3
14:16 48:13 64:8	56:6 93:2 195:13	decomposable	delaying 147:7	269:15
<b>David</b> 1:25 32:2	195:21 295:17	334:4	<b>delete</b> 319:1	depression 139:6,8
49:18 69:8 75:12	321:11	decompose 326:13	delineate 30:4	139:12 145:16,18
111:22 185:8	dealing 49:20	decomposed 326:6	deliverable 85:3	356:5
242:20 251:22	109:8	decomposing 179:4	delivery 359:4	derived 276:18
360:15	dealt 59:16 163:13	180:12	<b>DeLong</b> 1:13,15	308:15
<b>David's</b> 79:16	263:14 351:22	decomposition	3:4,13 5:20	deriving 124:14
121:19 213:2	<b>death</b> 308:20	179:3	<b>delta</b> 309:5	<b>describe</b> 154:3
239:3	312:21	deconstruct 327:8	<b>demand</b> 323:9	231:7 242:6

249:11184:4,6,17 185:13146:8 159:11,12105:4,20,21370:11,12 371:6described 75:9189:18 192:6159:16 163:2,7107:10,10,12,14differentiate 214:5226:11,12 229:9198:21 203:14192:20 193:3,17108:5 109:9,10,17differentiate 214:5339:13 361:3207:6 221:1210:8,9,15 249:16119:17 122:8,19differentiate 214:5365:16242:13 275:16249:18 250:15127:5 128:1,12,1660:2 128:15describes 82:2283:11 296:11,18278:15 370:14,15129:7,8 131:1236:17 237:11description 255:2329:18 350:12diabetic 209:15,19138:12 142:12differing 193:11360:22351:3,12 372:15diabetic 209:15,19138:12 142:12differing 193:11desirable 192:1419:18 28:20 35:5diabetic 209:15,19138:12 142:12differing 193:11327:1935:10 52:13 53:10die 42:11162:10 163:14360:22desirable 192:1419:18 28:20 35:5die 208:4155:8 157:9253:16 275:19327:1935:10 52:13 53:10differ 98:7 105:12164:10,13 165:20difficult s98:15detail 221:18 326:4100:15 111:15266:13 273:16165:22 166:13,21difficult s6:9330:3 332:13155:13 167:20335:22170:6 172:9,16digest 333:18333:12,14 350:15169:10 171:19difference 24:5174:5 175:8dilute 349:15,15340:3 33:12,14 350:15169:10 171:19355:233:17167:19 168:13dilute 349:15,15
226:11,12 229:9198:21 203:14192:20 193:3,17108:5 109:9,10,17differentiation231:1,7 286:19204:15 205:2200:20 207:18111:14 112:20108:19 114:11339:13 361:3207:6 221:1210:8,9,15 249:16119:17 122:8,19differently 45:17365:16242:13 275:16249:18 250:15127:5 128:1,12,1660:2 128:15describes 82:2283:11 296:11,18278:15 370:14,15129:7,8 131:1236:17 237:11describing 76:3296:22 297:2,13diabetes-related135:5 136:8 137:2differing 193:11170:1315:19 322:16250:9137:15 138:8,11differs 105:3description 255:2329:18 350:12diabetic 209:15,19138:12 142:12difficult 28:15360:22351:3,12 372:15diamonds 268:15144:5 145:6,13,2251:19 52:6 70:5designed 116:17373:4 374:296:8,15148:9,12 154:21231:11 244:18desirable 192:1419:18 28:20 35:5die 208:4155:8 157:9253:16 275:19327:1935:10 52:13 53:10died 42:11162:10 163:14360:22despite 283:1971:4 92:19 95:18differ 98:7 105:12164:10,13 165:20difficulties 98:15detail 221:18 326:4100:15 111:15266:13 273:16165:22 166:13,21difficulty 36:9326:18 329:9116:15 124:8305:2 333:17167:19 168:13dig 151:2330:3 332:13155:13 167:20335:22170:6 172:9,16digest 333:18333:12,14 350:15169:10 171:19difference 24:5174:5 175:8dilut
231:1,7 286:19 339:13 361:3 365:16204:15 205:2 207:6 221:1 242:13 275:16200:20 207:18 210:8,9,15 249:16111:14 112:20 119:17 122:8,19 127:5 128:1,12,16108:19 114:11 differently 45:17 60:2 128:15describes 82:2 describing 76:3 170:1296:22 297:2,13 315:19 322:16249:18 250:15 279:2,13127:5 128:1,12,16 129:7,8 131:160:2 128:15 236:17 237:11description 255:2 360:22329:18 350:12 351:3,12 372:15diabets-related 250:9137:15 138:8,11 138:12 142:12differs 105:3 difficult 28:15description 255:2 360:22329:18 350:12 351:3,12 372:15diabetic 209:15,19 diamonds 268:15138:12 142:12 144:5 145:6,13,22difficult 28:15 51:19 52:6 70:5designed 116:17 373:4 374:2373:4 374:2 96:8,15dichotomy 77:4 96:8,15144:5 145:6,13,22 144:5 145:6,13,2251:19 52:6 70:5 233:11 244:18 229:17 230:3desirable 192:14 327:1919:18 28:20 35:5 35:10 52:13 53:10die 208:4 die 208:4155:8 157:9 162:10 163:14 162:10 163:14253:16 275:19 360:22detail 221:18 326:4 326:18 329:9116:15 124:8 165:13 167:20305:2 333:17 335:22167:19 168:13 167:19 168:13 167:19 168:13dig 51:2 digest 333:18 dilute 349:15,15
339:13 361:3 361:6207:6 221:1 242:13 275:16210:8,9,15 249:16 249:18 250:15119:17 122:8,19 127:5 128:1,12,16differently 45:17 60:2 128:15describes 82:2 describing 76:3283:11 296:11,18 296:22 297:2,13278:15 370:14,15 diabetes-related129:7,8 131:1 135:5 136:8 137:2differing 193:11 differing 193:11description 255:2 360:22329:18 350:12 351:3,12 372:15diabetic 209:15,19 diabetic 209:15,19138:12 142:12 144:5 145:6,13,22difficult 28:15 51:19 52:6 70:5designed 116:17 373:4 374:2373:4 374:2 developers 14:2096:8,15 die 208:4144:5 145:6,13,22 155:8 157:9253:16 275:19 360:22desirable 192:14 327:1919:18 28:20 35:5 35:10 52:13 53:10died 42:11 differ 98:7 105:12164:10,13 165:20 165:22 166:13,211difficult 898:15 difficult 36:9detail 221:18 326:4 330:3 332:13155:13 167:20 155:13 167:20335:22 335:22170:6 172:9,16 difference 24:5digest 333:18 diute 349:15,15
365:16242:13 275:16249:18 250:15127:5 128:1,12,1660:2 128:15describes 82:2283:11 296:11,18278:15 370:14,15129:7,8 131:1236:17 237:11describing 76:3296:22 297:2,13diabetes-related135:5 136:8 137:2differing 193:11170:1315:19 322:16250:9137:15 138:8,11differing 193:11description 255:2329:18 350:12diabetic 209:15,19138:12 142:12differing 193:11360:22351:3,12 372:15diabetic 209:15,19138:12 142:12difficult 28:15designed 116:17373:4 374:2dichotomy 77:4146:1 147:5,18229:17 230:3235:2developers 14:2096:8,15148:9,12 154:21231:11 244:18desirable 192:1419:18 28:20 35:5die 208:4155:8 157:9253:16 275:19327:1935:10 52:13 53:10differ 98:7 105:12164:10,13 165:20difficulties 98:15detail 221:18 326:4100:15 111:15266:13 273:16165:22 166:13,21difficulty 36:9326:18 329:9116:15 124:8305:2 333:17167:19 168:13dig 151:2330:3 332:13155:13 167:20335:22170:6 172:9,16digest 333:18333:12,14 350:15169:10 171:19difference 24:5174:5 175:8dilute 349:15,15
describes 82:2 describing 76:3283:11 296:11,18 296:22 297:2,13 315:19 322:16278:15 370:14,15 diabetes-related129:7,8 131:1 135:5 136:8 137:2 137:15 138:8,11236:17 237:11 differing 193:11 differing 193:11170:1 description 255:2 360:22329:18 350:12 351:3,12 372:15diabetic 209:15,19 diabetic 209:15,19138:12 142:12 138:12 142:12differing 193:11 differs 105:3designed 116:17 235:2373:4 374:2 developers 14:20diabetic 209:15,19 dichotomy 77:4146:1 147:5,18 144:5 145:6,13,22229:17 230:3 235:1designed 192:14 327:1919:18 28:20 35:5 35:10 52:13 53:10die 208:4 died 42:11155:8 157:9 162:10 163:14231:11 244:18 360:22despite 283:19 detail 221:18 326:4 326:18 329:971:4 92:19 95:18 116:15 124:8 305:2 333:17differ 98:7 105:12 167:19 168:13 335:22164:10,13 165:20 167:19 168:13 335:22difficulties 98:15 dig 151:2 digest 333:18 dilute 349:15,15
describing 76:3 170:1296:22 297:2,13 315:19 322:16diabetes-related 250:9135:5 136:8 137:2 137:15 138:8,11differing 193:11 differs 105:3description 255:2 360:22329:18 350:12 351:3,12 372:15diabetic 209:15,19 diamonds 268:15138:12 142:12 144:5 145:6,13,22diffecult 28:15 51:19 52:6 70:5designed 116:17 235:2373:4 374:2 developers 14:20dichotomy 77:4 96:8,15144:5 145:6,13,22 144:5 145:6,13,2251:19 52:6 70:5 29:17 230:3desirable 192:14 327:1919:18 28:20 35:5 35:10 52:13 53:10die 42:11 differ 98:7 105:12162:10 163:14 165:22 166:13,21360:22 difficulties 98:15detail 221:18 326:4 326:18 329:971:4 92:19 95:18 116:15 124:8differ 98:7 105:12 305:2 333:17167:19 168:13 167:19 168:13 167:19 168:13difficulties 98:15 digest 333:18333:12,14 350:15169:10 171:19difference 24:5174:5 175:8dilute 349:15,15
170:1315:19 322:16250:9137:15 138:8,11differs 105:3description 255:2329:18 350:12diabetic 209:15,19138:12 142:12difficult 28:15360:22351:3,12 372:15diamonds 268:15144:5 145:6,13,2251:19 52:6 70:5designed 116:17373:4 374:2dichotomy 77:4146:1 147:5,18229:17 230:3235:2developers 14:2096:8,15148:9,12 154:21231:11 244:18desirable 192:1419:18 28:20 35:5die 208:4155:8 157:9253:16 275:19327:1935:10 52:13 53:10died 42:11162:10 163:14360:22despite 283:1971:4 92:19 95:18differ 98:7 105:12164:10,13 165:20difficulties 98:15detail 221:18 326:4100:15 111:15266:13 273:16165:22 166:13,211difficulty 36:9326:18 329:9116:15 124:8305:2 333:17167:19 168:13dig 151:2330:3 332:13155:13 167:20335:22170:6 172:9,16digest 333:18333:12,14 350:15169:10 171:19difference 24:5174:5 175:8dilute 349:15,15
description 255:2 360:22329:18 350:12 351:3,12 372:15diabetic 209:15,19 diamonds 268:15138:12 142:12 144:5 145:6,13,22difficult 28:15 51:19 52:6 70:5designed 116:17 235:2373:4 374:2 developers 14:20dichotomy 77:4 96:8,15144:5 145:6,13,22 146:1 147:5,1851:19 52:6 70:5 229:17 230:3desirable 192:14 327:1919:18 28:20 35:5 35:10 52:13 53:10die 208:4 die 208:4155:8 157:9 162:10 163:14253:16 275:19 360:22despite 283:19 detail 221:18 326:4 326:18 329:971:4 92:19 95:18 116:15 124:8differ 98:7 105:12 266:13 273:16164:10,13 165:20 165:22 166:13,21difficulties 98:15 dig 151:2330:3 332:13 333:12,14 350:15155:13 167:20 169:10 171:19335:22170:6 172:9,16 174:5 175:8digest 333:18 dilute 349:15,15
360:22 designed 116:17 235:2351:3,12 372:15 373:4 374:2diamonds 268:15 dichotomy 77:4144:5 145:6,13,2251:19 52:6 70:5235:2 developers 14:20360:22developers 14:2096:8,15144:5 145:6,13,2251:19 52:6 70:5235:2 desirable 192:14 327:1919:18 28:20 35:596:8,15148:9,12 154:21231:11 244:18327:19 despite 283:19 detail 221:18 326:4 326:18 329:9100:15 111:15266:13 273:16162:10 163:14360:22differ 98:7 105:12 330:3 332:13100:15 111:15266:13 273:16165:22 166:13,21difficulties 98:15330:3 332:13 333:12,14 350:15155:13 167:20335:22170:6 172:9,16digest 333:18333:12,14 350:15169:10 171:19differ ence 24:5174:5 175:8dilute 349:15,15
designed 116:17 235:2373:4 374:2 developers 14:20dichotomy 77:4 96:8,15146:1 147:5,18 148:9,12 154:21229:17 230:3 231:11 244:18desirable 192:14 327:1919:18 28:20 35:5 35:10 52:13 53:10die 208:4 died 42:11155:8 157:9 162:10 163:14253:16 275:19 360:22despite 283:19 detail 221:18 326:4 326:18 329:971:4 92:19 95:18 116:15 124:8 155:13 167:20differ 98:7 105:12 266:13 273:16164:10,13 165:20 165:22 166:13,21difficulties 98:15 dig 151:2difficulties 333:12,14 350:15169:10 171:19difference 24:5174:5 175:8dilute 349:15,15
235:2 desirable 192:14 327:19developers 14:20 19:18 28:20 35:5 35:10 52:13 53:1096:8,15 die 208:4148:9,12 154:21 155:8 157:9231:11 244:18 253:16 275:19despite 283:19 detail 221:18 326:4 326:18 329:971:4 92:19 95:18 100:15 111:15died 42:11 266:13 273:16162:10 163:14 165:22 166:13,21360:22 difficulties 98:15detail 221:18 326:4 326:18 329:9100:15 111:15 116:15 124:8 155:13 167:20266:13 273:16 335:22165:22 166:13,21 167:19 168:13 333:12,14 350:15differ 98:7 105:12 169:10 171:19differ 98:7 105:12 difference 24:5164:10,13 165:20 165:22 166:13,21 165:22 166:13,21difficulties 98:15 difficulties 98:15 digest 333:18 digest 333:18
desirable 192:1419:18 28:20 35:5die 208:4155:8 157:9253:16 275:19327:1935:10 52:13 53:10died 42:11162:10 163:14360:22despite 283:1971:4 92:19 95:18differ 98:7 105:12164:10,13 165:20difficulties 98:15detail 221:18 326:4100:15 111:15266:13 273:16165:22 166:13,21difficulties 98:15326:18 329:9116:15 124:8305:2 333:17167:19 168:13dig 151:2330:3 332:13155:13 167:20335:22170:6 172:9,16digest 333:18333:12,14 350:15169:10 171:19difference 24:5174:5 175:8dilute 349:15,15
327:1935:10 52:13 53:10died 42:11162:10 163:14360:22despite 283:1971:4 92:19 95:18differ 98:7 105:12164:10,13 165:20difficulties 98:15detail 221:18 326:4100:15 111:15266:13 273:16165:22 166:13,21difficulty 36:9326:18 329:9116:15 124:8305:2 333:17167:19 168:13dig 151:2330:3 332:13155:13 167:20335:22170:6 172:9,16digest 333:18333:12,14 350:15169:10 171:19difference 24:5174:5 175:8dilute 349:15,15
despite 283:1971:4 92:19 95:18differ 98:7 105:12164:10,13 165:20difficulties 98:15detail 221:18 326:4100:15 111:15266:13 273:16165:22 166:13,21difficulties 98:15326:18 329:9116:15 124:8305:2 333:17167:19 168:13dig 151:2330:3 332:13155:13 167:20335:22170:6 172:9,16digest 333:18333:12,14 350:15169:10 171:19difference 24:5174:5 175:8dilute 349:15,15
detail 221:18 326:4100:15 111:15266:13 273:16165:22 166:13,21difficulty 36:9326:18 329:9116:15 124:8305:2 333:17167:19 168:13dig 151:2330:3 332:13155:13 167:20335:22170:6 172:9,16digest 333:18333:12,14 350:15169:10 171:19difference 24:5174:5 175:8dilute 349:15,15
326:18 329:9116:15 124:8305:2 333:17167:19 168:13dig 151:2330:3 332:13155:13 167:20335:22170:6 172:9,16digest 333:18333:12,14 350:15169:10 171:19difference 24:5174:5 175:8dilute 349:15,15
330:3 332:13155:13 167:20335:22170:6 172:9,16digest 333:18333:12,14 350:15169:10 171:19difference 24:5174:5 175:8dilute 349:15,15
333:12,14 350:15   169:10 171:19   difference 24:5   174:5 175:8   dilute 349:15,15
362:20   173:14 174:7   54:13 75:14 96:16   177:15 180:22   diluting 175:5
<b>detailed</b> 68:1 185:18 198:10,11 135:4 156:1 181:18,20,21 <b>dime</b> 194:10
111:21221:6,15 222:21179:12,14 217:2182:5,9,14,15dimension 118:4
details 43:7 303:11 234:13 254:21 217:21 243:18 192:5 199:22 245:3
detection 61:6   256:21 282:20   271:15 336:21   200:18 201:11,16   Dimick 12:3
deteriorating 340:2   318:20 323:8   344:19 362:5   230:14 234:20,21   direct 10:5 11:21
determination   324:4 333:4   differences 114:5   235:1 236:14   direction 50:7
235:3 358:13 370:7,11 273:14 292:4 238:20,21 239:19 81:21 158:13
determined 37:1   developer's 252:22   different 10:22   240:14 242:11   164:13 186:6
316:4developing 91:722:19 24:16 29:16246:16 247:9196:10 279:1,2,3
determines 200:10   96:13 123:11   42:14,18 43:2   257:10,11 267:18   293:10 314:22
determining   279:8   45:10,12,18 46:1   268:12,14,19   369:12
103:16development 13:549:2,4 50:1,2,6269:12 274:19,19directions 82:8
devastating 215:2 13:21 15:11 52:19 52:8 54:11 56:18 277:7 280:11 269:12
<b>develop</b> 10:18 81:12 103:2 60:1,3,8 62:11,14 281:8,17 282:5,6 <b>directly</b> 193:7
18:18 68:13 173:21 216:16 68:11,12 69:11,19 282:7,14 291:9 297:13 303:19
140:17 307:2 217:11 69:20 71:1,3,14 292:14 294:19,20 <b>Director</b> 7:22 8:6,7
<b>developed</b> 15:22 <b>devil</b> 303:10 72:13,14,14 76:2 301:13 303:10 10:12 16:17
16:3 17:13,16   devil's 185:14   76:14 79:21 80:12   305:4 306:16   dirty 132:18
119:6,19 201:20   206:10 248:1   81:14,15,20 82:7   313:3 314:9 315:4   disadvantages
243:2 244:22   devised 244:16   83:8,9 84:12 86:1   343:9,17 347:14   345:9
303:18 317:11   devising 313:12   87:3,8,9,14,18,19   352:17 354:2   disaggregate
developer 12:19   de-rated 311:5   88:20 89:5,22   356:21 357:5,9   327:10 343:21
57:16,19,22 73:17 <b>diabetes</b> 24:15 63:6 90:1,19 91:2,3,18 358:8 363:9 365:3 347:22
78:5 91:10 119:1 63:10 67:13 70:15 92:2,8 93:21,22 365:10 366:13 disaggregated
121:21,22 162:2 70:18 82:20 97:22 99:6,8 100:17,21 367:10,13 368:15 326:22 328:9
179:21 183:21 106:11 121:6 101:4,7 104:19 369:8,14,19 370:1 330:5 347:16

Г

disaggregation	258:13 266:18	201:7,8 278:3	downside 41:12	138:18 140:6,10
327:16,19 328:12	291:5 292:16	doctors 11:14 98:7	<b>DR</b> 5:12,20 6:7,21	140:12,13 141:2,7
333:3,5	295:22 299:3	150:11 238:9	8:4,14 9:1 10:2,11	141:9,11,12
<b>disagree</b> 307:20	304:12,14 339:17	278:14,18 281:13	11:4,19 13:1,14	142:15,19,20,22
discarded 362:13	339:19 342:16	305:1,3 342:20	14:16,21 15:2,4,5	143:8,18 144:9
discharge 38:18	363:4 370:19	343:2	16:9 20:14,19	145:9 146:4,14,20
59:17 206:22	377:8	doctor's 97:15,20	21:21 22:9,10,21	147:6 149:7 150:6
287:3	discussions 115:2	236:4	25:17 27:6 29:21	150:15,17,20
disciplinary 83:17	122:6,14 153:19	document 36:21	32:8,14 33:22	151:1,17 152:4,7
discipline 76:15	<b>disease</b> 98:15	147:3 148:16	34:4 37:10,12,14	152:8,10,12,16,19
disclosure 3:6 7:3	235:21 236:5,12	175:7 221:5	37:15 38:9 41:3	153:2,4,5,6,8,12
12:16	disparities 272:14	272:16,22 273:2	41:14,17 43:5	156:9,10,18 157:6
disclosures 5:11,16	292:10	313:14 325:15	45:5,21 47:11	157:13,15,17
6:16,17 13:12	displacement 133:7	documented	48:5,14,19 49:19	158:2,10,16 159:4
<b>discrete</b> 42:8 66:22	dissuade 345:17	343:16	50:9,12 52:4,11	159:6,9 160:6,10
67:2	<b>distal</b> 33:12	documents 4:22	54:2 55:2 56:3	160:14 161:14
discriminate	distance 67:7	<b>dog</b> 102:19	58:6 60:10 61:15	162:16 163:9
261:18 342:20	distantly 11:9	<b>doing</b> 27:18 44:4	61:21 62:13,15,16	165:1 166:1
discriminates	distinct 357:8	52:18 54:3 64:3	62:22 64:7,12,13	167:18 168:9
177:3	distinction 21:16	101:11 113:12	64:15,16 65:6,7,8	169:13 170:9
discrimination	28:2 75:11,13	114:19 117:10	66:7,18 67:19	171:16,21 172:17
34:9	76:3 79:11 92:16	118:20 119:7	68:7 69:5 72:9	173:7,20 174:2,10
<b>discuss</b> 25:16 66:9	109:1 127:10,20	123:4 136:21	73:9 74:22 76:12	175:2,10,16 176:8
74:2 253:11,13	139:16 147:4	166:13 191:4	77:2,17 78:9,10	178:1,11,21 179:1
362:16	151:16 155:22	203:7 208:7	78:12 79:7 80:14	179:20 180:4
discussed 77:19	161:22 164:17,21	222:10 227:2	81:10 82:9 83:19	181:10 182:16
156:11 216:22	165:2 168:2,11,16	231:19 234:13	84:2,3,5 85:5 86:8	183:20 184:15
226:13 294:7	205:22	238:1 239:18	88:15 90:7,20	185:16 186:8
discussing 41:13	distinguish 21:3	293:9 301:6 325:5	91:21 93:5,7,9	187:13,20 189:12
73:22	244:18 365:14	337:10 349:7	95:10 96:10 97:9	190:6,14 191:5,21
discussion 3:13	distinguishes 272:4	354:17	97:11 99:15 100:1	192:18 194:6,8
32:10 43:9 47:7	distinguishing	domain 25:2	100:3,14,16 101:3	195:6,8,9,15
48:7 50:11 55:15	34:18	128:18 129:3,6,14	101:16,20 103:13	197:15 198:17
65:10 66:15 72:11	distributed 327:22	130:5 223:7 237:9	104:6,8 106:4	199:9,10,14
73:4,14 74:5 75:6	distribution 310:9	267:2 318:9 332:8	108:21 109:7	200:17 201:17
76:10 87:6 92:5	<b>dive</b> 156:21 161:9	<b>domains</b> 128:19	110:10 112:4	203:10,18 205:6,8
101:19 104:7	194:2	130:20,22 131:15	113:2 114:16	205:11,12,14,15
106:4 125:8	divergent 112:21	131:16 136:8	115:19 117:18	205:17,18 206:12
152:17 154:1,4,5	diversity 262:7	169:20 200:1	118:6,7,12,15	207:5,13 208:21
155:9,10 163:17	<b>divide</b> 93:6	243:20 334:5	119:4,13,14 120:5	209:1,11 210:4,6
163:19 171:17	<b>division</b> 10:12,15	<b>dominate</b> 101:21	121:18 122:16	211:22 212:4,5,7
205:5 212:18	10:20 104:10	<b>door</b> 187:2	123:14 124:19	212:9,11,12,13
215:12 216:20	<b>doc</b> 193:14	<b>doors</b> 5:5	127:9,22 128:17	213:15,19 214:4,7
220:8 221:20	docs 282:18	dotted 156:12	128:20 129:19	214:13 215:6,8,10
225:1 226:16	doctor 11:13	<b>double</b> 64:19	130:8 131:5,9,14	215:14,16,18,21
229:15 242:4	104:12 109:13	<b>Doug</b> 12:2	131:18,19 134:6	216:1,10 217:17
249:14 257:16	129:2 132:16	<b>Dow</b> 86:17	135:7 136:12,18	218:5,19 219:2
	<u> </u>			

				1
220:3 223:20,21	290:9,17 291:2,21	360:19 361:7,12	254:15 255:3,8	educational 84:20
226:22 227:7,19	292:12,13 293:5,7	361:17 362:4,6,14	365:18	86:5 88:17,17
228:5,11,13,14,16	293:18,20 294:2	362:15 364:7	dwell 211:22	effect 179:15 211:2
230:6,16,21 231:3	294:14,16 295:1,8	365:16,18 366:4	dynamic 113:16	211:4 217:3,22
231:6,9 232:5,11	296:8,16,20 297:8	366:13,17,19,21	114:1,15	218:1 262:9,20
233:1,10,21 234:4	297:19,21 298:18	367:1,4,19 369:7	<b>D.C</b> 1:13	effective 119:10
234:7,11 235:6,8	299:12,17,22	369:21 370:9,14		effects 290:14,15
235:10,11,13	300:2,8,10,11,12	370:16,20,21	E	efficiency 287:7
236:20 237:10	300:18,22 301:22	371:1,9,14,20	e 155:3,17 228:20	efficient 109:21
238:17 239:14,20	302:10,14,17	372:1,3 373:1,11	346:18 353:5	336:5,11
239:22 240:1,12	303:4,12 304:17	374:8,11,12,13,19	359:9 361:8	<b>effort</b> 57:18 74:16
240:15,18,21	305:9,16,20 306:3	374:21,22 375:6,7	earlier 12:13 85:8	87:2 94:13 109:21
242:3,10 243:9	307:7,16 308:7,10	375:8 377:12,16	107:20 111:8	110:1
244:4,15 245:13	308:13 309:7,14	377:17,20 378:6,9	176:9 186:11	efforts 52:16 157:4
245:17 246:12	309:18 310:14,16	378:13,16	225:18 227:12	eggshells 180:8,9
247:18,19,22	310:21 311:7,17	draft 222:2,5,15	239:7 248:10	eight 29:5 174:6
248:4,6,17 249:10	312:6,11 313:5,22	325:16 376:1,9	254:11 255:19	301:20 345:1
250:15 251:11	315:13,15,18,19	drafting 375:16	257:13,17 258:14	<b>eight-item</b> 367:15
252:8,18 253:1,8	316:1,9,22 317:8	draw 123:16	284:1 294:7	either 22:4 35:10
254:10,13,15,17	318:3,14,18 319:2	127:11 156:12	312:12 327:13	51:17 68:11 86:2
255:3,5,8,10,12	319:11,17 320:7,9	161:17	331:18 360:22	142:3,4 143:17
255:13 256:4,9,16	320:16,21 321:17	drawing 349:10	363:5 372:6	145:2 154:11
257:12,14 258:12	322:4,11,13 323:3	364:22	early 105:14 288:4	157:19 174:18
258:19 259:8,9,10	324:19,22 325:1,8	dress 133:10	ease 233:22	177:17 178:12
259:19,21,22	325:10,22 326:10	drill 333:11	easier 38:1 56:5	180:15 203:1
260:2,4,5,7,8,13	326:21 327:3,9,11	drill-down 183:22	108:12,15 110:18	224:11 225:3,14
260:14,16,17,22	328:2,11,14 329:6	drive 16:7 135:12	162:13 196:9	226:5 240:17
261:1,2,8,15	330:2,7 331:6,9	315:9 319:14	231:14 232:7,8,9	245:21 256:5
262:3,21 263:2,11	332:4,17 333:7,19	341:7 359:12	233:16 248:11	278:20 281:4
263:20,22 264:1,5	334:22 335:8	driven 112:7,11	252:10,11 253:6	287:12 289:2
264:9,10,15,16	336:17,19,20	171:14,15 358:3	276:16 296:4	300:22 301:1,12
265:2,22 266:2,14	337:18 338:7,11	driving 30:7 45:13	310:12	302:5 341:4
266:17 267:7,15	338:19 339:5	84:7 88:4 185:5	easiest 99:15	either/or 178:3
268:5,8,16 269:14	340:7 341:11,16	280:1	easily 276:21	elaborate 22:11
271:1,21 272:15	342:2,14 343:11	drop 347:7	easy 36:18 37:22	169:16 201:17
272:17,21 272:13	344:18 345:11,14	dropdown 122:22	53:17 194:10	electronic 32:12
273:5,6,7,18	345:15,20 346:14	dropped 297:16	253:19 271:12	33:20 362:3
274:14 275:10	346:16 347:1,11	351:19	310:17 353:20	electronically 36:3
276:8,15 277:12	348:2 349:4,11	dropping 224:15	eating 137:1	<b>element</b> 174:18
277:17,19,20	350:1,17 351:6,7	drug 114:9	econometric-based	elements 49:1
279:11,19,22	351:8 352:7,8,11	dry 17:19	56:11	103:19 123:18
280:4,13 281:16	352:19 354:5,9	<b>Dual</b> 212:11	economists 12:2	249:9 251:20
280.4,13 281.10 282:8,19 283:22	355:4,6,11,14,19	<b>due</b> 46:18 311:21	<b>ED</b> 39:6,13,16,19	273:11 301:14
282.8,19 285.22 284:15 285:10	356:1,7,15 357:10	348:22 349:1	40:7,11 346:10	365:3
286:8,18 287:14	357:18 358:1,2,5	<b>Duke</b> 1:15 5:22 6:1	edged 103:4	elephants 231:8
288:14,16,17,20	358:11,16,20	<b>Durton</b> 1:21 10:2,3	editorial 124:4	elevator 5:4
289:6,8,10,17	359:7,14 360:11	93:5,9 242:3	editors 342:6	eliminate 320:4
207.0,0,10,17	557.7,14 500.11	73.3,7 242.3	Caltors 5 12.0	chilliate 320.4

Elisa 2:16 4:6 19:1	277:10 299:21	51:2 58:22 116:1	erases 302:15	134:4 151:10,13
Eliza 3:3	316:22	116:4,5 173:12	<b>Eric</b> 375:19	157:20 162:6,13
<b>Elizabeth</b> 1:13,15	empiricism 208:15	175:21 187:7	<b>error</b> 269:20	165:13,20 166:17
1:22 3:4,13	215:5	198:2,22 203:8	270:14,16 301:7	168:21 199:13
<b>else's</b> 89:4 184:10	<b>employee</b> 13:16	205:4 225:5 374:4	321:8	205:3 214:10
elucidate 100:21	employers 306:8	endorses 140:16	errors 316:21	223:3 252:21
102:1	encompass 104:1	209:2	361:1	312:9
<b>email</b> 378:12	encompassed	<b>endorsing</b> 27:10,12	esophageal 306:10	evaluating 7:6
emails 375:18	153:14	27:13 94:20	especially 81:16	17:11 18:16,18
embarrassing 36:8	encompasses 303:9	140:18	164:5 242:15	35:16 56:19 59:18
<b>embed</b> 124:17	encountered 41:1	<b>ends</b> 317:17	267:18 321:12	77:9 80:22 97:8
<b>embedded</b> 303:6,7	47:6	<b>energy</b> 168:17	341:11 342:5,12	100:11 125:18
340:4 363:22	encourage 93:1	371:21	360:5	201:4 213:17
eMeasure 352:13	287:1 309:12	engaged 12:1	essentially 20:19	220:21 224:14
eMeasures 359:12	encouraged 123:5	enhance 48:4	27:9 62:10 115:16	236:11 252:20
emerged 339:17,18	330:20	<b>ensure</b> 333:1	131:2 192:15	evaluation 1:3 3:16
emergency 39:2	encourages 87:1	ensuring 228:8	233:2 239:5	3:19 4:5 11:7
emergent 357:12	250:3	entails 308:5	334:16 366:15	17:20 18:7,13
358:9	<b>ended</b> 72:18	enterprise 88:20	estimate 82:22	19:11 37:20 46:10
emerging 54:8	endocrinologists	153:22 223:5,19	89:11,19 97:14	54:8 76:5 98:9
emphasis 86:15	167:11	247:6	98:1 132:9 133:16	104:4 137:20
295:3,4 309:8	endorsable 43:17	entertain 52:9	188:18,20 189:1,9	157:8,18 158:8,20
320:7 332:18	<b>endorse</b> 20:3,10,16	entire 161:5 193:20	207:22 208:2	167:1 168:12
339:2	40:7 49:6 130:12	223:4 271:6	247:16,17 249:6	169:14 173:22
emphasize 76:7,8	130:15,16 164:6	319:15 359:13	268:3 269:22	220:9,14,18
339:10	186:20 197:17	377:14	270:6,10 277:21	222:13 224:3,8,9
<b>empiric</b> 212:22	370:18	entirely 134:7	306:15	224:13 225:4
238:22 239:9	endorsed 9:9 20:20	302:7 316:16	estimates 98:22	226:3 229:5
299:11	22:22 26:18 28:22	363:9	210:12 274:16	253:13 272:7,18
<b>empirical</b> 84:1	33:8 38:2,4,5,17	entity 184:18 223:9	328:20	291:22 299:16
103:22 112:10	38:20 39:2 40:20	entrenched 208:12	<b>estimating</b> 102:8,9	325:2 361:3 376:7
118:20 122:7,12	44:17 46:11 50:3	envelope 328:17	102:9 210:20	evaluative 340:5
165:4 186:1	50:19 57:1 58:14	<b>environment</b> 33:21	259:16	event 67:2 173:3
206:14 208:10	59:5 60:7 61:19	184:19 200:8	et 11:15,15 82:15	290:21
214:17 236:9	62:7,20 65:1	envisioning 37:11	82:15 200:8,9	events 42:9 66:22
246:4,5 256:20	87:15 115:15	Epidemiology 8:6	331:3,3 344:16	154:13 166:10
276:19 286:7	158:1 163:22	episodes 42:9	360:18	285:15
292:20 302:5	175:20 178:5	equal 308:4 310:15	evaluate 17:15,17	eventually 273:20
316:4	181:16 182:7	311:8 313:9,15	18:2 35:4 51:19	360:6
empirically 82:2	183:13 184:13	314:6 316:7,15,19	54:11 74:12 95:20	<b>everybody</b> 5:13,14
122:2 192:6 205:21 206:2	197:19,20 230:1	316:20,21	102:15 105:5 142:8 159:3 160:3	7:14 16:15 51:22
	233:14 242:18	<b>equally</b> 68:16 166:20 310:22		55:18 103:3 151:20 222:20
207:7,11,20 208:18 209:20	249:2 363:11,14		235:18 246:18,19 279:5 308:12	223:22 224:19
208:18 209:20 212:10 214:22	373:7,10 endorsement 16:4	311:12,12 317:22	evaluated 17:18	229:12 234:5
212:10 214:22 226:11 236:22	18:17,19 23:1,11	equally-weighted 277:5	28:13 54:1 55:10	269:8 321:16
237:3 254:1	29:8 40:21 50:20	era 186:3	56:13 59:4 123:8	everybody's 4:11
251.5 254.1	27.0 40.21 30.20	<b>cia</b> 100.3	50.15 57.4 125.0	CVCLYDUUY 54.11
	I	I	I	I

103:10	345:3,10,13 346:4	226:13 233:11,12	121:11 362:21	explanatory 294:18
evidence 18:2 33:6	346:19,20 347:4	234:20 235:3	exercises 89:5	explicit 227:5
37:6 50:14,22	347:18 350:10,22	236:14,21 248:7	<b>exist</b> 84:18 86:6	230:8 233:4
57:11,17 102:12	evidenced 241:16	249:15 251:12	348:5	255:14 323:18
119:7,15 120:2	evidence-based	258:15 259:14	existing 22:17	explicitly 79:16
122:8,12 123:9	161:3 258:3,8	261:12 265:4	135:2 157:4 256:2	90:10 199:11
135:3 144:20	evidentiary 101:12	267:12 270:1	353:21 364:9,16	232:13,15,20
181:22 182:22	236:9 257:9 282:3	276:13,14 277:20	364:19	233:19
183:6 188:21	344:9	280:15 284:8	<b>exists</b> 292:7	<b>explode</b> 103:10
189:5,21 193:2	exact 282:9 378:3	285:11 286:21	expanding 264:19	exploded 209:13
194:18 195:3,18	exactly 24:7 61:14	290:1 304:18	<b>expect</b> 324:2	exploding 208:3
197:22 198:11,14	69:14 79:5 238:6	305:17 311:9	348:12	exploratory 305:17
198:18,21 200:18	275:10 298:19	314:4 321:3	expected 331:8	explored 23:20
201:11,14,16	<b>exam</b> 63:11	322:21,22 328:18	expecting 169:18	express 38:11
202:14 203:4,5,17	<b>examine</b> 134:12	331:11 345:1	227:14 297:1,3	312:2 333:13
203:21,22 206:14	330:19	346:10 348:3	experience 3:10	expressed 311:20
209:7 211:18	examined 285:16	354:14 356:8	9:11 10:18 17:9	extensive 13:17
217:2,3,5,6,13,18	examining 167:15	367:22 368:19	20:12 25:6 71:15	27:18 55:10
217:21,22 218:1,3	<b>example</b> 23:6,17,17	examples 29:19	97:15,20 128:10	extent 96:8 134:4
218:6,9 225:7,12	23:22 25:9 32:3	34:6 37:18 38:8	128:11,13 132:16	137:19 156:15
225:14,21 226:4	37:11 39:22 40:22	38:10 97:13 99:10	139:14 148:1,22	195:3 206:18
227:4,6,13,14,21	41:7 43:12,13,18	101:8,22 102:6	149:2 173:22	217:4 276:21
227:22 228:15	44:7 45:4 46:6,17	122:21 132:6	261:19 314:19	317:18 324:6
229:2 238:19,20	49:5 55:9 57:13	136:19 194:7	338:8 341:6	328:4 344:12
239:5,8,15,16,17	58:15 60:9,22	261:9 266:8	361:22	352:21
239:19 241:19	61:17 62:17 63:6	346:17	experienced 181:19	extenuating 263:6
243:15,17,19	63:6 64:8,17	<b>exams</b> 67:14	experiencing	external 15:18
244:5,7,11,12,13	65:13 69:18 70:6	Excellent 5:17	196:12	<b>extra</b> 74:11 164:11
245:10,16,18	70:15 77:7,16	exception 31:1	experiential 309:19	212:21 321:14
246:1,5 250:6,21	79:15 82:21 86:18	193:21 218:6,15	experiment 91:1	<b>extract</b> 47:15
252:20,21 254:12	87:11 91:9 97:14	341:5 356:2	expert 1:6,11 9:20	<b>extreme</b> 349:12,18
255:21,22 256:5,6	98:8 104:17	exceptions 190:5	14:3,11 39:12	349:21
256:7,10,12,13	106:10 110:13	246:4	218:15 256:19	<b>E&amp;M</b> 39:3,7,21
257:19 258:5,6,21	114:8 119:18	<b>excited</b> 17:6	309:5,17 316:5	40:1,7
259:3,12,20 260:6	126:7 128:2	exciting 55:13	expertise 19:4	<b>e2</b> 366:7
260:9,18 273:10	129:21 130:1,9,12	<b>exclude</b> 126:20	167:14 169:22	<b>e3</b> 366:7
274:22 275:2,2,3	132:4 141:22	176:16	170:2,3 290:10	F
275:11,13,14	143:20 144:12	excluded 39:22	experts 9:17 84:16	
279:4 280:21	145:14 146:16,17	excluding 211:16	128:4 173:5 301:4	FAAN 1:21
281:11,18 282:21	146:18,19 147:5	exclusion 39:18	314:9	<b>face</b> 189:6 206:6
283:12 286:7	159:12 174:13,14	278:8 355:8	expert-defined	277:17,19 283:13
290:14,19 291:4,8	178:1 180:1 185:1	exclusions 272:12	120:17	310:18 313:1
291:12,19 296:13	187:21 192:1	273:12 275:22	explain 139:6	<b>facilitate</b> 249:21
297:6,7 301:13,15	193:1,18 194:12	276:4,9	174:8 310:2 351:3	250:1 326:6 334:6
305:19 342:3,3,8	200:21 206:1,21	exercise 41:19	explained 51:8,9	facilitating 332:19
343:7,12,13,14,15	212:15 214:19	42:12,15 90:2	311:16	facilitation 378:17
343:16 344:11	215:4 218:11	93:20 95:16 97:8	explanation 323:10	facilities 132:18

<b>f</b>	<b>6</b> 20(- 2	2(0.17	196-20-21-244-22	254.16
fact 22:12 77:8,18	<b>favor</b> 296:2	369:17	186:20,21 244:22	354:16
111:13 169:2	favorably 198:15	<b>fill</b> 19:18 221:6,15	297:16 312:19,21	forced 249:11
171:11 185:3	<b>favoring</b> 310:14,16	275:19 373:21	330:11 352:18	forces 283:15
186:5 202:20	feasibility 190:16	<b>filled</b> 7:2 129:11	363:5 378:6,7	forcing 168:2 355:2
214:2 241:7	320:20 325:4	<b>filling</b> 105:17 243:3	fixation 306:20	355:8
252:22 281:13	352:4,5,10,13,16	377:22	flagged 28:10	<b>forecast</b> 307:10
288:5 313:10	354:10 356:18	<b>final</b> 66:19 204:1,7	<b>flavor</b> 369:8	forestall 117:13
327:14 332:1	357:7,11 358:3,9	204:11,22 205:9	flexibility 185:17	forever 366:2
336:13 343:2	358:14 360:13	362:8 376:17	<b>flip</b> 158:12,15	forget 190:14 255:1
<b>factor</b> 68:17 209:16	362:9	<b>finally</b> 18:18 37:19	194:10	forgetting 30:8
305:17 308:15	feasible 290:22	59:10	<b>float</b> 270:11	forgive 211:2 367:6
322:6	357:4,20,21 358:4	financial 86:14	floor 1:12 262:9,20	<b>form</b> 3:18 7:3
<b>factored</b> 322:14	368:5	235:4	<b>flowers</b> 69:1	19:17 35:14,19
<b>factors</b> 200:14	federal 21:15	<b>find</b> 25:3 58:4	<b>flunk</b> 270:4	44:18 94:8 134:11
fading 372:2	Feedback 297:19	76:10 92:11 95:13	<b>focus</b> 57:17 65:21	138:14 160:21,22
<b>fail</b> 176:12 253:20	feel 7:16,21 26:2	179:11 197:1	158:21 227:22	172:19,22 173:1
331:7	46:15 73:15	248:11 251:6	244:13 255:22	175:3,4 183:8
<b>failure</b> 38:22 59:14	140:11,13 152:13	313:11 337:4	256:10,13 260:6,9	221:14,18 328:9
61:18 62:17	162:14,15 165:19	finding 324:9	287:6 292:16	362:3,18,19 363:2
fair 22:8,9 25:19	207:9 221:17,19	<b>finds</b> 319:19	295:7 334:6 335:5	363:20 372:11
74:7 122:14	241:21 258:1	<b>fine</b> 85:14 86:2	335:16	373:8,19 374:18
164:16 176:20	307:21 319:9	145:17 194:19	focused 14:18 23:2	377:13
177:13 178:16	321:3 328:20	213:18 214:5	67:21	formal 16:4 47:7
190:1 242:13	331:12 332:1	255:13,16 261:6	focusing 79:10 88:8	224:2
263:10 302:9	feeling 107:21	329:9	88:10 168:18	format 341:19
307:7 321:15	161:15	<b>finish</b> 322:16	286:22 360:1	formative 75:19
fairly 13:17 226:17	feelings 78:13	<b>fire</b> 172:12	folks 29:16 30:19	formed 173:17
253:19 270:2	feels 95:4,8 147:5	<b>first</b> 29:22 38:15,20	37:4 61:4 89:15	former 135:3
292:8 302:9 325:7	238:17,21	43:12 46:12 69:1	270:9	forming 230:8,16
341:20,22 353:20	Feinstein 76:12	76:13 84:6 85:18	follow 19:8 90:7	forms 18:21 35:2
fall 85:1 92:12,13	<b>fellow</b> 7:11	92:16 120:22	110:10 130:9	35:22 105:15
281:4 328:7	felt 59:9,18 65:1	151:1 222:1 224:1	167:21 182:16	161:8 182:11
falling 270:18	163:16 191:15	224:13,21 227:9	233:6 304:17	275:19
falls 314:19 317:4	fertilizer 180:7,11	233:3 287:15	375:13 377:14,18	formula 102:17
false 96:8	181:4,9	301:2 316:2	following 67:1	formulate 234:21
familiar 132:8	fester 326:14	332:21 352:20	173:2 242:16	296:7
fancy 327:1	fewer 163:5 311:10	fit 35:7 71:2 292:20	367:13	formulated 155:16
far 33:11 73:14	field 6:15 75:9	315:14	<b>follow-up</b> 39:3 40:2	forth 45:12 66:16
89:6 96:11 104:1	151:5 217:14	fits 18:8 104:15	40:10 157:7	119:18 120:2
111:11 115:22	290:10	105:9 113:4	food 102:19	135:14 186:1
143:1 191:14	fields 86:13 345:10	250:16	foot 63:11 67:14	202:4 241:4 337:4
246:5 346:13	fights 193:19	<b>five</b> 16:16 29:3 33:8	<b>footnote</b> 266:7	353:20
fascinating 152:17	<b>figure</b> 55:7 58:10	79:21 91:2 106:16	294:18 355:7	forum 1:1,12
215:17	69:13 105:8	128:12,16 130:20	force 13:5 96:5	125:17 175:12
fast 264:19	227:10 240:5	131:15 134:19	161:11 186:21	364:1
fastidious 186:4	280:7 285:20	135:16,20 136:1	198:18 203:22	forward 25:22
fault 343:22 344:2	306:13 308:17,19	162:3 174:6	228:15 283:10	26:10 30:13 31:18
	•	•	•	•

٦

22 10 21 22 1			102 < 100 5	227.0.227.1	
32:19,21 33:1	303:7 306:22	gate 21:3 69:1	102:6 108:5	227:9 237:1	
38:16 39:8 40:6	339:12 340:5	<b>gender</b> 262:8	111:14 122:20	241:22 248:13	
44:15,21 46:8	354:10 363:18	general 1:25 6:8	129:20 141:22	251:17 279:3,15	
69:18,21 70:14	<b>framing</b> 267:4	13:2 46:11 66:14	152:21 160:3	279:16 283:22	
71:13 75:8 104:12	frankly 81:3 190:4	75:8 116:13	181:16 185:17	285:12 286:2	
106:21 110:5	305:12	142:16 177:16	192:19 202:13	306:10 307:2	
111:1,16,17	free 7:21 116:2	263:5 296:7	222:20 232:2	315:2 333:19	
115:18 116:14	119:3 152:13	302:16 303:4,9	233:18 241:10	349:9,20 352:3	
117:20 118:4	221:17,19	308:2 314:21	248:6 284:2	356:16 362:19	
144:14 169:16	French 120:11,13	316:13,13 345:21	308:11 339:5	364:2 372:20	
172:16 187:15	121:1	348:6 349:14	362:22 376:2	376:14,17	
189:22 193:10	FRIDAY 1:8	350:6 353:4,11	<b>given</b> 19:12,14	goal 18:10 55:7	
199:21 203:12	Frog's 14:3	357:19 359:5,13	47:21 110:1	78:20 109:17	
204:15 211:19	front 42:20 85:22	360:20 362:8	111:18 144:7	336:5,11 343:5	
213:6 218:14	132:17 163:22	364:5	203:8 226:19	goals 25:21	
231:10 233:17	222:3 241:8	generalists 270:8	234:2 253:8	goes 86:20 96:11	
242:14 279:7	<b>full</b> 271:13 325:12	generalizable	295:20 308:9	113:17 174:1	
287:17 330:8	<b>fully</b> 7:4 168:21	344:16	371:2	191:5 209:3	
335:19 346:7	202:18 250:13	generalizes 348:15	gives 62:10 75:5	251:21 279:13,18	
360:17 374:3	fundamental 76:3	generally 123:22	181:17	337:15	
377:9	206:7	267:15 285:2	<b>giving</b> 97:4 102:21	<b>going</b> 7:17 13:9	
for-performance	fundamentally	304:1 314:17	108:19 356:13	19:6 22:7 25:13	
89:7	56:17 95:15	339:9	glass 5:5	25:16 26:11 28:19	
foster 249:13	101:18 122:13	generate 353:14	glomming 108:15	31:12 33:20 34:4	
foundation 9:19	226:17	<b>generated</b> 353:13 354:21	<b>glycated</b> 211:6	34:17 44:15 50:7	
75:6 <b>founder</b> 12:17	<b>funky</b> 235:7 <b>further</b> 16:11	·	<b>go</b> 5:15 7:1,4 16:12 16:22 19:8 20:14	52:4 54:5,22	
four 17:18 30:1,20	133:21,21 173:22	geometry 42:5	20:22 25:3 36:7	68:16,17 74:4 80:9 86:20 92:9	
39:5 44:1 163:21	202:22 309:22,22	<b>Geppert</b> 94:10 <b>Geppert's</b> 86:11	37:12 38:7 40:5	92:21 93:18 98:18	
164:2 174:6	343:21 354:3	getting 19:2 28:18	44:21 47:6 64:8	100:1,20 101:13	
186:20 199:22	<b>future</b> 101:18,19	41:17 61:8 77:18	65:3,7 70:3,7 73:2	100.1,20 101.13	
223:1,17 224:2	138:3 211:14	82:12,17 92:16	73:7 76:11 79:14	101.14,14 102.1,2	
325:3,4 337:13	281:10,14 307:10	94:3 103:19	95:9 107:17 113:9	102.3,10,18	
346:11 367:7,8	352:9	133:14 137:11,12	148:5 152:4 153:3	105:12 107:14,19	
<b>four-part</b> 277:5	<b>fuzzy</b> 145:8 227:11	137:13,14 162:9	154:7 156:5,16	103.12 107.14,19	
frame 222:20	1022y 145.0 227.11	162:15 174:3	157:12 158:7,14	114:11 116:14	
299:15 350:18	G	193:9,10 204:21	159:21 160:1,5,8	119:12 122:22	
358:12	gain 71:15	206:17 241:18	160:18 161:11,22	126:7 128:3,9	
framed 266:4	gained 133:9	244:2 250:1,18	165:21 172:16	132:20 134:11,16	
frames 115:3	game 25:19 242:13	314:8 343:18	173:21 172:10	132:20 134:11,10	
framework 17:11	gaming 340:3	357:5 369:6	185:2 186:18,21	152:20 159:6,13	
17:20 66:16 73:16	360:7	371:20	186:22 187:11	159:18,20 160:2,2	
73:18 74:1 104:3	gap 37:6 227:15	<b>GI</b> 60:22 61:4	189:10 191:13	163:2 168:10	
104:5 122:11	261:2,3,5 263:6	186:12	195:1 197:6,7	169:16 172:3,6	
131:6 174:3	gaps 106:14	give 7:9 17:7 31:5	201:22 220:7	173:8 174:4,22	
269:11 277:15	gastroenterologic	47:4 54:2 79:15	221:8,20 223:21	180:14,21 186:17	
281:8 292:15	98:13	97:13 101:22	224:1 226:22	187:9,12,22 188:1	
				,	
				i I	
188:5,13 189:2,7	59:9 67:3 74:14	ground 82:11	308:10 350:9	58:11 59:2 106:20	
------------------------------------	-------------------	------------------------------	-------------------------------	-----------------------------------	--
189:8 192:21	78:11 86:2 97:6	189:10	363:1 372:16	310:6 342:15	
196:5,8,9 197:6	103:7 107:9 108:9	grounded 115:5	376:7	happening 182:1	
197:14 198:17	109:13 112:16	121:16	guide 74:19	happens 50:20	
201:13 202:17	114:8 119:15	grounding 121:4	guided 3:13 43:9	162:3 176:15	
203:5,12 211:18	132:6 140:14,20	group 9:15 12:9	73:3	214:19 262:11,18	
211:19 213:6	144:11,20,21	14:7 24:22 66:5	guideline 106:17	281:19 365:2	
219:2 221:18	146:19 148:4	81:22 85:1,3	109:19	367:2	
222:11,14 227:8	153:12 182:4	103:18 156:16	guidelines 167:22	happy 27:22	
231:16,16 236:16	188:5,12,18 202:3	159:17 177:11,11	<b>guys</b> 17:3 26:4 72:5	138:10 197:4	
236:17,19 239:2	206:13 213:6	184:20 207:14,16	148:21 153:1	213:4	
240:6 243:12,22	237:13,14,16,18	212:11 217:16	187:11 369:10	hard 23:21 32:20	
248:3 250:22	238:5 245:12	246:10 270:6	377:4	48:20 51:9,17	
252:6 253:2	247:15 252:8,16	305:3 340:11		52:15 70:21 108:1	
255:10 256:17,19	255:3 256:6,19,20	344:3,15	H	115:7 121:4	
257:6,7,20 258:4	257:5 260:19	groups 30:21 68:11	half 53:4 91:13	195:21 280:6	
262:13 263:1	272:4 278:14	134:15 270:9	267:12,13 367:3	289:17 296:7	
264:17,21 267:1,5	279:4 282:4 293:6	guess 6:16 16:15	hand 73:2 75:15	309:2 319:20	
267:9 268:3 270:4	297:17 301:21	22:10 80:14,15	83:10 98:10 111:6	343:1 360:21	
270:7,11 276:16	316:14 321:22	84:22 94:5,17	111:18 189:2	364:22	
278:2,12 279:5,6	337:17 351:6,7	104:8 113:2 114:8	287:5 344:8	harder 196:9 310:1	
279:17 281:12	358:11	124:3 151:22	handed 237:12	310:1 312:8	
286:2,22 288:3,12	<b>gosh</b> 338:1	158:11 166:5	285:10	338:16	
290:4 291:10	gotten 30:18 33:6	181:5 184:16	handle 26:14 157:3	harm 346:21 349:7	
293:12 300:14	50:16 146:6 153:9	189:7 194:5	168:19 171:8	355:15,17	
301:7 309:16	grab 36:3 369:17	203:10 239:2	handled 59:7 293:4	harmonization	
310:19 311:14,17	grade 178:7 199:5	242:19 248:17	351:3	43:19 195:10	
312:3,9 321:17,18	199:20 200:6,7	253:10 263:2	handling 320:1	256:3 366:5,7	
322:3 323:8,9	graded 199:22	266:17 268:16	323:14	369:20 370:2	
327:3,5 328:5,6,9	308:21	282:19 285:4	handouts 4:20	371:18	
342:5,11 344:7,12	grades 200:3	295:1 307:22	hands 133:8 208:3	harmonize 44:5	
346:7 348:10	grading 199:4	312:11 313:22	handy 4:20	71:11 157:4 194:4	
350:20 352:14,15	granted 264:21	328:17 329:7	hand-waving 342:17 343:1	195:17	
353:15,18 356:20	grants 200:5	330:2 331:9,21	hang 80:1 164:2	harmonized 38:5	
359:14,18 362:15	grappling 240:2	335:2,12 350:1	0	45:1 69:19,22	
363:20,22 366:22	gravy 289:3	358:16 363:3	207:19 209:20 219:3 235:19	71:6,10 193:13	
369:17,18 372:14	gray 85:18 141:19	364:7,12 372:7	236:21 237:2	195:5 368:12,15	
375:6,6,15,21	143:3	guessed 158:17,19	haphazard 81:5	369:2 371:11,12	
<b>gold</b> 47:3 280:7,22	great 5:12 6:21	<b>guidance</b> 1:4 4:5	haphazard 81:5	harmonizing 44:4	
golden 124:14	16:14 21:4,17	18:1,4,6,8,11,18	happen 33:17	harp 159:11	
<b>Goldstein</b> 1:22	23:8 40:17 75:5	35:2 36:17,20	122:15 176:18	Harvard 2:9 8:17	
10:11,11 104:8	120:10 192:18	50:16,22 52:21	186:7 210:19	13:2 hate 82:12 150:11	
113:2 313:22	193:2 194:21	72:6 85:10 95:6	319:16 323:17	hate 83:12 159:11	
338:7,19 359:14	284:21 301:7	95:17 97:13 142:9	339:17 342:19,20	186:7 337:9	
<b>good</b> 4:3 9:1,13	313:15 331:12,14	171:19 175:18	344:7 366:22	hates 132:3	
10:2 11:19 37:16 52:22 53:11,15	362:10 377:7	181:12 182:6 186:10 204:1	happened 57:15	HDL 178:2,2 head 103:10 158:12	
52.22 55:11,15	greater 340:17	100.10 204:1		neau 105:10 158:12	
	l		I		

				_		
285:12	298:17 304:18	136:9,10 138:5	123:1 376:21	iceberg 25:11		
headed 197:12	321:17 328:3	147:22 148:7	hoping 16:19 95:9	idea 30:3 103:7		
head-to-head 70:7	341:17 353:15	149:3,5,7,18,19	horizon 338:5	115:3 120:22		
health 1:19,24 2:7	Helen's 59:22	149:19 173:15	hospital 1:25 14:3	123:14 124:2		
6:10,11 8:9,15	66:12 118:15	180:18 198:4	23:8 24:2,3 38:18	127:4 149:21		
9:16 12:21 13:16	120:15 146:16	213:3 224:9	42:17 59:3,14	183:11 188:18		
14:6 15:7,8,15	hell 312:22	234:17 240:22	88:3 102:9,11	258:21 278:22		
105:16 112:15	<b>Hello</b> 4:3	243:4 247:2,8	110:15,17 121:15	283:9 296:15		
113:6 217:12	help 5:7 11:11 16:7	252:3 260:11	128:13 148:2,4	297:20 302:1		
237:5,6 282:5	26:4 27:8 44:9	284:4,7 298:21	188:12 209:5	306:6 334:2		
314:4 338:9,20	53:12,13 74:20	highest 204:10	215:1 246:20	335:16 336:7,8		
healthcare 8:18	81:13 95:18,19	314:18 315:5,12	257:3 269:2,5	361:12 362:13		
11:6,22 46:21	99:12 107:5 124:7	<b>highfalutin</b> 330:14	287:2 301:9 307:2	373:2		
228:22 313:13	135:8 284:11	highlighted 293:21	318:6,8,11 338:9	ideal 333:7		
336:6,11 368:9	helped 30:16 236:8	highlights 220:20	368:8	ideally 70:7		
heap 180:6	helpful 43:11 76:11	highly 193:4 206:2	hospitalized 356:9	identical 361:10		
hear 7:20 95:1	92:22 110:21	high-stakes 26:13	hospitals 10:7	identification		
187:17 238:12	136:11 138:19	historical 195:11	42:22 56:15 62:5	292:2		
354:8 363:4	139:2 141:15	307:9	111:4 128:12	identified 304:11		
373:15	142:9 181:9 186:9	<b>history</b> 135:2	159:14 177:3	identifies 192:8		
heard 6:3 16:11	203:19 206:20	hit 124:13 188:2,6	192:9 202:1,7,8	193:5 194:22		
31:16 41:4,8	233:10	hoc 114:18	209:6 281:13	identify 17:11		
75:10 110:12	helping 31:13	hocus-pocus	287:1 306:9 343:3	18:13,15 35:11		
115:13 224:22	37:18 306:22	310:20	hospital's 88:1	196:19 253:3		
280:14 365:4	helps 21:12	hodgepodge 252:14	102:13	358:13		
hearing 26:8 61:11	hemoglobin 200:21	hold 66:17 91:9	hospital-wide	identifying 142:10		
94:6 95:11,13	208:5 211:7	holds 120:1	12:12 21:8	273:14		
116:13 117:15	heterogeneous	hole 26:3 208:16	hours 346:11	<b>if-then</b> 296:10		
204:8,8 218:19	87:17 178:13	244:7	housekeeping 4:10	<b>ignore</b> 210:3		
233:2 258:20	199:17	holistic 200:2	huge 183:14 190:16	illness 98:11		
263:4,4 264:13	<b>Hi</b> 5:12 6:7 8:4	home 39:22 105:16	258:4 359:22	illustration 290:12		
323:5 332:18	13:1	121:11 377:11	360:1,9	imagine 48:20		
336:2 359:7	hierarchical 120:4	honest 189:15	hundred 176:15,19	immaterial 225:19		
heart 38:22 59:14	high 24:13,14 34:7	honestly 26:9	hung 94:7 149:18	immediate 240:4		
61:17 62:17 64:18	57:5,7 62:1 65:17	116:22	hurt 30:17	immediately		
<b>HEDIS</b> 8:22	81:20 105:6 197:3	honing 53:21	husband 132:4	343:19		
Heidi 29:16	203:12 210:18	honored 17:3	hyperlipidemia	impact 37:6 59:1		
Helen 2:14 3:4,7	213:9 228:21	hood 330:10 331:4	178:15	178:18 190:20		
5:9,13 24:20	236:5 253:18	hoops 168:6	hypertension	200:11 209:4		
29:16,20 37:17	263:21 270:3,6	hope 9:22 63:18	209:16 210:3	212:6,14 228:21		
38:8 58:15 65:13	274:8 293:13	73:6 129:11 197:5	hypothetical	238:20 244:9,9		
84:22 112:5	320:19 329:13	203:2 329:20	118:16	247:13 253:18		
129:20 147:14	336:5,11 340:19	337:9 354:3	hypothetically	263:21 274:1		
148:20 152:19	341:12,15 359:22	369:22 376:20	100:4 309:4,11 312:2			
172:14 195:16	higher 23:19 24:17	377:3		313:3 348:8		
197:1 225:1 279:2	127:20 132:1,20	hopefully 43:10		implantable 149:11		
289:22 296:15	133:2,13 134:2,5	44:14 71:15 74:19	<b>ICDs</b> 150:5	implement 12:19		

	1		l			
45:15 78:7 109:19	297:15 308:18	include 124:10	increased 334:8	169:18 176:5,13		
implementation	309:10 315:11	150:11 151:14	351:20	177:1,7 179:18		
35:2 202:22	321:12 345:8	184:11 207:2	increases 48:10	181:8 182:22		
290:11	376:6	261:9 262:11	increasing 245:1	183:12,15 192:16		
implementations	impose 329:13	265:18 302:21	339:2	193:6,9 194:2		
12:10	imposed 175:6	311:3 368:6,20	increasingly 23:14	195:19 201:2		
implemented 35:20	impossibility 70:10	included 39:2	69:6 244:18	204:18 220:17,21		
265:16 353:2	impression 167:19	43:18 58:21 59:12	incredible 243:14	222:12 224:10,12		
implements 10:17	impressive 75:3	62:18 63:3 113:8	264:20	225:16,21 226:2,6		
implication 116:6	<b>imprint</b> 269:1,5,6	191:22 224:10	incumbent 203:13	226:7 242:1 243:1		
126:8 184:1 250:5	improve 29:12	250:8 260:20	independent 9:16	243:15,20 244:11		
250:7 252:18	31:20 65:20 78:2	287:22 304:7	267:20 360:2	247:5 248:15		
implications 22:18	188:17 189:8	362:1	index 58:16 86:19	249:9 250:17		
implied 255:12	217:9 250:4 280:3	<b>includes</b> 37:6 43:22	98:12 112:22	251:20 252:5		
<b>implies</b> 22:16 24:5	296:21 298:6	97:17 130:20	133:5 160:20	254:12 255:16		
122:4 124:13	328:5 337:8,11	259:1 279:22	297:22 300:13	257:21 261:4		
213:15 337:12	338:16,18 341:22	368:2	indexes 75:18	264:6,12 268:7		
imply 240:16,19	<b>improved</b> 113:11	including 14:9,12	indicate 308:1	274:17 275:20		
implying 30:5	207:22 208:1	64:20 154:2	329:22 356:18	276:10 277:14		
importance 37:5	297:4 340:15	214:17 262:2	364:8	278:1 279:14		
96:12 224:3,4	improvement 16:2	296:3 298:12	<b>indicated</b> 35:8 40:8	280:5 281:4,5,17		
226:20 228:17	16:8 20:1 22:4	303:2 313:11	136:13 204:1	281:22 282:10,15		
253:14 308:22	30:7,7 52:18 57:9	355:14 365:6	329:3	282:17 283:1,16		
373:16	96:22 223:11,14	inclusion 208:17	indicates 265:7	283:17 284:3,5,14		
important 7:12	229:2 235:15	225:7,12 226:5	<b>indicator</b> 22:2 62:5	284:22 286:10,13		
21:15 24:11 28:19	238:21 254:4	263:7 295:20	87:11 179:22	286:16 289:1,16		
36:22 37:2 40:9	271:2 279:16	299:10 304:10	234:1 262:16,18	290:19,20 291:18		
55:19 61:3,8	310:8,11 315:10	311:19	280:9 316:18	291:20 292:7,11		
63:12 65:2 66:2	317:12 334:7	<b>inclusive</b> 63:16	331:19 335:18	299:4 301:14,16		
78:14,17 81:3	336:3,4 337:14	294:11	indicators 10:6	311:2 317:18		
85:1 87:22 95:5	338:13 339:3	incomplete 51:14	13:19 46:7 56:19	329:4 330:19		
107:18 110:4	340:14 341:20	52:6 56:8 149:22	61:2 75:21,22	331:15 334:5,15		
115:20 141:2	improvements 31:7	inconsistent 35:1	301:21 315:11	340:12,21 341:21		
151:15 156:17	203:2 270:21	inconsistently	indices 298:4	343:10 344:1,19		
168:16 169:12	298:13 338:10	125:22	individual 24:19	347:14,18,22		
171:13 176:6	improves 84:8	inconvenient	31:22 34:6 36:12	351:10 357:21		
179:17 183:13	improving 117:9	195:11,12	37:1 43:16 44:6	358:15,18,22		
185:6,11 188:19	217:7 235:5	incorporate 245:5	44:21 45:1,9,19	361:9 363:12,15		
190:12 194:16	295:10	354:11 364:10	47:13 48:8 49:6	367:2,5 369:9		
197:14 199:16	imputation 59:7	365:3	49:13,14 50:21	371:10 373:6,9		
203:22 204:19	323:20,21	incorporated	55:12,17 56:19	individually 48:17		
206:9 207:1,10	inaccuracies 361:1	314:12 318:4	62:11 71:6 104:20	61:19 205:13		
209:9,15,16,18	inadequate 53:8	364:9	108:6 110:8 116:9	231:13 246:16,21		
242:12,15 247:12	inane 285:19	incorporates	118:11 126:5	290:3		
247:14 259:14	incentives 339:4,7	323:22	130:14 131:1,7,10	individuals 20:8		
261:10,14 263:12	360:7	<b>increase</b> 296:12	131:12,16 132:10	336:6,12 359:16		
263:13,19 282:12	inception 8:21	360:7	149:21 156:6	individual's 299:10		

	150.10			110 10 100 0		
Industrial 86:17	159:19	internal 79:17,19	involves 308:3	119:19 120:3		
industries 84:18	institutions 54:20	80:11 83:1 96:22	in-between 264:13	122:17 129:7		
industry 14:20	196:8	97:17 98:16 99:3	in-person 4:5	132:9,11 147:16		
314:22	institution-level	167:5 235:14	<b>IQ</b> 82:15	221:13 294:21		
infection 308:21	89:21	266:9 267:1 269:7	<b>IQR</b> 24:3	298:1 302:20		
318:16	instrument 27:4,7	293:12 294:4,7	irrelevant 147:10	305:12		
infections 46:18	127:12 128:22	296:13 308:21	162:19 285:22	items 4:10 11:12		
368:3	129:12 130:18	328:15,17 347:21	irrespective 144:22	126:11,15,16		
inflecting 272:11	146:8,22 151:2,3	internally 35:18	<b>Irvine</b> 1:23 11:7	127:8,13 128:4,8		
influence 25:5	instruments 20:7	84:10 216:22	isolated 13:8	129:10 130:4,13		
118:13 355:1	20:11 29:4	371:17	isolation 150:3	130:15 132:15		
376:7	instrument-level	internist 6:9	issue 16:20 21:6	134:14,15,20		
<b>inform</b> 86:21	34:19	internists 170:14	24:11 27:15 32:2	135:10,16 136:17		
116:20 151:5	insufficient 51:13	interpersonal	32:18 39:15 47:12	138:8,11 146:1,21		
306:19 318:7,11	262:15	151:14	52:5,8,11 54:8	150:12 155:19		
328:1 353:16	insufficiently	interpretability	60:14 61:11 62:9	166:4,12 170:7		
<b>information</b> 31:11	176:14	245:8	65:11 85:2 90:21	184:12 221:14		
47:15 52:13 53:18	insurers 12:20	interpreted 37:4	109:16 113:20	266:11 292:17		
53:19 56:21 58:5	intellectual 223:7	interrupt 152:14	115:1,12 138:20	295:3,21 297:14		
62:10 124:15	intend 116:19,20	inter-item 266:15	143:15 157:1	298:6,9 302:21		
145:13 146:2	intended 57:20	inter-rater 266:8	159:15 179:18	303:2,22 304:6		
148:8 167:17	64:3 119:8 123:13	intraclass 83:4	187:16 193:22	311:19 361:9		
176:20 183:5,17	223:10 234:14	intra-rater 266:8	205:7 211:17	<b>i.e</b> 32:12		
190:13 196:7	240:19 329:17	intrinsically 277:13	228:17 246:13	J		
246:7 252:13	<b>intent</b> 43:5 63:17	introduce 5:19 7:1	258:7,11 266:15			
333:17 350:12	201:12 298:5,16	7:18 14:22 310:19	280:5 341:14	<b>j</b> 292:15,17 295:2,8 296:9 298:17		
360:4 373:5,21	330:7 354:14	introduced 365:7	348:18 350:13			
informative 252:12	370:4	introduction	358:9 366:5,5	jacks 136:21		
informed 9:18	intention 238:14	245:11	367:17 369:19	<b>JAMES</b> 1:19		
252:11	<b>interact</b> 180:10	introductions 3:6	370:10	<b>January</b> 220:15		
<b>initial</b> 46:10	250:19	5:16	issuers 276:17	335:12 376:17,19		
initially 138:6	interclass 304:21	introspection	issues 26:7 31:15	376:21		
169:13	<b>interest</b> 7:3 33:14	178:10	34:16 36:11 38:11	<b>Jeff</b> 86:11		
innovation 200:8	110:13	invalid 248:14,15	38:15 40:22 42:13	<b>Jim</b> 9:2 31:1		
<b>input</b> 314:8,11	interested 119:5	invalidation 203:2	43:8,19 47:6 49:4	122:10 237:1		
<b>inside</b> 193:8 366:15	interesting 23:15	investment 87:3	49:17 52:2 56:5	323:15		
insights 152:22	32:22 33:4 49:9	202:17	60:12 117:17	<b>Jim's</b> 110:11,22		
insist 194:1 199:20	60:19 72:22 75:10	<b>invisible</b> 327:6	139:21 143:13	146:18 233:12		
<b>insofar</b> 140:1	86:9 92:4 103:1	<b>invoke</b> 218:7,10,15	154:6 166:3,7,8	<b>job</b> 121:10 322:2		
<b>inspired</b> 86:10	106:11 115:11	374:9	166:18 172:7	<b>John</b> 1:18 11:20 14:2 24:12 145:8		
<b>instance</b> 165:9	227:8 288:10	<b>involve</b> 295:16	192:16 256:3	14:2 24:12 145:8 201:18 306:4		
218:16 345:12	336:20 360:11	306:16	273:16 282:13,16	<b>Johnson</b> 2:15 7:22		
Institute 13:18	378:18	<b>involved</b> 6:12 8:9	305:5 350:8	<b>Johnson</b> 2:15 7:22 16:17 17:1 28:8		
institution 11:15	interests 3:6 5:11	10:14 12:8,10	357:11 358:14	32:6 34:15 37:17		
institutional 11:17	interior 134:3	13:5,21 167:12	375:14 376:13	50:13 56:20 58:9		
29:15	intermediate	231:4 311:11	377:4,5			
•			item 80:21,21 73:1 74:8 377:2			
institutional-level	260:15 282:17	312:15 366:8	item 80:21,21	/3:1 /4:8 3/7:2		

<b>John's</b> 78:7	147:6 150:6,17	21:20 24:9 29:17	37:21 41:6 42:11	376:22 378:3,15
joining 220:4	151:1 159:6,9	31:10 36:2,10	49:18,20 55:9	knowing 181:8
joint 14:13 98:15	160:10 162:16	40:22 41:18 47:21	56:22 60:20,22	knowledge 51:22
<b>Jones</b> 86:17	171:21 180:4	53:8 60:18 61:7	63:10 66:8 68:3	94:8
journal 342:6	187:20 200:17	68:18 69:3 74:18	72:11 74:20 77:3	knows 21:7 41:15
judge 253:6	207:13 210:6	79:1 84:17 86:5	79:5 80:21 81:17	kosher 323:1
judged 332:15	212:9,12 214:13	91:21 94:8,19	83:12 85:6 89:15	
judging 277:8	230:21 232:11	98:9 99:7 102:3	91:20 95:1 96:3	L
judgment 137:22	235:10,13 237:10	103:7 105:2 106:2	97:2 101:10 107:4	1292:15,17
165:7 200:2	246:12 248:17	107:12,19 111:11	109:14 113:3	<b>lab</b> 346:15 354:18
218:15	256:16 259:10,21	111:19 113:5	114:10 117:4	label 246:11
judgments 56:9	260:2,7 262:3	117:1 121:16	123:16 124:11	labeled 224:7
90:13 104:21	269:14 274:14	122:18 124:12	127:15 137:14	laboratory 144:17
308:4,5 309:16	277:20 281:16	131:22 132:3	138:9,9 141:17	lack 54:16 57:4,11
<b>juice</b> 355:13	286:8 289:17	138:15 146:21	143:20 157:7	57:16 217:2,3,6
<b>jump</b> 38:14 168:7	291:2 297:21	154:4 162:11	159:12 166:21	217:17,22,22
jumping 136:21	299:17 300:2,10	164:19 165:2	167:4 170:15	308:9
168:6	300:12,22 304:17	166:22 167:6	172:3,14 176:6	lacking 190:2
juncture 103:5	305:16 309:18	169:22 176:21	179:17 181:6	lame 321:21
<b>junk</b> 361:18	310:16 316:22	177:14 179:8	185:9 195:8 196:4	language 37:7
jurisdiction 124:7	320:9 321:17	188:15 196:11,21	197:7 199:7	152:13 238:13
justifiable 208:9,10	326:21 328:2	197:10 198:21	200:20 201:1,3	303:9 320:14
justification 186:1	336:17 342:2	199:4 202:13,13	202:6 208:14	330:14 354:2
263:9 273:12,13	343:11 347:11	206:15 211:12	214:1 215:3 236:3	355:5 358:17
294:6 302:5,6,6,8	355:4 361:7,17	220:7 224:21	237:4 242:10	large 56:14 170:18
304:9 308:8	366:4,17,21 367:4	236:14 238:10	249:3 259:15	207:14 270:9 273:21 274:7
313:16,19 314:3	369:7	241:10,19 269:19	261:13 270:14,17	317:16,17
323:10	Karen 2:15 7:22	277:4,7 281:2	271:14 274:5	largely 22:15 65:14
justifications 312:1	16:16,17,18,21	282:7 293:11	278:15 280:8,10	larger 133:22,22
<b>justified</b> 123:7	19:7 66:12 125:10	300:17 301:3,12	282:13 285:17	136:11 148:13,22
230:9 261:7	125:21 156:7	309:8 314:19	286:1 289:21	late 8:1 17:2 113:18
justify 182:8	172:17 221:21,21	328:7,8 348:15,19	290:7 294:17	latent 81:1 82:14
192:11 263:7	225:1 254:18	349:2 353:3 362:2	297:16 298:15	300:4
269:4 294:1	372:5,7 377:2,2 <b>Karen's</b> 66:11	366:8 <b>kinds</b> 47:5 83:14	308:16 312:3	Laughter 8:13
299:10 351:4 369:2	keep 4:20 104:9	99:11 102:7	316:7 319:9 321:5 321:13 326:20	153:11 159:8
Justin 12:3	113:14 192:20,21	111:14 122:19	328:5,6 329:11	199:8 215:13
Justin 12.3	197:11 220:11	123:4 150:22	330:1 331:17	231:5 326:15
K	233:12 263:12	125.4 150.22	332:7 333:13	lazy 121:10
<b>k</b> 292:15,17	264:17 282:11	177:19 270:16	338:17 341:17,21	LDL 44:1 45:3 50:2
Kansas 1:21 10:4	287:1	278:16 282:16	342:22 343:22	142:2,4 144:1,2
<b>Kaplan</b> 1:23 11:4,4	keeps 21:6 33:3	288:10 328:16	344:6 345:7	144:15,18 145:1
41:17 66:18 76:12	key 7:5 75:4 352:19	know 4:22 5:2,13	347:15 350:15	178:2,8 211:7
82:9 84:2 88:15	keypad 216:6	6:8 19:4,5,11,13	353:22 354:7,18	250:21 251:1
97:11 100:14	kick 364:14,17	23:16 24:2,7	356:6 357:17	371:13
101:3,20 112:4	kid 197:5	25:10 21:2,7	360:15 365:4	lead 81:15 198:22
120:5 131:19	kind 17:19 19:15	27:17 32:1 36:6	367:4 373:20	249:15 269:12
	1	1		1

290:13 296:16	280:16 292:16	351:21	243:8,10 261:16	264:16 267:7
341:9	297:12 307:16	limited 15:21	270:13 271:16	268:5 279:11,22
leading 287:11	324:13 326:8	201:21 203:4	292:18 293:7	294:14 302:10
377:7	336:2 342:14	262:12	296:6 305:9 307:8	311:7 312:6 349:4
leads 78:6 81:20	348:8 353:5	limiting 257:9	310:12 325:5	359:3 370:14
99:19 154:5	level 43:15,16 44:5	<b>line</b> 57:6 103:20	326:3,11 344:11	longer 59:5 175:4
156:19 175:16	47:20 48:2 85:11	156:12 161:18	363:4 367:18	192:22 287:2
291:18 356:12	89:16,18,19 90:6	215:20,20 229:22	369:14,19 372:6	long-term 281:15
leaning 204:22	94:1 106:2 127:14	363:6 365:1 377:1	<b>live</b> 110:15,16	long-time 6:11
leap 14:2 48:7	127:17,19,20	<b>lines</b> 216:2 279:10	113:17	look 11:16 18:21
leapfrog 12:9	138:5 142:4 145:1	330:21 375:2	<b>lives</b> 196:13 367:3	23:16 27:3,7
276:20 287:16	147:1 157:9 158:5	link 358:6	<b>living</b> 169:4	34:11 39:10 49:4
306:4	158:6,22 161:7	linkage 297:5	Liz 5:19,20 10:11	49:14 52:22 61:5
learn 17:5 146:5	174:17,18,19,21	linked 230:18	14:15 27:8 29:10	69:6 83:4 91:7
<b>learned</b> 76:16	180:22 181:18	296:10 359:2	43:9 73:3 77:14	98:3 99:13 114:6
121:4	182:9 194:13	<b>linking</b> 294:12	110:12 117:1	134:22 137:10,22
leave 208:13,19	201:1,16 202:11	<b>links</b> 339:11,14	122:10 130:11	139:7 143:10
leaves 296:17	202:18 203:8	<b>lipids</b> 71:9	224:22 316:16	145:12 158:14
<b>leaving</b> 64:22	204:10,16 208:2	list 44:14 73:5	377:6 378:15	172:6,16 174:10
247:13	208:11 210:11,13	77:15 93:2 153:10	Liz's 250:2	176:11 179:10
<b>left</b> 67:6 101:18	210:16,18 224:9	154:16 156:3	loads 19:4	183:2 191:3
120:8 150:2	235:22 243:20,21	352:5	locate 350:13	194:18 196:4
220:19 322:15	248:9 257:2,3,11	<b>listed</b> 100:19	<b>lock</b> 103:8	206:18 211:1
352:21 360:15	259:15 275:2,3	174:15 251:22	locus 350:13	228:16 230:2
371:21	276:9,11 282:10 284:7 289:15	<b>listening</b> 105:2 344:3	<b>logic</b> 142:16 154:11 288:5 296:11	232:3,3 234:1
left-hand 273:8 legitimate 177:13	298:7,22 299:4,4	lists 325:16	logical 39:8,12	237:13,17 252:10 254:11 273:8
length 257:13	300:21 304:20	literally 256:11	lone 207:15	274:5 283:15
287:5,18 288:2	318:6,11 329:4,8	356:17	long 5:20 14:16	285:12 286:4
lens 24:16 53:6	331:13,16 332:13	<b>literature</b> 13:10	20:14 26:8 37:10	293:12 280.4
165:20	333:11 358:7	313:10 345:2	37:14 41:3 52:4	295.15 295.15 296:13 296:13 299:2
lessons 153:18	368:17 369:10	little 13:15 14:10	61:15 62:13,16	304:22 307:16
less-informed	371:12	17:8 19:20 22:11	64:7,13,16 69:21	312:4 325:15
333:8	levels 34:7 62:1	28:12 36:8 37:8	74:14 77:17 78:10	327:3 330:10,11
letter 200:6,7	90:14 163:4,5	41:17 48:20 49:21	84:5 90:20 100:1	331:4 333:9 335:1
letters 200:12	193:11 200:18	50:10,17 52:1	100:16 108:21	335:10 336:2
let's 38:7 73:21	238:1 244:19	56:21 57:8 62:14	113:5 119:4,14	337:5 340:15,16
76:9 86:21 109:21	269:16 272:5	72:11,17 74:2	128:20 136:12	346:2 347:22
124:19 125:3	274:10 333:14	92:17 114:10	138:21 140:6,12	348:20 353:5
126:2 136:18	340:19 341:13,15	127:5 147:15	154:16 167:18	361:10 376:2
141:22 152:4	<b>life</b> 193:20 208:6	152:20 154:7	173:20 178:1	377:9
184:22 187:18	309:4	156:11 159:1,3,4	179:20 190:6	looked 79:16
191:21 192:2,3	lifetimes 123:1	159:10 169:17	194:6 195:6,9	106:14 236:4
193:1 224:18	light 326:12	182:12 183:9	205:6,11,14,17	251:12 287:17
226:19 228:16	liked 186:13	186:2 190:4 225:9	206:12 210:4	looking 12:6 23:4,5
233:11,15 236:21	likes 132:5	227:11 232:6	211:22 212:5	25:4 29:14 54:6
252:3 265:10	<b>limit</b> 248:22 300:14	234:12 241:22	214:7 239:14,22	60:20 79:21 89:1
			· ·	
	•	1	•	•

	1		1	1	
89:17 93:16,19	130:13 288:7	manifest 339:21	144:10 146:14,16	measurable 190:20	
135:5 167:15	290:11 314:5	manifested 335:17	149:9 150:21	303:20	
220:8 226:4	love 29:12 31:11	manner 267:10	151:14 158:17	<b>measure</b> 1:3 3:16	
236:15 253:15	40:9 48:6 82:5	<b>mantra</b> 90:16	162:8,22 164:12	3:18 4:5 14:17	
271:18 272:17	342:6	<b>map</b> 23:13 24:1,8	174:11 176:1	15:16 18:7 19:10	
295:1,11 304:18	loved 49:11	25:2 60:19	178:21 179:3	19:19 20:5,20	
318:15 331:19	lover 156:14	market 135:13	182:13 183:7	21:4,17 22:12	
337:1 352:12	low 22:3 65:22	318:8	187:1,21 197:1,5	23:5,6,8 27:11,13	
357:7 375:20	213:10 321:2	marketplace	199:7 203:15	28:5 30:5,19,20	
376:12	351:15	232:10 371:7	217:8 232:11	33:11,12 34:20	
looks 53:11 202:3	lower 65:19 178:8	Maryland 8:1	239:5 242:17	36:21 37:1 38:16	
310:18 369:16	250:3 274:9	<b>mash</b> 119:9	243:5 248:21	38:19 39:8 40:9	
Lord 172:1	278:17	mass 13:2 132:2	251:3 258:4	40:16 41:5 42:10	
lose 51:2 199:16	lowering 121:20	133:5	263:11,12 264:19	42:15,16 43:20	
lost 41:18 58:22	228:6	Massachusetts	264:21 265:2	44:7,8,9,11,12,12	
67:22 92:17,20	lunch 137:1 159:7	1:25 23:17	266:17 267:7,8	46:5,17 47:15	
131:20 147:9,16	215:6 218:20	matched 194:14	269:14,17 271:4,9	48:9 49:11,15	
148:10 150:18,19	lying 136:22	matches 304:12	275:6,11,22 276:1	50:2,3,4 51:12	
159:10 350:2	<b>Lyn</b> 1:24 9:14	material 294:18	284:18 287:14	52:12 55:3,3,16	
lot 8:19 19:8 26:11	Lynne 184:22	376:12	289:11 299:14	57:13,14,17,20	
31:16 33:7 39:17		materials 220:13	311:3 312:11	59:2,4,5,9,13,14	
41:4 51:20 53:12	M	maternal 42:10	313:1 314:3 315:1	59:15,18,20 60:1	
53:17,19 59:6	magnitude 199:2	55:10 214:18	316:6,11,15,17	60:1,7 61:9 62:3,7	
62:11 65:4 66:4	<b>main</b> 47:13 48:3	262:10	319:13 321:13	62:19 63:5,8,13	
69:12 76:18 79:2	maintain 223:9	math 42:3 132:4,6	322:21 326:20	63:20 64:10 67:3	
84:20 86:19 89:14	maintained 326:4	367:6	327:18 328:16	67:6,8,12,13	
89:14,15 92:19	326:18 330:4	Mathematica	329:19 330:3,6	69:18,19 70:8,8	
105:3 112:10	maintenance 15:16	216:14	331:7,9,10 333:22	74:10 78:11,19,21	
115:13 124:20	29:8 30:14 33:9	<b>matrix</b> 305:7	337:18 338:19	79:6,16 80:10	
125:4 130:10	36:6 50:22	matter 76:21 77:18	346:10 347:6,8	82:14 88:16 89:15	
134:17 138:16	major 9:10 54:9	80:1 84:9 119:11	350:2 352:19	89:20 90:3,11	
143:4,9 161:16,16	138:20	120:3 152:2	354:13 355:11,15	91:12 95:17 97:19	
164:3 179:6,12	majority 56:14	156:15 167:5	357:18 361:10	97:22 98:21 99:7	
180:5 182:20	makers 116:12	201:20 219:5	meaning 71:6	100:9,12,14	
190:21 204:4	making 11:15 33:9	266:19 317:3	151:6	101:10,15 102:12	
216:19,21 244:1	53:13 87:22 90:13	324:16 378:22	meaningful 32:13	105:13,18,19	
245:18 248:2	108:15 180:14	matters 77:20,21	181:7 292:4	107:10,14,19	
251:14 261:12	181:13 182:10	313:4 363:16	329:11,15	108:4 110:5,7	
264:3 288:5 305:8	185:8 210:2	<b>MD</b> 1:17,18,25	meaningless	111:17 112:12,16	
309:16 314:7	222:16 232:6,8,8	2:14	286:14	113:12,12,19	
321:12 339:2,17	232:9 270:15	mean 20:15 30:4	means 20:6 28:16	114:19 116:10,11	
339:18 342:17	283:2 329:21	36:14 37:3 49:5	37:8 47:9 59:8	116:15 117:20	
344:3,6 356:8	353:20	49:19 52:5,16	94:21 241:9 256:5	118:5 121:14	
360:1 363:16	management 144:3	53:1 70:14 71:18	262:22	123:13 124:8	
365:6	319:4	85:2 95:14 100:3	meant 233:22	126:6,10,16,18,18	
lots 10:22 57:21	Manager 4:7	103:14 115:20	263:20 329:15	126:19 127:14,15	
104:21 115:1	mandates 140:7	123:15 129:19	355:7	128:6,7,10 129:8	
· · · · · · · · · · · · · · · · · · ·					

Ρ	age	4	0	4

129:18 130:7,17	255:1,7,22 256:7	76:20 79:10 81:8	50:6,18,19,21	195:22 197:18,18
130:20 131:3,4,7	256:10,12 257:4	83:3,9,21 84:17	51:7,11 54:4	198:7,19 199:17
131:8,10,11 133:3	258:16,18,22	85:14 90:1 92:19	56:12,17 58:3,13	199:21 200:20
136:16 138:2,4	260:6,9,15 262:5	93:20 94:1 95:22	58:18,21,22 59:11	201:20 203:16,21
139:5,17,18 140:2	262:6,7 263:8	96:3 100:10 101:9	59:17 61:20,22	204:2 205:3
140:15,17,18,22	265:14 266:5,21	102:4 112:9	62:12 64:9,14,22	206:16 207:18,20
142:3,7,21 143:10	267:2,14 268:14	116:16 120:20	65:15 66:6 69:8	211:20 213:4
143:10,11,21	268:22 269:1	122:1,3,6 129:12	69:10,15 74:12	214:12 220:21
144:1,7 145:3,12	272:6,18 273:11	137:9 143:5	79:3 82:21 84:21	221:7 223:3
146:10 147:1,16	273:21 274:13,16	153:20 167:14	89:1 90:17 91:8	224:10,14 230:1
147:17,18 148:11	276:2,17,22 277:3	170:3 174:9 181:1	92:8 93:12,13,18	233:14 236:1,8,10
148:12 150:8,9,13	278:3 279:12,13	188:13 190:16	94:20 95:2 97:20	237:12,13,15,16
150:14,16 154:20	279:17 280:16,19	192:12 194:12	98:2 99:13 102:2	237:18 238:5
155:14,21 157:18	281:3 282:15	196:15 241:3	102:5 104:19.22	242:2 243:1,18,20
158:3,22 161:10	287:12,15,16,18	245:2 262:4	105:21 106:1	244:10 245:6,21
162:2,3,5,6 163:1	287:19,22 291:11	269:20 282:6	107:22 110:14,16	248:22 250:7
163:7,20 169:14	291:22 300:15	291:10 297:5	110:22 111:18	251:13,15 252:5
170:20 171:12	301:18 312:17	301:7 310:13	113:7,9,15,16,20	254:7,19,20 256:2
173:12,14 174:1	315:3 317:4,13,15	315:9 321:3,7	114:3,3,7 115:5	256:17,21 258:2
175:3,7 176:13	317:18 318:2	339:12,20 341:18	115:15,18 116:9	259:1 261:6,17,20
177:2 178:16	319:7 321:15	345:18 353:2	118:16 119:17	261:21 262:2,22
179:22 181:13	325:2 326:5,19	355:12,15,22	121:6,13 126:5	264:18 265:1,17
183:21 184:4,6,8	330:4,9,11,16,17	363:17 367:21	127:7,16 128:18	268:11,20 269:3
184:10,17 187:8	330:18 333:6	measurements	131:1 135:10,10	269:13 273:17
187:14,22 188:6	334:3,12 335:21	128:16 130:2	136:5,6,7 137:2,6	274:4,7,8 276:18
188:21 191:6	336:12 337:3,14	214:12	139:10 141:5,5,8	277:1,9 279:9
194:14,19 195:19	337:15 339:22	measures 3:11,17	141:10,21 143:9	280:1,2,5,17
198:9,10 199:3	340:1,17,20 341:5	5:15 6:5 7:6,8	144:10,13 145:5	281:2,18,20
204:12,15,17	344:2,10 346:6	8:22 9:8 10:1,9	145:22 149:3,10	282:10 286:20
205:10 208:8,12	351:19 355:2,3	11:1,9 12:6,11,14	149:21 150:3	287:9 288:8,10,11
209:3,8 210:5,20	357:3 359:1	12:19 14:9,9	152:22 154:2,2,3	292:8,11 299:1
211:5,11 214:22	363:21 364:2,10	15:12,20,22 16:3	154:6,9,11,19	303:16,22 304:4,6
216:15 217:11,14	365:1,2 367:9,11	17:9,12,15,17,18	155:8,11,12,19	305:14,15 306:14
220:9,14,18 221:1	367:13,16 368:2,6	18:2,9,15,16,19	156:6,16 157:5,19	306:17 307:10
221:3,6,15 222:13	368:8,13,15,21,21	19:22 20:3,8,10	157:21 159:16	311:1 313:13
223:6,10,10,15	369:4,16 370:7	20:17 21:11,14	161:22 162:1,4	314:18 315:4
224:2,3,4,12	371:3 373:16	22:1,3,6,15 24:19	163:22 165:3	317:10,19,22
225:4 226:2,7,21	measured 71:7	25:5,22 27:1 28:9	166:4,5,15,16	318:5,10,16 319:5
229:8,20 230:10	115:7 157:11	28:13 29:2 30:13	168:19,20 169:3,5	319:9 323:17
230:11,19 234:14	178:12 334:9	32:11,12,17,21	170:7 172:10	332:16 334:5
234:20 237:20	measurement 1:20	33:7 34:7,12,21	174:17 175:19	335:14 336:7
240:10 242:5,12	6:12 8:8,9 9:3,4	34:22 35:4,5,6,9	177:8 178:4,5,9	338:8,12,21
242:15,18 244:12	9:20 11:7 12:20	35:11 36:13,15,18	180:13 183:3,15	340:11,12,21
246:21 247:15	13:4 23:3,19	38:3,4,6 40:16	184:2 185:4 186:5	341:2,12,21,22
248:20 249:7,19	26:13 30:10 31:3	43:7,16,17 45:2	188:1,4 190:8	342:10 343:10,19
249:20 250:13	41:19 42:12,13,19	46:4,7,9,16,20	192:1,2 193:7,8,9	344:20 345:22
251:16,19 254:2	43:22 70:19 76:17	47:1 48:1 49:6,21	194:9,11,18 195:5	347:14,19 348:5

				Page 40:
353:9,18 354:14	meet 17:3 22:3	methodologic	85:20	<b>month</b> 13:10
354:16 356:9	36:13 37:5 50:15	295:6	misinterpret	months 27:18
357:12,15 358:15	58:14,19 157:21	methodologically	348:21	133:10,11
358:18,22 359:11	175:20 231:16	171:15 378:19	missing 59:1,7	morbidities 308:17
359:20 360:6,16	241:19 259:3,6	methodologists	61:14 113:16	morbidity 245:5
363:7,10,11,12,13	334:16 344:9	170:10,13	230:21 240:11	morning 4:4 5:7
363:15 364:2,9,16	meeting 1:6 4:5,8	methodology 274:2	293:3 318:21	9:1,13 10:2 11:19
364:19 365:7,9	4:13 18:13 19:9	methods 18:14	319:4,6,21 320:5	19:3 179:6 226:14
366:6,7,9,16	75:2 122:10	34:3 78:4 83:20	320:10,11,12,17	226:16 230:13
367:2,5 369:10,15	207:13 209:14	91:3 118:14 155:7	321:1,20 322:22	266:19
370:1,3,5,12	meetings 172:6	200:8 232:21	323:11,12,14	morning's 225:1
371:11 373:3,9	meets 53:8 120:20	233:6,7 238:15	<b>mistake</b> 196:14	morph 21:10 143:3
measure/tool	145:3	292:1 294:12	270:15	mortalities 102:15
150:21	<b>mega</b> 148:3	309:6 356:20	misunderstand	<b>mortality</b> 42:10,22
measuring 42:3,21	mega-construct	metric 48:17 77:20	101:2	87:12,13,14 91:17
54:18 66:21,21,22	148:6	metrics 195:17	<b>mix</b> 190:10	102:11 103:15
67:2 88:20 98:19	member 3:15,20	Mexico 342:22	<b>mixed</b> 78:13	148:2 165:14
106:1 120:12,18	14:2 171:7 376:4	Michigan 1:18	mixing 348:10	214:18 244:19
120:19 121:1	376:19	11:21 12:4	<b>model</b> 73:13,20,20	245:5 262:10
129:6,22 144:5	members 7:11,20	microphone 4:15	76:6,8 77:10	277:2,5 279:16
162:17 181:3	153:21 222:22	328:3	78:15 79:12,12	305:22 306:2
212:2 214:8 245:4	376:11	microscope 41:21	85:4 93:10 95:14	mothers 42:10
248:18,19 274:18	memo 19:6 75:7	67:16 76:22 99:8	96:6 100:4,4,18	<b>move</b> 33:15,17
274:20,21 275:6,7	222:1 286:19	middle 86:7 314:19	100:18 137:17	69:18,21 70:14
275:17,18 277:7	Memorial 13:18	352:12	174:8 189:8	71:13 72:1 74:6
277:10 278:10,11	memory 29:15	<b>mike</b> 4:16	196:22 202:3	93:2 164:13
278:12,19,19	<b>men</b> 271:10	mind 18:10 23:22	285:18 286:9,12	196:10 226:20
279:6 285:21	mention 7:21 29:19	25:11 38:14 119:1	286:15 289:20	265:10 271:22
287:5 291:5,6,13	mentioned 14:2	197:11 243:10	366:1	309:22 339:4
301:5,6 304:1	19:21 43:21 69:8	263:12	modeling 120:4	<b>moved</b> 30:16,22
371:5	84:1 141:19	<b>mindful</b> 66:8	models 75:8 77:5	288:6 314:22
mechanisms 268:2	154:12 182:12	minimize 320:5	85:19 92:2,15	<b>movement</b> 26:11
338:17	190:11 313:8	minimizes 320:13	110:20 125:10	95:2
<b>med</b> 44:14	349:7	minimizing 320:8	171:6 174:5	moves 33:2 133:21
Medicaid 1:22	mentioning 357:17	minimum 329:19	Moderate 213:5	moving 28:5 266:2
15:19	menu 99:17 122:22	<b>Minnesota</b> 1:19 9:2	<b>modern</b> 213:1	293:9,10 325:2
medical 1:16,21 2:9	<b>men's</b> 237:5	9:5,7 31:2,5,9	modification	<b>MPH</b> 1:17,18,19,23
8:17 9:5,18 10:5	merge 36:11	43:21 70:18 139:5	262:22 263:3	1:24 2:14,16
11:9 13:3 14:7	merits 47:18	minor 212:1	<b>modified</b> 325:19	multidimensional
46:18 280:22	mess 113:13 309:19	<b>minus</b> 39:5,6	335:14 374:17,18	134:1
Medicare 1:22	message 221:10	<b>minute</b> 66:17	<b>modules</b> 235:15	multiple 47:15
10:21 11:3 15:13	messing 313:6	140:10 242:4	<b>mom</b> 243:8	87:12 126:11
15:17 104:17	met 1:11 78:20	324:14 325:5	<b>moment</b> 216:7	127:13 128:19
209:5 338:20	223:2 224:12	minutes 16:16 87:6	233:12	132:15 136:5
Medicine 1:17	225:4 226:2 294:5	151:22 216:20	<b>Monday</b> 114:20	141:20 142:10,13
15:10 99:3 235:14	<b>method</b> 91:5,6	363:5	<b>money</b> 339:1 355:9	143:6 146:21
<b>MedPAR</b> 359:3	230:8,16 231:7	mischaracterizing	<b>Monica</b> 216:1	170:7 184:18

				5	
273:15 306:14	237:8 240:16	<b>needed</b> 53:15 97:12	187:11 220:19	135:21 140:16,21	
333:14	241:9 259:10	255:21	309:12	147:3,21 155:13	
multi-component	275:22 281:21	needing 37:5 85:9	nicely 55:11	160:20 162:2	
149:4	316:14 322:11	373:17	<b>NIH</b> 200:6	164:6 167:5	
multi-dimensional	331:14 333:4	<b>needle</b> 30:16,22	<b>nimble</b> 114:21	169:13,17 172:9	
41:22 147:11,13	367:1	72:2	nine 159:17,22	175:18 197:17	
245:2	necessary 35:8	needs 42:6 90:2	160:21 161:2,8	199:5 203:15	
<b>multi-item</b> 149:4	94:14 128:5	134:4 155:15,16	162:17 224:7	209:2 218:5	
266:10 303:20	142:18 145:20	183:5 190:13	232:2 347:5,8	220:16 221:12	
multi-measure	155:20 168:5	200:2 203:14	nod 301:3	222:7,8,16 229:16	
147:15	184:8 190:10	234:12 282:7	nodding 233:9	230:1 237:10	
multi-stakeholders	205:7,8,9,19,20	294:6 329:1 357:2	non 117:19	241:1,8,9,13	
24:9	205:21 218:7	361:17	nonsense 149:14	249:2 253:10	
<b>Munthali</b> 2:16 3:3	284:18,19	negative 30:9	non-endorsed 60:7	260:17 269:18	
4:3,6 375:10	need 7:4 18:5 22:3	339:16 342:8	non-NQF-endors	287:15 291:19	
377:19 378:1,7,11	25:3 27:4 45:14	343:7 351:1	199:12	325:2 345:22	
<b>muster</b> 48:17	45:16 48:11 50:1	negligible 290:15	non-reliable	353:11 354:15	
	53:13,22 74:11	neither 289:7,9,11	331:19	362:22 363:11	
N	78:14,19 81:18	net 199:2	<b>normally</b> 198:22	370:17 371:2,16	
naive 109:2	83:4 86:3 91:8	<b>Network</b> 46:21	note 202:20 203:22	376:3 378:14	
name 4:6 9:1,13	98:3,3 100:7	368:10	309:19	<b>NQF's</b> 17:8 136:4	
15:5 216:13	105:20 107:12	never 28:17 44:19	notes 26:22 375:19	148:14 171:18	
<b>names</b> 6:4	108:10 109:11	49:14 104:14	noticed 51:4	208:16	
Nancy 1:21 10:3	120:5,6 122:15	123:1 158:10	notion 155:18	NQF-endorsed	
Nardo 313:14	125:19 126:14	163:11 166:10	302:21	13:7 14:1 19:22	
narrow 242:7	130:1 132:15	214:19 231:17	November 1:9	22:15 36:13,19	
245:3 348:16	136:1 137:12	238:1 276:12	375:13 378:10	48:15,17 72:19	
national 1:1,12	140:4 141:3 146:1	287:3 288:13	<b>novo</b> 311:13	104:20 179:19	
10:5 13:3 32:15	153:22 156:13,20	317:9 344:12	no-brainer 213:10	183:3 192:4 198:9	
46:20 57:18 59:8	164:14 165:19	355:19	NQF 2:11 3:9,10	198:20 224:11	
159:14 194:14	168:20 176:3	new 10:18 17:4	3:12,15,16,20 4:7	225:3,6,13 233:14	
322:21 368:9,16	178:9 179:21	30:14 45:8 52:17	5:15 6:13,19 9:9	nuance 227:17	
<b>nature</b> 245:17	183:16 192:10	59:3 113:14	13:11 17:10 20:15	<b>number</b> 28:14	
286:7	194:4 195:2	117:21 150:8,9	20:20 22:17 23:1	53:16 65:16 123:2	
navigate 185:18	198:10,11 202:12	189:6 200:19	26:18 27:3 30:14	128:4 154:10	
NCQA 70:20 210:9	203:6 213:12	205:16 228:19	47:21 50:4 53:16	216:5,15,16,17	
210:15	227:17 230:7	236:15 246:15	55:21 56:18 59:6	220:13 244:20,21	
near 340:20	233:17 258:9	247:1,6,8,9,10,15	62:3 68:8,22 69:6	245:7 256:14	
necessarily 38:12	262:11 270:2	248:19 249:8	75:7 85:1 90:16	265:12 362:7	
43:15 46:15 47:2	284:22 286:1	256:16 259:11,13	92:6 94:20 95:9	365:10 375:5	
64:19,21 70:22	288:8 304:15	275:8 290:2,5	99:16 104:15	<b>numbers</b> 197:7	
81:16 82:2 84:13	309:15 311:4,6,15	291:9 335:4,6	105:15 107:20	241:2	
86:3 96:4 125:12	316:2,7 332:16,21	336:7 352:17	113:4,4 114:2,15	numerator 145:3	
149:17 169:4	334:20 335:13	364:16 374:3	115:18 116:1,3,4		
171:8,10 173:3	348:17 350:15	news 153:9,12	123:17,20 125:16	<b>nurses</b> 40:1	
178:4 204:18	356:20 359:19,20	NHSN 46:21	126:1,3,12 127:4	<b>nursing</b> 1:21 10:4,6	
217:8 218:4 237:5	361:11 372:20	nice 163:15 187:5	128:14 135:8,9,9	10:9	

. 10.00				11.10.00	
<b>nuts</b> 18:20	34:15 48:8 56:20	oomph 258:17	order 126:14 130:6	outcomes 11:10,22	
<b>N.W</b> 1:12	62:13,15 73:1	<b>open</b> 26:8 94:18,19	132:1,21 133:2,13	14:19 27:20 31:7	
0	86:2 108:13	215:18,20 216:1	134:2,5 136:9,10	55:11 66:3 70:16	
	121:10 124:19	249:12 374:19	138:17 145:11	79:21 84:6,8 89:3	
<b>obesity</b> 133:4,6,14	131:19 140:12	375:2	147:22 148:7	93:12,17 98:1	
<b>object</b> 345:19	150:17 152:12	opening 147:3	149:3,5,8,19,20	117:8,9 119:9	
<b>objective</b> 230:10,18	153:2,6 161:14	<b>operates</b> 204:16	155:14,20 173:15	170:19 171:2	
254:22	164:15 187:17,19	operationalization	180:18 184:10	192:8,10 193:4,6	
observations	191:4 197:2	222:18	198:4 216:4 247:2	194:22 202:10	
311:10	201:14 205:17	operationalize	247:8 306:17	204:5 206:8	
obtaining 357:2	215:7,18 218:19	116:18	357:20	209:22 214:9	
<b>obvious</b> 135:18	219:2 220:3 222:4	operationalized	ordinarily 168:7	217:7 235:5 246:2	
192:20	223:21 224:5,18	268:18,21	ordinary 173:12	246:7 250:4,9	
obviously 7:14	225:9 226:1,17,19	operationalizing	organization 9:3	281:3,10,15 282:5	
13:15 22:6 24:12	228:14,16 229:4	353:4	75:4 234:2	291:14 307:10	
27:8 31:20 73:10	241:9,21 253:8	operative 280:20	organizations 6:14	313:4 314:17	
123:20 182:9	255:3 258:19	<b>OPERATOR</b>	12:22 14:12	315:1 338:15	
252:5 253:9	260:8,8 261:1	216:3 375:3	234:16,16 235:4	356:11	
<b>occur</b> 45:8	263:10 266:2	opinion 63:1 94:8	organizes 122:18	outcome-based	
<b>October</b> 113:17	269:8 273:6,7	167:6 256:19	orientation 96:13	95:2	
<b>odd</b> 361:5	288:17,18 289:4	309:5,17 316:6	original 63:17	outcome-driven	
oddball 369:16	292:13 300:11	opinions 7:14,15	268:4 354:13	94:21	
odds 150:18 188:5	301:22 307:16	opportunities	originally 106:13	outside 239:11	
<b>OECD</b> 313:14	318:18 323:2	229:1 254:4	147:14	outweigh 170:13	
offer 187:6 221:19	324:12,19 325:1	opportunity 57:9	or-none 120:1	218:17 345:6	
238:4	325:22 327:18	94:19 186:10	156:3 157:2	overall 46:14 57:5	
offered 72:13 87:9	334:22 335:9	187:3 191:2	or-nothing 164:5	88:1,4 104:18	
offering 44:9	339:8,15 347:1	238:21 340:14,16	164:19	105:6 116:10	
196:11	351:8,13 352:1	354:1 362:11	ostensibly 371:5	185:5 198:15	
office 8:7 14:5	361:17 362:10	365:19 376:2	other's 287:11	226:8 234:1 239:4	
32:15 132:17	378:13	opposed 34:3	ought 125:2 203:13	262:17 263:18	
<b>Officer</b> 12:17	Oklahoma 1:18	109:16 110:8	237:4	274:1 275:14	
<b>offline</b> 58:10	15:9	118:10 158:15	outcome 10:9 28:3	278:17 283:13	
151:19 153:19	<b>old</b> 262:4,6 303:13	163:20 205:12	33:12 34:12 55:16	292:22 295:5	
<b>offset</b> 246:3	once 81:17 91:18	230:14 282:4	58:16,17 82:4	298:11 301:17	
offsetting 177:15	107:17 138:1	321:8 343:14	94:12 95:1 129:17	318:12 322:5	
oftentimes 33:10	141:13 163:13	opposite 158:17,19	139:4,10 146:12	337:13 373:18	
212:17	175:9 180:9 214:7	165:12 186:6	170:20 172:21	374:15	
<b>oh</b> 32:6 37:14 58:9	285:12 338:22	optics 227:1	190:20 204:2	overdue 151:17	
92:12 113:11	372:4	optimal 31:4 43:2	206:9 207:19,20	overlap 60:6 65:5	
125:5,7 129:19	ones 38:13,15 55:4	43:20 49:6 70:18	209:15 211:5,9	overlapped 371:11	
131:14 179:6	93:3 104:11,20	93:14 124:9,11,11	245:22 254:7	overshot 206:15	
224:4 272:13,14	204:18 255:16	124:22 249:18	258:8 260:15	oversight 185:22	
285:8 342:19	315:12 317:1	option 364:8	268:20 280:17,19	overshgine 163.22	
344:7 346:5	ongoing 359:10	options 166:21	282:17 298:3	overview 3:9 17:8	
okay 13:14 20:12	<b>online</b> 35:20	349:11	338:12 359:11	over-incentivizing	
24:2,4 28:8 32:6	377:10	oral 6:9	372:12	348:9,16	
,	577.10	<b>UI UI</b> UI J	512.12	570.7,10	
			I	l	

o'clock 218:22	parking 124:20	332:8 344:21	368:1	patterns 60:8,11,13
219:1	125:4	357:13 359:21	patients 9:21 11:13	pause 216:6 325:21
	parlance 160:15	369:4	41:8 83:7 97:15	335:7
P	parse 319:18	particularly 8:20	107:4 109:11,14	<b>pay</b> 89:6
Pace 16:18 377:2	360:21	65:15 69:13 86:5	121:9 129:4	payers 196:8
packed 186:17	parsimonious	86:14 97:6 195:17	132:16 149:11	paying 172:12
packet 4:19 86:12	206:19 296:2	196:17 225:17	150:5,11 177:4	271:16
168:11 222:1,12	parsimony 297:11	229:18 256:1	192:9 193:5	payment 21:1,5
packets 220:13	302:1,2 311:20	258:7 261:18,21	194:22 196:7	49:11 235:2 329:8
packing 189:22	part 23:11,13 24:21	262:1 274:3	207:9 208:4	payments 288:7
196:16	27:21 30:12,17	289:14 295:9	209:15,19 210:2	pay-for 360:5
pack/unpacked	32:19 36:4,17	317:14 340:22	210:10 214:10	pay-for-perform
189:19	37:22 40:13 44:3	partners 1:24 9:16	218:17 236:6	96:21
page 185:3 224:7	46:10 47:11 49:10	216:17	238:10 261:13	<b>PCI</b> 345:2
225:22 272:21	51:6,20 52:16	partnership 21:11	271:8 276:12	pediatrician 6:9
273:1,8 325:9,15	53:1 61:2,9 67:19	21:12 22:13 40:17	281:10,19,20	<b>peer</b> 13:9 343:17
Paget 1:24 9:13,14	78:4 86:11 97:2,7	parts 149:22	287:2,3,7 305:1	<b>peg</b> 26:3 244:6
24:20 26:20 60:4	114:20 138:20	pass 48:16 59:9	308:18,20 309:10	penalties 360:8
84:14 86:4 94:5	140:19 166:22	181:17 257:19	309:11 338:6	penalty 360:10
124:2 178:18	170:18 172:17,18	284:8 336:7,8	342:21 346:21	<b>people</b> 7:12 20:6
179:2 181:5 196:1	221:22 224:16	passes 343:16	354:18 356:4,9	21:16 24:6 25:18
326:9,11,16 327:1	225:10 226:16,18	<b>path</b> 28:7 61:7	patient's 97:20	43:13 47:2 50:5
327:7 329:16	230:22 250:16	185:19,20,21	98:22 99:1 128:13	53:2,4,18 60:15
330:22 353:10	251:18,22 252:6	pathway 175:9	278:7	60:16 63:20 67:20
paid 169:5 241:6	263:8 276:2 288:1	patience 152:9	patient-centered	69:6 75:19,20
303:1	298:19 317:9,20	<b>patient</b> 9:17 10:18	309:9	76:10 77:13 78:6
pairing 143:13	322:9 324:3	12:13 14:5 46:6	patient-doctor	86:1,20 88:12
<b>pairs</b> 143:10	332:19,21 334:14	46:14 66:3 80:4,6	129:1	90:14 95:22 96:1
palliative 218:12	342:15 352:20,20	87:12 89:17 98:12	patient-reported	96:4,5,9 97:1,13
panel 1:6,11 3:13	355:18 356:3	107:6 117:8 121:7	27:19 28:3 139:10	99:12 102:1,3,21
14:3 39:12 73:3	360:16 365:12	124:10,16 127:14	353:14 354:11	103:8 107:2,19,21
108:20 220:20,22	372:17,18	127:19 128:10,11	359:11	108:3,5,7,17
375:11	<b>Participating</b> 2:18	129:10 139:3,14	Patrick 1:13,17 3:5	109:18 112:11
panels 4:9 14:11	participatory	146:22 148:1,2,22	3:14 5:19 6:3,7	116:19 122:21
paper 25:8 36:7	150:8	149:2 151:11	12:11 43:9 58:2	123:5,10,22
53:9 75:16 86:11	particular 8:11	154:14 178:8,14	65:6 73:3,8 81:13	124:22 125:1,14
94:10 122:18	31:14,17 33:7	192:7 201:1,6	82:1 85:8 90:9	127:2,3 130:1
123:17	61:4 64:4 72:16	209:22 210:18	134:8 139:20	138:16 139:9
papers 28:1 171:4	77:4 83:3 96:5	235:5 237:16	156:9 166:2 168:1	140:17 143:9
345:1 346:9	97:6 123:4 130:5	238:8 245:22	192:19 194:20	150:21 156:8
paragraph 356:17	137:3 141:21	251:1 259:15	240:2 252:8	166:15 169:21
parallel 199:4	146:16 165:9	261:10 266:22	273:18 297:8	170:4,15 172:12
311:18 366:17	194:11 197:22	275:2 281:3 282:5	326:9 346:2	176:6 180:21
paralyze 237:22	216:21 217:10	291:14,14 313:4	353:10 355:20	182:2 183:14
parentheses 294:15	240:9 280:19	314:18 338:8	377:7	186:17 188:16
307:20 316:3	290:10 303:7	354:3 358:7	Patrick's 85:7	190:22 194:8,10
507.20 510.5	2/0.10 202.1			
<b>parenthesis</b> 8:16	308:1,5 318:9	361:22 362:1	111:8	195:12 196:12,18

٦

202.17 206.5 17	00.7 0 102.8 0 12	<b>n</b> or <b>f</b> ormer 01.12	277.21.279.11	250.19
202:17 206:5,17 209:9 213:4	99:7,9 102:8,9,13	performs 91:12	277:21 278:11 281:21 282:4	359:18
	106:3 120:21	267:14		<b>planned</b> 237:15
217:15 222:3	121:15,15 126:5	<b>peril</b> 208:13	291:11,13 301:8	planning 5:17
231:16,19 232:2	126:16 127:17	<b>perinatal</b> 55:10	304:19,20	<b>plans</b> 113:10
233:8 249:11	128:19 130:17,20	58:16	<b>physicians</b> 99:5,6	114:11
250:10,11 253:20	131:4,10 135:10	<b>period</b> 266:6 375:9	128:11 202:2	plausible 202:4
253:20 254:8	135:12 136:5,7,8	376:5,16	207:14,15 212:1	<b>play</b> 33:20 144:10
255:5 265:3,4	139:16,18 140:3	permits 333:2	282:2	304:16 357:6
269:10 278:3	140:15,17,18	person 84:6 143:21	physician's 82:22	372:22
279:8 283:15	141:5,8,10 145:22	personal 16:20	98:2 281:22	playing 185:14
285:5 287:5	146:2 150:16	80:14 81:9 121:12	physician-level	<b>plays</b> 367:18
292:18 301:4	151:6,9 155:19,21	personally 81:7	82:18 207:17	please 5:7 45:1
306:7 309:3 310:2	159:19 163:4,6	258:1 294:3	physician-patient	95:12 216:2
314:1,16,20 321:2	174:16,19,21	perspective 28:12	128:6,7	221:17,19 375:4
322:1 328:4,9,16	176:4 177:2	77:11 80:5,7,13	<b>pick</b> 68:22 70:12	378:15
334:22 335:10	193:11 204:11,12	82:11 83:18 95:21	81:5 86:3 214:1	pleasure 6:18
337:3,5 338:1	204:17 205:10	98:20 119:11	249:16 306:9	<b>plug</b> 217:1
340:2 342:18	206:16 207:17	135:9,22 136:4	321:9 331:10	<b>plus</b> 39:7 185:10
345:5 346:4 355:2	210:8,12,20,21	206:6,8 363:16	<b>picked</b> 24:16	pneumonia 39:1
355:8,17 356:8,12	211:11 214:8	perspectives 81:14	<b>picks</b> 20:22 21:1	351:20
363:20 365:5	215:1 225:16	120:7	<b>picture</b> 150:1	<b>point</b> 6:6 7:5 16:15
372:1	226:6,8 227:15	pertain 275:21	<b>pie</b> 243:8	20:21 21:19 26:16
people's 135:19	229:20 234:10	<b>PhD</b> 1:15,21,22,23	<b>piece</b> 182:14 197:2	26:17 54:13 59:22
173:19	235:14,17 236:11	2:7,9	197:8,13 230:7	61:16 69:10 71:20
percent 55:14 57:8	237:14,15,18,20	<b>phenomena</b> 146:19	239:6 277:5	90:8 107:21 108:2
93:15 109:13	238:1,6 244:19	<b>phone</b> 77:19 152:6	348:16	110:11,22 111:8
176:19 209:4	246:19,20 248:19	175:14 220:5	pieces 142:10	146:6 153:3 162:9
340:20 341:2	254:3 256:6,8	377:10	145:13 159:1,3,5	166:2 175:17
360:17	257:2,3 259:16	phones 197:13	181:6 182:6,10	196:22 206:14
perfect 97:10 341:3	265:1 267:9	photocoagulation	191:19 196:3,15	212:1 213:2
perfectly 40:2	273:11,14 274:1,4	200:22	248:14,15 329:15	214:16 215:11,15
122:12 304:3	274:8,10 276:5	PHQ-9 139:11	<b>pike</b> 335:11	236:1 248:10
323:15	277:21 278:11	145:17,19 356:4	<b>pilot</b> 201:21 202:9	255:4 263:13
performance 3:11	281:22 282:1,2,4	physician 25:10	320:18	275:11 279:3
3:17 5:14 8:8	291:11,13 292:4	39:4 83:5,6 89:19	piloted 52:20	283:10 284:1
10:13 11:17 12:20	301:9,9 304:19	98:4,5 102:8	<b>pink</b> 138:11	290:11 295:19
15:12 16:2,7	306:15,19 317:12	103:16,17,17	<b>pitch</b> 210:1	322:12,14,18
18:16 20:1,3,8,10	317:18 318:8	121:15 132:5	place 48:21 78:15	337:18 352:15
20:16 22:2 27:10	330:17,17,18	151:9 201:4 208:2	117:12 124:3	354:10
27:13 28:5 30:8	331:13,15 336:10	210:8,11,12,16,21	159:2 202:22	pointed 225:18
34:8,19 36:13	339:20,22 340:12	211:1,4,10 214:8	240:22 299:8	316:17 323:15
37:6 57:5,7 58:13	340:16,19 341:2,5	234:15 235:22	306:10 316:11	346:3
58:22 62:1 65:17	341:8,13,15 353:2	236:11 237:14,18	places 321:10	points 39:5,6 66:19
65:19,20,22 82:22	360:6	237:20 238:1,6	<b>plan</b> 10:13 14:6	212:21 284:4
88:5,18,21,21	performed 264:22	246:19 248:19	113:6 114:9	policy 1:24 8:16,18
89:2,4,8,10,11,19	performers 91:5	257:2 259:16	135:12 301:12	9:16,17 11:22
89:21 98:2,5 99:4	performing 274:6	266:22 269:2,6	314:4 338:9,21	15:7 216:14
, , , , , , , , , , , , , , , , , , ,	- 0	,	ŕ	
		•	•	-

	_	_	_	_
314:12	229:18 230:4	207:17	primary 253:5	284:16 285:1
<b>poor</b> 170:13 272:4	286:4 305:2 330:3	President 9:2	278:7	327:12 348:3
<b>poorly</b> 277:1	339:20	presiding 1:13	prime 40:12	358:21 359:5,6
<b>pop</b> 115:4,8 373:20	precedent 195:11	press 216:5 375:4	<b>primed</b> 16:21	368:7
374:6	precision 42:14	pressure 44:1,5	principle 134:7	problematic 35:18
pops 183:9	188:18 189:9	45:3 71:8 129:22	135:4 164:6	44:13 340:22
population 109:20	207:22 208:2	136:20,21,22	299:18 305:5,6	problems 55:1
110:2 266:6 271:7	268:22 269:21	137:1 194:13,15	311:20 353:4	98:13,14 257:7
272:9 344:16	270:9,19,21,22	207:19 208:7	363:10	262:9 323:4
populations 178:14	298:6,14	209:18 210:18	principles 17:14	349:16
336:6,12 346:22	predefine 101:16	211:2,5,8 212:3	76:22 124:18	procedure 165:15
<b>pose</b> 79:7	predefined 145:20	212:14 214:11	181:1	procedures 87:13
<b>posed</b> 240:3 254:18	prediction 306:18	226:14 250:20	printed 19:2	87:15,18 88:2
<b>posing</b> 206:10	307:5,6	251:2 256:13	<b>prior</b> 245:10 334:1	377:14
posit 108:22	predictive 192:7	259:14 260:11,12	334:1	process 10:8 22:17
position 9:21 42:2	193:4 194:21	371:13	private 371:7	23:12,13 24:19
positions 13:13	285:18	pressures 130:2	<b>PRO</b> 27:16 28:2	30:17 33:11,16
possibility 371:2	predictor 276:21	presumably 62:19	138:20 139:3,7,8	34:6,12 52:18,19
<b>possible</b> 31:1 52:14	356:10	302:8 315:15	353:15 354:7	52:20 53:17 93:11
70:3,12,13 109:22	predicts 200:21	370:18	probability 298:1	93:13 94:12,22
193:20 195:16	202:10 281:9,13	presumption	probably 6:4 9:10	96:22 105:22
293:16 312:10	prefer 161:3	357:19	14:13,14 19:8	113:4,4,5,17
possibly 40:18	preference 308:1	pretense 103:21	25:12 40:11 41:22	114:1,2,13,15,17
56:13,13 60:2	321:1 333:13	pretty 18:6 19:15	58:2 65:10 77:9	114:21 125:14,18
268:17 283:5	preferentially	24:12 31:6 32:20	80:16 92:19 93:17	138:6,16,16
post 38:17 280:19	158:7	36:18 104:11	98:15 101:22	143:21 146:11
376:3 378:12	preferred 151:21	109:18 111:3	103:6 112:1,14	156:5,5 157:8
potatoes 121:9	316:8	144:20 189:20	117:13 134:10,16	158:8,18,20,20
potential 7:13 30:9	Premature 346:14	202:3 245:18	134:22 140:4	159:2 160:1,5,9
41:12 208:17	premise 155:1	293:6 302:18	143:5 144:21	160:13 162:12,13
334:9,19 346:21	preparation 75:2	312:16 330:13	190:21 196:13	163:12 167:20
potentially 24:15	prepared 116:6,7	342:4	214:14,18,21	173:10,13 192:1,2
30:17 33:14 41:9	prescription 114:9	preventing 80:3,4	220:10 225:15	197:21 198:2
48:22 69:20 85:9	prescriptive 323:8	prevention 108:4,8	229:22 243:12	222:21 223:9
123:19 288:9	present 1:14	185:9 231:21	252:7 271:15	227:2 234:8 238:3
352:14 355:15	116:15 198:11,14	233:15 234:2,17	282:9 286:4 293:9	240:7 245:5 254:7
358:22	198:21 280:20	235:16,18 237:4,6	312:9 314:13	258:11,12 259:1
<b>pound</b> 244:6	315:20	237:7,8 238:2	324:12 329:1	270:1 280:1,2
pounding 26:2	presentability	271:6	337:20 338:3	312:17 314:18
<b>power</b> 378:20	311:22	previous 6:13	345:12 359:10	324:3 352:9 355:1
practical 79:8	presentation 66:11	36:20 123:15,16	probing 16:12	356:3 363:9 364:6
92:10 97:3 169:9	66:12	126:1 175:7 222:8	<b>problem</b> 51:3	371:15 374:10
201:19 368:7	presented 73:20	previously 38:20	52:14 54:9 56:6	375:15 377:15,18
practically 181:11	186:11 198:1	50:19 184:13	58:17 112:4	processes 119:9
271:15 292:3	269:13 294:12	<b>price</b> 86:18	120:16 147:20	126:1 171:18
practice 83:7	297:7	primarily 14:18	196:18 235:12	192:5 222:9 241:3
106:21 178:17	presenting 63:20	15:13 16:1,6 23:2	262:20 264:3	246:1,6 259:2
			l	I

277:6 290:12	183:10 188:22	47:20 57:21 96:20	254:22 257:10	271:19 283:14,16
312:19 354:22	190:13 191:16	135:13 159:14	259:11,13,20,21	287:16,18 294:21
process-wise 187:1	201:13 234:17	199:6 215:19	269:15,22 270:5	295:3 298:8
produce 78:6	236:5,9 239:8	216:2 223:6,11,13	270:12 274:15	321:19,21 331:22
348:13	278:14,16 281:14	327:16 328:1,12	290:1,6 291:9,10	334:18 339:1
produced 169:15	306:17 332:9	329:7 332:14	294:9,13 296:12	346:5 354:1,8
produces 86:22	350:12	345:4 362:11	298:8,16 334:11	360:8 369:22
product 95:6	provided 19:5,10	371:7 374:20	365:22	370:6 374:3
professional 12:21	93:14,20 272:3	375:8 376:4,11,19	purposes 22:4 97:7	putrefy 326:14
professionals 343:3	278:1 304:10	publically 360:10	128:22 138:3	<b>puts</b> 91:10 309:8
<b>professor</b> 8:15 10:3	provider 9:7 47:20	<b>publicly</b> 13:7,11	169:6 235:7 242:6	<b>putting</b> 85:17 97:4
15:6,9	48:2 105:5,7	31:18 130:21	294:21 295:12	117:20 123:3
<b>profile</b> 280:3	127:17 135:11	131:3,12 368:16	305:8 329:18	166:7,9,11 175:8
profiles 238:11	147:2 171:19	<b>publish</b> 342:7	330:1	176:17 177:10
<b>program</b> 13:20	234:2,16 235:4	published 13:9	purpose/objective	246:17 247:10
14:4 15:14,17,19	236:12 269:2	132:11 210:7	229:7	248:9 259:11
23:9 113:6 115:10	278:6,7	343:16 345:13	<b>pursuing</b> 214:15	281:1 287:6,9
210:10,15 338:20	providers 20:9	346:9,12,18	pursuit 81:19	330:8 335:19
programs 21:15	155:2 192:8 196:7	<b>pull</b> 82:7 303:13	<b>push</b> 146:17 159:15	346:3
115:17	308:19 327:19	325:18 327:5	161:16 194:16	P-R-O-C-E-E-D
progress 153:15	332:5,7,12,15	334:1 356:21	209:6 232:5 258:4	4:1
<b>project</b> 1:4 4:7 8:21	334:7	<b>pulled</b> 38:10 190:3	<b>pushed</b> 41:9,9	<b>p.m</b> 219:5,6 220:2
16:18 17:12 18:6	provides 234:3	341:19	pushing 288:2	324:17,18 378:22
21:8 27:17,19,22	providing 150:5	<b>pulling</b> 162:22	<b>put</b> 23:7 24:1,13	0
35:21 70:15,16	235:3 313:18	366:10	28:11 31:18 32:21	
149:10 170:19	314:2	purchase 288:7	36:2 38:16 45:8	<b>QI</b> 13:22 21:4
189:15 352:12	provisional 202:14	purchaser 31:17	46:5,8,8 48:9	328:15,17 329:4,8
353:15	provisionally 203:3	purchasers 306:8	74:16 75:8 76:9	<b>QIOs</b> 153:1
projects 6:13 28:16	<b>PRO-based</b> 139:16	307:1 332:3	77:4 78:5 81:5,19	<b>QIs</b> 328:19
216:16	<b>PRO-PM</b> 139:17	purchasing 11:2	85:21,22 87:5	quadrupling 143:14
proliferation 49:21	<b>PSI</b> 368:14	23:10 24:5 331:2	88:9 106:6,12	
64:9 69:8 190:8	psychologically	353:19	111:16 124:20	qualification 331:22
<b>PROM</b> 139:9	76:19	<b>purpose</b> 6:20 20:22	125:3 134:21	<b>qualified</b> 202:13
proof 190:11	psychometric	21:17 41:18 42:18	137:16 165:8,18	296:6 334:21
properties 23:3	75:11 77:10,11	51:5 63:5,13,22	166:4 170:10,14	qualitative 253:19
116:11 129:13	79:10 99:9 137:20	67:3,4 92:3 95:16	172:11 177:12,22	quality 1:1,12 6:12
176:4 182:20	170:2 303:17,21	101:6 109:4,10	178:15 180:5,21	9:4 10:6 13:4,19
192:15 295:5	304:5	154:4 196:15	187:15 189:22	15:18 24:14 29:12
<b>property</b> 223:7	psychometrician	200:19 230:18	193:10 199:18,21	30:7 32:16 42:17
<b>propose</b> 191:22 299:13	11:5 207:16	231:1,11 232:12	204:6,15 211:13	51:5,10 59:3,12
<b>proposed</b> 199:2	<b>psychometricians</b> 127:6	232:13,17,19,22 233:5,6,8,20	211:19 215:2 217:1 218:14	59:14 61:5,12
223:2	psychometrics	236:7,16,18 240:9	224:17,18 241:5	67:13 68:4 78:2
pros 170:5	76:16 82:12	241:18,20 242:4	242:14 246:8,11	88:1 89:2 105:7
prove 203:15 218:2	<b>public</b> 3:15,20 15:8	246:13,16 247:9	242.14 240.8,11 248:13 251:9,14	106:2 109:1,5
285:8 336:10	-	,	,	150:4 160:19
	1 15.15 16.4 71.7			
nrovide 19.1 95.17	15:15 16:4 21:2 23:8 24:2 3 32:1	247:11,11,20	262:19 263:15 267:22 269:15	
<b>provide</b> 19:1 95:17	15:15 16:4 21:2 23:8 24:2,3 32:1	247:11,11,20 252:22 253:5	267:22 269:15	163:2,7 199:1

	077.10			
213:7 223:11,14	377:12	rare 290:21	41:11 287:22	131:19 132:12
228:10 234:17	questioning 184:17	ratcheted 172:12	359:1	135:1,8 136:19
236:5 245:1,3	284:17	rate 57:7 61:6	readmissions 39:13	138:8 143:2,7
256:11 262:16,18	questions 16:12	65:20 200:5	193:21 286:21,22	147:21 153:13,20
272:3,4,11 278:15	19:17 29:9 35:15	264:19 267:9	288:4	155:11 164:1
278:16 279:15	36:16 51:6 66:9	339:4	readmitted 41:10	165:10 168:9
285:21 291:8	66:11,15 73:5	rated 317:22	287:8	170:22 171:13
301:19,21 309:4	74:7 75:5 84:15	318:17 322:4	readmitting 287:4	177:16 178:6,9
315:10 332:2	111:14 120:9	rates 42:22 65:17	reads 298:15	182:19 183:5,13
334:6 336:5,11	126:15 129:16	65:19,22 103:16	ready 16:12,22	185:4,6,10 190:10
339:3 342:7	135:17,20 136:1	200:3 278:17	20:21 21:5 23:10	195:21 196:16
quality-related	137:5 138:12	341:20 360:9	40:12	197:4 202:5,10,21
47:16	153:10,14 155:16	ratification 376:20	real 23:7 82:13	203:6,6 204:16
quantity 199:1	156:20 173:2	rating 10:21	96:16 135:4 148:3	208:15 213:3
213:7 256:11	175:15 195:7	104:18 105:6	148:6 149:5 252:6	214:20 216:12,18
quarterly 10:7	216:9 218:20	114:12 212:19	264:2 271:11	220:6 230:2,13
question 26:21	292:5 362:7	314:14 333:12	346:3,6	235:21 239:7
29:13 32:9 41:2,4	363:22 364:4	ratings 267:11	realities 189:14	240:13 242:11
50:10 60:5 62:13	365:11 367:7,9,10	314:4	reality 115:10	244:4,7,9,12
68:7 72:22 73:19	372:14,21 375:5	rational 103:12	271:9	245:12,15 249:11
79:8,18 84:16,22	377:1	rationale 204:3	realization 245:1	251:16 255:1,9
85:6 86:6,9,10	quibbled 314:20	208:19 214:16,18	really 7:6,8 15:21	266:16 270:2,3,5
90:12 91:22 93:13	quickly 113:10	232:14 250:11,14	16:2 17:3,6 21:20	271:9 278:6
94:17 109:2	114:14 137:11,12	252:9 256:22	22:17 23:3 25:7	282:12 285:12,19
112:18 115:20	137:13 342:1	258:9 260:4 265:9	25:11,18 26:2,5	285:20 286:17
128:17 129:2	quite 21:5 146:5	295:20 298:12	27:20 30:3,5	288:13 289:17
130:19 132:12	153:4 204:4	303:2 304:9 307:3	32:15 35:12 36:14	290:18 298:22
134:8 135:2	244:13 245:14	312:5 315:7,16	37:3 38:13 39:12	301:20 306:13
142:13 150:7	266:1 295:16	336:9 339:13,14	39:17 40:4 43:6	309:11 312:14
153:13 155:6	<b>Q&amp;A</b> 216:7	351:11 370:19	49:11 53:1,14,21	313:4 314:2 315:7
160:16 164:1		rationales 122:20	54:5 55:2,11,20	317:17 319:6
171:1 176:10	<u> </u>	123:3 295:15	61:3,5,8,11,22	320:18,19 322:2
182:3 183:1	<b>R</b> 1:15	rationalized 311:16	62:1,4 63:11	329:2,14 330:22
189:18 192:19	radical 161:15	rattled 194:20	67:17 69:7 70:2	331:22 332:7,18
206:11,13 207:5	<b>rah</b> 8:12,12	reach 82:11	75:1,3,5,17 76:1,6	335:18 338:17
210:17,19 212:16	raise 356:13	reaching 215:11	76:20 77:15,20,21	339:10 347:15
212:20 213:20	raised 39:20 47:22	read 25:7 36:20	79:3,12 84:7 85:3	348:22 350:20
216:5 239:2 240:2	86:9 222:7 263:13	52:10 75:12,16	86:10 91:18 92:4	351:15 352:20
243:6 254:18	362:6 376:13	95:3 152:12	93:18 96:18 97:7	355:11,12,19
269:18 274:14,20	raises 212:16	229:12 319:20	102:22 103:8	365:13,14
282:20 299:7	raising 228:7 239:3	350:19	104:4 105:18	reason 36:4 46:8
307:22 320:19	<b>Rand</b> 11:9	readily 334:4	107:3,18 108:19	48:3 60:8 91:15
328:14,18 331:10	randomly 137:5,6	352:22 353:22	109:12 110:4	95:16 106:13,20
337:1 346:2	327:22	reading 94:16	113:16 114:14,22	106:22 120:7
358:11 364:17	<b>range</b> 339:6	136:20 243:10	115:16 119:11	174:11 182:7
365:17 372:14	<b>ranks</b> 200:11	readmission 21:8	120:2,11 121:9,9	194:6 195:10
373:4 375:4	<b>rapid</b> 341:20	38:21 39:6 41:5	124:6 130:22	201:11 231:17,19

238:7 244:16	record 152:2,3	reflects 77:22	relationship 268:10	remind 4:12 5:6
246:8 295:14	190:8 206:17	84:11 300:3	relative 67:15	17:10 216:4
297:11 317:9	219:5 280:22	reformulation	234:13 308:22	reminded 172:18
321:1 322:9	324:17,18 378:22	252:9	relatively 15:21	reminder 20:9
335:21 338:3	recorded 4:13	refrain 349:21	65:17 264:17	<b>remove</b> 114:12
346:3	recording 48:2	<b>reframe</b> 294:10	274:6	187:22
reasonable 40:5	375:22	reframing 296:9	relevant 7:19 47:16	renewed 370:5
160:16 241:15	<b>records</b> 36:8	regard 56:4 80:10	101:17 220:13	repeat 166:1 188:8
278:9 297:10	<b>recruit</b> 202:9	178:14 311:1,21	229:19 232:10	358:17
338:14	red 179:10,13	344:20	259:7 294:20	repeatability 188:9
reasonably 140:14	<b>redesign</b> 363:1	regarding 362:9	349:5	266:4
265:19	<b>redone</b> 287:20	regardless 166:9	reliability 18:3	repeatedly 95:1
<b>reasons</b> 47:14 57:3	<b>reduce</b> 296:5	regards 56:10	47:12,19 48:4,10	replicated 56:14
57:22 60:3 97:5	reducing 107:4	90:18 227:21	54:16 79:17,20	replication 137:8
244:17 245:9,14	110:1 117:9	258:14	80:11 82:17,19	report 9:6 134:10
263:19 322:19	reduction 63:9	regression 68:19	83:2,12,15 97:17	169:15 206:17
reassessed 60:21	107:11,14 109:2,4	285:18 305:21,22	98:16 101:5	224:4 226:21
recall 141:20	109:6,8	regular 18:9 157:9	103:16 107:15	242:12 303:13
<b>receive</b> 376:10	reductions 270:21	rehab 59:17	114:5 188:2,6	328:8 354:7
received 4:19	redundant 81:2	rehash 181:14	189:1 192:14	356:16 360:10
376:16	304:4	182:3	194:3 201:15	373:17 375:16
reception 5:4	reevaluate 113:7	reimbursement	204:10 218:2	376:1,3,10
recitation 68:5	reevaluated 114:14	209:5	225:19 239:12	reportable 154:13
recognition 210:9	reevaluating	reinforce 89:10	266:3,9,9,10,12	reported 13:7,11
210:15	113:14	253:5	266:15 267:2	31:19 130:21,22
recognize 45:14	refer 20:7 123:11	reiterate 95:6	268:2,18 269:4,7	131:3,13 134:3
153:16 168:3	246:5 263:21	reject 250:11	269:13,16,17	136:6 139:4 166:6
218:9 312:7	294:19	rejoinder 189:4	270:3 271:18,22	331:17 334:4
recognized 209:18	reference 27:2	rejuvenate 151:20	294:5,8 295:11	354:4 362:2
recognizes 354:2	221:10 230:9	<b>relate</b> 169:5 363:19	296:12,14 301:14	368:16
recognizing 22:6	313:12 364:11	related 14:3,8	303:3 304:20	<b>reporter</b> 375:20
71:13 76:4 79:11	373:3	66:11,15 69:14	305:11,14 318:4	reporting 14:7,8
359:9	references 90:22	82:3,3 102:14	318:17 322:6	21:2 23:9 24:3
recommendation	266:7	116:19 151:8	reliable 48:1 78:1	47:20 57:21 96:20
124:1 171:1	referred 275:1	168:18,22 195:4	82:21 93:18 128:5	135:13 167:16
recommendations	referring 4:21	209:22 231:3	130:6 176:14	223:11,13 269:19
25:1 222:16	366:14	233:4,5 237:7	257:22 328:20	285:21 327:16
375:17 376:18	reflect 84:12 107:4	271:18 296:13	329:3	328:1,13 329:7
recommended 16:4	249:8 257:1 282:3	350:11 353:7	relieve 78:3	331:3 332:14
recommending	304:5 318:1	358:14 359:10,12	rely 197:21 364:15	345:4 368:10
334:20	reflected 298:22	366:6	<b>relying</b> 302:7	<b>reports</b> 133:9
reconstruct 368:19	reflecting 78:22	relatedness 137:19	364:19	179:9 185:3
reconvene 152:5	91:19 92:3 301:8	relates 140:2	remaining 29:4	196:22 241:6
219:1 220:4	317:17	179:18 279:11	292:16	represent 61:14
324:14 375:11	reflection 112:17	359:16	remember 7:2	133:19,20 148:19
reconvening	215:3 281:21	relating 10:9 347:1	90:22 105:14,15	148:21 180:19
324:20	reflective 75:20	relation 18:17	298:19	300:6
L				

Page 41	_4
---------	----

· · · ·	. 100 . 1 10 0		001 0 000 10	1 1 2 2 2 2 2 2 2
representation	respect 102:4 140:8	reviewers 63:2	291:2 292:13	rolls 128:12 209:3
332:2	152:15 258:20	92:7,20 253:6	299:21 300:11	228:3
representative	367:17	reviewing 93:21	314:22 315:17,18	roll-up 113:8 146:8
59:11 229:11	respond 80:8 90:2	reviews 114:18	316:1,9 318:12	<b>Romano</b> 1:13,17
represented 42:7	203:11 237:9,11	128:14	319:12 322:12	3:5,14 6:7,8 13:14
274:17	297:13	revise 318:22	324:13 325:10	22:10 47:11 50:9
representing 9:21	response 119:19	revisit 138:2,14	328:11 343:9	58:6 65:7 66:7
145:7	120:3 121:19	reward 235:4	345:18 346:12,16	72:9 73:9 74:22
represents 125:20	responses 230:4	rewording 253:9	350:17 352:2,12	79:7 86:8 95:10
134:5 163:8 221:5	responsible 10:16	rewrite 332:21	353:6,13 357:22	97:9 99:15 100:3
reproduced 78:1	10:20 14:6 147:7	349:21	361:19,20 362:3,4	101:16 104:6
reproducibility	223:8	<b>rewrites</b> 302:16	370:16 375:9	115:19 118:12
188:9	rest 6:3 26:9 61:7	<b>re-do</b> 352:16	378:8	121:18 123:14
<b>require</b> 157:19	74:5 349:8	re-endorsed 31:4	<b>rights</b> 164:20	124:19 127:22
174:15 204:13	restricting 188:16	re-reviewing	<b>rigid</b> 102:21 103:5	129:19 131:5,14
257:20 260:18	restrooms 5:3	161:10	rigor 196:20	135:7 141:2,9
261:4 263:9	resubmission	re-think 18:6	rigorous 371:4	142:15,20 145:9
268:11 269:19	186:22	<b>rhyme</b> 106:19	<b>Rings</b> 172:1	146:14 151:17
315:16	result 66:2 79:4	<b>rich</b> 40:4 370:18,21	risk 55:15 58:18	152:4,8,12 153:5
<b>required</b> 53:3,11	results 30:8 31:22	370:22	60:17 63:9 98:11	153:8,12 161:14
111:5,16,20	91:4 126:6 263:18	<b>rid</b> 207:21	107:4,11,13 109:2	169:13 171:16
191:17 241:20	266:5 334:9	ridiculous 249:3	109:4,6,8 110:1	173:7 174:2
254:21 255:6	336:10	right 5:4 16:14	117:2,9 172:20	175:16 178:21
260:20 291:19	resumed 219:6	22:21 24:11 29:13	173:4 178:14	183:20 191:21
334:15 350:6	resuscitation	29:18,21 33:16	209:16 250:4	197:15 205:18
352:22 357:2	276:13	34:10 36:17,22	273:13 345:3,6	207:5 208:21
358:6 373:22	retained 228:19	37:7 45:21 52:7	372:12	209:11 215:6,10
requirement 30:15	263:17	53:22 55:8 59:19	<b>risks</b> 218:17	215:14,18 218:19
36:10,12 178:19	rethinking 359:13	64:15 83:2,13	risk-adjusted	220:3 223:21
193:13 202:21	retrievable 353:1	87:1,1,2,21	55:13,19 87:14	228:5,16 230:16
204:3 373:8	return 176:9	102:22 117:17	103:15	231:6 232:5 233:1
requirements	<b>reverse</b> 262:8	134:20 142:22	road 100:20	234:11 235:8,11
101:1 168:12	review 3:18 13:10	153:7 158:9	<b>robust</b> 246:22	236:20 249:10
175:6 189:21	15:18 31:13 38:13	162:14,15 164:5	247:3 249:13	252:18 253:8
190:15 193:11	50:22 86:12 98:19	170:9 172:9	256:18 257:9	254:13,17 255:5
213:13 241:22	108:20 126:12	184:19 186:16	317:1,2	255:12 258:19
requires 185:22	156:4 160:13	197:1 203:7 205:8	role 24:22 68:9,21	259:9,19,22 260:4
346:18	161:20 164:4	205:14 209:14	69:3,5 94:11	260:8,14,17 261:1
requiring 225:2	169:19 171:3,5	218:5 220:22	371:3	263:11,22 264:5
<b>research</b> 7:16 10:3	182:10 194:17	223:19,20 235:8	roll 118:17 129:13	264:10 265:2
14:19 25:8 216:15	207:12 280:22	239:22 240:13	157:10 162:3	266:2,17 268:16
researcher 6:11	343:17 360:3	244:14 247:15	227:20 284:12	271:21 272:17
8:10 11:20 12:1	364:5 371:17	253:1 256:14	rolled 106:21 147:2	273:1,5,7 275:10
resistance 185:21	376:9	259:21 260:7,13	198:8	277:12,19 280:13
resource 18:22	reviewed 62:3	260:21 264:7	rolling 127:16	282:19 286:18
<b>resources</b> 75:4 87:3	126:22 170:20	271:11 272:21	128:18 131:15	288:14,17 289:10
109:21	183:4	273:4,5 275:1	136:9	290:17 291:21

Г

292:13 294:2	<b>run</b> 17:19 45:14	231:17 233:8	18:3 58:20 94:1	172:22 243:17
295:1 296:8,20	52:2 196:18	244:8 246:10	182:19 196:20	362:13
297:19 299:12,22	364:21	262:4 283:11	217:4 265:11,11	seal 241:1
300:8,11,18	running 17:2	288:21,21,22	303:15	Sean 170:21
301:22 302:14	<b>runs</b> 70:6 90:16	297:14 302:22	scientifically	second 43:18 75:16
303:4 305:9 306:3		316:13 326:4	177:17 202:4	84:21 85:6 153:5
307:16 308:10	S	330:15 334:14	score 12:12 14:4	192:21 217:19
309:7 310:14	Sacramento 6:10	354:8 355:13	126:6 130:16	224:16 225:10
312:11 315:15,19	<b>sad</b> 138:10	361:15 373:13	132:22 145:6,17	226:18 233:5
316:9 318:3,18	<b>safe</b> 377:10	says 27:15 52:21	145:19 160:4	301:11 314:1
319:11 320:7	safety 12:13 14:4	53:9 68:16,17,18	162:21,21 174:16	secondarily 329:22
322:11 323:3	24:14 46:6,14,21	122:21 142:3	174:19,21 185:5	secondary 171:5
324:19 325:1,10	93:16 148:3 249:1	147:3 162:2	197:3,5 228:1	section 172:20
325:22 326:10	368:2,10	202:14 224:10	268:22 269:1	240:8 242:11
327:11 328:11	<b>sake</b> 74:4 80:20	240:10 259:9	272:10 273:11	269:10 303:15
330:2 331:6	143:15 204:19	269:21 296:11	293:1 298:11	sectors 87:4
332:17 334:22	208:16 211:14,16	297:1,2 364:1	299:4 321:2,18	see 6:6 19:17 27:16
335:8 336:19	287:21 323:17	scale 137:11 166:12	322:3,5,6 330:16	29:1 31:21 32:1
337:18 338:11	salient 338:5	scales 20:7,11	330:17 332:8	32:22 40:9 54:12
339:5 342:14	salutary 290:14	75:18 212:19	<b>scores</b> 145:4	69:3 72:4 78:19
347:1 349:11	sample 11:12,12	266:10 303:20	162:22 317:1	81:7 83:16 84:17
350:17 351:8	91:11 119:21	scary 243:10	318:22 319:4,22	87:6 91:12 106:16
352:8,19 354:9	307:11 360:17	scenario 290:18	328:6 330:11	108:7 111:13
355:6,14 356:7	sampled 210:10	333:8	scoring 38:1 39:4	113:13 125:8
357:18 358:2,11	satisfaction 337:2	scenarios 327:13	155:7 156:3	126:2 127:3,9
359:7 360:19	<b>saw</b> 63:19 338:21	<b>schedule</b> 16:16	159:16 160:10	128:20,21 144:13
362:6,15 365:16	saying 25:21 33:14	schedules 377:22	162:11,11,19	157:20 182:1
367:19 370:9,16	33:15 48:8 54:14	<b>scheme</b> 72:20	166:19,20,20	185:4 186:7 190:4
371:14 372:1	54:16 63:15 74:10	308:2,3,9,12	200:15 265:3	209:7 215:9
373:1 374:8,12,19	81:13 84:4 99:21	309:9 314:3 317:7	292:1 317:7	231:10 233:9
374:22 375:6,8	100:5 109:8	322:12,14 324:5,7	318:19	248:11 251:3
377:12,17 378:13	110:12,13 111:5	324:8	scoring/aggregat	252:17 258:13
room 1:12 4:19 5:1	115:6 117:1 118:1	schemes 72:13,15	307:17 320:1	280:10 281:16
7:1,18 25:18	118:8 121:20,21	72:19,20 87:8,9	scratch 285:11	288:3 293:21
166:15 170:12	126:13 127:12	314:10 317:2	scratching 345:19	297:1,3,4 304:13
215:22 360:15	130:5 131:6	319:16	<b>screen</b> 222:4	304:15 312:4,17
375:1	136:16 142:2	School 1:17,21 2:9	224:17,19 248:3	325:19 326:2
<b>rose</b> 43:16 161:6	146:1 147:14	8:17 10:4 13:3	335:1	327:20 328:2
<b>roster</b> 216:7	155:13 158:13	science 41:20 71:10	screening 233:15	336:21 337:9
<b>rot</b> 326:13	164:6,14 178:3	76:17,20 79:11	233:16,20 234:18	340:1 353:6 354:6
round 26:3 244:6	183:2 184:6	81:8 83:21 85:14	237:7 253:3	seeing 23:22 26:13
routine 137:14,15	189:12,13 190:2	96:1,3 108:14	271:10	60:8,11,13 110:22
353:14 355:18	193:15 195:3	112:9 120:21	scroll 225:8	114:10 280:2
routinely 332:10	197:2,16 201:19	153:20 165:6,15	scrutiny 135:3	307:9 338:10,20
353:13 354:21	203:11,20 204:22	170:3 194:4 196:2	157:10 181:19	375:17
<b>rules</b> 69:17 293:1	208:4 213:22	262:4 371:12	343:17	seen 26:1 28:17
307:18 318:19	226:1 230:20	scientific 12:17	se 27:12 123:21	31:2 32:18 33:1,5

٦

55:21,21 67:20	sensitive 301:21	seven 126:15,15	<b>shoot</b> 82:16	<b>similar</b> 82:1,4
125:2 149:8 171:9	sent 7:3 90:22	150:12 174:6	shooting 298:7	213:12 268:3
190:1 193:20	sentence 316:2	202:1 234:9	299:21	305:18 366:19
217:10 276:9	319:19,20 320:15	seven-day 287:22	<b>short</b> 123:12 338:4	similarly 154:22
278:3 308:19	360:21	seven-item 187:21	<b>short-term</b> 309:15	267:4
322:20 327:5	separate 6:17	severity 39:18	<b>shove</b> 103:9	<b>simple</b> 79:1 99:22
332:5 333:21	21:20 54:13 58:7	<b>SF</b> 138:8	<b>shovel</b> 151:3	100:6 122:19
338:13 341:18	122:5,13 125:17	<b>SF-12</b> 134:9 136:13	<b>show</b> 27:22 43:7	143:20 310:6,7
<b>sees</b> 68:8	125:17 130:22	Shahian 1:25 6:2	98:6 109:11 122:1	312:10,14,15
selected 46:7,18	144:10 145:4,5	13:1,2 48:14	207:6,7,10 212:10	330:15 333:9
self-declared	155:18 156:4	49:19 77:2 80:14	239:11 251:8	<b>simpler</b> 108:7
254:20	160:12 161:8	83:19 84:3 103:13	267:1,8 281:12	146:7,9 313:20
self-trigger 372:15	162:12 172:21	118:15 119:13	288:1 320:3	324:8 374:9
semantic 76:2	173:3,9 175:4,12	175:2 185:16	323:12 324:4	simplest 176:11
semantics 77:18	182:11 183:8	198:17 199:10	337:14	simplicity 311:22
send 322:15 342:21	198:1 232:12,18	203:10 209:1	<b>showing</b> 31:6 240:8	313:7 316:14
354:18 378:11	366:4 371:15	226:22 243:9	254:2 267:5	simplification 96:7
sending 378:1	372:10 373:5,8	244:15 265:22	292:20 345:3	simply 51:8 118:18
sends 171:4	separately 130:21	266:14 272:15	<b>shown</b> 119:10	119:1 154:20
Senior 4:6 5:14	134:3 136:6 159:5	273:3,6 293:5,18	222:15	174:7 175:8
7:22 16:17	175:20 197:19,20	308:7,13 313:5	<b>shows</b> 220:22 222:5	198:13 252:4
sense 7:9 26:6,13	373:7	319:2 332:4 333:7	290:15 297:10	317:17 326:18
33:19 40:14 43:14	sepsis 276:13	344:18 345:14	<b>shuffles</b> 310:8	330:8 349:13
46:14 47:5,8 54:3	series 149:10	346:14 351:6	sicker 177:4	351:11
56:2 71:16 80:7	154:12,14 155:15	358:20	<b>side</b> 23:1 26:22	simulate 307:13
85:17 98:17,21	372:13	<b>shake</b> 237:21	35:3 54:22 92:2	<b>single</b> 44:18 64:13
107:1 111:15	serious 154:13	shakedown 172:13	101:13 168:1	78:13 113:7 118:4
112:19 113:1	served 17:19	172:15	209:1,10 220:10	126:5,6,10,18
116:14 140:14	<b>service</b> 150:5	<b>shame</b> 186:14	258:11,13 290:11	128:7 130:7 132:9
150:10 161:13	services 1:19,22	share 72:7 299:19	299:6 338:9,9,21	132:11 134:21
163:10 164:3,12	6:11 8:10 86:14	300:3,6,9 301:4	353:6 361:19	136:2 144:6 145:5
167:16 169:7	112:15	324:8	364:12	145:12 146:2
175:22 180:13	set 68:21 82:20	SharePoint 377:3	sides 111:12	147:17 154:20
187:8 191:19	97:18 99:8 108:18	378:12	sight 199:16 352:4	155:12,20 160:21
195:16 204:21	128:8 134:20	<b>sharing</b> 300:19,20	signal 87:1 88:1	160:22 172:22
207:2 226:15	142:17 151:10,13	<b>Shelly</b> 132:3	211:4,6,7,8 318:6	184:18 266:21
233:18 250:16	151:14 152:10	Sherrie 1:23 11:4	318:10	268:13 313:12
251:5,9 264:20	156:20 163:1	21:7 41:15 78:16	signaling 94:13	339:22 341:8
271:20 274:22	173:2 221:14	118:21 122:21	signed 223:8	349:17 365:2,9
283:14 300:16	239:19 246:4	123:16 201:18	significance 200:7	sit 26:17 168:17
305:8 310:1	295:12 308:5	258:15 259:9	significant 30:6	sites 9:5
315:22 318:9	364:3	262:3 299:12	31:6 286:9,11,12	sits 178:20
329:5 337:2	sets 69:17,20	313:6 348:7	286:16 289:20,21	sitting 25:18
364:15 369:6	252:19	<b>Sherrie's</b> 80:17	292:3	170:16
371:21	setting 238:15	209:14 226:13	significantly	situation 69:4
senses 177:20	settings 69:19	<b>shift</b> 295:6	218:17	342:13 355:16
sensing 197:15	88:17	<b>shifts</b> 220:6	<b>silly</b> 108:5	situations 135:6
	· ·		·	

164:8 332:6	211:21 333:10	358:8 360:4	spend 48:11 129:5	standards 12:15
364:18	sorry 17:2 73:10	<b>space</b> 47:10 115:22	134:16 314:7	93:22 120:21
six 27:18 29:2	125:6 156:10	153:17	335:2 355:9	376:9
56:22 133:10,11	217:17,20 284:11	<b>span</b> 345:2	359:22 360:1	standpoint 41:20
174:6 244:22	289:21 325:22	<b>speak</b> 4:16 119:22	spending 92:1	126:12 196:6
<b>size</b> 133:10,11	335:1 377:4	129:20 189:17	168:17	278:8
314:21	<b>sort</b> 7:10 23:22	216:12,18 327:20	spent 9:18 77:9	stand-alone 38:2,5
skewing 263:17	24:6 39:9 41:9	speaking 4:15,22	spillover 352:15	40:12 43:17 80:22
skills 151:10,13,15	43:1 62:6 63:15	275:16	spiritual 218:11	157:20 178:5
<b>skip</b> 34:12	66:18 68:8 69:7	speaks 114:22	split 91:11 119:21	256:6 288:13
<b>slack</b> 157:12	75:8 79:9 81:4	190:7	<b>splits</b> 307:11	stand-alones 158:1
<b>slide</b> 27:16 37:13	82:22 90:17 92:5	<b>special</b> 174:13	<b>square</b> 26:3 244:6	374:4
37:16,19 220:11	98:19 100:7 103:1	350:3	squarely 299:6	star 10:21 333:10
<b>slides</b> 34:18	106:21 131:21	specialists 270:8	<b>squeeze</b> 355:13	STARS 115:16
slightly 45:12 49:2	132:5 139:6	<b>specific</b> 17:16 20:3	squirrely 344:15	start 8:3 73:12,21
50:1,2 69:10,11	141:20 142:16	20:17 22:19 41:14	<b>SSIs</b> 290:16	78:14 100:22
371:6	158:21 161:17	76:4 115:12	stable 91:20	134:11 172:3
<b>sloth</b> 121:7	165:9 168:1 173:8	125:13 126:3	staff 2:11 3:9,12	174:22 182:2
<b>small</b> 28:14	173:8 176:10	129:21 167:22	28:20 35:3 75:1,7	222:19 249:4
smaller 151:3	177:6 183:18	173:13 174:16	99:16 123:20	326:3 343:3
271:11 274:9	199:11 200:3	220:9 222:17,17	155:10 221:13	375:16 376:11
smart 25:18	204:9 206:10	235:6 242:8,18	222:8 229:16	started 9:15 340:10
<b>smiling</b> 243:5	213:3,11 214:9	287:14 302:19,20	253:10 362:22	starting 10:17,19
smoking 44:9 50:3	221:4 222:3	325:18 335:20	stage 103:2 252:19	148:1 172:4
50:6 59:5 62:3,5	227:22 253:18	346:1 359:8,15	Staiger 12:3	state 9:4 11:10
321:3	258:17 260:4	368:10	stake 359:22	15:19 85:3 236:18
soften 264:2 348:8	284:18 288:6,8	specifically 18:2	stakeholder 184:19	238:2 297:12
softened 374:17	290:10 295:17	21:13 36:5 43:12	315:1 333:16	316:7 348:18
solely 243:19	296:10 304:19	43:19 59:15 66:10	stakeholders 314:6	353:12
<b>solution</b> 121:19	305:5 309:3,4,13	84:19 157:18	stakes 23:19 24:13	stated 238:7 252:22
366:3 368:18	309:20,20 312:11	218:6,8,13 249:17	24:17 172:2,8	349:15
somebody 20:22	337:12 348:4	303:14 319:3	203:12 213:3	statement 27:3
21:1 71:7 80:9	350:1 362:18	346:7	<b>stand</b> 44:6 46:16	123:12 224:16
89:3 107:7 150:19	364:10 371:2,7	specification	47:18 54:15,17	225:11 226:18
164:9 165:7 178:7	373:20	265:14 320:9	61:19 65:4 180:17	242:8 254:21
184:10 233:13	<b>sorts</b> 319:8	specifications	184:3 205:2	293:19 329:1
248:6 270:4,8,9	<b>sound</b> 195:3 263:10	51:13 273:9	231:22	351:11
284:16 367:8	sounded 117:22	319:22 341:4	standard 47:3	statements 142:17
<b>somebody's</b> 301:19	sounding 305:18	specificity 323:7	117:21 165:4,14	142:18
someday 331:1	sounds 203:19	specifics 7:8	182:5 207:11	states 30:20 199:6
somewhat 44:13	243:7 305:6	specified 265:15	241:1,20 269:19	statin 142:5 143:22
49:4 50:14 80:15	<b>source</b> 124:10	specify 179:21	269:20 276:19	144:21 178:9
196:13 274:19	144:15 147:9	specifying 67:16	280:7,22 316:20	stating 208:21
<b>some-odd</b> 227:3	148:11	spectrum 79:13	329:13	statistical 51:22
<b>soon</b> 377:21	<b>sources</b> 148:9	85:9,13 103:14,18	standardized 89:8	56:11 165:17
<b>sooner</b> 187:4	267:20 273:15	105:11 111:9,13	89:12 139:11,13	167:13 171:3
sophisticated	353:21 357:5	165:12	141:14	189:21

statistically 202.2	Stread 1.12	142.1 140.4 190.6	00.12 122.10	a
statistically 292:2	Street 1:12	142:1 149:4 180:6	99:12 123:10	<b>summarize</b> 173:18
statistically-based	Streiner's 75:12	180:8,10 181:14	141:16 143:9	290:4
12:5,14	strengths 170:6	210:11 214:15	221:2	summarized
statistician 8:19	strike 148:15	252:14 307:19	subsequent 253:11	125:10
170:21	stringent 50:17	321:19 328:17	subset 365:14	summarizes 220:16
statisticians 171:5	51:1 157:16	337:8 369:13	substantial 59:1	220:17
Statistics 8:16	stripe 26:1	<b>sub</b> 273:3	202:16 243:7	summarizing 95:11
status 44:2,8,11	strive 170:9	subcategories	310:10 325:7	156:7
321:3	<b>stroke</b> 185:7,9,10	102:14	340:13	summary 12:12
stay 287:6,18 288:2	208:5 209:14,17	subcomponent	substantially	158:5,22 228:1
326:17	214:9	233:3,5	172:13	229:4 310:17
staying 324:20	<b>strokes</b> 308:20	subcomponents	substantiates	<b>super</b> 138:5
steerage 22:5	strong 31:6 57:16	233:3	201:12	<b>superior</b> 70:5 71:1
steering 95:18	86:15 123:9	subcontractor	substantive 156:19	superiority 369:3
99:16 101:19	195:18 245:14	13:18	208:19	supersedes 192:15
117:3,12 122:5	302:9 356:10	subject 169:20	substrate 140:16	super-duper 133:7
169:19 171:20	stronger 334:13	328:12	subtler 127:21	322:2
222:8,22 249:14	strongly 7:16 73:15	subjective 344:22	128:1	support 15:16,18
283:7 308:11	struck 45:6 111:7	submission 3:18	subtracted 265:21	16:1 57:17 77:3
364:6	253:15	18:21 19:16 35:20	sub-components	188:15 195:19
stenting 288:9	structure 10:8	35:22 97:2 168:13	272:20	217:6,13 218:4
<b>step</b> 164:11 224:13	252:1 364:5	172:19 173:1	sub-criterion	236:9 256:20
224:22 241:13,16	struggle 68:3	174:14 175:4	221:12	282:7 291:8
242:3	struggled 105:17	223:15 315:6	sudden 339:1	295:14 297:7
<b>steps</b> 3:21 33:16	143:11	362:18,19 363:2	sufficient 47:19	313:6 327:15
375:9,11	struggling 105:2	372:10 373:8	118:18,22 192:13	333:4
<b>Steve</b> 8:3,5	269:18 290:7	377:13	203:17 207:7	supported 208:18
STEVEN 2:7	291:17 364:13	submissions 105:10	289:11,13	supporting 57:12
steward 187:8	<b>STS</b> 13:3,13 14:17	submit 19:19 35:5	sufficiently 48:1	183:21 184:5
188:22	77:6,16 146:9	53:3,4,19,22	65:2	301:12
stewards 201:13	277:4 279:12	95:19 99:18,20	suggest 122:16	supports 201:16
stick 320:13	308:16 313:8	169:10 182:14	311:18 313:15	319:22
stifle 102:22 103:6	332:6 359:2	373:5	suggested 118:21	suppose 68:10
257:7	360:16	submitted 13:11	125:22 155:10	120:7
stood 149:22	stuck 150:18	27:1 28:10,22	311:18 348:7	supposed 162:5
stop 95:12 146:13	183:18 278:10	30:14 44:18 49:7	372:7	210:13 271:8
337:10 343:3	342:2 343:18	49:15 53:16	suggesting 91:14	312:3 346:8
<b>store</b> 36:3	student 89:16	104:14 159:5	367:15	supposing 133:3
story 178:6	students 89:8,9	160:20 161:8	suggestion 316:12	150:7,9 361:22
straight 104:11	studied 344:14	182:11 187:15	suggestions 353:7	sure 18:8 20:15
straightforward	studies 145:14	190:5 193:2,4	359:8 362:8	25:20 38:9 51:20
265:20 292:9	218:13 260:18	200:6 317:9 324:3	378:14	53:14,21 54:21
309:21	269:6	350:5 373:13	suggests 8:18	73:4 74:9 98:4
strange 342:4	study 11:10 201:21	submitter 186:15	suitability 223:4	109:3 115:12
356:12	202:9 347:16,20	191:6	suitable 19:22	118:22 120:20
strategy 357:1	stuff 74:19 90:1	submitters 181:13	suited 22:7	127:11 134:6
streamline 197:20	112:10 120:15	submitting 18:19	<b>sum</b> 310:7	138:19 146:4
		Ŭ		
	1	1	1	I.

٦

152:17 168:6	124:15	325:2 342:14	375:16	38:14 45:22 47:9
186:8 189:5 191:4	systems 12:20,21	362:17	technique 83:8	47:19 51:12 62:16
205:18 238:5	98:20 359:21,22	talked 32:2 34:20	techniques 82:17	73:21 75:18 77:5
244:13 270:5	S-E-S-S-I-O-N	50:13 139:9	83:14	79:9 93:16 100:22
295:16 298:18	220:1	145:11 248:1	technology 196:5	117:1 124:21
299:8,15 307:21		255:19 257:13,17	tedious 362:20	125:1 173:22
309:2 323:2	T	276:19 327:13	<b>tee</b> 72:10	190:2 199:17
342:10 348:17	table 66:13 72:21	331:18 372:6	teleconference 2:18	206:16 223:12
354:7 356:21	74:3 76:10 126:7	373:16	telephone 14:22	227:1 236:11
365:10 366:1	136:22 154:7	talking 24:10 67:18	216:6 375:2	266:4 269:12
369:11 370:9	204:6 220:16,17	73:12 74:20,21	tell 36:5 40:15 77:6	291:8 294:11
378:5	220:19 221:22	75:17 83:20 110:6	82:19 98:18	313:3 315:10
surgeon 79:1	222:2,5,11,15,19	124:18 140:21	107:16 138:21	316:17 323:10
surgeons 87:19	224:7 272:15,18	141:4 142:15	171:9 178:6 191:9	360:10,20 362:18
167:10	325:16	146:13 147:21	204:8 243:5	375:10
surgeries 91:18	tables 74:13,16	149:6 173:20	246:15,22 247:5	terrible 211:15
surgery 13:6 14:18	tact 297:9	177:20 180:2	263:4 276:5	262:19 342:19
79:22 166:11	<b>tailor</b> 363:1	182:18,21 205:20	278:13,18 279:4,9	terribly 95:14
290:16 306:10	take 78:4 106:10	228:2 229:13	299:22 309:1	268:12
309:1	110:14 111:10	230:12 239:1,6,16	320:17 343:20	territory 94:4
surgical 12:7,15	114:8 117:12	239:20 244:7,12	377:21 378:2	364:22
88:2 91:17	125:5,7 130:2	249:15 259:19,22	<b>telling</b> 246:14	test 64:2 83:12 89:9
survey 8:20 27:4,7	136:18 143:1	262:15 270:18	247:8	117:18 119:16,20
27:11 105:11,16	159:11 161:9	275:12 280:15,17	<b>ten</b> 151:22 155:16	119:21 120:20
105:19,22 114:9	180:7 185:19,20	280:18 284:1	155:19 160:21	191:10 202:1
127:8 129:9,16,17	187:18 188:1,5,11	300:19,20 326:3	202:8 246:10	231:9 234:8
130:13,14,15	202:20 231:21	369:8,20	312:18 324:13	257:19 266:10
134:18 140:9,22	236:21 238:3	talks 75:17	tend 24:16 31:8	271:9 284:22
147:10,12 150:14	241:2 248:12	tally 155:20	80:17 341:22	307:3 367:7,12
266:11,21 267:3	258:16 271:6	tangled 291:3	348:7	tested 89:14 279:1
267:21	293:19 294:14	target 206:15 272:9	tended 341:7	285:2
surveys 10:14,16	302:11 321:4,13	340:20 341:3	tendency 185:20	testing 13:21 33:6
10:18 29:3,4	324:11,13 346:2	task 13:4 42:19	tends 113:4	84:20 89:8 107:13
81:12 105:4	<b>taken</b> 46:3 111:2	83:3,9 101:17	tension 84:18 190:7	168:15 174:16,18
140:20	159:17 170:18	198:18 203:22	211:19	187:14,19 244:1
survival 276:20	264:21 302:19 344:2	220:6 228:15	<b>TEP</b> 17:11	252:7 257:21
suspect 243:22	344:2 takes 202:22	282:6,11	term 20:5,5 75:19	266:3,12 272:2
sync 109:5	233:13	taxonomy 74:18	124:22 125:1	273:10 275:4
system 6:10 10:21	talk 6:15 41:6 58:2	362:13	179:1 328:10	283:3 284:20
13:16 114:12	63:19 65:10 72:17	<b>teacher</b> 89:10,11	346:19	297:6 356:12
185:19 199:5	75:20 139:9	<b>teachers</b> 89:6	terminology 92:21	tests 354:17,19
265:7 314:15	152:20 182:8	team 77:14 85:16	124:9,12 126:3	355:9
340:3	239:15 255:18	125:10 375:15 tagga 27:20	136:14	thank 15:2 16:14
<b>systematic</b> 38:13	266:16 270:13	tease 27:20	<b>terms</b> 7:13 17:14	17:1 19:2 74:22
316:5	275:4 311:8	teased 24:7	23:7 29:10,15	97:9 152:8 208:21
<b>systematically</b> 22:14 29:13 31:12	314:11 318:21	<b>technical</b> 1:6 4:9 326:1 328:10	30:6 31:21 32:11 34:21 35:1,16	216:10,11,13 218:18 220:4
22.14 29.15 51.12	51111 510.21	320.1 320.10	34.21 33.1,10	210.10 220.4
	l	l	l	I

	1			
225:22 324:20	things 7:16 18:11	310:17 312:5,14	104:15 105:19,20	206:19 211:18
377:6,8 378:16,17	20:6 29:18,22	313:7 314:1,14	106:6 107:18	212:7,9,15 213:12
378:19	31:15 33:3 34:17	321:8 328:7	108:18 109:3	214:14 215:4,10
thanks 6:19,21 8:2	41:12 42:6 43:2	338:10 339:3	110:11,21,21	216:19 217:1,20
16:9 65:8 378:15	51:15,16 63:3,7	342:7,11,12,19	111:3 112:1,3	220:5,12 221:21
themes 95:4	63:10 64:1 65:9	348:11,15,21	113:5,15 114:2	223:18 224:6,14
theoretical 169:9	67:14 70:1 71:22	354:20 355:2,18	115:1,5,19 116:5	224:22 226:3
291:4 346:6	74:21 80:5,20	356:13 358:7	117:5,15 118:5	227:12,19,21
theoretically 48:15	81:5,22 82:14,18	359:8 364:17	119:12 120:5,6,19	228:13 229:13,21
366:10 370:10	82:20 83:22 90:3	365:8,10,21 366:7	121:18,19 123:17	231:18 233:18
theory 118:1	92:13 94:10 97:4	366:10 371:4,5	123:18 124:3,7	234:11 238:19
119:19 120:3	97:18 98:19 99:3	374:14	125:11,19 126:8	240:4 241:7,12
therapeutic 356:14	99:11,12 104:13	think 5:13 6:4 7:5,8	126:20 127:2	242:13,21,22
thereof 308:9	105:21 106:16	7:12,19 10:10	128:1,2 133:14	243:2,10,12
thesaurus 326:12	108:16 114:6,13	19:7,15 21:12	135:1,7 138:3,4	250:16 251:21
327:4	115:4,8,10 120:6	22:14 23:9,14	139:2,20 140:3,4	252:5,7 254:10,18
thing 7:5 35:17	123:3 127:16	24:10,18,21 25:1	140:8 141:3,13,18	255:5,20 257:6
42:3 52:1 54:19	132:1,10 133:12	25:15,19 26:4,10	143:3 144:9 145:7	258:11,19 261:16
74:15 75:17 78:14	134:2 135:15	27:2 29:9 31:13	145:9 146:14,16	262:14,21 263:8
78:17 84:11 92:18	137:16,16 139:1	32:5,20,21 33:13	147:21 148:20	263:22 264:2,5,16
107:18 112:20	142:5 143:4,6	33:19 34:16 37:21	149:8,20 150:20	265:22 268:5
115:8 118:3,9	144:5 147:17	40:20 43:15 45:13	151:5,18 152:20	273:19 274:21
127:14 129:6,15	148:12,18 150:22	47:8,11 48:6,10	153:8,16,18 155:9	275:4,6,10 276:15
130:4 133:7,16	150:22 151:4	48:21 49:19 50:8	155:14 156:8	277:9 278:12,19
138:18 141:21	154:14 155:3,4	50:9 52:7,11,14	158:13 161:6	279:2,6 280:13
142:8 143:7	162:17 163:1	53:1,5,9,12 55:2,4	162:9 163:10,14	281:16 282:2,8
145:10,17 147:1	164:2 165:8	55:7,22 56:3,4,5,8	164:2,10,13	283:9 284:15,19
165:11 179:9	166:10 167:3,7,8	56:16 57:19 58:7	167:10 168:9,16	285:1,7,13 286:2
189:3,11 194:20	167:9 168:3	60:4,10,11,13,18	171:7,12,14,21	286:15 287:19
196:19 203:7	172:16 176:18	61:10 63:1,14	172:2,5,8,9,13,14	288:4,18 289:22
210:19 213:19	180:16 186:6	64:10 65:9 67:19	172:15 173:7,21	290:17 291:6
234:9 235:18	188:6,10,11,17,21	70:12 72:3,9 73:1	174:12 175:10,17	292:11 293:5,8,14
245:12 247:8	189:6 206:1,3	73:9,11,13 74:1	176:8 177:20	295:2,8 298:19,22
249:8 252:16	212:20 216:21	74:15 77:13,15,17	178:3 179:16	299:2,3,5,7,9,17
253:2,14 260:19	232:3,19 235:17	78:22 80:16,19	180:2 181:11	299:20 301:6
261:14 267:6	236:2,17 237:19	81:3,22 82:6,10	182:4,4,17 183:12	302:17,20 303:4
271:14 278:9	245:21 246:2,10	82:12 83:19 84:5	184:1,15,22	305:12 306:3
290:16 293:21	246:14,22 247:10	84:15 85:7,8,10	185:19 186:3,9,11	307:8 308:13
295:13 301:11	248:12 256:22	85:16 86:2,11	186:18 187:5	309:5 311:7,14
309:4,13 319:11	257:4 262:10	90:20 91:6,22	188:16,17,19	313:11,14,16,18
320:21 321:21	264:4 267:21	92:6,9,14 93:8,9	189:22 190:6,12	314:21 315:6
322:8 329:12	271:5 275:8 277:6	93:10,11 94:2	191:12 195:16,20	316:9 319:5,17
337:21 341:17	277:8 282:17	95:10,12 96:11	196:4,10,14,22	321:2,11 322:9,19
345:18,19 348:9	283:14 291:7	97:7,12,19 99:16	197:10,11,16	323:1 324:11
348:19 356:15	293:22 297:16	99:21 100:5,19	199:15,19 201:18	326:17 327:11
364:7,13 365:13	300:5,15 301:2,18	101:3,21 102:16	201:19 202:12	328:9,14,22 330:7
369:21 370:13	301:19,20 309:21	102:22 103:4,7,11	204:5,18 206:12	331:1,5 332:4,11
	•	. I		

333:7,16 334:20	100:19 106:18,19	377:21 378:3,5	totally 12:6 78:16	tried 19:1 28:6
338:8,14,16 339:8	126:7 130:2,4	timeliness 126:19	81:2 90:8 109:5	70:21 91:2 103:5
340:8,21 341:13	136:20 137:2,4,5	times 21:16 26:2	163:10 182:15	114:21 139:15
342:16 344:18	138:8 161:1,6	55:6 61:10 68:12	283:20	308:16,18 338:1
345:9 346:19	174:6 199:22	82:10 115:6 137:6	touch 76:18 110:11	339:6 372:4
348:19 349:4	209:4 228:18	149:8 184:17	tough 69:5 212:15	<b>trigger</b> 365:20
350:2 351:20	245:7,14 301:2	208:11 218:9	252:6 378:17	trilogy 172:1
352:14 354:13	306:12 325:3,3,16	312:19,21	tougher 33:6 56:8	<b>trip</b> 160:12
357:13 358:9	337:13 338:4	<b>tip</b> 25:10	track 114:17 167:3	<b>tripling</b> 143:13
359:15 360:12	369:15 378:6,7	<b>title</b> 8:18	264:18	<b>trouble</b> 37:10 67:9
362:10,12 363:5	three-year-olds	tobacco-free 44:2,8	tradeoffs 371:6	99:4 211:15
365:4 367:19	343:4	44:10	traditional 77:10	268:17 286:17
369:5 370:3,4,21	throw 161:21 241:4	today 4:19 5:8 7:7	81:8 82:13 83:1	292:18 347:15
371:15 372:1,3,5	349:8	7:15 16:19 17:2	traditionalist 80:16	348:1 360:20
372:17,19 373:1	throwing 201:10	19:6 24:22 25:16	train 8:1 73:11	<b>true</b> 223:4 243:13
373:11 374:13	208:7 247:20	31:13 41:7 74:3	trained 76:14	243:22 262:9
thinking 14:14	thrown 161:5	101:9 306:10	trainer 121:12	279:20 319:12
21:20 24:6 25:4	252:14	307:1 327:13	training 11:5	341:16
32:10 39:9 54:10	thumbprint 83:5	371:19 377:8	trains 67:6 120:8	truly 55:22 61:12
80:18 88:7 91:8	98:5 103:17	today's 4:13 18:12	transcribed 4:14	70:1 111:17
94:19 96:9 104:9	<b>thy</b> 351:20	told 149:22 159:13	transform 311:11	279:13
104:9 106:8	tide 227:21	318:20 321:22	transformation	truncal 133:6
166:22 167:6	tied 84:13	tolerance 270:14	310:19	<b>try</b> 52:12,13 56:1
243:11 249:12	ties 14:19 367:19	tolerate 269:17	transition 38:18	58:10 64:6 69:7
<b>thinks</b> 167:12	tightened 227:3	270:16	39:10 40:2	70:2,3,11 72:6
<b>third</b> 175:17	tightening 297:4	tool 27:12 28:3,4,6	translate 310:12	74:13 139:1
284:11 376:17	<b>time</b> 5:16 16:6	139:12,13,19,22	translates 304:13	175:12 189:14
thought 38:10 40:4	17:18,21 20:21	140:1 141:1,14	transmit 310:13,17	195:17 218:7
40:13 44:22 46:11	21:10,19 23:15	151:2 197:8 253:3	transparency	227:9 252:3 327:7
56:21 61:4 71:2	26:16 34:11 39:7	307:9	196:11,14 326:7	356:13 365:14
77:8 86:19 93:4	40:12 48:11 53:4	tools 96:2 100:11	329:17,20 332:20	366:11
100:19 110:3	66:8 68:2,12	153:21,22 162:7	334:8 335:15	trying 11:11 19:12
130:10 147:14	70:15,20 71:20	tool/survey 140:14	transparent 310:3	22:13 27:20 31:20
158:11 194:21	73:8 92:1 93:15	<b>top</b> 91:4,6	326:20 327:4	42:9,15,16,19,21
205:6 209:9 227:8	105:20 129:4	topic 104:7 111:19	travel 377:10	45:17,18 50:5
241:17 252:15	134:17 138:2,15	378:17	traveling 67:6	61:13 64:5 67:5,7
257:12,15,17,20	160:17 174:1	topic-specific	<b>treat</b> 177:4	67:12 69:13,16
306:6 355:20,21	216:3,8 218:21	169:18	treated 131:8 160:7	78:18 79:4 81:22
<b>thoughts</b> 26:6	221:11 266:6	<b>topped</b> 61:22 62:2	321:20	88:16,22 89:7,18
176:7 221:16,19	279:13,18 281:20	62:8 65:14 113:9	treating 127:4	89:20 90:3,10,14
230:4 324:10	299:6 313:11	251:14,15 261:6	138:7 147:15	92:6 97:14,19,22
336:15 340:6	314:7 324:11	261:17,20 262:2	treatment 63:7	98:1,10 100:8
364:4	335:2 338:4	263:16 264:18	94:15 150:12	101:4,10,15
thousand 68:22	351:21 356:16	toss 189:3,10	209:19 320:11,11	102:15 103:15
three 10:18 13:22	357:15 360:1	total 98:11 305:7	320:12	104:1,15 105:8
18:11 29:2 38:10	364:22 367:3	305:12	trickier 347:2	106:5 108:2,6
38:19 68:10 72:13	368:5 375:3 377:1	totality 98:22	<b>tricky</b> 49:17	109:10,19,22
	l			

112:12,16 121:14	187:18,22 188:11	undercurrent	<b>unique</b> 18:15	71:14 75:19 83:15
127:10,13,21	195:7 209:4 214:1	121:3,8	229:20 280:11	86:20 88:12,14
131:22 132:3	214:6 227:2	underestimate	298:10,10 307:8	89:7 95:22 96:1
133:18,20 135:8	232:12,18 233:2	96:12	350:7	99:5 101:5,7,13
139:20 148:18,21	238:18 244:21	undergoes 161:19	uniquely 301:16	102:7 104:10,13
150:10 156:12	267:21 287:9	<b>underlie</b> 96:14	342:9	108:12,15 116:19
161:17 168:2	295:3 306:12	underlying 81:1	United 199:6	118:14,16 123:5
180:16 181:10	322:2 326:1 371:4	165:6 196:3 236:6	universal 124:12	123:13 124:9,22
195:13 210:1	375:12	300:4 304:1	180:14	125:1 130:6,17
235:17 238:14	<b>two-hour</b> 378:4	understand 7:13	University 1:15,18	133:4,16 138:2,15
240:5 244:6	two-part 95:13	20:15 27:5 51:9	1:18,21,23 6:1	139:18 140:2
247:16 249:5,7	two-stage 52:20	51:17 52:1,6,15	10:4 11:21 12:4	150:2 194:9 197:9
251:6,19 257:4	<b>type</b> 22:2 99:18	74:9 88:3 108:1	15:8	201:15 202:6
260:3 269:15	106:1 179:9	109:3 115:9	unnecessary 94:15	218:8 232:16
277:21 282:11	213:17 258:22	120:12 127:10	218:13	233:11 234:15
289:21 296:20	280:19 329:12	144:4,7 148:21	unpack 180:3	240:19 248:11
297:3,18 298:8	types 12:5 18:14	166:18 170:4	184:7 195:2 327:7	262:13 267:9,11
307:12,13 313:7	29:3 79:21 87:14	181:11 183:6	unpackability	278:21 281:7,12
315:8,9 318:7	87:18,19 90:13	186:9 205:19	179:16	298:3 309:6
325:18 337:8	105:21 119:17,22	231:14 235:9	unpacked 31:19,20	321:18 325:14,17
341:7 347:12	155:8,11 176:3	286:5 288:22	31:22 180:1 184:2	326:21 328:16,22
350:13 355:1	254:8 294:19	315:7 362:5	184:21 185:13	335:16,17,20
367:5 369:10	304:6 306:16	understanding	186:17	336:13 340:5
378:4	315:4 363:7,10	26:14 39:18 48:7	unpacking 178:19	346:19 349:8
<b>tune</b> 94:14 168:4	typically 54:4	121:3 136:15	178:22 179:5	352:2
<b>turn</b> 4:8,15 5:9	154:17	158:9 169:17	183:22 184:5	useable 30:5
162:20	tyranny 82:12	179:2,7 238:3	196:2,3	useful 29:10 61:3
<b>turned</b> 52:7 328:3		326:7 332:20	<b>unravel</b> 327:7	88:3 93:10 95:14
turning 353:17	U	334:8 350:4	<b>update</b> 18:11 223:9	96:15 111:11
<b>turns</b> 207:18	UC 1:17 6:9 11:7	understood 100:16	<b>updated</b> 17:22 18:4	116:10,12 117:5,7
<b>twice</b> 278:4	13:16	undertaking	18:8 30:1 50:16	123:2 156:1 210:1
<b>twist</b> 307:11	ultimate 253:7	371:16	updates 114:18	240:9,13 372:4
<b>two</b> 13:6 29:21	ultimately 25:12	<b>undue</b> 263:15	urgent 16:20	373:2
38:22 39:6 54:22	28:4 53:20 115:20	353:1	137:13	usefulness 158:4
66:17 67:6 69:17	161:9 199:19	unendorsed 198:12	usability 30:2,2	240:16,20
71:4 73:20 75:8	287:20 313:8	198:14	196:6 240:13,15	users 56:15 71:1,14
77:5,7 79:12,13	315:2 317:6 336:4	<b>unfair</b> 54:19	240:19 242:6	72:14,21
85:18 89:5 91:2	353:16 371:8	unfortunately	325:3,6,13,14,17	uses 84:20 199:5
92:1,16 94:22	umbrella 144:6	16:20	335:17 340:5	242:16,19 329:17
100:18 109:9	<b>un</b> 30:1	<b>unhappy</b> 132:10,13	352:1	330:1
120:8 122:5,13	<b>unable</b> 290:19	<b>uniform</b> 364:6	usable 335:18	<b>USPS</b> 199:6
126:4 129:13	uncertainty 372:8	unintended 65:11	use 9:8 10:22 18:1	USPSTF 199:9
130:2,4 136:19	<b>unclear</b> 37:8,8	66:4 339:15,19	21:18 23:4 27:11	usual 56:18 307:11
142:5,7 145:4,5	uncomfortable	341:10 342:3,18	28:4 30:2 32:13	usually 88:19,22
145:13,22 146:1	150:2 293:8	343:7 345:16	35:13 44:3,11	177:18 253:18
148:17 161:1,5	uncompensated	349:3,16 350:11	49:12 53:20 59:16	254:1 267:18
162:12 178:4	13:13	350:22 361:2	67:5,7 68:17	270:17,19,20

348:12	231:14 337:4	221:8 325:12,18	313:9 316:7 328:2	17:7 25:15 49:12
<b>UTIs</b> 290:16	valuables 285:19	334:1,2 367:16	walk 57:2	57:2 72:5 85:19
<b>U.S</b> 10:8	value 56:9 80:21	374:18	want 7:20 25:20	85:21 86:4 93:5
	183:14 184:22	<b>versus</b> 26:14 34:19	29:19 35:13 46:22	107:16 133:3
V	213:16,21 214:2	75:11,18,19 93:12	48:18 53:18,20	134:10 154:6
<b>VA</b> 8:5,12 262:8	241:16 251:16	94:12,15 111:21	56:22 64:7,19	196:20 216:12,18
valid 62:4 119:15	253:7 295:10	120:4 127:20	66:9 68:12 73:4,7	216:22 217:15
165:17 177:17	297:11,12 308:3	147:16 149:19	73:8 74:8,17 75:1	227:13 312:6
187:19 191:16	312:2 322:22	157:8 162:11	77:14 83:16 88:11	332:7 343:13
195:1 198:3,6,13	324:1 356:14	166:19,20 176:10	95:22 96:1,4,4	377:6
234:8 252:13	value-based 11:2	211:17 212:11	99:2 101:20	wanting 196:19
262:1 279:13	23:10 24:4 331:2	214:17 217:18	102:20 108:3	wants 129:20 185:2
280:9 281:9	valuing 213:20	218:3 244:10	109:14 114:16	215:9 241:9
283:18,21 285:14	variability 57:4	267:12 282:15	116:14 117:16,18	wash 347:10
286:6 287:12	72:4 211:10 238:9	291:17 308:20,20	124:21 139:7	Washington 1:12
332:2	262:12	336:22 341:21	141:16 147:7	wasn't 39:16 55:13
<b>validate</b> 202:19	variable 82:4	361:20 369:9	148:5 149:18	61:9 63:12 106:19
360:4	variables 89:18	Veterans 2:7 8:6	152:21 158:7	107:2 108:21
validated 202:18	102:10 306:1	<b>Vice</b> 11:6	164:18 167:2,8	138:8 159:6 211:9
241:4	variance 54:15	vice-versa 119:13	176:8 178:7 179:8	321:9
validation 281:8	176:10 323:4	view 43:13 97:3	181:6,12,12,17	waste 373:19
validity 18:4 42:14	variants 85:13	111:3 133:17	183:11 187:9	wasting 187:2
101:13 158:4	298:2 300:9	176:1 206:14	191:7 199:19	water 133:7
165:10 189:6	323:22	253:3 295:9	202:19 204:6	way 12:16 21:6,19
191:9 192:14,16	<b>variation</b> 201:5,8	345:17	213:16,18 214:5	23:16 25:12 31:8
194:3 197:22	253:22 254:3	<b>viewed</b> 131:7	214:11 215:8	34:5 36:19 37:9
201:15 204:10	261:3,3,5,12	154:18,19 155:9	232:1 241:5	53:22 54:7,11
206:6 218:3	292:22 298:10,11	155:12 173:10,11	246:18,19 248:1	61:5 65:20 77:8
225:18 239:12	340:13	227:5 363:12,14	249:22 261:13	77:12 80:8,17
272:1,2,6,19,20	variety 14:11 73:21	views 173:19 371:2	262:6,7,19 264:1	82:1 86:22 88:13
273:10 274:12,15	200:14 250:7	vignettes 41:8	270:5 277:22	89:7 91:13 97:5
274:19 275:4	303:9	<b>virtually</b> 341:18	291:3 296:1 298:6	104:22 107:22
276:6 277:13,14	various 18:14	<b>virtue</b> 231:4	306:9,13 308:1	121:4 122:19
277:17,19 278:20	22:15 35:22 148:9	<b>vision</b> 118:19 119:2	312:10 315:2,7	127:5 133:4 137:3
278:21 280:15,21	272:5 308:17	353:18	318:22 320:3	139:6 142:12
281:6 282:22,22	313:9 333:16	<b>visit</b> 39:3,3,4,6,16	323:6 326:16	144:16,19 146:18
283:3,4,5,5,12,13	356:10	39:19,21 40:7,7	328:5,6,21 329:13	157:12 158:11,12
284:3,5,6,8,9,13 284:13,20 285:6	vary 101:15 262:5	137:13,14,15	329:19 331:16,18	159:22 162:18
285:15 288:18	varying 90:14	visits 39:13,22	331:20 333:1,13	167:10,12 168:21
289:1,2,14,15	<b>vascular</b> 31:4 43:3	40:11,11	333:17,19 335:10	175:5 176:11
290:20,22 297:6	43:20 49:7	<b>visual</b> 333:10	337:3,5 339:10	188:2,4 191:6,13
305:11,14,15,19	<b>venous</b> 368:3	<b>VP</b> 5:14	342:6 344:13	200:22 208:19
307:4 313:2	ventilator 57:14,18	W	354:15,15 357:14	211:14 213:7
319:12,14,15	103:20	wait 140:10 153:5	362:10,17,22	215:5 220:10
322:5 360:13	veracity 251:3 version 134:18	272:14	364:20 374:2	228:5 236:15
valuable 187:3	146:7,9,9,11	waiting 39:11	376:8,11 wanted 4:10,12 5:2	241:5 245:4 249:4 250:3 8 252:1
,	140.7,7,7,11	,, <b>unting</b> 37,11	wanteu 4.10,12 3.2	250:3,8 252:1
	I		l	

253:5 264:4	165:6,17 200:13	winding 246:13	28:16 134:19	wrong 50:7 54:19
267:14 268:20	218:12 263:14	winds 239:10	340:10	58:12 163:16
277:8,10 287:20	268:6,9 274:11	<b>wish</b> 337:22	works 114:2 119:6	184:14,16 306:5
289:19 294:11	293:1 307:17	withdraw 57:22	228:1 234:4,5	327:20
295:6,18 296:8,21	308:2,3,4,8,12,14	withdrawn 57:15	242:7	wrote 19:7 120:11
297:21 298:15	309:9 310:15	58:4,5,7	world 93:6 171:22	123:16 352:18
299:11 304:21	311:9 313:15	women's 237:6	352:17	
306:13 309:22	314:3,7,10,13	wonder 111:9	worried 147:6,8	X
319:8,15 325:7	315:21 316:16	312:22 319:2	171:10 182:12	<b>X</b> 103:19 120:18,19
329:2 333:2	317:2 318:5,19	wondering 84:19	271:1,5	<b>XYZ</b> 74:10
340:18 347:16	319:16 324:5	91:14 104:3 316:2	worry 172:10 174:4	<b>x-ray</b> 354:18
350:18 355:20	351:15	word 84:6 247:20	271:15 287:4	Y
374:9	weights 68:18,21	326:17 327:2	317:21 337:16	
ways 76:2 109:9	164:10 308:15	342:3	worse 39:13	<b>Yay</b> 337:15
123:4 131:4 142:7	314:21 316:4	worded 297:21	worshiping 76:15	<b>year</b> 24:1 69:13
144:16,22 145:6	340:15	wording 222:17	worst 193:18	70:16 77:9 113:7
164:10 166:13	welcome 3:2 4:4	227:18 303:11	worth 92:1 355:13	113:18,20 114:4,4
170:6 236:8	5:10 7:22	304:15 316:11,13	357:17	114:6,6 149:9
268:19 317:4	wellness 238:10	343:8 361:16	worthwhile 202:16	197:6 278:4
367:14 372:8	well-being 245:22	words 126:13 184:6	214:15	years 6:1,2 8:9 9:18
weak 349:2	went 45:6 57:10	191:15 207:8	wouldn't 21:18	10:15 12:2,9
weakening 227:5	59:20 60:2 77:12	209:13 234:22	35:14 41:10 52:9	15:12 16:1 26:12
weaknesses 170:6	138:17 152:2,3	237:20 263:15	54:15,17 64:18	33:8 76:17 115:2
287:11	157:7 160:18	266:20 269:9	83:16 98:17	134:16 170:19
weaving 251:19	181:8 196:16	323:7 335:17	126:21 159:21	194:9 227:3
<b>website</b> 376:3	219:5 227:2	work 8:19 9:15	160:1,12 168:7	228:18 244:22
wedded 83:21	324:17,17 327:20	13:17 14:11 15:20	178:7,13 191:17	306:12 307:10
weeds 214:14 220:7	330:12 378:22	16:13 17:4 26:9	211:12 214:1,11	337:13 338:2,4,22
week 172:6	weren't 40:12	26:20 27:18 32:3	214:22 248:7	338:22,22 345:3
weeks 375:12	51:15 59:19 64:5	32:14 33:1,13	254:13 258:1	352:18
376:20	121:1 168:8	52:12,17 54:3,22	262:6,7,19 294:21	<b>yes/no</b> 142:13
weigh 68:16 130:11	196:11 212:2	69:12 75:1 78:8	319:16 345:19	<b>Yup</b> 15:4
weighs 195:13	257:20 363:8	78:19 123:15,18	355:3,9 370:6	Z
weight 263:15	We're 173:20	138:20 171:18	wound 44:3	Zaslavsky 2:9 8:14
274:3 310:22	375:7	178:13 180:15	woven 30:10 354:6	, i i i i i i i i i i i i i i i i i i i
311:1 315:12	<b>We've</b> 50:13	181:20 190:21	<b>Wow</b> 152:8	8:15 33:22 54:2
318:6	whatsoever 103:21	198:18 228:11	wrapping 66:19	68:7 81:10 96:10
weighted 46:3	103:22	235:19 253:10	Wright 2:7 8:4,5	122:16 134:6
70:19 160:7	white 335:1	285:9 288:13	32:8 213:15 214:4	136:18 166:1
162:11 166:19,20	wholly 53:8	290:8 306:4 325:5	wringing 344:8	176:8 178:11
314:17 315:4	wide 103:14 105:10	351:7 359:10	write 372:4	201:17 230:6
317:6,7	widely 89:14	376:7	writing 298:17	231:3 240:1,15,21
weighting 72:13,15	wider 339:6	worked 6:2,12	written 100:7	245:17 252:8
72:19,20 87:8,9	wild 312:16	14:16 15:11 71:4	123:17 266:1	262:21 263:20
94:12 104:22	wind 89:18,20	170:22 235:21	280:12 295:9,18	264:1 267:15
118:14 119:22	132:21 193:14	Workgroup 32:17	302:11,15 303:6	268:8 285:10
164:12,15,19	204:4	working 11:8 13:19	361:19	293:7,20 294:16
		_		295:8 297:8
	•	•	•	

302:17 305:20	<b>140/90</b> 193:17	<b>220</b> 3:17	<b>50-50</b> 150:19
311:17 319:17	260:11	<b>28</b> 3:12 28:9,13,21	
320:16 327:3,9	<b>15</b> 50:6 345:2		6
329:6 348:2	<b>15th</b> 1:12 375:13	3	<b>6</b> 3:5
357:10 358:5,16	378:10	<b>3</b> 273:4	<b>600</b> 9:5
364:7 374:13	<b>16</b> 3:9 30:20	<b>3d</b> 326:2,4	
377:20	<b>19</b> 191:3,8,10,15,18	<b>3e</b> 326:2	7
<b>zero</b> 189:10 243:17	<b>1900</b> 10:7	<b>3:00</b> 378:9	<b>7.0</b> 107:8
321:5,21		<b>3:01</b> 324:17	<b>7.1</b> 107:6
<b>zero/one</b> 298:1	2	<b>3:15</b> 324:14	<b>73</b> 3:14
	<b>2</b> 1:9 100:4 265:10	<b>3:16</b> 324:18	8
1	273:4 296:9	<b>30</b> 202:1 216:20	
<b>1</b> 100:4 216:5	<b>2a</b> 265:13,16,20,21	<b>30-day</b> 38:17,20	<b>8</b> 193:17 266:7
220:17 222:11,19	298:20	41:5,11 359:1	8th 376:19
224:7 269:10	<b>2b</b> 266:3,3 272:19	376:5	<b>8:30</b> 1:13
273:4 375:5	<b>2b.1</b> 272:8,8 273:9	<b>36</b> 129:10,11	<b>8:34</b> 4:2
<b>1a</b> 228:19,21	<b>2b.2</b> 272:8,9 273:10	<b>362</b> 3:19	9
253:17 263:21	<b>2b.3</b> 272:8,11	<b>374</b> 3:20	<b>9th</b> 1:12
264:6,7,10	273:12	<b>375</b> 3:21	<b>9.0</b> 107:7
<b>1b</b> 228:22 253:22	<b>2b.4</b> 272:14 273:12	<b>378</b> 3:22	<b>90</b> 55:14 109:13
255:8,12 262:22	<b>2b.5</b> 273:13	4	<b>94</b> 179:14
264:12	<b>2b.6</b> 273:15	$\frac{4}{4}$	<b>95</b> 57:8
<b>1c</b> 229:2 253:16	<b>2c</b> 272:2	4 3:3 222:2,5,15	<b>96</b> 179:15
254:5,8,13 258:20	<b>2f</b> 291:21 298:20	272:15 273:4	<b>50</b> 177.15
260:5 264:11	<b>2h</b> 292:10	325:16	
275:1,12	<b>2i</b> 292:15,17,19	<b>4a</b> 335:9,14,19	
<b>1d</b> 228:20 229:6,12	293:8 295:2 296:9	339:8 350:18	
229:18,19 230:7	298:17 299:13	351:8 353:5,12	
233:2 253:3	302:15,18 303:5	359:9	
254:21	<b>2j</b> 292:21 297:9	<b>4b</b> 336:2,3,18,19	
<b>1e</b> 229:9,13,19	299:13 302:15,20	339:9,10 350:18	
230:3	303:5	351:8 361:18	
<b>1:10</b> 219:6 220:2	<b>2k</b> 293:1 307:17	<b>4c</b> 336:17 339:15	
<b>10th</b> 376:14	323:6 324:4	349:13,18,21	
<b>10:55</b> 152:2	<b>21</b> 293:3 318:21	350:6,20,21	
<b>100</b> 144:18 340:20	319:18 323:6	351:10	
341:2,8	<b>20</b> 176:17,19 208:3	<b>4d</b> 360:20	
<b>1030</b> 1:12	338:1	<b>4:13</b> 378:22	
<b>11</b> 272:21 273:1,8	2007 28:8	<b>400</b> 28:13,14	
<b>11:13</b> 152:3	<b>2008</b> 17:10	5	
<b>12</b> 108:5 134:16	<b>2008-9</b> 35:21	<b>5</b> 3:4,4,7 273:4	
136:16 138:9	<b>2009</b> 17:10	<b>5:00</b> 378:9	
325:8,9,15	<b>2010</b> 28:12 59:4	<b>50</b> 104:19 111:1,2,5	
<b>12-page</b> 221:5,8	<b>2011</b> 220:15	111:17 118:16	
<b>12:20</b> 219:5	<b>2012</b> 1:9 203:11	248:22 301:18	
<b>140/80</b> 193:16	<b>215</b> 3:15	50-something	
256:14	<b>22</b> 28:22 29:7	113:19	
	l		

#### CERTIFICATE

This is to certify that the foregoing transcript

In the matter of: Composite Measure Evaluation Guidance Project Expert Panel

Before: NQF

Date: 11-02-12

Place: Washington, DC

was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate record of the proceedings.

near A ans &

Court Reporter

# **NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS 1323 RHODE ISLAND AVE., N.W. WASHINGTON, D.C. 20005-3701 426