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Dear Drs. Brotman, Septimus and Winkler:

On behalf of the Hepatitis C Work Group of the American Association for the Study of Liver Diseases (AASLD), the American Gastroenterological Association (AGA), and the American Medical Association-convened Physician Consortium for Performance Improvement® (PCPI®), we are writing to provide you with some additional information and our perspectives as you seek public comment on the endorsement recommendations of the National Quality Forum's (NQF) Infectious Disease (ID) Endorsement Maintenance Steering Committee (SC). We appreciate the large task before the Committee and short timeframe for discussion. However, we believe additional dialogue with the SC is essential to demonstrate the value of, the evidence in support of, and the reliability of three measures that have not been recommended for re-endorsement:

- NQF #0393 – Testing for Chronic Hepatitis C-Confirmation of Hepatitis C Viremia,
- NQF #0397 – Hepatitis C: Antiviral Treatment Prescribed, and
- NQF #0400 – Hepatitis C: Hepatitis B Vaccination.

As you know, these measures have been approved and in existence since 2006, so we wish to ensure that a set of measures is available to accomplish our mutual goal of improving the quality of care provided to patients with infectious diseases like Hepatitis C.

Preliminary SC Assessment of AASLD/AGA/PCPI measures:

The 2012 NQF ID Draft Report for Comment confirms the importance of Hepatitis C measures. It was noted at the in-person meeting that more people died in 2007 from Hepatitis C than from HIV. All agreed that Hepatitis C is a highly prevalent condition with a substantial health impact. Since over three-quarters of all HCV infected persons are in the baby boomer population, the CDC has recently recommended that all adults born during 1945 to 1965 receive a one-time test for HCV infection; therefore, we can expect that more patients with chronic HCV will be tested in the coming years. The diagnosis of chronic Hepatitis C requires testing for HCV viremia.

NQF #0393 – Testing for Chronic Hepatitis C-Confirmation of Hepatitis C Viremia

During the SC's review of this measure, the majority of SC members determined that the requirement for evidence was not met. However, a few SC members recognized the importance of the measure and discussed the indirect evidence linking the process to the outcome. Additional information provided by the Work Group included a meta-analysis of 31 studies that found a consistent overall estimate of 15 to 20 percent of people who become infected with acute Hepatitis C will clear the virus. The absence of confirmatory viral testing may then leave these 15 to 20 percent of patients with the mistaken belief that they have chronic Hepatitis C, subjecting these patients to unnecessary anxiety and other harms. The remaining viral positive patients could benefit from the additional counseling for their own and for transmission risk, as

mentioned by SC members, namely avoiding alcohol, getting vaccinated, and providing counseling regarding transmission and remaining engaged in care. Thus, this test is critically important in differentiating whether or not people have resolved infection or are currently infected with HCV, regardless of whether antiviral treatment is contemplated.

The SC was also concerned that little evidence was provided to demonstrate opportunity for improvement and that, like most assessment measures, it represents the "Standard of Care" and does not warrant a performance measure. However, additional evidence provided by the CDC, Boston Medical Center and the Cleveland VA Medical Center below shows that a substantial performance gap remains, illustrating that in practice, confirmatory testing after initial HCV antibody testing is NOT being done often enough to constitute "Standard of Care." Of 20,285 reports of HCV infection received by CDC from state/local surveillance programs in 2006-2007, a total of 10,834 (47.6%) reports had no positive result for HCV RNA.[1] CDC recently reviewed electronic health records of >1,652,055 adult patients seen from January 2006 through December 2010 at 4 integrated healthcare systems in Detroit, Michigan; Danville, Pennsylvania; Portland, Oregon; and Honolulu, Hawaii. Of 9,086 patients with a positive HCV antibody test, 3,428 (37.7%) had no documented follow-up HCV RNA testing in the electronic database.[2] A study conducted at Boston Medical Center of CMS-defined HCV quality indicators, comparing data from 2005-2007 to 2008-2011, revealed a decline in the confirmation of HCV viremia from 73% to 63%.[3]

Members of the Department of Medicine at Louis Stokes Cleveland Department of Veterans Affairs Medical Center in Cleveland, OH found similar rates of testing in their study and included additional information in their conclusions related to implications. They looked at ~400 people who lacked HCV nucleic acid amplification technology (NAT) testing to characterize behaviors in response to patients who have a positive HCV antibody (ab) test but lack viral confirmatory testing. Below are their findings:

1. Thirty one percent of patients with a positive HCV ab test, never had that result acknowledged by a medical provider (HCV ordering or other provider), resulting in missed opportunities for follow-up liver care and Hepatitis C treatment.[4]

2. In 251 instances, the positive HCV ab test was acknowledged by the ordering provider, and despite the lack of viral NAT, these providers took actions that indicated they believed patients had chronic Hepatitis C.[4] These actions included addition of the ICD-9 diagnosis for chronic Hepatitis C to the patient's problem list, ordering serial liver function tests, ordering HAV/HBV vaccinations, etc. Interestingly, very few providers ordered confirmatory NAT in response to the positive HCV ab.

3. In the cases where HCV was entered into the patient's problem list in the EMR, this unconfirmed diagnosis was "perpetuated" by future medical providers that the patient saw in 85% of instances.[4]

While this data is not randomized, nor does it contain a control group, it highlights some of the misconceptions about HCV diagnosis amongst general medical providers and mental health providers that may order HCV ab tests as part of their practices. Unconfirmed diagnoses of HCV can lead to stigmatization, receipt of unnecessary medical interventions, and avoidance of important medical interventions (e.g., statin use). This may be even more impactful as the CDC's

birth cohort screening recommendations trigger more screening. Based on all available evidence, our Hepatitis C Expert Work Group agrees that this measure is of great value.

Ultimately, by not recommending Measure #0393, there will be no NQF-endorsed measure to promote use in national measurement programs. We hope that these explanatory comments better clarify the importance of confirming Hepatitis C viremia after initial testing for the HCV antibody to confirm a diagnosis of HCV infection. We respectfully request that the SC reconsider recommending this valuable measure to improve the quality of care provided to patients with Hepatitis C.

NQF #0397 – Hepatitis C: Antiviral Treatment Prescribed

The ID Draft Report for Comment notes that committee members discussed that a reasonable action for many patients and providers is to wait before initiating therapy until newer and beneficial treatments are available (estimated 18-36 months) that might be more benign. The newer, oral regimens will likely move treatment into an infectious disease realm rather than waiting until it is a significant liver disease. However, in the meantime, of all of the proposed measures, our Hepatitis C Expert Work Group believes that this is the one measure that would have the largest impact on outcomes. Currently, Hepatitis C is overall an undertreated disease. This is not fully reflected in the current performance measure because of the opportunity for numerous appropriate exclusions due to absolute or relative contraindications associated with recommended therapies. Current estimates are that only 20% of chronic Hepatitis C infected patients are eligible for currently recommended treatments. This measure is intended to encourage appropriate antiviral therapy for those with advanced fibrosis (because delayed treatment may expose them to risk for decompensation while waiting for Phase III studies and FDA approval) and would be a placeholder consistent with current guidelines to promote effective antiviral treatment with currently available agents for appropriate patients. In addition, antiviral therapy reduces the risk of hepatocellular carcinoma (HCC) in Hepatitis C-related fibrosis and cirrhosis.[5] The effect may be seen irrespective of the virological response, but is more pronounced among virological responders compared with non-responders.[5]

The NQF committee members did not seem comfortable with the medical exceptions in the measure and were concerned that patients/providers may appropriately decide to wait before beginning therapy. The SC suggested that more granularities are needed to identify exceptions based on intolerance, poor prior treatment response, and a decision to wait for newer drugs. The Work Group would be more than happy to add increased specificity regarding an exception example for delaying treatment in favor of newer, better drugs. We'd like to emphasize that intolerance, poor prior treatment response, and desire to wait for new treatments would fall under medical or patient exceptions if stage of fibrosis is low or if it's the patient's choice. Furthermore, data on exceptions is not lost; rather, exception rates are captured and should be reported alongside of performance rates. In addition, we have performed extensive research and analysis on measure exception reliability in our Cardio-HIT project. *In Cardio-HIT, over 90% of exceptions automatically reported were validated upon manual review of the medical record.*[6] We're including the PCPI methodology regarding exceptions, as well as data from our Cardio-HIT published study to refute concerns regarding the reliability and validity of the exceptions in this measure (Appendix A).

Finally, we would like to call attention to the NQF ID SC's recent decision regarding a measure related to antiviral treatment for patients with HIV. The SC recommended for endorsement

Measure #2083 Prescription of HIV Antiretroviral Therapy, even though the list of ARVs has some potential for difficulties in data collection. The measure developer stated that they preferred outlining the medications that should not be used together, rather than using the approach of an abstractor trying to review regimens to see if they are consistent with the current guidelines. The developer stated that the definition of antiretroviral therapy is any regimen combination that does not fall into the "not recommended" category should alleviate this concern. Since this treatment measure for HIV, although difficult to specify and far from perfect, was recommended for endorsement by the same SC, our Work Group requests a reconsideration of our treatment measure for Hepatitis C. We'd also like to note that the PCPI has a process in place to update our measures once new evidence becomes available. Therefore, as soon as new treatments are approved and guidelines for Hepatitis C updated, we will be able to update our antiviral treatment measure accordingly.

Ultimately, by not recommending Measure #0397, there will be no NQF-endorsed measure for antiviral treatment for patients with Hepatitis C to promote use in national measurement programs. We hope that these explanatory comments better clarify the value of our measure and our intent to update the measure once evidence becomes available. We respectfully request that the SC reconsider recommending this measure to further emphasize the importance of tracking the treatment which should improve the outcomes of care provided to patients with Hepatitis C.

NQF #0400 – Hepatitis C: Hepatitis B Vaccination

The ID Draft Report for Comment reports that, as noted for the Hepatitis A measure, research has found a lower superinfection with Hepatitis B in vaccinated patients. Our Work Group added that the evidence for potential harm is more substantial because there have been three systematic reviews that demonstrate much higher risk of hepatocellular carcinoma when co-infected with both Hepatitis B and Hepatitis C, above the additional effects of one on top of the other. A member of the SC added that the higher risk applies only to 10 percent of Hepatitis B patients that do not clear the infection and remain chronically infected. Nevertheless, our Hepatitis C Expert Work Group feels that Hepatitis B vaccination is even more important than Hepatitis A vaccination. A member of the SC pointed out that this is "liver disease care & preventive medicine 101." Research shows that the vaccine is cost-effective in the general population. In 2010, CDC estimates approximately 35,000 persons were acutely infected with new cases of Hepatitis B; the age group with the highest incidence for acute Hepatitis is young middle-aged adults which also comprise the adult populations with the highest prevalence of HCV infection.[7]

The measure specifies only one injection of the series of three because capturing the data for the full series is difficult and threatens measure feasibility. The measurement burden of 3 shots is high since significant time can pass between the 3 shots and patients may have switched providers or the injections may fall across calendar years. The ID Draft Report said that evidence indicates that a single injection does not confer sufficient immunity to protect the patient. Our CDC data agree and shows that 30%-55% of patients are protected after one vaccination, 75% of patients are protected after 2 shots, and the third shot is essentially the booster and can be administered at any time.[8] However, we disagree with the SC in that we believe that a 50% antibody reduction from just one shot is a sufficient improvement. Furthermore, it should be noted that the level of Hepatitis B antibody that is sufficient for protection or immunity remains unknown. Even though 50% of patients may not have detectable antibody levels, that may be due to the insensitivity of the assay and patients indeed may have adequate protection. Moreover, we are unaware of any data that demonstrate that physicians who give one Hepatitis B shot do not go

on to complete the 3-shot series. Unlike the recommendation for HIV patients, there is no recommendation for post-vaccination confirmation of immunity for Hepatitis C patients.

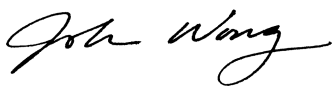
There was a lively discussion of this measure at the in-person meeting, and we noted that the "Exception to Evidence" vote was tied: Y – 10, No – 10, giving compelling reasons for the SC to reconsider this measure. *Ultimately, by not recommending Measure #0400, there will be no NQF-endorsed measure for Hepatitis B vaccination in patients with Hepatitis C to promote use in national measurement programs.* We hope that these explanatory comments better clarify the value of our measure and we request that the SC reconsider recommending this measure.

Conclusion:

We appreciate your time and thoughtful consideration of our perspectives, in light of recent SC discussions and throughout the review process. We understand the complicated process of reviewing measures for potential endorsement and we sincerely thank you for taking our perspectives into account. We would be happy to discuss these issues further with you, at any time in the near future.

Sincerely,

John W. Ward, MD



John B. Wong, MD

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Enclosure

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[3] Sabrina A. Assoumou MD, Wei Huang MA, Benjamin P. Linas, MD MPH. [Poor] Quality of Hepatitis C care at an urban tertiary medical center. Study conducted at Boston Medical Center. Outcomes: Centers for Medicare & Medicaid (CMS)-defined HCV quality indicators introduced in 2008: HCV RNA testing, Genotype testing, Hep A & Hep B vaccinations. Poster presentation from the Infectious Diseases Society of America (IDSA) meeting, 2012.

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[6] Kmetik KS, O'Toole MF, Bossley H, et al. "Exceptions to Outpatient Quality Measures for Coronary Artery Disease in Electronic Health Records." *Annals of Internal Medicine*. February 2011: Volume 154 - Issue 4 - pp 227-234.

[7] http://www.cdc.gov/hepatitis/Statistics/2010Surveillance/index.htm#

[8] MMWR 2006 / 55(RR16);1-25

APPENDIX A

Purpose of Exceptions in Performance Measurement

Exceptions are reasons, such as a drug allergy or a patient preference, why patients may not be candidates for a particular process of care or intermediate outcome of care reflected in a quality measure. In daily patient care, exceptions are critical pieces of information that must be collected, documented, and reviewed by the physician and patient in making patient-centered care decisions.

Exception Documentation

The PCPI measures recognize three broad categories of exception criteria (Table 1). Not all PCPI measures allow for all three types of exceptions, and some PCPI measures do not allow for exceptions. Some examples of potential exceptions are listed for many of the PCPI measures; however, the final decision on whether the patient should be excluded from the denominator of the measure is left to the physician. For performance measures reported based on claims data, CPT II codes provide an exception reporting opportunity in the following manner:

Table 1: CPT Category II Exceptions

CPT Category II Exception Modifiers	**Definition**	**Example**
1P – Performance measure Exception due to medical reasons	Medical reasons for exception should be used in the presence of clinical contraindications such as allergy; severe co-morbidities resulting in a preponderance of potential risks over health benefits to a patient; or other extenuating medical circumstances in a patient's history.	Report 4070F 1P Documentation of a medical reason(s) for not receiving DVT prophylaxis by end of hospital day 2 (eg, patient is ambulatory)
2P – Performance measure Exception due to patient reasons	Patient exceptions should be used for cases in which fully informed patients refuse treatment or services. Patient exceptions are justified in cases in which the patient has communicated directly with the physician that for personal reasons (eg, financial, social, religious) they do not wish to receive the service or treatment.	Report 1080F 2P Documentation of patient reason(s) for not documenting a surrogate decision-maker or advance care plan in the medical record (eg, patient does not wish to discuss advance care planning)
3P – Performance measure Exception due to system reasons	System exceptions should be used when there are structural or institutional barriers within the healthcare environment, such as supply shortages.	Report 4037F 3P Documentation of system reason for not receiving the immunization (eg, national shortage of influenza vaccinations)

Reporting of Exceptions

In performance reporting, the exception rate should be reported alongside the performance rate, providing for a clear picture of patients who met the measure; patients for whom a valid exception exists; and patients who represent opportunities for improvement, and potential areas of focus for quality improvement.

Table 2. Sample Report for Heart-Failure Performance Measure, with Exceptions Delineated.*

Percentage of patients with diagnosis of heart failure and LVSD for whom ACE-inhibitor or ARB therapy prescribed	Patients with heart failure and LVSD — 1021 ACE-inhibitor or ARB therapy prescribed — 770 Therapy not prescribed for exception reason — 63 • Therapy not prescribed for medical reason — 62 • Therapy not prescribed for patient reason — 1 • Therapy not prescribed for system reason — NA Patients without valid exception, therapy should be prescribed — (1021 - 63) = 958 **Performance rate** = (770/958) = **80.4%** **Exception rate** = (63/1021) = **6.2%**

* The sample report is based on the heart-failure performance measure of the American College of Cardiology/American Heart Association/Physician Consortium for Performance Improvement. ACE denotes angiotensin-converting enzyme, ARB angiotensin-receptor blocker, LVSD left ventricular systolic dysfunction, and NA not applicable.

The PCPI measure development methodology includes the use of "exceptions," as defined in the PCPI framework on exceptions.[i] With funding from the Agency for Healthcare Research and Quality, PCPI staff, in collaboration with 5 provider practice sites using different EHR systems, the Iowa Foundation for Medical Care and the National Committee for Quality Assurance, had the opportunity to explore exception rates for 4 drug-related Chronic Stable Coronary Artery Disease (CAD) quality measures developed by the American College of Cardiology, the American Heart Association, and the PCPI. The project was called Cardio-HIT, and the results of this study were published in the *Annals of Internal Medicine* on Feb. 15, 2011:

Kmetik KS, O'Toole MF, Bossley H, et al. "Exceptions to Outpatient Quality Measures for Coronary Artery Disease in Electronic Health Records." *Annals of Internal Medicine*. February 2011: Volume 154 - Issue 4 - pp 227-234.

Cardio-HIT tested four CAD measures, collected from the electronic health records (EHRs) of 6 physician offices with 5 different EHRs containing over 46,737 eligible patient records. The objectives of the study were to determine the frequency and validity of exceptions for these 4 quality measures and to explore options for more granularity of exceptions beyond the broad categories of "medical," "patient" and "system." The practice sites sent data to a data warehouse and measure results, including exception rates, were calculated. These results were then compared with manual reviews of the EHR for a sample of patients and with a pre-determined list of acceptable "medical reason" exceptions.

The study results show that the mean applied exception rate was 3.5% among the 4 measures examined, and many reported exceptions were not applied. For example, physicians prescribed one drug for nearly half of patients with a reported exception, suggesting that exceptions are not automatic but are rather patient specific based on risks and benefits. The results also indicate high agreement among reported exceptions, documentation in records, and the list of appropriate exceptions. Most medical exceptions were clinical contraindications, drug allergies, or drug intolerances, which suggests possible new classifications for PCPI measure exceptions. In addition, for 74.6% of apparent quality failures reported from the EHR, upon manual review of the record, an unreported exception or drug prescription was found. This result suggests the need for more coordinated work among measure developers, EHR vendors and providers who enter data in order to gain confidence in measure results from EHR data.

Exception Reporting in Electronic Health Records (EHRs)
The appropriate method and level of granularity for exception coding is an ongoing debate, internal and external to the PCPI. Historically, the PCPI approach for representing exceptions is to include the CPT® Category II code modifier approach for all measure specifications. Over the past year, the PCPI—in anticipation of quality reporting via EHRs—has begun to code the specific examples listed within each of the three broad categories of measure exceptions, and these coded examples are included in the eSpecifications for approximately 75 PCPI measures, including the Adult and Pediatric Kidney Disease measures submitted to the SC for endorsement consideration. In these cases, we provide the relevant codes from the various clinical terminologies as part of our eSpecifications.

Exception Reporting in Capturing Quality
A comparison of preliminary exception rates for the measures from the Cardio-HIT project and similar demonstration projects shows that the exception rates are generally modest, though they do influence the performance rate (Table 3). The PCPI measure specifications do not provide a comprehensive list of specific exceptions, as many exceptions are not absolute. The physician's

decision to apply or not apply the exception reflects the art and science of medicine and patient preferences. ***In the Cardio-HIT project, over 90% of exceptions automatically reported were validated upon manual review of the medical record.***

In the Cardio-HIT project, the majority of reported exceptions were for medical reasons. These medical exceptions were then grouped into four sub-categories: drug intolerance, drug interaction, drug allergy, and clinical contraindication. This categorization provides even more insight into why patients are excepted from the measure. We plan further research to see if the sub-categories provide useful information at an appropriate level of granularity. Thinking ahead about an EHR environment, we are considering requesting SNOMED coding for those 4 reasons so that "medical" reason at least could provide more information. We do not want to be overly prescriptive, however.

Table 3: Exception Rates Comparison of Coronary Artery Disease Performance Measures

Measure	**Cardio – HIT[ii]**	**Doren[iii]**	**2007 PQRI[iv]**
Antiplatelet Therapy	4.38%	3.5%	4.2%
Drug Therapy for Lowering LDL	8.56%	7.3%	
Beta-blocker Therapy for Prior MI	14.53%	25.3%	8.1%
ACE/ARB Therapy	11.86%	10.1%	

CARDIO-HIT DATA NOT FOR DISTRIBUTION

Recommendations Regarding Exception Reporting

Although reporting rates of exceptions in demonstration projects have been modest, the exceptions provide important information to review in order to promote patient-centered care. Based on our previous research, the PCPI is working to further delineate subcategories of exceptions. Moreover, when used broadly, exception reporting may prove useful to guideline developers, measure developers, and those analyzing variations in care. Exception categories also may be important components of clinical decision support.

Although the PCPI exception methodology does not require today the external reporting of more detailed exception data, we recommend that physicians document the specific reasons for exception in patients' medical records for purposes of optimal patient management and audit-readiness. The PCPI strongly advocates that exception rates be reported alongside performance rates. CMS seems to agree. So, in the future, if a physician sees her exception rate is high, perhaps it will lead to a consideration of whether those exceptions are appropriate and the subsequent identification of areas for quality improvement.

References:

[i] PCPI Position Statement on Specification and Categorization of Measure Exclusions: Recommendations to PCPI Work Groups. Approved by PCPI Membership on May 30, 2008. Can be accessed at http://www.ama-assn.org/ama1/pub/upload/mm/370/exclusions053008.pdf.
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