NATIONAL QUALITY FORUM

Identification of Potential 2013 e-Quality Measures

Executive Summary

This report has been prepared in response to a request from the Office of the National Coordinator for Health Information Technology (ONC) for a rapid analysis of the potential types of 2013 e-Quality Measures (eQM) and the feasibility of generating e-measures within the requisite timeframe for Meaningful Use. It is intended to serve as input to the ONC Policy Committee and DHHS leadership which will be identifying 2013 eQMs in the fall of 2010.

In this report, NQF has identified potential types of eQMs using a two-dimensional framework—one dimension reflects important cross-cutting areas that impact all types of patients and clinical areas, such as care coordination, while the other dimension reflects leading conditions across "patient-focused episodes." Potential 2013 eQMs corresponding to the various "cells" in the framework were then identified from a variety of sources, including existing NQF-endorsed measures that could be adapted, measures in the NQF pipeline for endorsement, and measures in use at leading health systems.

This quick turnaround, 3 month project was not intended to provide recommendations on the selection of specific 2013 measures, but rather, to provide a framework for considering various types of measures and an inventory of available EHR-based measures from leading sources. The purpose of this project was to lay out options based on measures that currently exist. The report also identifies five criteria that could be used by the HIT Policy Committee and DHHS leadership in identifying a parsimonious set of measures. For illustrative purposes, NQF staff has applied the criteria to measures listed in the summary matrix. Lastly, the report identifies some potential methodological issues that need to be addressed and would likely benefit from analysis prior to further adaptation or de novo measure development.

Introduction

It is anticipated that performance measurement can make a quantum leap with new, high quality data from electronic health records (EHRs). The ability to incorporate clinical information across the continuum of care, as well as patient-reported data, should enable the next generation of performance measures. The greater feasibility of data collection associated with e-measures should also facilitate rapid turnaround of measures to those being measured for benchmarking and quality improvement.

Many efforts are underway to ensure that EHRs possess the necessary functionality to support measurement. The development of the Quality Data Set (QDS) is an important opportunity to identify the data elements and data types that should be standardized in EHR products to enable measurement and clinical decision support.

Due to time constraints, 2011 eQMs represent retooled versions of measures developed for administrative claims, paper medical records, and patient surveys, and do not take full advantage of the functionality and capacity of EHR systems. Measures that would have been difficult to obtain using paper medical records, such as the calculation of a body mass index (BMI) or cardiac risk assessment can be readily calculated in EHRs. In fact, the near complete capture of BMI in EHRs stands in sharp contrast to the low rates of BMI measurement in paper medical records. The ability to capture diagnoses from the automated EHR problem list, rather than coding on billing records, should increase the reliable identification of the target population. However, to truly make a quantum leap in measurement, interoperable systems will be required to track patients across providers and sites of care. And, although less feasible in the short-term, personal health records (PHRs) and patient web portals should provide an important window for patients to self-report on medication use, outcomes, patient experience, and care processes. In time, these electronic modalities may replace paper and telephone surveys as the main source of consumer experience and functional status input.

While Health IT has great promise as the source of both measurement and improvement, there are significant barriers and methodologic concerns that need to be addressed. There are

numerous methodologic issues that emerge as e-measures embrace the new measurement paradigm. In this report, some of the methodologic issues that emerge from the innovative use of e-measures are highlighted.

Project Methods

As part of the DHHS contract, NQF was tasked with a short turnaround project that would identify potential meaningful use measures for the future. While the project has been primarily focused on 2013, important gap areas that require measure development have been identified for 2015.

To help guide this work, input was obtained from a small group of thought leaders convened by Dartmouth and NQF to consider measures to drive healthcare transformation for the future. This focus enabled the group to consider what was possible, even if not yet feasible in 2010. These thought leaders included federal representation from ONC, CMS, AHRQ, and CDC, as well as leading edge institutions such as Dartmouth, Geisinger Health System, Palo Alto Medical Foundation [Appendix A].

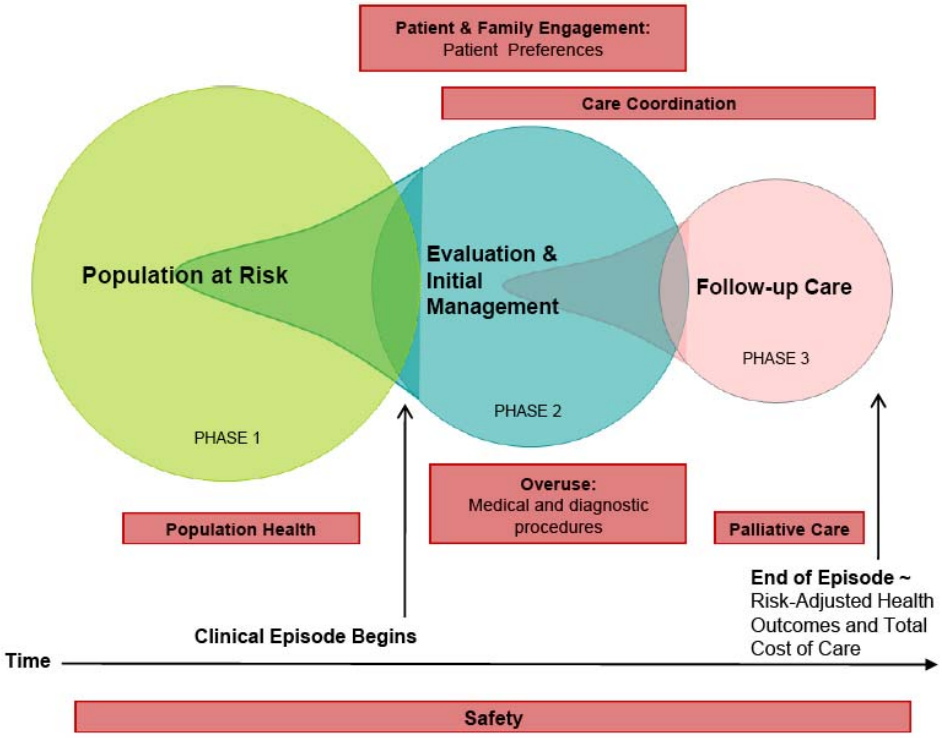
The deliberations of this group were informed by input from various sources. Substantial input was received from the ONC on their high priority measurement concepts. ONC included the following measurement priorities: “saving lives” with an emphasis on stratification by cardiac risk; “improving quality of life” with an emphasis on depression and substance use; “safeguarding the future” with an emphasis on childhood development; “do no harm” with an emphasis on medication adverse events and misuse of common, high risk medications; and “use resources wisely” with an emphasis on reducing the cost of diagnostic testing, both redundant and potentially harmful testing, reduce cost of medications through greater use of generic and more appropriate use of medications, reduce cost associated with unnecessary emergency department and hospital care; “improve patient experience” with an emphasis on access, communication and coordination; and “eliminate disparities” with an emphasis on stratification of quality measures.

NQF also solicited input on the types of measures being considered for use in various initiatives, including ONC's Beacon community program and the Accountable Care Organization (ACO) pilots, and measures being used by leading health systems. See Appendix C for more complete information on the measures in use.

Conceptual Framework and Measure Criteria

To guide the process of identifying potential measures, the group convened by Dartmouth and NQF identified a two-dimensional framework and a set of criteria to use in rating potential eQMs. This framework built on the work of the National Priorities Partnership (NPP) and NQF's patient-focused episode framework. The first dimension included the six cross-cutting priorities that impact all types of patients and clinical areas, such as care coordination, while the other dimension reflects "patient-focused episodes" for a select set of tracer conditions. The episode-focus lends itself to important measurement domains, such as patient-level outcomes, functional status, patient experience of care, and patient preferences throughout the care experience. It also highlights the importance of measuring care transitions and coordinating care across settings. As noted in the diagram below, the patient-focused episode approach, along with the national priorities, moves us toward a new measurement paradigm that can build on the strength of interoperable EHR systems. This two-dimensional framework provided the measurement concepts that were used to identify potential measures.[1]

[1] National Quality Forum (NQF). *Measurement Framework: Evaluating Efficiency Across Patient-Focused Episodes of Care*. Washington, DC: NQF; 2009.



To operationalize the second dimension of the two-dimensional framework—patient focused episodes--the group identified a set of "leading conditions" that would lend themselves to measurement using electronically enabled measures across episodes of care. The list of leading conditions included in this rapid turnaround project was not intended to be inclusive, but rather illustrative. The Medicare condition rankings of the NQF Measure Prioritization Committee were a major consideration in the selection of leading conditions, as was information on frequently occurring conditions in children and younger adults. Additional input from HRSA led to the inclusion of HIV/AIDS on the list of leading conditions.

A total of 17 leading conditions were identified and are included on the measure Grid in Appendix B. Recognizing it would likely not be feasible to address so many conditions in 2013, the group further pared the list to a smaller subset of "tracer conditions" based on the following factors:

- applicability to a broad patient population (e.g., children and adults);
- mix of both medical and surgical conditions, including preference-sensitive procedures;

- conditions for which a longitudinal focus would be important;
- conditions that align with the selected conditions for complementary efforts, such as ACO pilots and the Beacon Community Program.

The tracer conditions, which are noted in the grid in Appendix B, include: asthma, ischemic heart disease (including congestive heart failure), depression, diabetes, well-child care, knee replacement, labor & delivery, and low back pain.

It is important to note that the lists of leading conditions and "tracer conditions" are intended to be illustrative. The HIT Policy Committee or DHHS staff may wish to pursue a different approach to identifying a limited set of conditions to use in operationalizing the proposed two-dimensional framework.

Lastly, the group identified a set of six criteria that might be used to evaluate potential eQMs. As shown in Appendix B, the two-dimensional measure concepts and the proposed measurement criteria constitute the rows and columns of the "measurement grid," and potential eQMs are the cells in the grid. The six measure criteria were used to rate the specific measures identified for priority areas and for leading conditions. The final two criteria -- supports health risk/outcomes assessment and longitudinal measurement across an episode of care -- were considered more appropriate for potential 2015 eQMs but included in the grid to identify potential opportunities for future measure development. The final measure criteria and rating scheme are noted below:

1. **State of readiness**: state of measure development and pipeline/endorsement status at NQF.
    a. Low: measure development required or measure under development.
    b. Medium: measure development completed, but not submitted to NQF.
    c. High: measure in pipeline for endorsement or endorsed by NQF.
2. **HIT-sensitive**: evidence that measures built into EHR-systems with implementation of relevant HIT functions (e.g., clinical decision support) result in improved outcomes and/or clinical performance.

   a. Low: measures built into EHR-systems could result in improved clinical performance, though evidence weak.
   b. Medium: measures built into EHR-systems with implementation of relevant HIT functions (e.g., clinical decision support) would likely result in improved outcomes or clinical performance, though evidence emerging.
   c. High: strong evidence that measures built into EHR-systems with implementation of relevant HIT functions (e.g., clinical decision support) results in improved outcomes and clinical performance.

3. **Promotes parsimony:** measures applicable across multiple types of providers, care settings and conditions.
   a. Low: measures would be limited to select set of providers, care settings, and conditions.
   b. Medium: measures would be applicable to at primary care and specialty providers in a limited set of care settings and conditions.
   c. High: measures would be applicable across multiple types of providers, care settings and conditions.
4. **Preventable burden:** evidence that measurement could support potential improvements in population health and reduce burden of illness.
   a. Low: minimal evidence that measurement could support potential improvements in population health or reduce disease burden.
   b. Medium: moderate evidence that measurement could support improvements in population health or reduce disease burden.
   c. High: strong evidence that the measurement could support improvements in population health and reduce disease burden.
5. **Supports health risk status and outcomes assessment** – supports assessment of patient health risks that can be used for risk adjusting other measures and assessing change in outcomes, including general cross-cutting measures of risk status and functional status and condition-specific measures.
   a. Low: measure would not support health/risk status assessment
   b. Medium: inclusion of the measure could support overall OR condition-specific assessment of health/risk status

   c. High: inclusion of the measure would provide information required for overall health /risk status (e.g., BMI, LDL, health status) AND condition-specific assessments of health/risk status (e.g., cardiac risk score).

6. **Enables longitudinal measurement** –enables assessment of a longitudinal condition-specific patient-focused episode of care.
   a. Low: inclusion of the measure would not enable longitudinal assessment of care across a patient-focused episode.
   b. Medium: inclusion of the measure would support a single condition-specific longitudinal assessment.
   c. High: inclusion of the measure would support a longitudinal assessment of care and shared accountability across providers and sites of care for multiple conditions (e.g., care coordination).

The measure criteria identified by the group of thought leaders are best viewed as a tool that might be used by the HIT Policy Committee, DHHS staff and others in selecting measures from the larger pool of available measures. The criteria were identified using an iterative process. The ratings for each criterion were also developed in a collaborative manner and vetted with members of the group. For illustrative purposes, individual measure ratings were done by NQF staff. Given the short time period, no formal testing of the criteria or ratings was conducted as part of this feasibility analysis.

Identification of Potential 2013 e-Quality Measures

As part of this deliverable, NQF has identified measures from a wide variety of sources that could meet the prioritized measure concepts including:

- NQF-endorsed measures that meet measurement priorities and only retooling for 2013 is required
- NQF-endorsed measures that could meet measure priorities with significant modification (as noted in the comment section)
- Measures in the NQF endorsement pipeline that meet measurement priorities

- High leverage measures in current use by leading public and private health systems and EHR vendors identified in the environmental scan that have not yet been evaluated by NQF.

In addition, high priority measure concepts without identified measures in the above categories are noted. While these measures may exist in the field, we were unable to identify them in our environmental scan, so our working assumption is that these measures would require fast track development.

We completed a rapid-cycle environmental scan among integrated delivery systems (IDSs) with advanced EHRs across the US and two international health systems to identify EHR-based measures in use that are not yet NQF certified or in the pipeline. We contacted leading public and private health systems that have comprehensive EHR systems. Public health systems with known EHR-based measures, such as Veterans Health Affairs (VHA), Health Services and Resources Administration (HRSA), and the Indian Health Service (IHS) were also contacted for lists of potential eQMs. Contact was made via e-mail/telephone to their Chief Medical Officer, Chief Quality Officer, Chief Information Officer (or other senior contact). We requested that they share their current (and if possible under development) quality measurement list with a special emphasis on those innovative quality measures that are feasible only with EHR systems.

Specifically, it was requested that submitted measures go beyond those that can be calculated using paper chart audits, administrative claims, or phone surveys. Such "innovative" measures might make use of data derived from: 1) dynamic functions of EHRs (e.g., involving timing, workflow, or communication flow); 2) CDSS and CPOE functions; or 3) consumer-oriented PHRs or web portals. Cutting edge e-measures that may still be under development were also requested. This effort complemented the environmental scan done by the ONC Standards Committee Quality Work Group that specifically requested e-measures that has driven substantive quality improvement. In the environmental scan for this effort, NQF requested that the health systems submit <u>all</u> of their e-measures. In most cases the full list of submitted measures are included as part of the appendix. The measurement grid contains a sample of the submitted measures that align with the identified measure concepts. The submitted measures on the measure grid include ratings on each of the measurement criteria.

NQF had a robust response from the environmental scan and their current (and in some cases under development) e-measures were received from the following health systems:

- Veterans Affairs
- Indian Health Service
- Health Resources and Services Administration (HRSA)
- Kaiser Permanente
- Brigham and Women's Hospital
- Massachusetts General Hospital
- Cincinnati Children's Hospital
- Park Nicollet Health System
- Mayo Clinic
- Geisinger Health System
- Tenet Healthcare
- Nemours Children's Hospital
- The Marshfield Clinic
- Health Partners (MN)
- The British National Health Service
- The Swedish National Health Service

As noted above, in addition to measures now in use at one or more of these "wired" health systems, we considered EHR-based measures to be used by the ACO pilots, measures put forward by Beacon Community evaluation projects, and several academic development efforts that worked with EHR equipped practices. Outreach to EHR vendors for lists of available e-measures did not result in additional measures that were not identified by the IDSs. Measures identified from queries to measure developers with known EHR-based measures under development were included in the grid.

Measures that corresponded to the measurement concepts identified in the two-dimensional framework were included on the grid in Appendix B. The grid of potential eQMs includes the

measurement priority area and measure source. It also includes, for illustrative purposes, an initial NQF staff rating of selected measures using the measure criteria identified by the Gretsky Group. The full set of eQMs identified through the environmental scan is noted in Appendix C.

Methodological issues

A series of methodologic issues need to be addressed to fully utilize new and innovative e-measures. Further analysis of these issues should be considered prior to further measure adaptation or development. It is fully anticipated that the following list of methodologic issues will expand as implementation of eQMs moves forward.

The use of "delta" measures: There is great interest in measures that track the change in outcomes across time (e.g., "delta" of HbA1C at two points). Methodologic issues that emerge from the use of these change measures include the following: What kinds of outcomes are most amenable to "delta" measurement? How do we determine the two comparison points in time? If there are multiple results in a given time period, do you select the best/worst/average performance? If the "delta" occurs across different providers, how is the change in performance attributed to specific providers?

Incorporation of patient risk: The potential for clinical risk information in EHRs provides an important opportunity to stratify performance measures. For example, a modified Framingham risk score can be calculated from clinical data within EHRs. This risk stratification could be used to identify patients most at risk for poor outcomes and deploy targeted decision support and other quality improvement strategies. An interoperable system, such as Kaiser Permanente, is best suited for this type of approach given the need to incorporate data over time and avoid duplicate testing for the risk score calculation. For example, Kaiser Permanente has a biometric index that is used to track clinical outcomes within population sub-groups.

Patient-reported information: The use of PHRs and web portals offer great potential for further incorporating the voice of the patient into performance measures. For some patient-reported

measures, such as CAHPS, further testing is needed to understand the complexity and length of tools that can be used with patients via a web interface. Further work is needed to understand potential differences in measure performance depending upon mode of entry. For patient-entered clinical information via PHRs/web, further work is needed to understand how to best reconcile conflicting information from patients and providers (e.g., medication lists).

Moving toward interoperability: While many innovative measures can be constructed using interoperable EHRs, some health systems may not have achieved fully interoperable EHRs. It will be important to match the level of the measure to the capacity of the health system using the performance measure. If a measure is designed for health systems with easy access to clinical data across sites and providers of care, it would need to be modified to accommodate a lower level of integration.

Measure evolution: As measures move toward a fully interoperable electronic platform, it will be difficult to compare providers across different data platforms. Further methodologic work that explores the differences found for the same providers across different data platforms would further our understanding of the impact of data source. In the interim, results on performance measures generated from different data platforms should not be considered comparable.

Measure harmonization: The shift to an electronic platform will likely lead to measure harmonization concerns. For example, measures developed with detailed specifications for one platform (e.g., paper medical records, administrative claims data) may not work for EHRs. In addition, relatively simple conventions such as calculation of age and period of measurement will require further standardization.

Use of measures across EHRs: Methodologic issues may emerge when measures developed for a specific EHR, often homegrown systems, are generalized to a broader set of commercial products. Many of the leading systems have built on years of development and refinement.

List of Appendices:

A Members of the group convened by Dartmouth and NQF

B Measurement Grid: Identification of Potential e-Quality Measures

C Environmental Scan: Listing of identified e-measures from health systems (available upon request)

Acknowledgment: We gratefully acknowledge the contributions of the many individuals and organizations who graciously participated in the external scan for potential measures. We acknowledge the important contributions of Jonathan Weiner, Professor of Health Policy and Management at Johns Hopkins School of Public Health and Jessica Holzer, doctoral student at the Johns Hopkins Bloomberg School of Public Health Department of Health Policy and Management.

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PRIORITY AREA/ LEADING CONDITIONS	Potential MU Measures	State of Readiness	HIT-sensitive	Supports parsimony	Preventable Burden	Supports risk status	Enables longitudinal	Comments
PATIENT AND FAMILY ENGAGEMENT: Patient feedback on experience of care including: access, communication, coordination of care, customer	CAHPS family of instruments (including hospital, clinician-group)	High	Medium	High	Medium	Low	High	PHR entered data could raise possible HIT sensitivity for survey data. CAHPS testing via web portal being tested.
	Validated family-centered survey questionnaire for parents' and patients' experiences during inpatient pediatric hospital stay	High	Medium	Low	Medium	Low	High	Currently under review by NQF
	CAHPS Health IT supplement	Medium	High	High	Low	Low	Low	New HIT supplement to CAHPS is nearing completion of testing, including completion via web-based portal for patients
PATIENT AND FAMILY ENGAGEMENT: Measures of decision quality	Decision quality measures	Medium	High	Medium	Medium	High	High	The Foundation for Informed Medical Decision-Making (FIMDM) is working on decision quality for 19 common surgical and cancer screening decisions.
POPULATION HEALTH: Child development (Safeguard the Future)	NQF #10: Young Adult Health Care Survey (YAHCS)	High	Medium	Medium	Medium	Low	High	Survey-based measure
	NQF #11: Promoting Healthy Development Survey (PHDS)	High	Medium	Medium	Medium	High	High	Survey-based measure
	Number of school days children miss due to illness	High	Low	Medium	Medium	Low	High	Survey-based measure. Currently under review by NQF
	Children who have problems obtaining referrals when needed	High	Low	Medium	Medium	Low	High	Survey-based measure. Currently under review by NQF
	(a) Children who did not receive sufficient care coordination services when needed & (b) Children who did not receive satisfactory communication among providers when needed.	High	Low	Medium	Medium	Low	High	Survey-based measure. Currently under review by NQF
	Children who live in communities perceived as safe	High	Low	Medium	Medium	Low	High	Survey-based measure. Currently under review by NQF
	Children who attend schools perceived as safe	High	Low	Medium	Medium	Low	High	Survey-based measure. Currently under review by NQF

Legend:

- Currently under NQF review
- Would require NQF review
- In measure concept phase; would require measure development
- * Measure is on the list of 66 measures to be retooled as is; some would likely require modification to better fit the measure concept

PRIORITY AREA/ LEADING CONDITIONS	Potential MU Measures	State of Readiness	HIT-sensitive	Supports parsimony	Preventable Burden	Supports risk status	Enables longitudinal	Comments
	Pediatric Symptom Checklist (PSC)	High	Low	Medium	Medium	Low	High	Survey-based measure. Currently under review by NQF
	Children who have inadequate insurance coverage for optimal health	High	Low	Medium	Medium	Low	High	Survey-based measure. Currently under review by NQF
	Measure of medical home for children and adolescents	High	Low	Medium	Medium	Low	High	Survey-based measure. Currently under review by NQF
	Well child care	Medium	Medium	Medium	Medium	Low	Low	New measures for well child care under development by NCQA; it is anticipated that e-specs will be available.
	Change in quality of life for children with special health care needs	Medium	High	Low	Medium	High	High	Individual measures on patients with autism who demonstrate improvement; patients who have a reduction in disability score due to headaches; or patients self report of a reduction in pain - currently implemented by Cincinnati Children's
POPULATION HEALTH: Preventive sevices	Preventive services (including immunizations) composite	Medium	High	High	High	Low	High	Individual measures for breast, colon, cervical cancers, flu and pneumoccocal vaccination endorsed and retooled. Composite measure for appropriate preventive services needed. Environmental scan found numerous health systems using e-measures for preventive services.
	NQF #508: Radiology: Inappropriate Use of "Probably Benign" Assessment Category in Mammography Screening*	High	Low	Low	Low	Low	Low	
	The Prevention Index: proportion of 24 services provided appropriately	Medium	High	High	High	Medium	Low	Developed as part of research study (Chan, et al)
	Intimate Partner (Domestic) Violence Screening	Medium	High	Medium	Medium	Low	Medium	Currently implemented by Indian Health Service
POPULATION HEALTH: Avoidable health risks: Cardiovascular health (Saving Lives)	BP control (secondary prevention)	Medium	High	High	High	High	High	Measures retooled, no stratification by risk (e.g., NHLBI risk calculator); consideration for "delta" measures. Currently implemented by ACO pilots

PRIORITY AREA/ LEADING CONDITIONS	Potential MU Measures	State of Readiness	HIT-sensitive	Supports parsimony	Preventable Burden	Supports risk status	Enables longitudinal	Comments
	Lipid control (secondary prevention)	Medium	High	High	High	High	High	Measures retooled, no stratification by risk (e.g., NHLBI risk calculator); consideration for "delta" measures. Currently implemented by ACO pilots
	Aspirin use (secondary prevention)	High	High	High	High	Low	Medium	EHR-based measure that requires aspirin on problem list retooled for ambulatory and inpatient care
	NQF #26: Measure pair: a) Tobacco use prevention for infants, children and adolescents, b) Tobacco use cessation for infants, children and adolescents*	High	High	High	High	Low	Medium	Ambulatory smoking measures retooled and implemented in ACO pilots. New measure under development at Joint Commission for inpatient care.
	Percentage of follow-up patients with obesity who are ≥ 6 years old, whose waist size has decreased (at ≥ 6 months of treatment).	Medium	High	Medium	High	High	High	Currently implemented by IDS (Cincinnati Children's)
	Percentage of visits for patients who are ≥ 6 years old with obesity where waist measurement is documented.	Medium	High	Medium	Medium	Low	Low	Currently implemented by IDS (Cincinnati Children's)
	Nutrition and Exercise Education for At Risk Patients	Medium	High	Medium	High	Low	Medium	Currently implemented by Indian Health Service
	Comprehensive CVD-Related Assessment	Medium	High	Medium	High	Low	Medium	Currently implemented by Indian Health Service
	Weight management - achieving BMI goal	Medium	Medium	Medium	High	Low	Medium	Currently implemented by IDS (Geisinger)
POPULATION HEALTH: Community Health Index	MATCH (Mobilizing Action Toward Community Health)	Low	Low	High	Medium	High	Low	Developmental work on population health at community level
SAFETY: Misuse of common, high-risk medications	NQF #21: Therapeutic monitoring: Annual monitoring for patients on persistent medications	High	Medium	High	High	Medium	Medium	Includes monitoring for ACE/ARB, Digoxin, Lasix, anticonvulsant. Currently implemented by ACO pilots.
	NQF #22: Drugs to be avoided in the elderly*	High	Medium	High	High	Medium	Medium	
	NQF #582: Diabetes and Pregnancy: Avoidance of Oral Hypoglycemic Agents	High	Medium	High	High	Medium	Medium	Clinically enriched administrative measure

PRIORITY AREA/ LEADING CONDITIONS	Potential MU Measures	State of Readiness	HIT-sensitive	Supports parsimony	Preventable Burden	Supports risk status	Enables longitudinal	Comments
	NQF #612: Warfarin - INR Monitoring	High	Medium	High	High	Medium	Medium	Clinically enriched administrative measure
	Warfarin time within target therapeutic range (INR= 2.1-3.0) within 90 days	Medium	High	High	High	Medium	Medium	Developed as part of research study (Nilsson [Chan, et al])
	Medication safety - exchanging and incorporating information from adverse events (e.g., EDs)	Low	High	High	High	Medium	Medium	Measure development needed in this area
SAFETY: Healthcare Acquired Infections	NQF #268: Perioperative Care: Selection of Prophylactic Antibiotic -- First OR Second Generation Cephalosporin*	High	High	Medium	Medium	Low	Low	Could be combined with other antibiotic prophylaxis measures
	NQF #270: Perioperative Care: Timing of Antibiotic Prophylaxis -- Ordering Physician*	High	High	Medium	Medium	Low	Low	Could be combined with other antibiotic prophylaxis measures
	NQF #271: Perioperative Care: Discontinuation of Prophylactic Antibiotics (Non-Cardiac Procedures)*	High	High	Medium	Medium	Low	Low	Could be combined with other antibiotic prophylaxis measures
	NQF #298: Central Line Bundle Compliance*	High	High	Medium	High	Low	Low	Checklist measures
	NQF #302: Ventilator Bundle*	High	High	Medium	High	Low	Low	Checklist measures
	NQF #527: Prophylactic Antibiotic Within 1 Hour Prior to Surgical Incision*	High	High	Medium	Medium	Low	Low	Could be combined with other antibiotic prophylaxis measures
	NQF #528: Prophylactic Antibiotic Selction for Surgical Patients*	High	High	Medium	Medium	Low	Low	Could be combined with other antibiotic prophylaxis measures
	NQF #529: Prophylactic Antibiotic Discontinued Within 24 Hours After Surgery End Time*	High	High	Medium	Medium	Low	Low	Could be combined with other antibiotic prophylaxis measures
	NQF #453: SCIP-Inf-9 Postoperative Urinary Catheter Removal on Post-op Day 1 or 2	High	Medium	Medium	Medium	Low	Low	Currently implemented by IDS (Tenet)
	National Healthcare Safety Network (NHSN) Central line-associated Bloodstream Infection (CLABSI) Outcome Measure	Medium	Medium	High	High	Low	Low	Currently under review by NQF
	National Healthcare Safety Network (NHSN) Catheter-associated Urinary Tract Infection (CAUTI) Outcome Measure	Medium	High	Medium	Medium	Low	Low	Currently under review by NQF
	National Healthcare Safety Network (NHSN) Surgical Site Infection (SSI) Outcome Measure	Medium	Medium	High	High	Low	Low	Currently under review by NQF

PRIORITY AREA/ LEADING CONDITIONS	Potential MU Measures	State of Readiness	HIT-sensitive	Supports parsimony	Preventable Burden	Supports risk status	Enables longitudinal	Comments
	Number of organ space infections by procedure group per NSQIP	Medium	Medium	Medium	Medium	Low	Low	Currently implemented by IDS (Brigham)
	Decrease Use of Urinary Indwelling Catheters in Patients 65 and Older	Medium	Low	Low	High	Low	Low	Currently implemented by IDS (Aurora)
SAFETY: VTE	NQF #239: Perioperative care: Venous Thromboembolism (VTE) Prophylaxis (When Indicated in ALL Patients)*	High	Low	Low	Medium	Low	Low	
SAFETY: Preventable and Premature Hospital Mortality Rates	NQF #200: Death among surgical inpatients with treatable serious complications (failure to rescue)	High	Low	Medium	Medium	Low	Low	Claims based measures
	NQF #347: 'Death in Low Mortality DRGs (PSI 2)	High	Low	Medium	Medium	Low	Low	Claims based measures
	NQF #351: Death among surgical inpatients with serious, treatable complications (PSI 4)	High	Low	Medium	Medium	Low	Low	Claims based measures
	NQF #352: Failure to Rescue In-Hospital Mortality (risk adjusted)	High	Low	Medium	Medium	Low	Low	Claims based measures
	NQF #530: Mortality for Selected Conditions	High	Low	Medium	Medium	Low	Low	Claims based measures
CARE COORDINATION: Medication Management and Adherence	NQF # 97: Medication reconcilliation for Patients 65 and Older*	High	High	High	High	Low	High	Currently implemented by ACO pilots and proposed by a Beacon community.
	NQF #542: Adherence to chronic medications	High	Medium	High	Medium	Low	Medium	Based on pharmacy and claims data only. Need to incorporate pharmacy claims data into EHRs
	Rates of adverse drug events due to contraindicated drugs	Medium	High	Medium	High	High	High	Developed as part of research study (Lasser [Chan, et al])
	Polypharmacy – elderly who consume ten or more drugs	Medium	High	Medium	Medium	Medium	Low	Implemented in Sweden

PRIORITY AREA/ LEADING CONDITIONS	Potential MU Measures	State of Readiness	HIT-sensitive	Supports parsimony	Preventable Burden	Supports risk status	Enables longitudinal	Comments
	Polypharmacy – elderly who consume three or more psychopharmacological drugs	Medium	High	Medium	Medium	Medium	Low	Implemented in Sweden
	Adherence to medications (patient self-report)	Low	Medium	High	Medium	Low	Medium	No adherence measures based on patient self-report via portal/PHRs were identified. Measure development needed.
	Generic use measure	Low	High	Medium	High	Medium	Low	Measures needed in this area
CARE COORDINATION: Emergency Department Throughput	NQF #496: Emergency Department Throughput—admitted patients median time from ED arrival to ED departure for Discharged ED patients*	High	Medium	High	Medium	Low	Low	Could be combined with companion time measure #0497.
	NQF #497: Emergency Department Throughput—admitted patients Admission decision time to ED departure time for admitted patients	High	Medium	High	Medium	Low	Low	As above
CARE COORDINATION: Care Transitions	NQF #228: Care Transitions Measure (CTM) 3-item survey	High	High	High	High	Low	High	3-item patient survey could be adapted for patient self-report via web/portal
	NQF #647: Transition Record with Specified Elements Received by Discharged Patients (Inpatient Discharges to Home/Self Care or Any Other Site of Care)	High	High	High	High	Low	Low	Recently endorsed
	NQF #648: Timely Transmission of Transition Record (Inpatient Discharges to Home/Self Care or Any Other Site of Care)	High	High	High	High	Low	Low	Recently endorsed
	NQF #649: Transition Record with Specified Elements Received by Discharged Patients (Emergency Department Discharges to Ambulatory Care [Home/Self Care])	High	High	High	High	Low	Low	Recently endorsed
	Critical Information Included with PCP Request for Specialist Referral	Medium	High	Medium	High	Medium	Low	NCQA measures developed for EHRs and ready for submission
	Critical Information Re PCP Referral Received by Specialist	Medium	High	Medium	High	Medium	Low	NCQA measures developed for EHRs and ready for submission
	Primary Care Communication about Referral to Patient/Family	Medium	High	Medium	High	Medium	Low	NCQA measures developed for EHRs and ready for submission
	Specialist Communication of Results to Patient/Family	Medium	High	Medium	High	Medium	Low	NCQA measures developed for EHRs and ready for submission
	Primary Care Clinician Review of Specialist Report	Medium	High	Medium	High	Medium	Low	NCQA measures developed for EHRs and ready for submission

PRIORITY AREA/ LEADING CONDITIONS	Potential MU Measures	State of Readiness	HIT-sensitive	Supports parsimony	Preventable Burden	Supports risk status	Enables longitudinal	Comments
	Specialist Report to Primary Care Physician	Medium	High	Medium	High	Medium	Low	NCQA measures developed for EHRs and ready for submission
CARE COORDINATION: Reduce hospital readmissions	NQF #330: 30-Day All-Cause Risk Standardized Readmission Rate Following Heart Failure Hospitalization (risk adjusted)*	High	Low	Low	High	Low	High	Completely claims-based measure for Medicare only
	NQF #329: All Cause Readmission Index*	High	Low	High	High	Low	High	Completely claims-based for all populations. Currently implemented by ACO pilots
	NQF #505: Hospital Specific 30 Day Risk-Standardized Readmission Rate Following AMI Admission*	High	Low	Low	High	Low	High	Completely claims-based measure for Medicare only
	NQF #506: Hospital Specific 30 Day Risk-Standardized Readmission Rate Following Pneumonia Admission*	High	Low	Low	High	Low	High	Completely claims-based measure for Medicare only
CARE COORDINATION: Preventable emergency department visits	Preventable ED visit - general or condition-specific	Low	Medium	Medium	Medium	High	Medium	Environmental scan did not find measure in use. Measure development needed (AHRQ modifying preventable hospitalization measure for ED visits). Proposed for use by a Beacon community
	Returns to ED within 72 hours with same chief complaint resulting in an admission	Medium	High	Medium	Medium	High	Medium	Currently implemented by Massachusetts General Hospital
PALLIATIVE AND END-OF-LIFE CARE:	NQF #208: Family Evaluation of Hospice Care Survey	High	Low	Low	Medium	Medium	Medium	Survey measure
	NQF #209: Comfortable Dying	High	Low	Low	Medium	Medium	Medium	
	NQF #210: Proportion receiving chemotherapy in the last 14 days of life; emergency room visit in the last days of life; more than one hospitalization in the last 30 days of life; admitted to the ICU in the last 30 days of life;	High	Low	Low	Medium	Medium	Medium	Need new measure steward
OVERUSE: Unnecessary use of antibiotics	NQF #58: Inappropriate antibiotic treatment for adults with acute bronchitis	High	High	Medium	Low	Low	Low	Currently implemented by ACO pilots

PRIORITY AREA/ LEADING CONDITIONS	Potential MU Measures	State of Readiness	HIT-sensitive	Supports parsimony	Preventable Burden	Supports risk status	Enables longitudinal	Comments
	NQF #69: Appropriate treatment for children with upper respiratory infection (URI)*	High	High	Medium	Low	Low	Low	Currently implemented by ACO pilots
	Otitis media with effusion: avoidance of inappropriate use of antimicrobials	Medium	High	Medium	Low	Low	Low	Pipeline measure at NQF; could be combined with other pipeline measures for inappropriate treatment of OME, including use of corticosteroids and antihistamines/decongestants.
OVERUSE: Unwarranted maternity care interventions (See Perinatal in Leading Conditions)								
OVERUSE: Use of unwarranted diagnostic tests	NQF #512: Percentage of patients undergoing cervical spine radiographs in trauma who do not have neck pain, distracting pain, neurological deficits, reduced level of consciousness or intoxication.	High	Low	Low	Medium	Low	Medium	Being expanded to include both C-spine and CT scan of neck in current imaging project.
	#513: Use of Contrast: Thorax Computed Tomography (CT)*	High	Medium	Low	Low	Low	Low	
	Pulmonary CT Imaging for Pulmonary Embolism	High	Low	Low	Low	Low	Medium	Currently under review by NQF
	Appropriate Head CT Imaging in Adults with Mild Traumatic Brain Injury	High	Low	Low	Low	Low	Medium	Currently under review by NQF
	Cardiac Imaging for Non-Cardiac Low-Risk Surgery	High	Medium	High	High	Low	Medium	Currently under review by NQF
	Use of Brain CT in the Emergency Department (ED) for Atraumatic Headache	High	Low	Low	Low	Low	Medium	Currently under review by NQF
	Cardiac stress imaging not meeting appropriate use criteria - Preoperative evaluation in low risk surgery patients	High	Medium	High	High	Low	Medium	Currently under review by NQF

PRIORITY AREA/ LEADING CONDITIONS	Potential MU Measures	State of Readiness	HIT-sensitive	Supports parsimony	Preventable Burden	Supports risk status	Enables longitudinal	Comments
	Cardiac stress imaging not meeting appropriate use criteria - Routine testing after PCI	High	Low	High	High	Low	Medium	Currently under review by NQF
	Cardiac stress imaging not meeting appropriate use criteria - Testing in asymptomatic, low risk patients	High	Medium	High	High	Low	Medium	Currently under review by NQF
	Radiology – Timeliness of Verifying Reports	Medium	High	Low	Low	Low	Low	Currently implemented by VA
	Reduce cost of redundant testing	Medium	Medium	High	High	Low	Medium	Measures addressing this area of overuse are needed including repeat imaging, cardiac studies, and blood tests (see Kern article in appendices for more detail); for example, For diagnostic tests (including blood tests, imaging, and cardiac studies) ordered by a provider over a 3-month period, how many represent tests for which results were already completed for that patient (regardless of the ordering provider)
OVERUSE: Potentially harmful preventive services	Endoscopy & Polyp Surveillance: Colonoscopy Interval for Patients with a History of Adenomatous Polyps - Avoidance of Inappropriate Use*	Medium	Low	Low	Low	Low	Low	Currently under review by NQF
PATIENT-FOCUSED EPISODES OF CARE: Patient reported health status measures	General health status	Medium	Low	High	Medium	High	High	No endorsed general health status measures; could bring in VR-12. VA not using to track outcomes over time.
	Functional Status in Elders	Medium	High	Medium	High	Medium	Medium	Currently implemented by Indian Health Service
DISPARITIES	Consistent collection of race, ethnicity, language as part of routine care	Medium	High	High	High	High	High	NQF disparity-sensitive criteria allows identification of measures that should be routinely stratified
LEADING CONDITIONS								
LEADING CONDITION: ADHD	NQF #106: Diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) in Primary Care for School Age Children and Adolescents*	High	Low	Low	Low	Medium	Medium	

PRIORITY AREA/ LEADING CONDITIONS	Potential MU Measures	State of Readiness	HIT-sensitive	Supports parsimony	Preventable Burden	Supports risk status	Enables longitudinal	Comments
	NQF #107: Management of attention deficit hyperactivity disorder (ADHD) in primary care for school age children and adolescents*	High	Low	Low	Low	Medium	Medium	
	NQF #108: ADHD: Follow-Up Care for Children Prescribed Attention-Deficit/Hyperactivity Disorder (ADHD) Medication*	High	Medium	Low	Medium	Medium	Medium	
LEADING CONDITION: Ischemic Heart Disease (propose tracer condition)	NQF #163: Primary PCI within 90 minutes of Hospital Arrival*	High	High	Low	High	Medium	Medium	
	NQF #160: Beta Blocker Prescribed at Discharge for AMI*	High	High	Low	High	Medium	Medium	
	NQF #142: Aspirin Prescribed at Discharge for AMI*	High	High	Medium	High	Medium	Medium	
	NQF #137: ACEI or ARB for Left Ventricular Systolic Dysfunction- Acute Myocardial Infarction (AMI) Patients*	High	High	Medium	High	Medium	Medium	
	NQF #71: Acute Myocardial Infarction (AMI): Persistence of Beta-Blocker Treatment After a Heart Attack*	High	High	Medium	High	Medium	Medium	Currently implemented by ACO pilots
	NQF # 66: Coronary Artery Disease (CAD): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Patients with CAD and Diabetes and/or Left Ventricular Systolic Dysfunction (LVSD)*	High	High	Medium	High	Medium	Medium	
	NQF # 76: CAD: optimally managed modifiable risk	High	High	Medium	High	Medium	Medium	
	NQF #569: Adherence to lipid-lowering medication	High	High	Medium	High	Medium	Medium	
	Appropriate Medication Therapy in High Risk Patient	Medium	High	Medium	High	Medium	Medium	Currently implemented by Indian Health Service
	Change in use of anti-thrombotic medication from first contact to first monitoring cycle among patients with CVD	Medium	High	Medium	High	Medium	Medium	Developed as part of research study (Chan, et al)
LEADING CONDITION: Asthma (proposed tracer condition)	Asthma admission rate (pediatric)	High	Medium	Medium	High	Medium	Medium	Currently under NQF review

PRIORITY AREA/ LEADING CONDITIONS	Potential MU Measures	State of Readiness	HIT-sensitive	Supports parsimony	Preventable Burden	Supports risk status	Enables longitudinal	Comments
	Percent of asthma patients who perceive their asthma to be well controlled	Medium	Medium	Medium	High	Medium	Medium	Currently implemented by IDS (Cincinnati Children's)
	Percent of visits with asthma patients that have all key elements documented in the EMR	Medium	Medium	Medium	High	Medium	Medium	Currently implemented by IDS (Cincinnati Children's)
	Percent of active asthma patients receiving perfect care.	Medium	Medium	Medium	High	Medium	Medium	Currently implemented by IDS (Cincinnati Children's)
	Admit rate for Asthma among members with moderate to severe asthma	Medium	Medium	Medium	High	Medium	Medium	Currently implemented by integrated delivery system (Kaiser)
	ER visit rate for Asthma among members with moderate to severe asthma	Medium	Medium	Medium	High	Medium	Medium	Currently implemented by integrated delivery system (Kaiser)
	% Asthma Action Plans (AAP) updated and on file in schools	Medium	Low	Medium	High	Medium	Medium	Currently proposed by a Beacon community
LEADING CONDITION: Breast Cancer	Screening Mammography Recall Rate	Medium	Medium	Medium	High	Low	Low	Currently implemented by IDS (Brigham)
LEADING CONDITION: COPD	NQF #102: Chronic Obstructive Pulmonary Disease (COPD): Bronchodilator Therapy*	High	Medium	Low	Low	Low	Medium	
	NQF #549: Pharmacotherapy Management of COPD Exacerbation: Dispensed a systemic corticosteroid within 14 days of the event and dispensed a bronchodilator within 30 days of the event	High	Medium	Low	Low	Low	Medium	
LEADING CONDITIONS: Depression (proposed tracer condition)	NQF #103: Major Depressive Disorder (MDD): Diagnostic Evaluation*	High	Low	Low	Medium	Medium	Low	
	NQF #104: Major Depressive Disorder (MDD): Suicide Risk Assessment*	High	Low	Low	Medium	Medium	Low	
	NQF #110: Bipolar Disorder and Major Depression: Appraisal For Alcohol or Chemical Substance Use*	High	Low	Low	Medium	Medium	Low	
	NQF #112: Bipolar Disorder: Level-of-Function Evaluation*	High	Low	Low	Low	Medium	Low	

PRIORITY AREA/ LEADING CONDITIONS	Potential MU Measures	State of Readiness	HIT-sensitive	Supports parsimony	Preventable Burden	Supports risk status	Enables longitudinal	Comments
	NQF #576: Follow-Up After Hospitalization for Mental Illness	High	Low	Low	Medium	Medium	Low	
	Depression Remission at Twelve Months	High	High	Low	Medium	Medium	Medium	Currently in use by Minnesota Community Measurement
	Depression Remission at Six Months	High	High	Low	Medium	Medium	Medium	Currently in use by Minnesota Community Measurement
	Depression Utilization of the PHQ-9 Tool	High	High	Low	Medium	Medium	Medium	Currently in use by Minnesota Community Measurement
	Antidepressant Medication Management	Medium	Medium	Low	Medium	Medium	Medium	Currently implemented by Indian Health Services
	New Diagnosis of Depression	Medium	Medium	Low	Medium	Medium	Medium	Currently implemented by VA
	Treatment and care of new depression cases	Medium	Medium	Low	Medium	Medium	Medium	Developed as part of research study (Chan, et al)
LEADING CONDITIONS: Diabetes (proposed tracer condition)	NQF #60: Hemoglobin A1c Test for Pediatric Patients*	High	Medium	Low	Medium	Low	Low	
	NQF #416: Diabetes Mellitus: Diabetic Foot and Ankle Care, Ulcer Prevention, Evaluation of Footwear*	High	Low	High	Medium	Low	Low	
	NQF #519: Diabetic Foot Care and Patient Education Implemented*	High	Low	High	Medium	Low	Low	
	NQF #603: Adult(s) taking insulin with evidence of self-monitoring blood glucose testing.	High	High	High	High	Medium	Medium	Clinically enriched administrative measure
	Diabetes Composites	High	Low	High	High	Medium	High	Two diabetes composites are in pipeline at NQF (all/none from MN community measurement and weighted from NCQA)
	Real time glycemic control indicator panel report for in-patients	Medium	High	High	High	Medium	High	Currently implemented by integrated delivery system (Park Nicollet)
	Prediabetes/Metabolic Syndrome	Medium	High	Medium	High	Medium	Medium	Currently implemented by Indian Health Service
	Reduction in Insulin-Induced Hypoglycemia Risk	Medium	High	High	High	Medium	Medium	Currently implemented by VA
LEADING CONDITIONS: Drug & Alcohol Dependency	Alcohol Screening and Brief Intervention (ASBI) in the ER	Medium	High	Medium	Medium	Low	Medium	Currently implemented by Indian Health Service

PRIORITY AREA/ LEADING CONDITIONS	Potential MU Measures	State of Readiness	HIT-sensitive	Supports parsimony	Preventable Burden	Supports risk status	Enables longitudinal	Comments
LEADING CONDITION: Hypertension (See Avoidable Health Risks: Cardiovascular Health above)								
LEADING CONDITIONS: Kidney Disease	NQF#81: ESRD: Plan of Care for Inadequate Hemodialysis in ESRD Patients*	High	Low	Low	Medium	Medium	Medium	
	NQF# 82: ESRD: Plan of Care for Inadequate Peritoneal Dialysis*	High	Low	Low	Medium	Medium	Medium	
	Advanced Chronic Kidney Disease (Stage 4 +) Mgt Bundle	Medium	Medium	Low	Medium	Medium	Medium	Currently advanced by a Beacon community
LEADING CONDITION: TKR (proposed tracer condition)	Functional status change for patients with knee impairments	Medium	Medium	Low	High	High	High	UCSF has implemented pre- and post Oxford scores
	Total hip arthroplasty – implant survival	Medium	Medium	Low	Medium	Medium	Low	Implemented in Sweden
	Total knee arthroplasty – implant survival	Medium	Medium	Low	Medium	Medium	Low	implemented in Sweden
LEADING CONDITION: Labor & Delivery (proposed tracer condition)	NQF #333: Severity-Standardized ALOS - Deliveries	High	Low	Medium	High	Low	Medium	Claims-based measure.
	NQF #469: Elective delivery prior to 39 completed weeks gestation	High	Low	Medium	High	Low	Medium	Very high priority measure since early delivery associated with risk to baby.
	NQF #470: Incidence of Episiotomy	High	Low	Medium	High	Low	Medium	
	NQF #471: Cesarean Rate for Low-Risk Birth Women (aka NTSV CS Rate)*	High	Medium	Medium	High	Low	Medium	
	NQF #476: Appropriate Use of Antenatal Steroids	High	Low	Medium	High	Low	Medium	
	NQF #484: Proportion of infants 22 to 29 weeks gestation treated with surfactant who are treated within 2 hours of birth*	High	Medium	Medium	High	Low	Medium	
	Breastfeeding Rates	Medium	Low	Medium	Medium	Low	Medium	Currently implemented by Indian Health Service

PRIORITY AREA/ LEADING CONDITIONS	Potential MU Measures	State of Readiness	HIT-sensitive	Supports parsimony	Preventable Burden	Supports risk status	Enables longitudinal	Comments
LEADING CONDITION: LBP (proposed tracer condition)	NQF #309: LBP: Appropriate Use of Epidural Steroid Injections	High	Medium	Medium	High	Medium	Medium	
	NQF#308: LBP: Evaluation of Patient Experience	High	Medium	Medium	High	Medium	Medium	
	NQF# 322: LBP: Initial Assessment	High	Medium	Medium	High	Medium	Medium	
	NQF# 316: LBP: Mental Health Assessment	High	Medium	Medium	High	Medium	Medium	
	NQF# 307: LBP: Patient Education	High	Medium	Medium	High	Medium	Medium	
	NQF# 306: LBP: Patient Reassessment	High	Medium	Medium	High	Medium	Medium	
	NQF# 317: LBP: Recommendations for Exercise	High	Medium	Medium	High	Medium	Medium	
	NQF# 305: LBP: Surgical Timing	High	Medium	Medium	High	Medium	Medium	
	NQF#311: LBP: Post-surgical Outcomes	High	Medium	Medium	High	Medium	Medium	
	NQF# 312: LBP: Repeat Imaging Studies	High	Low	Medium	High	Medium	Medium	
LEADING CONDITION: Musculoskeletal	NQF# 50: Osteoarthritis: functional and pain assessment	High	Low	Medium	Medium	Medium	Medium	
	NQF# 51 Osteoarthritis: assessment for use of anti-inflammatory or analgesic over-the-counter (OTC) medications	High	Low	Medium	Medium	Medium	Medium	
	NQF# 354 Hip Fracture Mortality Rate (IQI 19) (risk adjusted)	High	Low	Medium	Medium	Medium	Medium	
	Functional status change for patients with musculoskeletal impairments (including hip, foot/ankle, shoulder, elbow, wrist, hand, lumbar spine, general impairments)	High	Low	Medium	Medium	Medium	Medium	Functional status change after physical therapy (submitted by FOTO)
LEADING CONDITIONS: Stroke	NQF# 434: Deep Vein Thrombosis (DVT)	High	Medium	Medium	Medium	Medium	Medium	
	NQF# 435: Discharged on Antithrombotic Therapy	High	Medium	Medium	Medium	Medium	Medium	
	NQF#437: Thrombolytic Therapy Administered	High	Medium	Medium	Medium	Medium	Medium	
	NQF# 438 Antithrombotic Therapy By End of	High	Medium	Medium	Medium	Medium	Medium	
	NQF# 439 Discharged on Statin Medication	High	Medium	Medium	Medium	Medium	Medium	
	NQF# 440: Stroke Education	High	Medium	Medium	Medium	Medium	Medium	
	NQF# 441: Assessed for Rehabilitation	High	Medium	Medium	Medium	Medium	Medium	
	NQF #241: Anticoagulant Therapy Prescribed for Atrial Fibrillation at Discharge	High	Medium	Medium	Medium	Medium	Medium	

PRIORITY AREA/ LEADING CONDITIONS	Potential MU Measures	State of Readiness	HIT-sensitive	Supports parsimony	Preventable Burden	Supports risk status	Enables longitudinal	Comments
	Functional Communication Measures: Writing, Spoken Expression, Spoken Language Comprehension, Reading, Motor Speech, Memory, Attenion	High	Low	Low	Medium	Medium	Medium	Speech therapy measures for stroke
	NQF #507: Stenosis Measurement in Carotid Imaging Studies*	High	Low	Low	Low	Low	Low	
	Confusion Scale (CAM) real time indicator panel for in-patients	Medium	High	Low	Medium	Medium	Medium	Currently implemented by integrated delivery system (Park Nicollet)
	Percent of patients indicating improved, worsened, and stable QoL from pre-op to post-op assessment (calculated from QOL scores obtained in Neurology)	Medium	High	Medium	Medium	Medium	Medium	Currently implemented by IDS (Cincinnati Children's)
	Activities of daily living (ADL) ability three months after stroke	Medium	High	Low	Medium	Medium	Medium	Implemented in Sweden
LEADING CONDITION: Well Child Care (See Childhood Development above; proposed tracer condition)								

Proposed Measures for ACO Pilot Sites			NQF endorsed
Starter Set of Measures	**Priority Areas**	**Measures**	
	Overuse	Use of imaging studies for low back pain	Y
		Appropriate testing for children with pharyngitis	Y
		Avoidance of antibiotic treatment for adults with acute bronchitis	Y
		Appropriate treatment for children with upper respiratory infection (URI)	Y
	Population Health	Breast cancer screening	Y
		Cervical cancer screening	Y
		Colorectal cancer screening	Y
		Diabetes: HbA1c management (testing)	Y
		Diabetes: cholesterol management (testing)	Y
		Cholesterol management for patients with cardiovascular conditions (testing)	?
		Use of appropriate medications for people with asthma	Y
		Persistence of Beta-Blocker treatment after a heart attack	Y
	Safety	Annual monitoring for patients on persistent medications	Y
Testing Measures	Care Coordination	All-cause readmission measure	Y
	Utilization	Hospital days (per 1,000)	No
		Hospital admissions (per 1,000)	No
		Hospital admissions for ambulatory sensitive conditions (per 1,000)	No
		Emergency room visits (per 1,000)	No
		Emergency room to inpatient admission rates	No
		Use of generics drugs	No
		Doctor visit within 7 days of patient discharge	No
		Imaging rates (per 1,000)	No
Next Phase Measures (requiring clinically-enhanced data)	Diabetes Measures	HbA1C Control (<8.0%)	Y
		LDL Control (LDL-C <130 mg/dL; LDL-C <100 mg/dL)	Y
		BP Control	Y
		Eye Exam	Y
		Kidney Disease Screen	Y
		Aspirin Prophylaxis	Y
	CAD Measures	Drug therapy for lowering LDL	Y
		Aspirin Prophylaxis	Y
	CHF Measures	Persistence of Beta-Blocker Treatment after a Heart Attack	Y
		Beta-Blocker Treatment after a Heart Attack	Y
		IVD: Blood Pressure Management	Y
		IVD: LDL-C <100	Y
	Hypertension Measure	BP Control	Y
	Population Health Measures	Advising Smokers To Quit	Y
		Discussing Smoking Cessation Medication	Y
		Discussing Smoking Cessation Strategies	Y
		Childhood immunizations	Y

Proposed Measures for ACO Pilot Sites			NQF endorsed
		Adult Body Mass Index (BMI) Assessment	Y
		BMI records / Children (WCC)	Y
		Flu Shots for Adults Ages 50-64	Y
		Influenza vaccine	Y
		Pneumovax vaccine	Y
		Medication reconciliation	Y

BEACON Measures / Outcomes
Clinical Effectiveness
Cardiovascular Disease
Basic Cardiac Life Support (BCLS) program participation or completion.
Patients with LDL test and/or a score of <100mg/dl
Coronary Artery Disease Bundle
% ACE/ARB in LVSD,DM, HTN
% BMI measured
% BP < 140/90
% Antiplatelet Therapy
% with prescription for and/or use of Beta Blocker
% Smoking Status Documented
% Pneumococcal Vaccination
% Influenza Vaccination
% of patients with left ventricular function assessment in last year
Stroke Management Bundle
Warfarin - INR Monitoring
(Advanced) Chronic Kidney Disease
Advanced Chronic Kidney Disease (Stage 4 +) Mgt Bundle
ACKD:Hepatitis B Immunization
ACKD: Advance Directive
ACKD: Nephrology referral
ACKD: Lab bundle-
ACKD: Arm Vein preservation
ACKD: Anemia Management
ACKD:Assessment of Iron Stores
ACKD: Hemodialysis Vascular Access- Maximizing Placement of Arterial Venous Fistula (AVF)
Chronic Kidney Disease (CKD) Mgt Bundle
CKD:BMI
CKD:Pneumococcal Vaccine
CKD:Daily Exercise
CKD:Influenza immunization
CKD:Smoking Cessation
CKD Education / Diet / Nephrotoxin avoidance
CKD: Controlling High BP
CKD: % LDL <100
CKD:Diabetes with Hypertension or Proteinuria - Use of an ACE Inhibitor or ARB
CKD:Non-Diabetic Nephropathy - Use of ACE Inhibitor or ARB Therapy
Diabetes
Diabetes Depression Screening and/or Outcomes Improvement - 50%
Patients with diabetes whose symptoms are reassessed within 3 months of initiating
Diabetes Hypertension control
Diabetes Patients with Good HbA1C Control (<7, <8, <9)
Diabetes Patients with Poor HbA1c Control (>9)
Diabetes HbA1c screening
Diabetes LDL control

BEACON Measures / Outcomes
Diabetes eye exam.
Diabetes Management Bundle(DMB) -
Diabetes Influenza Immunization
Diabetes nephropathy screening
Diabetes: pneumococcal vaccination
Behavioral Health
Improved outcomes of treatment for major depression by 50%
Antidepressant Medication Management Effective Acute Phase Treatment; Continuation Phase Treatment
Blood Pressure
Controlling High Blood Pressure
Asthma
Use of appropriate medications for people with asthma.
Increase the total number of Asthma Action Plans (AAP) updated and on file in schools
Other
Prenatal & Post Partum Care Prenatal Care
Increase Physical & Emotional Well being scores
Care Coordination
Develop communication measure for patient portal of high risk, prioritized patients with their PCP
Reduce ambulatory care sensitive admissions
Reduce Hospital Inpatient Re-Admissions
Medication reconciliation/management
Post-discharge case management contact attempted for patients with targeted conditions
Scheduling Provider follow-up for patients discharged from acute care setting or hospitalization for mental illness
Documented action plan within 30 days of discharge
Patientsin Case Management have comprehensive care management assessment completed and documented in EMR
% of CHF or COPD patients in case management who activate their rescue plan during an exacerbation
Communication of dilated retinal exam results to the PCP.
Reduce unnecessary specialty referrals
% of adult hospital admissions that involve mental health disorders and/or substance use related disorders
Advance Care Plan
Preventable ED Visits
Time From Detection to Reporting of Communicable Diseases and/or poor control outcomes requiring therapy changes (APGAR Score of 3 out of 6)
Reduce the time between Emergency Medical Services obtaining an electrocardiogram suspicious for an ST-elevation myocardial infarction and having that electrocardiogram interpreted by an Emergency Department physician within five minutes 75% of the time.
Reduce the door-to-balloon time for patients with ST-elevation myocardial infarctions to less than 90 minutes at all San Diego acute care hospitals that are designated as ST-elevation myocardial receiving hospitals.

BEACON Measures / Outcomes
90% of the diabetic patients who have been seen by their clinician at least once during the last 12 months will have a current medication list in the EHR that includes documentation of allergies and adverse reactions.
Population Health
Childhood Immunizations
Flu vaccinations
Breast Cancer Screening
Cervical Cancer Screening
Colorectal Cancer Screening
Smoking Cessation Counseling to Quit (CAHPS)
Pneumococcal Polysaccharide Vaccine (PPV)
Adult Prevention Bundle (APB)
Prostate Cancer Discussion
Lipid Screening
Tetanus/Diptheria/ Pertusis Vaccine
Osteoporosis Screening
Alcohol Misuse
Child BMI %
% of obese adults
% of adults who consume at least 2 servings of fruit per day
% of adults who consume at least 3 servings of vegetables per day with at least 1 being green/orange
% of adults who smoke
% of diabetes patients of participating Beacon providers who receive preventive health services
Proportion of tobacco using patients making a quit attempt
# of days absent from school
Health Data/Technology
Behavior and bio markers captured within community registry by project's end - Not Developed
Number of primary care providers implementing EHRs
Number of primary care providers participating in the HIE
% of patients using KBC Web-based viewer secure e-messaging and/or for viewing healthcare information
Usefulness of entering and accessing healthcare information to clinicians
% of public who use and/or report finding KBC on line tools usable and/or useful for for entering and accessing healthcare information and/or entering/storing healthcare information
Increase in the transfer of reportable disease information (to state agencies, school systems, NCEDSS, NC-CATCH, etc.)
Reduction in the time for local public health to follow-up on reportable diseases, over the current manual process/Improve timeliness of community health data
Clinicians who produce registries of patients with diabetes and co-morbid heart failure (CHF), pneumococcal and influenza immunization status and/or are capability of reporting measures by race, ethnicity (whenever possible), language, and geographic location.
Develop interfaces between the San Diego County syndromic reporting system and San Diego laboratories, urgent care centers and emergency departments.
Overuse

BEACON Measures / Outcomes
Reduce the number of duplicative lab, x-ray and diagnostic exams -
Patient Experience
Patient Satisfaction and Activation Index or surveys
Develop PCP capabilities for the use of established methods of manual survey and assessment
Access/Cultural Competency/Disparities
Increase access to specialty care for rural, tribal, uninsured and other potentially underserved populations.
% of patients who speak English less than “very well” who have a translator across the continuum of care
Disparity in receipt of health services by racial/ethnic group and/or vulnerable populations
Cost
Calculate health care costs
Reduction in Healthcare costs

Fowles JB, Weiner JP, Chan K, et al. Performance Measures Using Electronic Health Records: Five Case Studies. The Commonwealth Fund, NY, NY May 2008. Available at: http://www.commonwealthfund.org/usr_doc/Briggs_Fowles_perfmeasEHRs5casestudies_1132.pdf?section=4039.

Appendix B. Indicator List

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Response times of clinicians to clinical alerts for HIV patients in primary care	Time from message generation to clinical action noted in EMR (clinician documented action, result from recommended action recorded, condition prompting alert/reminder no longer present, alert marked inappropriate or inapplicable) [Alert: CD4 count]	HIT supported	basic EMR (with scheduling and date/time stamp), alert/reminder system, CPOE	Safran et al. 1995. Lancet 346:341-346. (Refwork#14)
Response times of clinicians to clinical alerts for HIV patients in primary care	Time from message generation to clinical action noted in EMR (clinician documented action, result from recommended action recorded, condition prompting alert/reminder no longer present, alert marked inappropriate or inapplicable) [Alert: Begin AZT or DDI]	HIT supported	basic EMR (with scheduling and date/time stamp), alert/reminder system, CPOE	Safran et al. 1995. Lancet 346:341-346. (Refwork#14)
Response times of clinicians to clinical alerts for HIV patients in primary care	Time from message generation to clinical action noted in EMR (clinician documented action, result from recommended action recorded, condition prompting alert/reminder no longer present, alert marked inappropriate or inapplicable) [Alert: Complete blood count]	HIT supported	basic EMR (with scheduling and date/time stamp), alert/reminder system, CPOE	Safran et al. 1995. Lancet 346:341-346. (Refwork#14)
Response times of clinicians to clinical alerts for HIV patients in primary care	Time from message generation to clinical action noted in EMR (clinician documented action, result from recommended action recorded, condition prompting alert/reminder no longer present, alert marked inappropriate or inapplicable) [Alert: Change AZT dose]	HIT supported	basic EMR (with scheduling and date/time stamp), alert/reminder system, CPOE	Safran et al. 1995. Lancet 346:341-346. (Refwork#14)
Response times of clinicians to clinical alerts for HIV patients in primary care	Time from message generation to clinical action noted in EMR (clinician documented action, result from recommended action recorded, condition prompting alert/reminder no longer present, alert marked inappropriate or inapplicable) [Alert: PCP prophylaxis]	HIT supported	basic EMR (with scheduling and date/time stamp), alert/reminder system, CPOE	Safran et al. 1995. Lancet 346:341-346. (Refwork#14)
Response times of clinicians to clinical alerts for HIV patients in primary care	Time from message generation to clinical action noted in EMR (clinician documented action, result from recommended action recorded, condition prompting alert/reminder no longer present, alert marked inappropriate or inapplicable) [Alert: All alerts]	HIT supported	basic EMR (with scheduling and date/time stamp), alert/reminder system, CPOE	Safran et al. 1995. Lancet 346:341-346. (Refwork#14)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Response times of clinicians to clinical reminders for HIV patients in primary care	Time from message generation to clinical action noted in EMR (clinician documented action, result from recommended action recorded, condition prompting alert/reminder no longer present, alert marked inappropriate or inapplicable) [Reminder: toxoplamosis titre]	HIT supported	basic EMR (with scheduling and date/time stamp), alert/reminder system, CPOE	Safran et al. 1995. Lancet 346:341-346. (Refwork#14)
Response times of clinicians to clinical reminders for HIV patients in primary care	Time from message generation to clinical action noted in EMR (clinician documented action, result from recommended action recorded, condition prompting alert/reminder no longer present, alert marked inappropriate or inapplicable) [Reminder: tuberculin skin test]	HIT supported	basic EMR (with scheduling and date/time stamp), alert/reminder system, CPOE	Safran et al. 1995. Lancet 346:341-346. (Refwork#14)
Response times of clinicians to clinical reminders for HIV patients in primary care	Time from message generation to clinical action noted in EMR (clinician documented action, result from recommended action recorded, condition prompting alert/reminder no longer present, alert marked inappropriate or inapplicable) [Reminder: pneumovax]	HIT supported	basic EMR (with scheduling and date/time stamp), alert/reminder system, CPOE	Safran et al. 1995. Lancet 346:341-346. (Refwork#14)
Response times of clinicians to clinical reminders for HIV patients in primary care	Time from message generation to clinical action noted in EMR (clinician documented action, result from recommended action recorded, condition prompting alert/reminder no longer present, alert marked inappropriate or inapplicable) [Reminder: H influenzae vaccine]	HIT supported	basic EMR (with scheduling and date/time stamp), alert/reminder system, CPOE	Safran et al. 1995. Lancet 346:341-346. (Refwork#14)
Response times of clinicians to clinical reminders for HIV patients in primary care	Time from message generation to clinical action noted in EMR (clinician documented action, result from recommended action recorded, condition prompting alert/reminder no longer present, alert marked inappropriate or inapplicable) [Reminder: Opthalmologic referral]	HIT supported	basic EMR (with scheduling and date/time stamp), alert/reminder system, CPOE	Safran et al. 1995. Lancet 346:341-346. (Refwork#14)
Response times of clinicians to clinical reminders for HIV patients in primary care	Time from message generation to clinical action noted in EMR (clinician documented action, result from recommended action recorded, condition prompting alert/reminder no longer present, alert marked inappropriate or inapplicable) [Reminder: tetanus shot]	HIT supported	basic EMR (with scheduling and date/time stamp), alert/reminder system, CPOE	Safran et al. 1995. Lancet 346:341-346. (Refwork#14)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Response times of clinicians to clinical reminders for HIV patients in primary care	Time from message generation to clinical action noted in EMR (clinician documented action, result from recommended action recorded, condition prompting alert/reminder no longer present, alert marked inappropriate or inapplicable) [Reminder: pap test]	HIT supported	basic EMR (with scheduling and date/time stamp), alert/reminder system, CPOE	Safran et al. 1995. Lancet 346:341-346. (Refwork#14)
Response times of clinicians to clinical reminders for HIV patients in primary care	Time from message generation to clinical action noted in EMR (clinician documented action, result from recommended action recorded, condition prompting alert/reminder no longer present, alert marked inappropriate or inapplicable) [Reminder: All reminders]	HIT supported	basic EMR (with scheduling and date/time stamp), alert/reminder system, CPOE	Safran et al. 1995. Lancet 346:341-346. (Refwork#14)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) use of an oral/topical NSAID for 3 months or more in a patient with hypertension and/or CHF; Denominator: (Outcome) GP practice or hospital contact due to CHF and/or fluid overload	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) use of an ACE inhibitor without monitoring the creatine level before starting treatment, within 6 weeks of commencement, and at least annually thereafter; Denominator: (Outcome) Raised serum creatinine.	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Use of an ACE inhibitor without monitoring the potassium level before starting treatment, within 6 weeks of commencement, and at least annually thereafter; Denominator: (Outcome) Hyperkalaemia (potassium level > 5.5 mmol/l)	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Use of a long half life hypnotic-anxiolytic; Denominator: (Outcome) fall or broken bone	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) In the absence of any contraindication, failing to prescribe a beta-blocker in a patient with a history of an MI; Denominator: (Outcome) A second MI	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Use of an oral/topical NSAID for 1 week or more in a patient with a history of peptic ulcers or GI bleeding; Denominator: (Outcome) Dyspepsia or upper GI bleed, GI perforation, GI ulcer or anaemia	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) In the absence of any contraindication, failing to prescribe an ACE inhibitor to a patient with known CHF; Denominator: (Outcome) GP contact or hospital admission due to worsening symptoms of CHF	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Use of carbamazepine without a full blood count before treatment initiated and periodically during treatment; Denominator: (Outcome) Blood dyscrasias	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Use of an inhaled short acting bronchodilator more than once daily or at night in an asthmatic patient with no regular inhaled "preventer" therapy (corticosteroid or cromoglycate or nedocromil); Denominator: (Outcome) GP practice or hospital contact due to asthma symptoms	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Use of warfarin without monitoring the INR before initiation of treatment, on alternate days in the early days of treatment, then at longer intervals, then at least every 3 months thereafter; Denominator: (Outcome) A minor or major haemorrhagic event	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Use of a potassium wasting diuretic without concurrent use of a potassium supplement or concurrent use of a potassium sparing diuretic or monitoring the potassium level at least annually; Denominator: (Outcome) Hypokalaemia (potassium level < 3.0 mmol/l)	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) In the absence of any contraindication, failing to prescribe aspirin in a patient with a history of MI; Denominator: (Outcome) A second MI	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Use of an inhaled steroid by high dose metered dose inhaler without usage of a spacer device; Denominator: (Outcome) Oral thrush/ dysphonia	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Use of a thyroid agent without monitoring the T4 or thyroid stimulating hormone within 6 weeks of initiation of treatment and at least every 12 months thereafter; Denominator: (Outcome) GP practice or hospital contact due to hyperthyroidism	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Concurrent use of warfarin and an oral/ topical NSAID without monitoring the INR within 10 days; Denominator: (Outcome) A minor or major haemorrhagic event	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Concurrent use of warfarin and an antibiotic without monitoring the INR within 5 days; Denominator: (Outcome) A minor or major haemorrhagic event	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Use of an anticholinergic agent in a patient with a history or current diagnosis of benign prostatic hypertrophy; Denominator: (Outcome) Acute urinary retention	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Use of a statin without monitoring the liver function before starting treatment, within 3 months of commencement and then at 6 monthly intervals thereafter; Denominator: (Outcome) Serum transaminase concentrations elevated to three times the upper limit of the reference range or clinical jaundice	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Prescribing beta-blocker eye drops to a patient with a history of asthma or COAD; Denominator: (Outcome) GP or hospital contact due to a deterioration in symptoms, or an acute exacerbation, of asthma or COAD	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Continued use of a previously established dose of digoxin without assessing the digoxin level in a patient presenting with any of the following symptoms-- anorexia, nausea and vomiting, diarrhoea, visual disturbances, fatigue; Denominator: (Outcome) Drowsiness or confusion or arrhythmias or delirium or hallucinations	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Use of an oral corticosteriod for at least 3 months in a patient with a history or concurrent diagnosis of peptic ulcers and/ or GI bleeding; Denominator: (Outcome) Dyspepsia or upper GI bleed, GI perforation, GI ulcer or anaemia	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Use of digoxin in a patient with CHF, with heart block or advanced bradycardia; Denominator: (Outcome) GP practice or hospital contact due to CHF and/ or heart block	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Use of metoclopramide in a patient with a history of Parkinson's disease; Denominator: (Outcome) Worsening of Parkinson's disease symptoms, e.g., attacks of rigidity or tremor	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Use of imipramine in a patient with a history of current diagnosis of bladder atony resulting from diabetes; Denominator: (Outcome) Acute urinary retention	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Addition of amiodarone to the treatment of a patient already prescribed digoxin without reducing the digoxin dosage by initially one third to one half and subsequent monitoring of the digoxin level; Denominator: (Outcome) Anorexia or nausea and vomiting or diarrhoea or visual disturbances or fatigue or drowsiness or confusion or arrhythmias or delirium or hallucinations	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Concurrent use of an ACE inhibitor and either a potassium sparing diuretic or a potassium supplement without monitoring the potassium level at least annually; Denominator: (Outcome) Hyperkalaemia (potassium level > 5.5 mmol/l)	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Addition of amiodarone to the treatment of a patient already prescribed warfarin without reducing the warfarin dose and closely monitoring the INR; Denominator: (Outcome) a minor or major haemorrhagic event	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
Preventable Drug Related Morbidity (PDRM) Indicators	Numerator: (Pattern of care) Continued use of a previously established dose of phenytoin without assessing phenytoin level in a patient experiencing an altered seizure pattern; Denominator: (Outcome) Hospital admission due to loss of seizure control	HIT supported	basic EMR, specialized data retrieval software (MIQUEST)	Morris et al. 2004. Qual Saf Health Care 2004;13:181-185. (Refwork#10)
The Prevention Index: person-time assessment of proportion of a service interval appropriately covered (i.e., the proportion of months in an observation period covered by a recommended service); summary assessment of 24 preventive services.	**PI Score for specific service = 100 x [covered months/(target period months - excluded months)];** ***Numerator for each service = total number of covered person-month within target period - the portion of target period within which they are covered by the service for therapeutic purposes.*** covered person-month = eligible for the service during the month and appropriately covered; uncovered person-month = eligible for the service during the month, but not covered; excluded months (not counted in the PI calculations) = covered months derived from services delivered for therapeutic or diagnostic reasons or from services for which the individual was not eligible for other reasons (e.g., age).; Denominator for each service = total number of months eligible for service within target period - the portion of target period within which they are covered by the service for therapeutic purposes.	HIT supported	basic EMR, interoperability	Vogt et al. 2004. Health Services Research 39:511-530. (Refwork#16)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Active computer time: the amount of time the EMR system requires for data input or use during consultation	Total time spent in computer-related activities (all keyboard actions, mouse movements, period of inactivity of 10 seconds or less to account for reading on-screen information) during a single consultation	HIT system management	basic EMR, automated data logging of system usage capability	Blignaut et al. 2001. Computers in Nursing 19:130-136. (Refwork#2)
Rates of Medication Data Errors in EMR	Numerator: Number of correct medication records (definition: clinician perspective, medication, schedule, and dose); Denominator: Total number of medication records	HIT system management	basic EMR + medical decision support system (MDSS).	Wagner and Hogan. 1996. Journal of the American Medical Informatics Association. 3:234-244. (Refwork#17)
Rates of Medication Data Errors in EMR	Numerator: Number of correct medication records (definition: clinician perspective, medication only); Denominator: Total number of medication records	HIT system management	basic EMR + medical decision support system (MDSS).	Wagner and Hogan. 1996. Journal of the American Medical Informatics Association. 3:234-244. (Refwork#17)
Rates of Medication Data Errors in EMR	Numerator: Number of correct medication records (definition: Medical Decision-Support System, MDSS, medication only); Denominator: Total number of medication records	HIT system management	basic EMR + medical decision support system (MDSS).	Wagner and Hogan. 1996. Journal of the American Medical Informatics Association. 3:234-244. (Refwork#17)
Rates of Medication Data Errors in EMR	Average number of medications per patient for which no medication record exists	HIT system management	basic EMR + medical decision support system (MDSS).	Wagner and Hogan. 1996. Journal of the American Medical Informatics Association. 3:234-244. (Refwork#17)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Rates of Medication Data Errors in EMR	Numerator: Number of patient medication lists that were both complete and correct; Denominator: Total number of patient medication lists	HIT system management	basic EMR + medical decision support system (MDSS).	Wagner and Hogan. 1996. Journal of the American Medical Informatics Association. 3:234-244. (Refwork#17)
Erythropoietin Prescription Rates in cancer patients with anemia (Hgb level < 12g/dL) with real-time clinical reminder	Numerator: Patients prescribed or treated with an erythropoietin drug [after computer alert]; Denominator: Patients with a recorded Hgb < 12 g/dL at any time 14 days before the visit and was not given erythropoietin before the visit	HIT supported	basic EMR, reminder system, CPOE	Kralj et al. 2003. Am J Med Qual 18:197-203. (Refwork#343)
Medication costs associated with Electronic Prescribing System with Integrated Decision Support in Primary Care	Average drug costs per prescription for new prescriptions (costs includes original prescription plus all refills obtained for medication during the 12 month follow-up period)	HIT system management	basic EMR, CDSS, CPOE	McMullin et al. 2005. Journal of Managed Care Pharmacy 11:322-332. (Refwork#346)
Medication costs associated with Electronic Prescribing System with Integrated Decision Support in Primary Care	Average drug costs per prescription for all perscriptions (includes new prescriptions plus refills for medications prescribed prior to CDSS implementation in the 12 month follow-up)	HIT system management	basic EMR, CDSS, CPOE	McMullin et al. 2005. Journal of Managed Care Pharmacy 11:322-332. (Refwork#346)
Medication costs associated with Electronic Prescribing System with Integrated Decision Support in Primary Care	Average drug costs per member per month for all new prescriptions (costs includes original prescription plus all refills obtained for medication during the 12 month follow-up period)	HIT system management	basic EMR, CDSS, CPOE	McMullin et al. 2005. Journal of Managed Care Pharmacy 11:322-332. (Refwork#346)
Medication costs associated with Electronic Prescribing System with Integrated Decision Support in Primary Care	Average drug costs per member per month for all perscriptions (includes new prescriptions plus refills for medications prescribed prior to CDSS implementation in the 12 month follow-up)	HIT system management	basic EMR, CDSS, CPOE	McMullin et al. 2005. Journal of Managed Care Pharmacy 11:322-332. (Refwork#346)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Quality of documentation of medical records and after care instructions for febrile children	For each of 21 essential items (elements needed to negotiate process-of-care rules in the clinical guideline): percentage of charts with the essential item documented	HIT system management	Guideline embedded EMR, with software program that allows separate rule modules to be created	Schriger et al. 2000 J Am Med Inform Assoc 7(2):186-95. (Refwork#354)
Quality of documentation of medical records and after care instructions for febrile children	Overall documentation score: average documentation percentage across all 21 items	HIT system management	Guideline embedded EMR, with software program that allows separate rule modules to be created	Schriger et al. 2000 J Am Med Inform Assoc 7(2):186-95. (Refwork#354)
Appropriateness of testing and treatment decisions and diagnoses	Numerator: Number of appropriate decisions (whether documented action matched indication, e.g, indicated--given, not indicated--not given); Denominator: Total number of decisions	HIT supported	Guideline embedded EMR, with software program that allows separate rule modules to be created	Schriger et al. 2000 J Am Med Inform Assoc 7(2):186-95. (Refwork#354)
Rates of contraindicated (drug-drug, drug-laboratory, and/or drug-disease) prescriptions	Numerator: Number of patients prescribed a contraindicated drug; had a contraindicated disease; or did not receive adequate monitoring (i.e., in violation of either a drug-drug, drug-disease or drug-laboratory warning); Denominator: Number of patients prescribed a drug with any black box warning (drug-drug warning, drug-disease warning, and/or drug-laboratory warning)	HIT supported	basic EMR, CPOE, CDSS	Lasser et al. 2006 Arch Intern Med 166(3):338-44. (Refwork# 351)
Rates of adverse drug events due to contraindicated drugs	Numerator: Number of adverse drug events due to contraindicated drug; Denominator: Number of patients who received a contraindicated prescription (one that violated a black box warning)	HIT supported	basic EMR, CPOE, CDSS	Lasser et al. 2006 Arch Intern Med 166(3):338-44. (Refwork# 351)
Adverse Drug Events (ADEs) in geriatric ambulatory patients.	Numerator: Drug-related incidents categorized by clinicians manually as ADEs; Denominator: Drug-related incidents identified via manual and computer-generated signals (elevated drug levels, abnormal lab values, antidote meds and diagnoses that could reflect ADE, automated "free-text" review of clinic notes)	HIT supported	basic EMR, computer-based "free text" search capability	Field et al. 2004 J Am Med Inform Assoc 11(6):492-8 (Refwork#402)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Preventable ADEs in geriatric ambulatory patients.	Numerator: Drug-related incidents categorized by clinicians manually as preventable ADEs; Denominator: Drug-related incidents identified via manual and computer-generated signals (elevated drug levels, abnormal lab values, antidote meds and diagnoses that could reflect ADE, automated "free-text" review of clinic notes)	HIT supported	basic EMR, computer-based "free text" search capability	Field et al. 2004 J Am Med Inform Assoc 11(6):492-8 (Refwork#402)
Anticoagulant treatment quality (% time in target therapeutic range)	Numerator: Time within target therapeutic range (INR= 2.1-3.0) within first 90 days of treatment; Denominator: Total time under warfarin treatment within first 90 days of treatment	HIT supported	basic EMR	Nilsson et al. 2004. 21(6):612-6. (Refwork#393)
Anticoagulant treatment quality (% time in subtherapeutic range)	Numerator: Time within subtherapeutic range (INR <2.1) within first 90 days of treatment; Denominator: Total time under warfarin treatment within first 90 days of treatment	HIT supported	basic EMR	Nilsson et al. 2004. 21(6):612-6. (Refwork#393)
Anticoagulant treatment quality (% time in supertherapeutic range)	Numerator: Time within supertherapeutic range (INR > 3.0) within first 90 days of treatment; Denominator: Total time under warfarin treatment within first 90 days of treatment	HIT supported	basic EMR	Nilsson et al. 2004. 21(6):612-6. (Refwork#393)
Anticoagulant treatment quality (% tests in target therapeutic range)	Numerator: Number of INR tests in therapeutic range (INR= 2.1-3.0) within first 90 days of treatment; Denominator: Total number of INR monitoring tests performed for patients on warfarin treatment within first 90 days of treatment	HIT supported	basic EMR	Nilsson et al. 2004. 21(6):612-6. (Refwork#393)
Anticoagulant treatment quality (% tests in subtherapeutic range)	Numerator: Number of INR tests in subtherapeutic range (INR <2.1) within first 90 days of treatment; Denominator: Total number of INR monitoring tests performed for patients on warfarin treatment within first 90 days of treatment	HIT supported	basic EMR	Nilsson et al. 2004. 21(6):612-6. (Refwork#393)
Anticoagulant treatment quality (% tests in supertherapeutic range)	Numerator: Number of INR tests in subtherapeutic range (INR >3.0) within first 90 days of treatment; Denominator: Total number of INR monitoring tests performed for patients on warfarin treatment within first 90 days of treatment	HIT supported	basic EMR	Nilsson et al. 2004. 21(6):612-6. (Refwork#393)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Cardiovascular disease prevention: risk reduction process measures	Numerator: number of patients with no risk factors who were screened within the last five years; Denominator: all patients 30 or older not known to have any cardiovascular risk factor	HIT supported	basic EMR	Rabinowitz and Tamir 2005. Eur J Cardiovasc Prev Rehabil 12:56-62. (Refwork#391)
Cardiovascular disease prevention: risk reduction process measures	Numerator: Number of patients who were monitored: within 6 months for patients with CVD and/or diabetes and/or hypertension and within 12 months for all other patients; Denominator: all patients with >=1 risk factor for CVD	HIT supported	basic EMR	Rabinowitz and Tamir 2005. Eur J Cardiovasc Prev Rehabil 12:56-62. (Refwork#391)
Cardiovascular disease prevention: risk reduction process measures	Change in use of anti-thrombotic medication from first contact to first monitoring cycle among patients with CVD	HIT supported	basic EMR	Rabinowitz and Tamir 2005. Eur J Cardiovasc Prev Rehabil 12:56-62. (Refwork#391)
Cardiovascular disease prevention: risk reduction process measures	Change in use of ACE-inhibitors/ARBs from first contact to first monitoring cycle among hypertensive diabetic patients or patients with CHF	HIT supported	basic EMR	Rabinowitz and Tamir 2005. Eur J Cardiovasc Prev Rehabil 12:56-62. (Refwork#391)
Cardiovascular disease prevention: risk reduction process measures	Change in use of lipid-lowering drugs from first contact to first monitoring cycle among dyslipidaemic patients with CVD or diabetes	HIT supported	basic EMR	Rabinowitz and Tamir 2005. Eur J Cardiovasc Prev Rehabil 12:56-62. (Refwork#391)
Cardiovascular disease prevention: risk reduction process measures	Change in use of beta-blockers from first contact to first monitoring cycle among patients post MI	HIT supported	basic EMR	Rabinowitz and Tamir 2005. Eur J Cardiovasc Prev Rehabil 12:56-62. (Refwork#391)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Cardiovascular disease prevention: risk reduction outcome measures	Change in systolic BP from first contact to first monitoring cycle among hypertensive patients	HIT supported	basic EMR	Rabinowitz and Tamir 2005. Eur J Cardiovasc Prev Rehabil 12:56-62. (Refwork#391)
Cardiovascular disease prevention: risk reduction outcome measures	Change in diastolic BP from first contact to first monitoring cycle among hypertensive patients	HIT supported	basic EMR	Rabinowitz and Tamir 2005. Eur J Cardiovasc Prev Rehabil 12:56-62. (Refwork#391)
Cardiovascular disease prevention: risk reduction outcome measures	Change in systolic BP from first contact to first monitoring cycle among hypertensive diabetic patients	HIT supported	basic EMR	Rabinowitz and Tamir 2005. Eur J Cardiovasc Prev Rehabil 12:56-62. (Refwork#391)
Cardiovascular disease prevention: risk reduction outcome measures	Change in diastolic BP from first contact to first monitoring cycle among hypertensive diabetic patients	HIT supported	basic EMR	Rabinowitz and Tamir 2005. Eur J Cardiovasc Prev Rehabil 12:56-62. (Refwork#391)
Cardiovascular disease prevention: risk reduction outcome measures	Change in HbA1c from first contact to first monitoring cycle among diabetic patients	HIT supported	basic EMR	Rabinowitz and Tamir 2005. Eur J Cardiovasc Prev Rehabil 12:56-62. (Refwork#391)
Cardiovascular disease prevention: risk reduction outcome measures	Change in LDL from first contact to first monitoring cycle among patients with CVD or diabetes	HIT supported	basic EMR	Rabinowitz and Tamir 2005. Eur J Cardiovasc Prev Rehabil 12:56-62. (Refwork#391)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Percent medication error by severity category in CPOE facility	numerator: number of medication errors per month reported in CPOE facility. Denominator: Monthly total dosages reported in CPOE facility, # errors/100,000 total doses	HIT supported	CPOE	Zhan et al. 2006 Am J Health Syst Pharm 63:353-358 (RefWorks# 1)
Percent errors per 100.000 doses in CPOE facility	numerator: number of medication errors per month reported in CPOE facility. Denominator: Monthly total dosages reported in CPOE facility, # errors/100,000 total doses	E-iatrogenesis	CPOE	Zhan et al. 2006 Am J Health Syst Pharm 63:353-358 (RefWorks# 1)
Percent fatal errors per 100.000 doses in CPOE	numerator: number of fatal errors per month reported in CPOE facility. Denominator: Monthly total dosages reported in CPOE facility	E-iatrogenesis	CPOE	Zhan et al. 2006 Am J Health Syst Pharm 63:353-358 (RefWorks# 1)
Percent error type related to CPOE	numerator: number of types of medication errors per month reported in CPOE facility. Denominator: Monthly total dosages reported in CPOE facility	E-iatrogenesis	CPOE	Zhan et al. 2006 Am J Health Syst Pharm 63:353-358 (RefWorks# 1)
Prescription rate of Antiplatelet drugs in Diabetics.	Numerator: Number of patients with antiplatelet drug prescription; Denominator: Number of High risk diabetic patients	HIT supported	EMR, alert/reminder system/prompt	Filippi et al. 2003 Diabetes Care 26:1497-1500 (RefWorks# 4)
Prescription rate of Antiplatelet drugs in Diabetics with one risk factor	Numerator: Number of patients with antiplatelet drug prescription; Denominator: Number of High risk diabetic patients with one risk factor	HIT supported	EMR, alert/reminder system/prompt	Filippi et al. 2003 Diabetes Care 26:1497-1500 (RefWorks# 4)
Prescription rate of Antiplatelet drugs in Diabetics with two risk factors	Numerator: Number of patients with antiplatelet drug prescription; Denominator: Number of High risk diabetic patients with two risk factors	HIT supported	EMR, alert/reminder system/prompt	Filippi et al. 2003 Diabetes Care 26:1497-1500 (RefWorks# 4)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Medication management among patients with schizophrenia	Numerator: Number of patients classified as receiving doses above recommended range if the daily dose was above upper limit of recommended range for that drug (indicator of poor quality); Chlorpromazine (300-600 mg/day for outpatients) for both oral and depot meds was the maximum range; Denominator: Number of outpatients with diagnosis of schizophrenia and receiving medications	HIT supported	order entry functions, automated queries.	Owen et al. 2004 JAMIA 11:351-357 (RefWork# 485)
Medication management among patients with schizophrenia	Numerator: Number of medication changed if GAF score was low or decreased; Denominator: Number of outpatients with diagnosis of schizophrenia with low or decreased GAF score.	HIT supported	order entry functions, automated queries.	Owen et al. 2004 JAMIA 11:351-357 (RefWork# 485)
Screening Rate of smoking status	Numerator:patients with smoking status documented in the electronic medical records in the first two days of each month. Denominator: Total number of patients seen during the first two days of each month.	HIT supported	EMR, Prompts /Reminders,	Spencer et al. 1999 Arch Fam Med 8:18-22 (RefWorks# 15)
Clinician interaction with decision support system	Numerator: Number of patients for whom clinicians entered a new blood pressures and updated the advisory; Denominator: Number of patients with a diagnosis of primary hypertension for whom advisories were generated by the decision support system	HIT system management	EMR, CDSS	Goldstein et al, 2004 (RefWorks# 484).
Clinician interaction with decision support system	Numerator: Number of patients for whom clinicians interacted with the advisory screen in any way; Denominator: Number of patients with a diagnosis of primary hypertension for whom advisories were generated by the decision support system	HIT system management	EMR, CDSS	Goldstein et al, 2004 (RefWorks: 484).
Treatment and care of new depression cases	Numerator: Number of new cases for whom antidepressant medications were prescribed or filled within one month and six months after index visit; Denominator: All cases of new-onset depression identified within specified period by automated query	HIT supported	Integrated EMR (meds, diagnoses, etc.) with automated query function (VA system)	Kramer et al. 2003. Joint Commission Journal on quality and safety 29, 9, 479-489 (Refworks #9)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Treatment and care of new depression cases	Numerator: Number of new cases for whom a therapeutic dose of antidepressant medication was prescribed or filled within one month and six months after index visit; Denominator: All cases of new-onset depression identified within specified period by automated query	HIT supported	Integrated EMR (meds, diagnoses, etc.) with automated query function (VA system)	Kramer et al. 2003. Joint Commission Journal on quality and safety 29, 9, 479-489 (Refworks #9)
Treatment and care of new depression cases	Numerator: Number of new cases for whom at least one psychotherapy session occurred within six months after index visit; Denominator: All cases of new-onset depression identified within specified period by automated query	HIT supported	Integrated EMR (meds, diagnoses, etc.) with automated query function (VA system)	Kramer et al. 2003. Joint Commission Journal on quality and safety 29, 9, 479-489 (Refworks #9)
Treatment and care of new depression cases	Numerator: Number of new cases for whom antidepressant medication were prescribed or filled or at least one psychotherapy session occurred within six months after index; Denominator: All cases of new-onset depression identified within specified period by automated query	HIT supported	Integrated EMR (meds, diagnoses, etc.) with automated query function (VA system)	Kramer et al. 2003. Joint Commission Journal on quality and safety 29, 9, 479-489 (Refworks #9)
Treatment and care of new depression cases	Numerator: Number of new cases seen in a mental health setting within six months after index; Denominator: All cases of new-onset depression identified within specified period by automated query	HIT supported	Integrated EMR (meds, diagnoses, etc.) with automated query function (VA system)	Kramer et al. 2003. Joint Commission Journal on quality and safety 29, 9, 479-489 (Refworks #9)
Treatment and care of new depression cases	Numerator: Number of new cases with 8 or greater psychotherapy sessions within six months after index visit; Denominator: All cases of new-onset depression identified within specified period by automated query	HIT supported	Integrated EMR (meds, diagnoses, etc.) with automated query function (VA system)	Kramer et al. 2003. Joint Commission Journal on quality and safety 29, 9, 479-489 (Refworks #9)
Optimal level of control for hyperglycemia in patients with diabetes	Numerator: (based on ideal goals set by ADA), Patients with HbA1c <7%; Denominator: patients with diagnosis of diabetes (ICD-9 code 250.XX) active over specified time period	HIT supported	National electronic health record network	Gill et al. 2006. Am J Med Qual 21:13-17 (Refworks #6)
Optimal level of control for hypertension in patients with diabetes	Numerator: (based on ideal goals set by ADA), Patients with blood pressure <130/80; Denominator: patients with diagnosis of diabetes (ICD-9 code 250.XX) active over specified time period	HIT supported	National electronic health record network	Gill et al. 2006. Am J Med Qual 21:13-17 (Refworks #6)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Optimal level of control for hyperlipidemia in patients with diabetes	Numerator: (based on ideal goals set by ADA), Patients with LDL level <100 mg/dL; Denominator: patients with diagnosis of diabetes (ICD-9 code 250.XX) active over specified time period	HIT supported	National electronic health record network	Gill et al. 2006. Am J Med Qual 21:13-17 (Refworks #6)
Adequate level of control for hyperglycemia in patients with diabetes	Numerator: (based on current NCQA recommendations), Patients with HbA1c <8%; Denominator: patients with diagnosis of diabetes (ICD-9 code 250.XX) active over specified time period	HIT supported	National electronic health record network	Gill et al. 2006. Am J Med Qual 21:13-17 (Refworks #6)
Adequate level of control for hypertension in patients with diabetes	Numerator: (based on current NCQA recommendations), Patients with blood pressure <140/90; Denominator: patients with diagnosis of diabetes (ICD-9 code 250.XX) active over specified time period	HIT supported	National electronic health record network	Gill et al. 2006. Am J Med Qual 21:13-17 (Refworks #6)
Adequate level of control for hyperlipidemia in patients with diabetes	Numerator: (based on current NCQA recommendations), Patients with LDL level <130 mg/dL; Denominator: patients with diagnosis of diabetes (ICD-9 code 250.XX) active over specified time period	HIT supported	National electronic health record network	Gill et al. 2006. Am J Med Qual 21:13-17 (Refworks #6)
Appropriate use of medication for hyperglycemia in patients with diabetes	Numerator: Patients on treatment medication for HbA1c Denominator: patients with diagnosis of diabetes (ICD-9 code 250.XX) active over specified time period and identified as having inadequate control of HbA1c	HIT supported	National electronic health record network	Gill et al. 2006. Am J Med Qual 21:13-17 (Refworks #6)
Appropriate use of medication for hypertension in patients with diabetes	Numerator: Patients on treatment medication for specified risk factor; Denominator: patients with diagnosis of diabetes (ICD-9 code 250.XX) active over specified time period and identified as having inadequate control of blood pressure	HIT supported	National electronic health record network	Gill et al. 2006. Am J Med Qual 21:13-17 (Refworks #6)
Appropriate use of medication for hyperlipidemia in patients with diabetes	Numerator: Patients on treatment medication for specified risk factor; Denominator: patients with diagnosis of diabetes (ICD-9 code 250.XX) active over specified time period and identified as having inadequate control of LDL	HIT supported	National electronic health record network	Gill et al. 2006. Am J Med Qual 21:13-17 (Refworks #6)
Completeness of EMR data	Percentage of blanks for fields which can be be expected to contain data for all patients (gender, age, marital status, height, weight, occupation, lifestyle information such as smoking, alcohol use)	HIT system management	Qtool extraction program	Treweek. 2003. BMC Health Serv Res 3(1):10 (Refworks #483)
Use of web-based EMR functions in patients with congestive heart failure	Numerator: Number of patients who used the SPPARO/Electronic Messaging system: Denominator: Number of patients given access to SPPARO	HIT system management	patient portal for EMR	Ross et al. 2004. J Med Internet Res 6(2): e12. (Refworks# 407)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Use of web-based EMR functions in patients with congestive heart failure	Numerator: Number of patient hit day (defined as a day that a particular patient used a component of SPPARO, accessing the same component multiple times on the same day still equal one patient hit day); Denominator: Number of days during observation period	HIT system management	patient portal for EMR	Ross et al. 2004. J Med Internet Res 6(2): e12. (Refworks# 407)
Use of web-based EMR functions in patients with congestive heart failure	Numerator: Number of patients viewing specific content of SPPARO such as clinical notes, lab results, radiology results, educational guides; Denominator: Number of patients given access to SPPARO	HIT system management	patient portal for EMR	Ross et al. 2004. J Med Internet Res 6(2): e12. (Refworks# 407)
Use of web-based EMR functions in patients with congestive heart failure	Numerator: number of electronic messages sent to practices through SPPARO by content category (appointment scheduling; medication refill, questions about medications, get test results, report illness; get help interpreting test results); Denominator: Number of patients given access to SPPARO	HIT system management	patient portal for EMR	Ross et al. 2004. J Med Internet Res 6(2): e12. (Refworks# 407)
Electronic message volume	Number of electronic messages sent to provider per month	HIT system management	patient portal for EMR	Ross et al. 2004. J Med Internet Res 6(2): e12. (Refworks# 407)
Provider adherence to the 5A tobacco intervention activities recommended by USPHS	Numerator: Patients who received all five (5A) smoking intervention activities recommended by USPHS; Denominator: Probable current smokers (any patient identified as a smoker in a chart note in the past 3 years who had not subsequently been noted to quit)	HIT supported	health maintenance grid within EMR	Conroy et al. 2005. Nicotine Tobacco Research 7: S35-43 (Refworks# 411)
Performance of decision support system for medication management of hypertensive patients	Numerator: Number of hypertensive patients actually prescribed the specific drug class recommended by the DSS; Denominator: Number of hypertensive patients recommended a specific drug class by the DSS	HIT system management	CDSS	Persson et al. 2000. J Intern Med 247:87-93. (Refworks# 12)
Performance of decision support system for medication management of hypertensive patients	Numerator: Number of hypertensive patients with specified medical history or co-morbidities actually prescribed the specific drug class recommended by the DSS; Denominator: Number of hypertensive patients with specified medical history or co-morbidities recommended a specific drug class by the DSS	HIT system management	CDSS	Persson et al. 2000. J Intern Med 247:87-93. (Refworks# 12)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Utilization rates for a clinical decision support system	Numerator: Number of times Bloodlink, a decision support system on blood test ordering, was used by clinicians; Denominator: Number of patient encounters for clinicians with access to Bloodlink	HIT system management	CDSS	van Wijk et al. 2001. Ann Intern Med 134:274-281 (Refworks# 344)
Clinical chemistry and microbiology test order rates	Numerator: Number of clinical chemistry and microbiology tests ordered; Denominator: Number of patient encounters for clinicians with access to Bloodlink	HIT system management	CDSS	van Wijk et al. 2001. Ann Intern Med 134:274-281 (Refworks# 344)
Safety event reporting	Numerator: Number of medication/infusion events reported within specified period; Denominator: Number of events reported through the electronic reporting system within specified period	HIT supported	electronic safety event reporting system	Tuttle et al. 2004 Qual Saf Health Care 13:281-286 (Refworks# 358)
Safety event reporting	Numerator: Number of adverse clinical events reported within specified period; Denominator: Number of events reported through the electronic reporting system within specified period	HIT supported	electronic safety event reporting system	Tuttle et al. 2004 Qual Saf Health Care 13:281-286 (Refworks# 358)
Safety event reporting	Numerator: Number of falls reported within specified period; Denominator: Number of events reported through the electronic reporting system within specified period	HIT supported	electronic safety event reporting system	Tuttle et al. 2004 Qual Saf Health Care 13:281-286 (Refworks# 358)
Safety event reporting	Numerator: Number of events that resulted in patient harm; Denominator: Number of events reported through the electronic reporting system within specified period	HIT supported	electronic safety event reporting system	Tuttle et al. 2004 Qual Saf Health Care 13:281-286 (Refworks# 358)
Safety event reporting	Numerator: Number of events related to "near misses"; Denominator: Number of events reported through the electronic reporting system within specified period	HIT supported	electronic safety event reporting system	Tuttle et al. 2004 Qual Saf Health Care 13:281-286 (Refworks# 358)
Safety event reporting	Numerator: Number of events related to unsafe conditions; Denominator: Number of events reported through the electronic reporting system within specified period	HIT supported	electronic safety event reporting system	Tuttle et al. 2004 Qual Saf Health Care 13:281-286 (Refworks# 358)

Indicator Description	Measure Specification	Type of Measure	HIT capability	Reference (Refwork #)
Safety event reporting	Numerator: Number of events that resulted in no patient harm; Denominator: Number of events reported through the electronic reporting system within specified period	HIT supported	electronic safety event reporting system	Tuttle et al. 2004 Qual Saf Health Care 13:281-286 (Refworks# 358)
Safety event reporting	Numerator: Number of events due to human factors; Denominator: Number of events reported through the electronic reporting system within specified period	HIT supported	electronic safety event reporting system	Tuttle et al. 2004 Qual Saf Health Care 13:281-286 (Refworks# 358)
Safety event reporting	Numerator: Number of events due to system factors; Denominator: Number of events reported through the electronic reporting system within specified period	HIT supported	electronic safety event reporting system	Tuttle et al. 2004 Qual Saf Health Care 13:281-286 (Refworks# 358)
Safety event reporting	Number of safety events reported each month through the electronic safety reporting system	HIT supported	electronic safety event reporting system	Tuttle et al. 2004 Qual Saf Health Care 13:281-286 (Refworks# 358)
Colorectal screening rates with decision aid use	Numerator: Number of patients with record of screening test ordered and completed for either fecal occult blood test, colonoscopy, sigmoidoscopy or barium enema within 6 months after decision aid use; Denominator: Number of adult patients 50 years or older who used the patient decision support aid for colorectal screening;	HIT system management	CDSS	Kim et al. 2005. BMC Medical Informatics and Decision Making 5:36. (Refworks# 352)
Rates of up-to-date colorectal screening	Numerator: Number of patients with up-to-date status for colorectal screening (fecal occult blood test in past year, sigmoidoscopy or barium enema in past 5 years, or colonoscopy in past 10 years); Denominator: Number of adult patients 50 years or older	HIT supported	CDSS	Kim et al. 2005. BMC Medical Informatics and Decision Making 5:36. (Refworks# 352)

Indian Health Services Clinical Reporting System
(BGP)

National GPRA Developmental Report Performance Measure List

Version 10.0
June 2010

Office of Information Technology (OIT)
Division of Information Resource Management
Albuquerque, New Mexico

DENTAL GROUP

Dental Sealants (6-15 years of age)

***Intact Dental Sealants**

Topical Fluoride

***Topical Fluoride Application**

IMMUNIZATIONS

H1N1 Immunization Status

***Active Clinical 6-59 months with one dose of H1N1 (no refusals)**
***Active Clinical 6-59 months with two doses of H1N1 (no refusals)**
***Active Clinical 5-9 years with one dose of H1N1 (no refusals)**
***Active Clinical 5-9 years with two doses of H1N1 (no refusals)**
***Active Clinical 10-18 years with one dose of H1N1 (no refusals)**
***Active Clinical 19-24 years with one dose of H1N1 (no refusals)**
***Active Clinical 25-64 years with one dose of H1N1 (no refusals)**
***Active Clinical 65+ years with one dose of H1N1 (no refusals)**
***Pregnant Active Clinical with one dose of H1N1 (no refusals)**
***High-Risk Active Clinical 25-64 years with one dose of H1N1 (no refusals)**

Childhood Immunizations (19–35 months)

Active IMM Package Pts w/ 4:3:1:3:3:1:4
*3 Pneumococcal

CANCER SCREENING

Mammogram Rates (42+ years of age)

***Mammogram (no refusals)**

HEDIS Colorectal Cancer screening (50-75 years of age)

***Fecal Occult Blood Test or Fecal Immunochemical Test during Report Period, Flexible Sigmoidoscopy in past 5 years, or Colonoscopy in past 10 years**

USPSTF Colorectal Cancer screening (50-75 years of age)

***Fecal Occult Blood Test or Fecal Immunochemical Test during Report Period, Flexible Sigmoidoscopy in past 5 years AND FOB/ FIT in the past 3 years, or Colonoscopy in past 10 years**

Comprehensive Cancer Screening

***Cervical cancer, breast cancer, and/or colorectal cancer screening**

Tobacco Cessation

Tobacco Cessation Counseling or Smoking Cessation Aid (no refusals)
Quit Tobacco Use
Tobacco Cessation Counseling or Refusal, Smoking Cessation Aid, or Quit Tobacco Use

BEHAVIORAL HEALTH

Alcohol Screening

***Alcohol Screening, alcohol-related diagnosis or procedure (no refusals)**
***Alcohol-related patient education**
***Positive alcohol screen**

Intimate Partner Violence/Domestic Violence Screening

***Intimate Partner Violence/Domestic Violence Screening (no refusals or patient education)**
***IPV/DV-related patient education**

Depression Screening

***Depression Screening, Mood Disorder Diagnosis or Suicide Ideation (no refusals)**

CARDIOVASCULAR DISEASE-RELATED

Comprehensive CVD-Related Assessment

***BP, LDL, and Tobacco Assessed, BMI (no BMI refusals), and Lifestyle Counseling (no refusals or depression screening)**
* Depression screening, mood disorder diagnosis or suicide ideation (no refusals)
*BP documented
*LDL completed
*Tobacco Screen
*BMI calculated (no refusals)
*Received lifestyle education

STD GROUP

HIV Screening

HIV Screening (no refusals)
Refusal of HIV Screening
HIV Screens for User Population with no prior HIV diagnosis

PALLIATIVE CARE

HIGH-RISK MEDICATIONS

Use of High-Risk Medications in the Elderly
Exposure to at least one high-risk medication
Exposure to multiple high-risk medications

Table 2. Top-Scoring Existing Metrics for Measuring with Electronic Reporting the Effect on Quality of Electronic Health Records with Health Information Exchange (*N* = 18)

	Metric Description	Original Metric Set*
	Asthma	
1	The percentage of patients 18–56 years of age who were identified as having persistent asthma and who were appropriately prescribed medication during the measurement year†	NQF
	Cardiovascular Disease	
2	Percentage of patients hospitalized with AMI (acute myocardial infarction) who received persistent beta-blocker treatment (6 months after discharge)	AQA
3	Patients with ischemic vascular disease who have documentation of use of aspirin or another antithrombotic during the 12-month measurement period	NQF
4	Patients with ischemic vascular disease whose most recent LDL-C had a result of less than 100mg/dL	
	Congestive Heart Failure	
5	Percentage of patients with HF who also have paroxysmal or chronic atrial fibrillation who were prescribed warfarin therapy	DOQIT
	Diabetes	
6	Percentage of patients 18–75 years of age with diabetes whose most recent HbA1c level during the measurement year is > 9.0%	NQF
7	Percentage of patients 18–75 years of age with diabetes who had one or more HbA1c test(s) during the measurement year	NQF
8	Percentage of diabetic patients who had at least one HbA1C measured in the reporting period below 7%	TCNY
9	2-part measure: percentage of patients 18–75 years of age with diabetes whose most recent LDL-C level during the measurement year is < 130 mg/dL; percentage of patients 18–75 years of age with diabetes whose most recent LDL-C level during the measurement year is < 100 mg/dL	NQF
	Medication/Allergy Management	
10	Percentage of patients having documentation of current medication list in outpatient record	NQF
11	Percentage of patients having documentation of allergies and adverse reactions in patient record	NQF
	Mental Health	
12	Percentage of patients 18 years of age and older who had a follow-up visit within 30 days after being discharged for an inpatient mental health stay (including hospitalizations for depression, schizophrenia, attention deficit disorder, and personality disorders)‡	NCQA
	Osteoporosis	
13	Percentage of patients aged 50 years and older with fracture of the hip, spine, or distal radius who had a central dual-energy x-ray absorptiometry (DXA) measurement ordered or performed or pharmacologic therapy prescribed	PQRI
	Prevention	
14	The percentage of women 21–64 years of age who received one or more Pap tests to screen for cervical cancer	NQF
15	The percentage of women 40–69 years of age who had a mammogram to screen for breast cancer	NQF
16	The percentage of patients 65 years and older who ever received a pneumococcal vaccination	NQF
17	Flu shots for adults (50–64): the percentage of patients 50–64 years who received an influenza vaccination; flu shots for older adults: the percentage of patients 65 years and older who received an influenza vaccination	NQF
18	Colorectal cancer screening by colonoscopy performed (age 50–80)	TCNY

* NQF, National Quality Forum; AQA, Ambulatory Quality Alliance; LDL-C, low-density lipoprotein cholesterol; HF, heart failure; DOQIT, Doctor's Office Quality Information Technology; TCNY, Take Care New York; HbA1C, glycosolated hemoglobin; NCQA, National Committee on Quality Assurance; PQRI, Physician Quality Reporting Initiative. Please see Table 1 for references for each metric set.

† This metric was modified to include only adult patients.

‡ Because of some concerns about the way it was worded, the metric from the Center for Quality Assessment and Improvement in Mental Health (CQAIMH) set was substituted with the wording from a similar metric in the Healthcare Effectiveness and Data Information Set (HEDIS). The HEDIS version was modified to include only adult patients.

Table 3. Metrics Developed De Novo for Measuring with Electronic Reporting the Effect on Quality of Electronic Health Records with Health Information Exchange (N = 14)*

	Test Ordering
1	**Repeat Blood Tests** For each type of blood test below, consider: Of all the tests ordered by a provider over a six-month period, how many represent tests for which results were already completed for that patient (regardless of the ordering provider) and are less than [insert appropriate repeat interval] old at the time of the second test? Hemoglobin (10 days) Creatinine (10 days) Sodium (10 days) Total cholesterol (6 weeks) HDL cholesterol (6 weeks) Thyroid stimulating hormone (6 weeks) Liver function tests (ALT/AST) (6 weeks) Ferritin (8 weeks) Hemoglobin A1c (12 weeks)
2	**Repeat Imaging Studies** Of those imaging studies (x-rays, ultrasounds, CT scans, and MRIs) ordered by a provider over a three-month period, how many represent tests for which results were already completed for that patient (regardless of the ordering provider) and are no more than 60 days old at the time of the second test?
3	**Repeat Cardiac Studies** Of those cardiac studies (all variants of stress tests and echocardiography) ordered by a provider over a three-month period, how many represent tests for which results were already completed for that patient (regardless of the ordering provider) and are no more than 90 days old at the time of the second test?
	Medications
4	**Generic Prescribing** Of all medications prescribed by a given provider and filled by patients over a three-month period, how many are filled as generic?
5	**Formulary Prescribing** Of all medications prescribed by a given provider and filled by patients over a three-month period, how many are on formulary?
6	**Fill Data** Of all patient visits to a given provider over a three-month period, how many have fill data available at the point of care?
7	**Discharge Medication Documentation** Of all patients discharged from a hospital over a three-month period, how many patients have the discharge medication list documented by the primary care provider during the first outpatient visit following discharge (which could occur up to one month after the discharge)?
	Referrals
8	**Reason for Referral** Of all patients referred to a specialist by a primary care physician over a three-month period, how many have the primary care physician's reason for the referral sent to the specialist's office?
9	**Specialist Recommendations** Of all patients referred to and seen by a specialist for a given primary care physician, for how many patients is the specialist's recommendations sent back to the primary care physician by the time of the patient's next follow-up appointment with the primary care physician (which could occur up to three months after the referral visit)?
	Follow-up After Discharge
10	**Post-Discharge Hospital Follow-Up** Of all patients who are hospitalized in a three-month period, how many are seen by their primary care physicians within 14 days of discharge?
11	**Hospital Discharge Summary** Of all patients who are hospitalized in a three-month period, how many had a discharge summary received by their primary care physician within 14 days of discharge?

(continued on page 367)

Table 3. Metrics Developed De Novo for Measuring with Electronic Reporting the Effect on Quality of Electronic Health Records with Health Information Exchange (N = 14)* (continued)

	Revisits
12	**Ambulatory Care–Sensitive Conditions ED Visits†** Of all patients with at least one ambulatory care–sensitive condition that are in a physician's panel at a given time, how many are seen in the emergency department over the subsequent three months for that ambulatory care–sensitive condition?
13	**Ambulatory Care–Sensitive Conditions Hospitalizations Visits†** Of all patients with at least one ambulatory care–sensitive condition that are in a physician's panel at a given time, how many are hospitalized over the subsequent three months for that ambulatory care-sensitive condition?
14	**Re-admissions** Of all patients who are hospitalized in a three-month period, how many are re-admitted within 30 days of discharge?

* HDL, high-density lipoprotein; ALT, alanine aminotransferase; AST, aspartate aminotransferase; Hemogobin A1c, glycolsolated hemoglobin; CT, computerized tomography; MRI, magnetic resonance imaging; ED, emergency department.

† Common ambulatory care–sensitive conditions for adults, as defined by the Agency for Healthcare Research and Quality, include chronic obstructive pulmonary disease, adult asthma, congestive heart failure, angina without procedure, hypertension, diabetes with long-term complications, diabetes with short-term complications, lower extremity amputations among patients with diabetes, uncontrolled diabetes without complication, bacterial pneumonia, and urinary tract infections requiring hospitalization. (Source: Reference 33. Kruzikas D.T., et al.: *Preventable Hospitalizations: Window into Primary and Preventive Care* 2000. http://www.ahrq.gov/data/hcup/factbk5/ (last accessed May 15, 2009].)

adherence to guidelines for medication reconciliation, but other communities will not.

The ability to measure coordination of care also depends on the degree of electronic integration of a community, because this affects the accuracy of reporting. For example, a well-integrated community will be able to report rates of certain tests more accurately than a less well-integrated community, because health information exchange would be required to integrate electronically results from tests performed only by specialists into the EHRs of generalists.

Our work raises three implications with respect to electronic quality reporting. First, capabilities for reporting are evolving and vary across EHR products. We aimed to propose a metric set that would be feasible for reporting now. However, we acknowledge that metrics that seem quite basic from a quality standpoint may still be remarkably challenging to report electronically from clinical data. Having a metric set like this one may, in fact, help "push the envelope" of what vendor systems can do.

Second, to report metrics electronically, one needs to "translate" existing specifications into those appropriate for clinical data sources. Specifications operationalize numerators, denominators, and exclusion criteria for each metric. Specifications for existing metrics were typically designed for claims data and relied on billing codes to identify the presence of disease. EHRs and health information exchanges offer additional data for identifying disease, including problem lists, abnormal laboratory values, and medication lists. When these data are used, more patients are identified as eligible for inclusion in a metric than when claims are used alone.[36] Furthermore, the technical approach for converting clinical data into an electronic report is currently vendor specific, which may impede widespread, standardized electronic reporting because of the effort required by each vendor. National efforts to standardize EHR data with quality reporting in mind are under way, including work by the National Quality Forum's Health Information Technology Expert Panel (HITEP)[37] and the Healthcare Information Technology Standards Panel (HITSP).[38]

Third, the validity of electronic reporting may depend in part on physicians' documentation, regardless of specifications. For example, the metric on aspirin use in patients with ischemic vascular disease depends on physician documentation, because aspirin is available over-the-counter. Over-the-counter medications are frequently missing from medication lists both because physicians are not required to prescribe them and because patients may not report them.[39]

This study has several limitations. It is possible that we overlooked existing metric sets relevant to our research; however, our national experts felt that both the metric sets and the individual metrics were complete. Ideally, we would have selected metrics already proven to distinguish high- and low-performing systems; however, because such studies have generally not yet been conducted, we relied on expert opinion. We used two different sets of rating scales in Round One and Round Two,

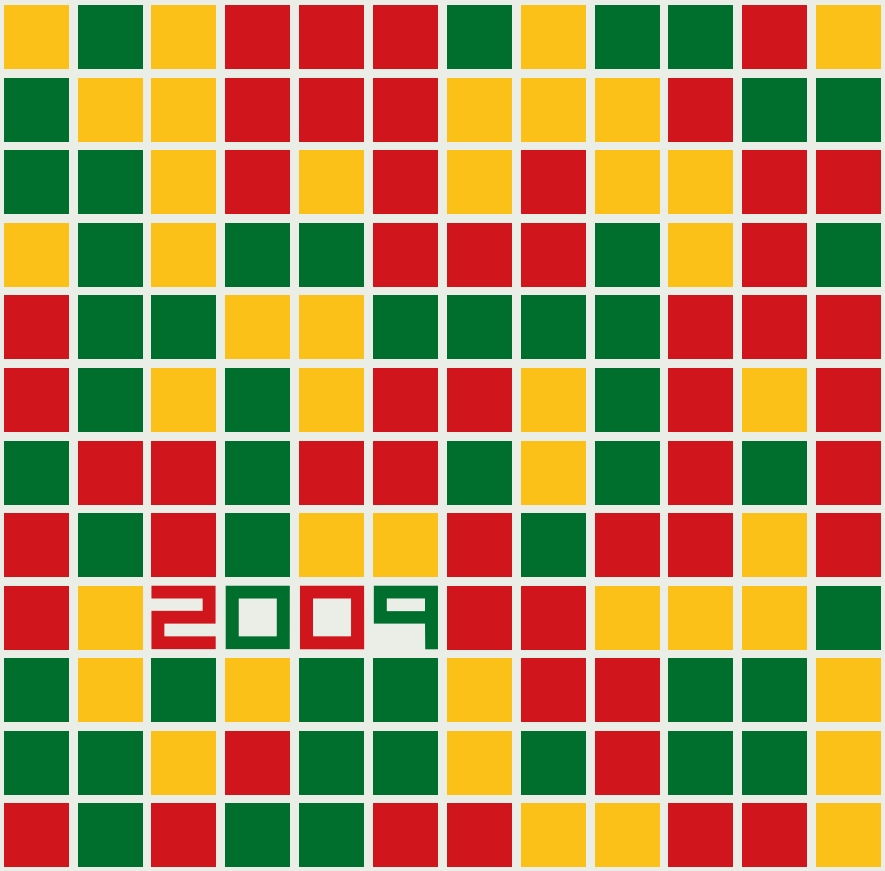
ONC Health System Survey Results

Condition/Cross-Cutting Area	Performance Measure	Submitter
Diabetes	HbA1c<7%	Michael D. Hagen (2013) American Board of Family Medicine
	Diabetic Screen for Peripheral Neuropathy	Michael D. Hagen (2013) American Board of Family Medicine
	Monitoring HbA1c and LDL in Patients with Diabetes	Jim Walker (2013) Geisinger
	Tobacco use in Diabetic Patients	Jim Walker (2013) Geisinger Douglas L. Wood (2013) Mayo Clinic
Preventive Services	Breast Cancer Screening	Douglas L. Wood (2013) Mayo Clinic Walter Suarez (2013) Kaiser Permanente
	Colon Cancer Screening Rate	Walter Suarez (2015) Kaiser Permanente
	Cervical Cancer Screening Rates	Walter Suarez (2015) Kaiser Permanente
	Flu Vaccination	Jim Walker (2013) Geisinger
Obesity	Weight Management	Jim Walker (2015) Geisinger
Hypertension	High Blood Pressure	Walter Suarez (2013) Kaiser Permanente Jim Walker (2015) Geisinger
Healthcare Associated Infections	Decrease Use of Urinary Indwelling Catheters in Patients 65 and Older	Jacqueline Gisch (2013) Aurora Health Care
	SCIP-Inf-3 Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time	Huiling Zhang (2013) Tenet Healthcare
	SCIP-Inf-9 Postoperative Urinary Catheter Removal on Post-op Day 1 or 2	Huiling Zhang (2013) Tenet Healthcare
Safety Events	Total Falls per 1,000 Patient Days	Jacqueline Gisch (2015) Aurora Health Care
Medication Management	Medication Compliance	Barbara McCann (2013) Interim HealthCare
Patient experience	HCAHPS Survey Scores	Huiling Zhang (2015) Tenet Healthcare
Staffing	Nursing Staffing Ratio	Huiling Zhang (2015) Tenet Healthcare

Quality and Efficiency in Swedish Health Care

Regional comparisons 2009

County Council Comparisons – Figures
Description of Indicators



Swedish Association of Local Authorities and Regions

Socialstyrelsen
THE NATIONAL BOARD OF HEALTH AND WELFARE

Introduction

Sweden – a decentralized health care system

In Sweden 21 county councils and regions are responsible for supplying their citizens with health care services. This includes hospital care, primary care, psychiatric care and dental care. Long term care for the elderly is financed and organized by the municipalities. Each county council and region is governed by a political assembly, with its representatives elected for a four year period at every general election.

The county councils and regions are of different size. Stockholm, Västra Götaland and Skåne are considerably larger than the rest, with a population between one and two million each. Gotland is smallest, with about 60 000 inhabitants. Most of the other county councils have populations in the range of 200–300 000 inhabitants.

Within the framework of national legislation and varying health care policy initiatives from the national government, the county councils and regions have substantial decision-making powers and obligations towards their citizens. The Swedish health care system is, in short, a decentralized system. This makes it natural to put focus on the comparative performance of the county councils and regions.

124 indicators for comparisons of county councils

The report Quality and Efficiency in Swedish Healthcare – Regional Comparisons have been published since 2006, in yearly reports. This is a shorter, figures-only English version of the fourth report published in November 2009. A full, English version of the 2008 report is available for downloading - see below.

Here, outcomes are presented for most of the 124 performance indicators which are used to compare the county councils and regions. Figures and indicators for hospitals are excluded. Each indicator is described in the final section of the report. The performance indicators are grouped and presented in the areas shown below.

The county councils and regions are ranked, from better outcomes to less good ones, corresponding to the top and the bottom of the figures, respectively. The reader should observe that a good/bad relative outcome, in comparison to other county councils, not without qualifications is a good/bad absolute outcome. All county councils could have top results, for example in an international comparison – or vice versa. Variation of outcomes should be interpreted in the light of this observation.

For most indicators 95% – confidence intervals is used to illustrate statistical uncertainty. There are other sources of uncertainty, some of which are commented in the description of an indicator. The set of indicators is chosen to mirror the health care system as a whole as good as possible, given the obvious and grave restriction of varying data availability and quality. Still, the main evaluative effort is the comparison per each indicator. For a number of reasons we have had no ambition to summarize all indicators and results into an overall ranking of quality and efficiency.

Indicator areas

Overall Indicators

MORTALITY, STATE OF HEALTH, ETC
PREVENTIVE MEASURES
CONFIDENCE AND PATIENT SATISFACTION
AVAILABILITY
COSTS

Indicators by Area

PREGNANCY, CHILDBIRTH AND NEONATAL CARE
GYNAECOLOGICAL CARE
MUSCULOSKELETAL DISEASES
DIABETES CARE
CARDIAC CARE
STROKE CARE
KIDNEY CARE
CANCER CARE
PSYCHIATRIC CARE
SURGICAL PROCEDURES
INTENSIVE CARE
DRUG THERAPY
OTHER CARE

Further material and contact persons

This and an earlier report including comments on indicators and outcomes, can be downloaded in PDF format. Download from www.skl.se/compare or from www.socialstyrelsen.se/publicerat

For information about this report and ongoing work in the joint project Quality and Efficiency in Swedish Health Care – Regional Comparisons, write to

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Contents

NHS

The Information Centre

for health and social care

Indicators for Quality Improvement

Full indicator list

Contact us
0845 300 6016
www.ic.nhs.uk

The NHS Information Centre is England's central, authoritative source of health and social care information.

Ref. No.	Title	Quality Dimension	NSR Pathway	Topic
CV35	Percentage of ST-elevation myocardial infarction (STEMI) patients who received primary angioplasty within 120 minutes of call (call to balloon time)	Effectiveness	Acute Care	
CV36	Percentage of ST-elevation myocardial infarction (STEMI) patients who received thrombolytic treatment within 60 minutes of call (call to needle time) PLUS percentage of STEMI patients who received primary angioplasty within 120 minutes of call (call to balloon time)	Effectiveness	Acute Care	
CV34	Percentage of ST-elevation myocardial infarction (STEMI) patients who received thrombolytic treatment within 60 minutes of call (call to needle time)	Effectiveness	Acute Care	
RA18	Emergency readmissions to hospital within 28 days of discharge: fractured proximal femur	Effectiveness	Acute Care	
RA17	Emergency readmissions to hospital within 28 days of discharge: hip replacement surgery	Effectiveness	Acute Care	
RA20	Emergency readmissions to hospital within 28 days of discharge: stroke	Effectiveness	Acute Care	
RA24	Emergency readmissions to hospital within 28 days of discharge: hysterectomy	Effectiveness	Acute Care	
RA25	Emergency re-admissions to hospital following cholecystectomy surgery (Timescale: within 28 days of discharge)	Effectiveness	Acute Care	
RA26	Emergency re-admissions to hospital following aortic aneurysm surgery (Timescale: within 28 days of discharge)	Effectiveness	Acute Care	
CV02	Proportion of stroke patients given a brain scan within 24 hours of stroke	Effectiveness	Acute Care	
CV06	Proportion of stroke patients given a swallow screening within 24 hours of admission	Effectiveness	Acute Care	
CV13	Acute units with 5/6 key characteristics (continuous physiological monitoring; access to scanning within 3 hours of admission/24 hour brain imaging; policy for direct admission from A&E; specialist ward round at least 5 times a week; acute stroke protocols/guidelines)	Effectiveness	Acute Care	
CV14	Acute units with access to scanning for patients with a stroke within 3 hours of admission.	Effectiveness	Acute Care	

CV01	Proportion of stroke patients given Aspirin or alternative e.g. clopidogrel within 48 hours of stroke (secondary prevention)	Effectiveness	Acute Care	
CV10	Patients who spend at least 90% of their time on a stroke unit	Effectiveness	Acute Care	
CV20	Sites offering thrombolysis to stroke patients.	Effectiveness	Acute Care	
RA01	Emergency readmissions to hospital within 28 days of discharge (data relates to 16+ years old only)	Effectiveness	Acute Care	
HC24	Surgical site infections - Open reduction of long bone fracture (ORLBF)	Effectiveness	Acute Care	
WCC 2.09	Proportion of children who complete MMR immunisation by 2nd Birthday	Effectiveness	Children's Health	
WCC 2.10	Proportion of children who complete MMR immunisation (1st and 2nd dose) by their 5th Birthday	Effectiveness	Children's Health	
WCC 2.11	Proportion of children who complete DTP immunisation by their 5th Birthday	Effectiveness	Children's Health	
CF04	Services for children in hospital: cover for serious paediatric emergencies	Effectiveness	Children's Health	
CF05	Services for children in hospital: percentage trained in paediatric life support	Effectiveness	Children's Health	
CF06	Services for children in hospital: percentage trained in child protection	Effectiveness	Children's Health	
CF01	Number of hospital occupied bed days on adult psychiatric wards of patients aged under 16, on admission, under the care of a psychiatric specialist	Effectiveness	Children's Health	
CF02	Number of hospital occupied bed days on adult psychiatric wards of patients aged 16 or 17, on admission, under the care of a psychiatric specialist	Effectiveness	Children's Health	
QOF PC 2	The practice has regular (at least 3 monthly) multidisciplinary case review meetings where all patients on the palliative care register are discussed	Effectiveness	End of Life Care	
QOF PC 3	The practice has a complete register available of all patients in need of palliative care/support irrespective of age	Effectiveness	End of Life Care	
WCC 3.24	Percentage of all deaths that occur at home	Effectiveness	End of Life Care	
QOF LD 1	The practice can produce a register of patients with learning disabilities	Effectiveness	Learning disabilities	

QOF AF 4	The percentage of patients with atrial fibrillation diagnosed after 1 April 2008 with ECG or specialist confirmed diagnosis	Effectiveness	Long Term Conditions	
QOF AF 1	The practice can produce a register of patients with atrial fibrillation	Effectiveness	Long Term Conditions	
QOF AF 3	The percentage of patients with atrial fibrillation who are currently treated with anti-coagulation drug therapy or an anti-platelet therapy	Effectiveness	Long Term Conditions	
QOF CANCER 3	The percentage of patients with cancer, diagnosed within the last 18 months who have a patient review recorded as occurring within 6 months of the practice receiving confirmation of the diagnosis	Effectiveness	Long Term Conditions	
CWT 1	Percentage of patients first seen by a specialist within two weeks when urgently referred with suspected cancer	Effectiveness	Long Term Conditions	
QOF CANCER 1	The practice can produce a register of all cancer patients defined as a ‘register of patients with a diagnosis of cancer excluding non-melanotic skin cancers from 1 April 2003	Effectiveness	Long Term Conditions	
VSA09	Extension of NHS Breast Screening Programme to women aged 47-49 and 71-73	Effectiveness	Long Term Conditions	
VSA10	Extension of NHS Bowel Cancer Screening Programme to men and women aged up to 75 (FUTURE INDICATOR)	Effectiveness	Long Term Conditions	
VSA15	All women to receive results of cervical screening tests within two weeks	Effectiveness	Long Term Conditions	
WCC 2.23	Proportion of women aged 25-49 and 50-64 screened for cervical cancer	Effectiveness	Long Term Conditions	
VSA08	Breast Symptom Two Week Wait	Effectiveness	Long Term Conditions	
VSA11a	Cancer 31-Day Subsequent Treatments Target (Surgery Treatments)	Effectiveness	Long Term Conditions	
VSA12	Cancer 31-Day Subsequent Treatments Target (Radiotherapy)FUTURE INDICATOR	Effectiveness	Long Term Conditions	
VSA13	Extended 62-Day Cancer Treatment Targets	Effectiveness	Long Term Conditions	
WCC 2.25	Percentage of patients waiting no more than 31 days for cancer treatment	Effectiveness	Long Term Conditions	
QOF CHD 1	The practice can produce a register of patients with coronary heart disease	Effectiveness	Long Term Conditions	
QOF CHD 2	The percentage of patients with newly diagnosed angina (diagnosed after 1 April 2003) who are referred for exercise testing and/or specialist assessment	Effectiveness	Long Term Conditions	

QOF CHD 5	The percentage of patients with coronary heart disease whose notes have a record of blood pressure in the previous 15 months	Effectiveness	Long Term Conditions	
QOF CKD 2	The percentage of patients on the CKD register whose notes have a record of blood pressure in the previous 15 months	Effectiveness	Long Term Conditions	
QOF CKD 1	The practice can produce a register of patients aged 18 years and over with CKD (US National Kidney Foundation: Stage 3 to 5 CKD)	Effectiveness	Long Term Conditions	
QOF CKD 3	The percentage of patients on the CKD register in whom the last blood pressure reading, measured in the previous 15 months, is 140/85 or less	Effectiveness	Long Term Conditions	
QOF CKD 5	The percentage of patients on the CKD register with hypertension and proteinuria who are treated with an angiotensin converting enzyme inhibitor (ACE-I) or angiotensin receptor blocker (ARB) (unless a contraindication or side effects are recorded)	Effectiveness	Long Term Conditions	
QOF HF 1	The practice can produce a register of patients with heart failure	Effectiveness	Long Term Conditions	
QOF BP 1	The practice can produce a register of patients with established hypertension	Effectiveness	Long Term Conditions	
QOF STROKE 1	The practice can produce a register of patients with stroke or TIA	Effectiveness	Long Term Conditions	
CV47	Percentage of acute coronary syndrome patients who are seen by a cardiologist during admission.	Effectiveness	Long Term Conditions	
CV37	Participation rates in the Heart Failure Audit	Effectiveness	Long Term Conditions	
CV38	Participation rates in the Cardiac Rehabilitation Audit	Effectiveness	Long Term Conditions	
CV16	Development of continuing education programmes on stroke units for qualified and unqualified staff	Effectiveness	Long Term Conditions	
CV09	Proportion of sites with a community stroke team for longer term management attached to the stroke multidisciplinary team	Effectiveness	Long Term Conditions	
CV21	Proportion of sites with formal links to patient/carer groups	Effectiveness	Long Term Conditions	
CA36	Percentage of bowel cancer cases where there is a histological report on the presence or absence of tumour in the resection margin	Effectiveness	Long Term Conditions	
CA40	Median number of lymph nodes examined in surgical specimen	Effectiveness	Long Term Conditions	
CA41	Histological Confirmation Rate	Effectiveness	Long Term Conditions	

VSA11b	Cancer 31-Day Subsequent Treatments Target (Drug Treatments)	Effectiveness	Long Term Conditions	
VSB06	Percentage of women in the relevant PCT population who have seen a midwife or a maternity healthcare professional, for health and social care assessment of needs, risks and choices by 12 weeks and 6 days of pregnancy	Effectiveness	Maternity and Newborn	
VSB11	Prevalence of Breastfeeding at 6-8 weeks	Effectiveness	Maternity and Newborn	
WCC 2.06	Smoking during pregnancy	Effectiveness	Maternity and Newborn	
NNAP 1	100% of eligible babies to receive Retinopathy of prematurity (ROP) screening in line with current RCPCH/RCOphth/BAPM guidance.	Effectiveness	Maternity and Newborn	
NNAP 2	100% of babies 28 weeks gestation should have their temperature checked within the first hour after birth.	Effectiveness	Maternity and Newborn	
NNAP 3	95% of babies are treated within their local network.	Effectiveness	Maternity and Newborn	
NNAP 4	95% of babies treated with adequate number of nursing staff	Effectiveness	Maternity and Newborn	
NNAP 5	98% of babies receive care in appropriate level of unit	Effectiveness	Maternity and Newborn	
NNAP 6	Proportion of survivors <30w gestation without disability at 2 years in keeping with national rates for similar units	Effectiveness	Maternity and Newborn	
QOF DEM 2	The percentage of patients diagnosed with dementia whose care has been reviewed in the previous 15 months	Effectiveness	Mental Health	
QOF DEM 1	The practice can produce a register of patients diagnosed with dementia	Effectiveness	Mental Health	
QOF DEP 2	In those patients with a new diagnosis of depression, recorded between the preceding 1 April to 31 March, the percentage of patients who have had an assessment of severity at the outset of treatment using an assessment tool validated for use in primary care	Effectiveness	Mental Health	
QOF DEP 1	The percentage of patients on the diabetes register and/or the CHD register for whom case finding for depression has been undertaken on one occasion during the previous 15 months using two standard screening questions	Effectiveness	Mental Health	

QOF MH 9	The percentage of patients with schizophrenia, bipolar affective disorder and other psychoses with a review recorded in the preceding 15 months. In the review there should be evidence that the patient has been offered routine health promotion and prevention advice appropriate to their age, gender and health status	Effectiveness	Mental Health	
QOF MH 4	The percentage of patients on lithium therapy with a record of serum creatinine and TSH in the preceding 15 months	Effectiveness	Mental Health	
QOF MH 6	The percentage of patients on the register who have a comprehensive care plan documented in the records agreed between individuals, their family and/or carers as appropriate	Effectiveness	Mental Health	
QOF MH 7	The percentage of patients with schizophrenia, bipolar affective disorder and other psychoses who do not attend the practice for their annual review who are identified and followed up by the practice team within 14 days of non-attendance	Effectiveness	Mental Health	
QOF MH 8	The practice can produce a register of people with schizophrenia, bipolar disorder and other psychoses	Effectiveness	Mental Health	
QOF MH 5	The percentage of patients on lithium therapy with a record of lithium levels in the therapeutic range within the previous 6 months	Effectiveness	Mental Health	
MH12	IAPT Key Performance Indicators via Omnibus Survey from Oct-Dec 2008	Effectiveness	Mental Health	
LT25	Approach rate - The percentage of potential donors for whom solid organ donation was considered, whose family were approached for consent to donation	Effectiveness	Other	
LT26	Consent rate - The percentage of potential donors whose families were approached or made the approach for consent to donation who gave consent	Effectiveness	Other	
LT27	Conversion rate - The percentage of potential donors who became actual donors	Effectiveness	Other	
LT24	Referral rate - The percentage of potential donors referred to a co-ordinator	Effectiveness	Other	
CA27	Pathology services: percentage compliance with 3D measures	Effectiveness	Planned Care	Cancer
CA28	Imaging services: percentage compliance with 3B measures	Effectiveness	Planned Care	Cancer
CA29	Radiotherapy: percentage compliance with 3E measures	Effectiveness	Planned Care	Cancer

CA51	Compliance with 3C-100 to 3C-500 measures (chemotherapy services)	Effectiveness	Planned Care	Cancer
CA45	Proportion of incident cases reviewed by Multi-Disciplinary Team (MDT) for all cancers	Effectiveness	Planned Care	Cancer
CA01	Percentage compliance with Peer Review by team (breast, lung, colorectal, local and specialist gynaecology, local and specialist urology (including supranetwork testicular and penile, haematology and head & neck)	Effectiveness	Planned Care	Cancer
QOF CHD 6	The percentage of patients with coronary heart disease in whom the last blood pressure reading (measured in the previous 15 months) is 150/90 or less	Effectiveness	Planned Care	Cardiovascular
QOF CHD 7	The percentage of patients with coronary heart disease whose notes have a record of total cholesterol in the previous 15 months	Effectiveness	Planned Care	Cardiovascular
QOF CHD 8	The percentage of patients with coronary heart disease whose last measured total cholesterol (measured in the previous 15 months) is 5mmol/l or less	Effectiveness	Planned Care	Cardiovascular
QOF CHD 9	The percentage of patients with coronary heart disease with a record in the previous 15 months that aspirin, an alternative anti-platelet therapy, or an anti-coagulant is being taken (unless a contraindication or side-effects are recorded)	Effectiveness	Planned Care	Cardiovascular
QOF CHD 10	The percentage of patients with coronary heart disease who are currently treated with a beta blocker (unless a contraindication or side-effects are recorded)	Effectiveness	Planned Care	Cardiovascular
QOF CHD 11	The percentage of patients with a history of myocardial infarction (diagnosed after 1 April 2003) who are currently treated with an ACE inhibitor or Angiotensin II antagonist	Effectiveness	Planned Care	Cardiovascular
QOF CHD 12	The percentage of patients with coronary heart disease who have a record of influenza immunisation in the preceding 1 September to 31 March	Effectiveness	Planned Care	Cardiovascular
QOF HF 2	The percentage of patients with a diagnosis of heart failure (diagnosed after 1 April 2006) which has been confirmed by an echocardiogram or by specialist assessment	Effectiveness	Planned Care	Cardiovascular
QOF HF 3	The percentage of patients with a current diagnosis of heart failure due to LVD who are currently treated with an ACE inhibitor or Angiotensin Receptor Blocker, who can tolerate therapy and for whom there is no contra-indication	Effectiveness	Planned Care	Cardiovascular

QOF BP 4	The percentage of patients with hypertension in whom there is a record of the blood pressure in the previous 9 months	Effectiveness	Planned Care	Cardiovascular
QOF BP 5	The percentage of patients with hypertension in whom the last blood pressure (measured in the previous 9 months) is 150/90 or less	Effectiveness	Planned Care	Cardiovascular
CV48	30 day mortality after first time CABG (Future Indicator)	Effectiveness	Planned Care	Cardiovascular
CV49	30 day mortality after first time aortic valve replacement	Effectiveness	Planned Care	Cardiovascular
CV52	30 day mortality following congenital heart disease surgery (Future Indicator)	Effectiveness	Planned Care	Cardiovascular
CV29	Percentage of patients following myocardial infarction discharged on aspirin	Effectiveness	Planned Care	Cardiovascular
CV30	Percentage of patients following myocardial infarction discharged on beta-blockers	Effectiveness	Planned Care	Cardiovascular
CV31	Percentage of patients following myocardial infarction discharged on statins	Effectiveness	Planned Care	Cardiovascular
CV32	Percentage of patients following myocardial infarction discharged on ACE inhibitors	Effectiveness	Planned Care	Cardiovascular
CV33	Percentage of patients following myocardial infarction discharged on theinopyridine (clopidogrel)	Effectiveness	Planned Care	Cardiovascular
QOF PP 1	In those patients with a new diagnosis of hypertension (excluding those with pre-existing CHD, diabetes, stroke and/or TIA) recorded between the preceding 1 April and 31 March: the percentage of patients who have had a face to face cardiovascular risk assessment at the outset of diagnosis (within three months of the initial diagnosis) using an agreed risk assessment treatment tool	Effectiveness	Planned Care	Cardiovascular
QOF PP 2	The percentage of people with hypertension diagnosed after 1 April 2009 who are given lifestyle advice in the last 15 months for: increasing physical activity, smoking cessation, safe alcohol consumption and healthy diet	Effectiveness	Planned Care	Cardiovascular
QOF COPD 12	The percentage of all patients with COPD diagnosed after 1st April 2008 in whom the diagnosis has been confirmed by post bronchodilator spirometry	Effectiveness	Planned Care	COPD
QOF COPD 10	The percentage of patients with COPD with a record of FeV1 in the previous 15 months	Effectiveness	Planned Care	COPD
QOF COPD 1	The practice can produce a register of patients with COPD	Effectiveness	Planned Care	COPD

QOF COPD 8	The percentage of patients with COPD who have had influenza immunisation in the preceding 1 September to 31 March	Effectiveness	Planned Care	COPD
QOF COPD 13	The percentage of patients with COPD who have had a review, undertaken by a healthcare professional, including an assessment of breathlessness using the MRC dyspnoea score in the preceding 15 months	Effectiveness	Planned Care	COPD
QOF COPD 11	COPD11 - The percentage of patients with COPD receiving inhaled treatment in whom there is a record that inhaler technique has been checked in the previous 15 months	Effectiveness	Planned Care	COPD
QOF DM 21	The percentage of patients with diabetes who have a record of retinal screening in the previous 15 months	Effectiveness	Planned Care	Diabetes
QOF DM 9	The percentage of patients with diabetes with a record of the presence or absence of peripheral pulses in the previous 15 months	Effectiveness	Planned Care	Diabetes
QOF DM 10	The percentage of patients with diabetes with a record of neuropathy testing in the previous 15 months	Effectiveness	Planned Care	Diabetes
QOF DM 11	The percentage of patients with diabetes who have a record of the blood pressure in the previous 15 months	Effectiveness	Planned Care	Diabetes
QOF DM 13	The percentage of patients with diabetes who have a record of micro-albuminuria testing in the previous 15 months (exception reporting for patients with proteinuria)	Effectiveness	Planned Care	Diabetes
QOF DM 22	The percentage of patients with diabetes who have a record of estimated glomerular filtration rate (eGFR) or serum creatinine testing in the previous 15 months	Effectiveness	Planned Care	Diabetes
QOF DM 19	The practice can produce a register of all patients aged 17 years and over with diabetes mellitus, which specifies whether the patient has Type 1 or Type 2 diabetes	Effectiveness	Planned Care	Diabetes
QOF DM 2	The percentage of patients with diabetes whose notes record BMI in the previous 15 months	Effectiveness	Planned Care	Diabetes
QOF DM 5	The percentage of patients with diabetes who have a record of HbA1c or equivalent in the previous 15 months	Effectiveness	Planned Care	Diabetes
QOF DM 12	The percentage of patients with diabetes in whom the last blood pressure reading is 145/85 or less	Effectiveness	Planned Care	Diabetes

QOF DM 15	The percentage of patients with diabetes with a diagnosis of proteinuria or micro-albuminuria who are treated with ACE inhibitors (or A2 antagonists)	Effectiveness	Planned Care	Diabetes
QOF DM 16	The percentage of patients with diabetes who have a record of total cholesterol in the previous 15 months	Effectiveness	Planned Care	Diabetes
QOF DM 17	The percentage of patients with diabetes whose last measured total cholesterol within the previous 15 months is 5mmol/l or less	Effectiveness	Planned Care	Diabetes
QOF DM 18	The percentage of patients with diabetes who have had influenza immunisation in the preceding 1 September to 31 March	Effectiveness	Planned Care	Diabetes
QOF DM 23	The percentage of patients with diabetes in whom the last HbA1c is 7 or less (or equivalent test/reference range depending on local laboratory) in the previous 15 months	Effectiveness	Planned Care	Diabetes
QOF DM 24	The percentage of patients with diabetes in whom the last HbA1c is 8 or less (or equivalent test/reference range depending on local laboratory) in the previous 15 months	Effectiveness	Planned Care	Diabetes
QOF DM 25	The percentage of patients with diabetes in whom the last HbA1c is 9 or less (or equivalent test/reference range depending on local laboratory) in the previous 15 months	Effectiveness	Planned Care	Diabetes
QOF DM 7	The percentage of patients with diabetes in whom the last HbA1c is 10 or less (or equivalent test/reference range depending on local laboratory) in the previous 15 months	Effectiveness	Planned Care	Diabetes
QOF ASTHMA 8	The percentage of patients aged eight and over diagnosed as having asthma from 1 April 2006 with measures of variability or reversibility	Effectiveness	Planned Care	Other
QOF ASTHMA 3	The percentage of patients with asthma between the ages of 14 and 19 in whom there is a record of smoking status in the previous 15 months	Effectiveness	Planned Care	Other
QOF ASTHMA 6	The percentage of patients with asthma who have had an asthma review in the previous 15 months	Effectiveness	Planned Care	Other
QOF ASTHMA 1	The practice can produce a register of patients with asthma, excluding patients with asthma who have been prescribed no asthma-related drugs in the previous twelve months	Effectiveness	Planned Care	Other
QOF EPILEPSY 6	The percentage of patients age 18 and over on drug treatment for epilepsy who have a record of seizure frequency in the previous 15 months	Effectiveness	Planned Care	Other

QOF EPILEPSY 5	The practice can produce a register of patients aged 18 and over receiving drug treatment for epilepsy	Effectiveness	Planned Care	Other
QOF EPILEPSY 7	The percentage of patients aged 18 and over on drug treatment for epilepsy who have a record of medication review involving the patient and/or carer in the previous 15 months	Effectiveness	Planned Care	Other
QOF EPILEPSY 8	The percentage of patients aged 18 and over on drug treatment for epilepsy who have been seizure free for the last 12 months recorded in the previous 15 months	Effectiveness	Planned Care	Other
QOF THYROID 2	The percentage of patients with hypothyroidism with thyroid function tests recorded in the previous 15 months	Effectiveness	Planned Care	Other
QOF THYROID 1	The practice can produce a register of patients with hypothyroidism	Effectiveness	Planned Care	Other
TC05	Percentage of BADS (British Association of Day Surgery) Directory of Procedures (including electronic assessment) carried out as a day case or within appropriate length of stay	Effectiveness	Planned Care	Other
MR30	Mortality following a knee replacement	Effectiveness	Planned Care	Other
MR31	Mortality following a hip replacement	Effectiveness	Planned Care	Other
TC01	18 weeks Referral to Treatment (RTT) - everyone who chooses to be treated within 18 weeks, for whom it is clinically appropriate, will be seen within 18 weeks	Effectiveness	Planned Care	Other
TC03	Diagnostics waiting times: percentage of patients waiting under 6 weeks	Effectiveness	Planned Care	Other
QOF DEP 3	In those patients with a new diagnosis of depression and assessment of severity recorded between the preceding 1 April to 31 March, the percentage of patients who have had a further assessment of severity 5-12 weeks (inclusive) after the initial recording of the assessment of severity. Both assessments should be completed using an assessment tool validated for use in primary care	Effectiveness	Planned Care	Other
QOF CKD 6	The percentage of patients on the CKD register whose notes have a record of an albumin:creatinine ratio (or protein:creatinine ratio) test in the previous 15 months	Effectiveness	Planned Care	Other
QOF SH 1	The practice can produce a register of women who have been prescribed any method of contraception at least once in the last year, or other appropriate interval e.g. 5 years for an IUS	Effectiveness	Planned Care	Other

QOF SH 2	The percentage of women prescribed an oral or patch contraceptive method who have also received information from the practice about long acting reversible methods of contraception in the previous 15 months	Effectiveness	Planned Care	Other
QOF SH 3	The percentage of women prescribed emergency hormonal contraception at least once in the year by the practice who have received information from the practice about long acting reversible methods of contraception at the time of, or within one month of, the prescription	Effectiveness	Planned Care	Other
HES 1	Pressure ulcer incidence per 10,000 patients	Effectiveness	Planned Care	Other
HC22	Surgical site infections - Knee prosthesis	Effectiveness	Planned Care	Other
HC23	Surgical site infections - Hip prosthesis	Effectiveness	Planned Care	Other
HC25	Surgical site infections - Hip hemiarthroplasty	Effectiveness	Planned Care	Other
QOF STROKE 13	The percentage of new patients with a stroke or TIA who have been referred for further investigation	Effectiveness	Planned Care	Stroke
QOF STROKE 5	The percentage of patients with TIA or stroke who have a record of blood pressure in the notes in the preceding 15 months	Effectiveness	Planned Care	Stroke
QOF STROKE 7	The percentage of patients with TIA or stroke who have a record of total cholesterol in the last 15 months	Effectiveness	Planned Care	Stroke
QOF STROKE 8	The percentage of patients with TIA or stroke whose last measured total cholesterol (measured in the previous 15 months) is 5mmol/l or less	Effectiveness	Planned Care	Stroke
QOF STROKE 6	The percentage of patients with a history of TIA or stroke in whom the last blood pressure reading (measured in the previous 15 months) is 150/90 or less	Effectiveness	Planned Care	Stroke
QOF STROKE 12	The percentage of patients with a stroke shown to be non-haemorrhagic, or a history of TIA, who have a record that an anti-platelet agent (aspirin, clopidogrel, dipyridamole or a combination), or an anti-coagulant is being taken (unless a contraindication or side effects are recorded)	Effectiveness	Planned Care	Stroke
QOF STROKE 10	The percentage of patients with TIA or stroke who have had influenza immunisation in the preceding 1 September to 31 March	Effectiveness	Planned Care	Stroke
CV03	Proportion of stroke patients given a mood assessment	Effectiveness	Planned Care	Stroke
CV08	Proportion of sites with early supported discharge team attached to the stroke multidisciplinary team	Effectiveness	Planned Care	Stroke

CV05	Proportion of stroke patients who see Physiotherapist within 72 hours of admission	Effectiveness	Planned Care	Stroke
CV11	Number of higher risk TIA cases who are scanned and treated within 24 hours	Effectiveness	Planned Care	Stroke
CV19	Average waiting time for neurovascular clinics	Effectiveness	Planned Care	Stroke
CV04	Proportion of stroke patients who see occupational therapist within 4 working days	Effectiveness	Planned Care	Stroke
QOF OB 1	The practice can produce a register of patients aged 16 and over with a Body Mass Index (BMI) greater than or equal to 30 in the previous 15 months	Effectiveness	Staying Healthy	
QOF Smoking 3	The percentage of patients with any (or any combination of) the following conditions: coronary heart disease, stroke or TIA, hypertension, diabetes, COPD, CKD, asthma, schizophrenia, bipolar affective disorder or other psychoses, whose notes record smoking status in the previous 15 months	Effectiveness	Staying Healthy	
QOF Smoking 4	The percentage of patients with any (or any combination of) the following conditions: coronary heart disease, stroke or TIA, hypertension, diabetes, COPD, CKD, asthma, schizophrenia, bipolar affective disorder or other psychoses, who smoke and whose notes contain a record that smoking cessation advice or referral to a specialist service, where available, has been offered within the previous 15 months	Effectiveness	Staying Healthy	
VSC11	People who in last 6 months, have had enough support from local services or organisations to help manage long-term health condition(s)	Patient experience	Long Term Conditions	
ERIC1	Total Backlog Cost per Occupied Floor Area	Patient experience	Other	
PE49	Score for patients who reported that the hospital room or ward was very or fairly clean	Patient experience	Other	
PE50	Score for patients who reported that the toilets and bathrooms in hospital were very or fairly clean	Patient experience	Other	
PE53	Score for patients who reported that doctors always or sometimes washed or cleaned their hands between touching patients	Patient experience	Other	
PE54	Score for patients who reported that nurses always or sometimes washed or cleaned their hands between touching patients	Patient experience	Other	
PE41	Score for patients who reported that they always or sometimes had confidence and trust in the doctors treating them	Patient experience	Other	

PE42	Score for patients who reported that when they had important questions to ask a nurse, they always or sometimes got answers they could understand	Patient experience	Other	
PE43	Score for patients who reported that they always or sometimes had confidence and trust in the nurses treating them	Patient experience	Other	
PE36	Score for patients who said they were given enough privacy when being examined or treated	Patient experience	Other	
PE37	Score for patients who overall felt they were treated with respect and dignity whilst in hospital	Patient experience	Other	
PE38	Score for patients who reported that the doctors did not talk in front of them as if they were not there	Patient experience	Other	
PE39	Score for patients who reported that the nurses did not talk in front of them as if they were not there	Patient experience	Other	
PE56	Score for whether given enough privacy when being examined or treated in the Emergency Department	Patient experience	Other	
PE48	Score for patients who reported that they were not bothered by noise at night from hospital staff	Patient experience	Other	
PE51	Score for patients who reported that the hospital food was very good or good	Patient experience	Other	
PE52	Score for patients who reported that they were offered a choice of food	Patient experience	Other	
PEAT 1	Environment	Patient experience	Other	
PEAT 2	Food and Food Service	Patient experience	Other	
PEAT 3	Privacy and dignity	Patient experience	Other	
PEXIS1	Patient Experience Headline score for Access & Waiting	Patient experience	Other	
PEXIS2	Patient Experience Headline score for safe high quality coordinated care	Patient experience	Other	
PEXIS3	Patient Experience Headline score for Better Information, more choice	Patient experience	Other	
PEXIS4	Patient Experience Headline score for Building Closer Relationships	Patient experience	Other	
PEXIS5	Patient Experience Headline score for Clean, comfortable, friendly place to be	Patient experience	Other	
PEXIS6	Patient Experience Headline score for Focus on the person	Patient experience	Other	

PEXIS7	Patient Experience Headline score for organisation that learns from experience	Patient experience	Other	
PEXIS8	Patient Experience Headline score for Focus on Dignity and Respect	Patient experience	Other	
PE58	Score for staffing effectiveness - patient reported nurse staffing adequacy	Patient experience	Other	
CA25	Quality of Patient Experience: percentage compliance with patient experience measures.	Patient experience	Planned Care	
PE07	Score for patients who reported that their family or someone close had the opportunity to talk to a doctor if they wanted to	Patient experience	Planned Care	
PE08	Score for patients who said that they found a member of hospital staff to talk to about their worries and fears	Patient experience	Planned Care	
PE15	Score for patients who reported that the 'right amount' of information was given about conditions/treatments by healthcare professionals	Patient experience	Planned Care	
PE16	Score for patients who reported that they were involved as much as they wanted to be in decisions about their care and treatment	Patient experience	Planned Care	
PE18	Score for patients who reported that when leaving hospital they were given written or printed information about what they should or should not do	Patient experience	Planned Care	
PE19	Score for patients who reported that staff explained the purpose of the medicines they were to take at home in a way they could understand	Patient experience	Planned Care	
PE21	Score for patients who reported that staff told them how to take their medication in a way they could understand	Patient experience	Planned Care	
PE22	Score for patients who reported they were given clear written or printed information about their medicines	Patient experience	Planned Care	
PE26	Score for patients who reported that they received copies of letters sent between hospital doctors and their GP	Patient experience	Planned Care	
PE29	Score for patients who reported that whilst in hospital they saw posters or leaflets explaining how to complain about the care or treatment they received	Patient experience	Planned Care	
PE33	Score for patient who reported that after moving wards they did not share a sleeping area with a member of the opposite sex	Patient experience	Planned Care	

PE34	Score for patients who reported that they did not have to use the same bathroom or shower area as patients of the opposite sex	Patient experience	Planned Care	
PE35	Score for patients who said they were given enough privacy when discussing their condition or treatment	Patient experience	Planned Care	
PE06	Score for patients who reported that they always or sometimes got enough help from staff to eat their meals	Patient experience	Planned Care	
PE04	Score for patients who reported that their admission date was not changed by the hospital	Patient experience	Planned Care	
PE05	Score for patients who reported that on arrival at the hospital they did not have to wait a long time to get a bed on a ward	Patient experience	Planned Care	
PE17	Score for patients who reported that they were involved in decisions about their discharge from hospital	Patient experience	Planned Care	
PE09	Score for patients who thought that the hospital staff did everything they could to help control their pain	Patient experience	Planned Care	
PE28	Score of for patients who reported that during their hospital stay they were asked to give their views on the quality of care	Patient experience	Planned Care	
PE27	Percentage of staff who reported that in the last month they had seen any errors, near misses or incidents that could have hurt patients/service users	Patient experience	Planned Care	
PE20	Score for patients who reported that staff told them about medication side effects to watch out for when they went home	Patient experience	Planned Care	
PE23	Score for patients who reported that staff told them about any danger signals to watch out for after they went home	Patient experience	Planned Care	
PE24	Score for patients who reported that the doctors or nurses gave their family or someone close to them all the information they needed to help care for them	Patient experience	Planned Care	
PE25	Score for patients who reported they were told who to contact if they were worried about their condition or treatment after they left hospital	Patient experience	Planned Care	
PE11	Percentage of patients very or fairly satisfied with the time they had to wait from being referred by their GP to when they saw the hospital specialist	Patient experience	Planned Care	
CV43	Median waiting times (weeks) for echocariogram	Patient experience	Planned Care	

LT28	Renal specific Methicillin-Resistant Staphylococcus Aureus (MRSA) rate (indicator also in Healthcare Associated Infections section)	Safety	Long Term Conditions	
HC12	Bloodstream infections - Central line	Safety	Planned Care	
PS39	Incidence of MRSA bacteraemia	Safety	Planned Care	
VSA03	Incidence of clostridium difficile	Safety	Planned Care	
HC21	Surgical site infections - orthopaedic	Safety	Planned Care	
PS08	Incidents - acute trusts compliant with safety standards - Care Quality Commission's Annual Health Check data	Safety	Planned Care	
PS09	Alerts - acute trusts compliant with safety standards - Care Quality Commission's Annual Health Check data	Safety	Planned Care	
PS11	Guidance - acute trusts compliant with safety standards - Care Quality Commission's Annual Health Check data	Safety	Planned Care	
PS12	Infection - acute trusts compliant with safety standards - Care Quality Commission's Annual Health Check data	Safety	Planned Care	
PS13	Devices (4b) - acute trusts compliant with safety standards - Care Quality Commission's Annual Health Check data	Safety	Planned Care	
PS14	Devices (4c) - acute trusts compliant with safety standards - Care Quality Commission's Annual Health Check data	Safety	Planned Care	
PS15	Medicines - acute trusts compliant with safety standards - Care Quality Commission's Annual Health Check data	Safety	Planned Care	
NRLS 1	Consistent reporting of patient safety events reported to the Reporting and Learning System (RLS)	Safety	Planned Care	
PS24	Availability of hand washing facilities	Safety	Planned Care	
PS37	Sickness Absence Rate	Safety	Planned Care	
NRLS 2	Timely reporting of patient safety events reported to the Reporting and Learning System (RLS)	Safety	Planned Care	
NRLS 3	Rate of patient safety events occurring in trusts that were submitted to the Reporting and Learning System (RLS)	Safety	Planned Care	
MH06	The proportion of those patients on Care programme approach (CPA) discharged from inpatient care who are followed up within 7 days	Safety	Mental Health	
MH16	NI 149: Adults receiving secondary mental health services on Care Programme Approach (CPA) in settled accommodation	Safety	Mental Health	

MH17	NI150: Adults receiving secondary mental health services on Care Programme Approach (CPA) in employment	Safety	Mental Health	

Veterans Administration

****** Patient Safety**

Computerized Patient Record System: Clinician Pharmacy Order Entry

Rationale:
The risk of error in processing prescriptions is reduced when orders are entered directly into a computer. The complexity of processing and filling prescriptions is reduced with the reduction of the number of steps and hand-offs involved. Existing CPRS technology is unevenly used throughout VHA. This performance measure is intended to reduce risk to patients and reduce variation in the clinical use of CPRS across the system.

Indicator Statement:
% of pharmacy orders entered into CPRS by the prescribing clinician

Numerator:
Pharmacy orders entered into CPRS by the prescribing clinician

Denominator:
Applicable pharmacy orders entered into Vista, excludes:

- DEA schedule II outpatient prescriptions, required by law to be hardcopy with wet signature
- Prescriptions entered by Medical Students[1] as part of VHA Education mission for training
- Policy orders (protocol or standing orders) - clinician holds the **OR ELSE** key

Universe:
All pharmacy orders entered into Vista (the denominator including the three exceptions noted above) will be displayed in the Vista output report.

Definitions:

- Pharmacy orders: orders for any product using Vista pharmacy packages applies for all patient class, inpatient, outpatient, long term care
- CPRS: Computerized Patient Record System, software product used in VHA to collect patient data from a variety of other clinical software packages and combine them into an integrated electronic patient medical record.
- Prescribing clinician: the clinician, who by clinical privilege or scope of practice is authorizing the pharmacy to provide the item to the patient.
- Order entered: Computer looks to see if the person entering the prescription is the same as the name of the ordering provider

***** Patient Safety**

Radiology – Timeliness of Verifying Reports

Executive Abstract: The intent of this measure is to improve the timeliness of verifying imaging reports. Although facilities/providers have individual options for releasing reports prior to verification, timely verification of reports are required for medico-legal and patient safety reasons. The timeliness report is extracted from the facility Vista Radiology package and will be rolled up to the VISN then to Central Office. The report measures the span of time from the point the patient is registered in the radiology package until the report is verified.

Rationale: Radiological findings that are not communicated promptly often result in delayed treatment or failure to treat at all. When important findings are reported late, the clinician who requested the study is less likely to be on service and the patient is less likely to be actively seen in the clinic or inpatient setting. This results in findings that are lost to follow-up. Furthermore, when abnormalities go un-communicated (e.g. a non-displaced fracture that was missed by the ER physician), the patient suffers needlessly. Miscommunication of results is the most common cause of radiology related litigation. Depending upon local parameters, CPRS reports are not visible until the report is signed. In addition, abnormal finding alerts are only issued at the time of verification. Radiology reporting affects several important performance factors. Completion of reports is obviously an issue of timeliness of care, patient safety, and third party billing.

The process of communication is directly assessed by the indicator. It is actionable at the facility level. Possible actions include improved workflow practices, increased diligence in signing reports, contracts for more responsive transcription services, remote access to VistA for part time radiologists, use of voice recognition software, use of PACS, use of tele-radiology, and correction of staffing deficiencies. Furthermore, management reports exist that allow the facilities to identify unread studies on a daily basis, and to interpret them in time to significantly change the level of performance. Prospects for improvement are significant. This is an area that has not been universally monitored before.

Indicator Statement: Percent of imaging reports verified within two days.

Numerator: Number of reports verified in VistA at threshold day after registration of procedure. Note that this is a rolling calculation. The verification time of each report is calculated with respect to the registration time of that procedure.

Denominator: Number of reports expected for imaging procedures performed during the quarter. It is noted that the number of reports may be a smaller than the number of CPT codes or number of case numbers. Case numbers may be grouped together by print sets with all members of the set sharing the same report. Example: CT of chest, abdomen and pelvis may have three CPT codes, but one common report.

Exclusions:

- Non count clinics are not included in this measure
- Vascular Lab Procedure Type – A noninvasive vascular study, such as ankle-brachial index or segmental pressures, which may be performed by either the radiology service or, more frequently, vascular surgery service, and which may or may not be reported in the radiology reports section, depending on local policy.

Cohort: All patients (inpatients and outpatients) who receive Radiology or Nuclear Medicine procedures not designated “Vascular Lab.”

Definitions

- Reports expected: Number of procedures for cases registered and not cancelled during a specified time period.
- Registration time: Time which the technologist or clerk enters as the time of the exam during registration in the radiology package. The clerk selects an order for the patient. VistA returns a case number that is later used to index the report. Registration is performed just prior to the procedure, after the order is made.
- Procedure performed: Patient registered and exam status is not “cancelled.”
- Procedure: A case with its own report or several cases that share a report. The number of procedures determines the number of expected reports.
- Verification time: Time at which the radiologist electronically signs the report.
- Number verified: Number of reports with status “verified” for procedures not cancelled, verified in a given time span from time from registration, for procedures performed within given date range.

***** Clinical Decision Support**

Traumatic Brain Injury Screen
VHA Supporting Indicator (mnemonic tbi3)
Note: Due to target not being available for this measure in Q1, FY08, this measure will be changed to a supporting indicator and will not be used for accountability in FY08.

Indicator: Percent of OEF/OIF veterans who present for care in a Nexus or Dental Clinic who have been screened for TBI using the National TBI Screening Clinical Reminder.

Numerator: Number of eligible OEF/OIF veterans who present for care who have been screened for TBI using the National TBI Screening Reminder, either in this measurement period or at any time in the past at any facility.

Denominator: Number of eligible OEF/OIF veterans who present for care in the NEXUS Clinics or the Dental Clinic

Cohort: All OEF/OIF patients presenting for care in the NEXUS Clinics or the Dental Clinic (stopcode 180) in FY08

Inclusions: Veterans who were screened for TBI in other than a Nexus clinic or Dental clinic are included in the numerator and the denominator.

Exclusions:

- Veterans whose only care experience was for a Compensation & Pension exam (Secondary stop code 450).

Definitions

- OEF/OIF veterans: Eligible veterans are defined as
  - A service separation date after 9-11-01 and
  - Served in the OEF/OIF theatre (defined as veterans with the IRAQ/AFGAN SERVICE health factor or the absence of NO IRAQ/AFGHAN SERVICE health factor) and
  - Visit in Nexus and/or dental clinic from 1 October, 2007 forward

- **TBI Screening Clinical Reminder**: OEF/OIF veterans are screened using the National TBI Screening Clinical Reminder. This clinical reminder (Patch PXRM*2.0*8-implementation date 13 April 2007 and updated patch released 1-8-08) is implemented locally and is the source of data (collected via the Remote Clinical Reminder Health Summary) for measuring compliance with this PM. It also makes the clinical reminder available when the patient record is accessed.
  - The TBI Screening Clinical Reminder must be completed on all identified OEF/OIF veterans **even if** the Iraq-Afghanistan Post Deployment clinical reminder was completed.
- **TBI Screen**: The TBI screen consists of four sections (events, immediate symptoms, new or worsening symptoms, current symptoms). Two additional events {#5 Blow to head (head hit by falling/flying object, head hit by another person, head hit against something, etc. and #6 Other injury to head)} have been added to the first section of the reminder. The veteran must report at least one positive response in each section (sequentially administered) in order to score a positive on the screen.

- The screening need not be face to face. It may be completed by telephone by clinical staff with the background to review the results with the patient and explain referral. These clinical staff should have completed the VHA TBI educational module.

- Service separation date: Information related to Service Separation date(s) is located in the clinical reminder. The clinical reminder looks automatically into the patient file where the last service separation date is stored and displays the reminder if this date is after 9/11/01 and the answers to the clinical reminder have not been previously entered.
  - A TBI Screen will be accepted if performed up to 120 days ***prior*** to the service separation date or anytime ***after*** the service separation date.
  - If the patient has another tour of duty, the same rules will apply for TBI screening for the next separation date.
- Satisfying the clinical reminder: The clinical reminder is satisfied by completion of the screening module **or** previous diagnosis of TBI **or** if the patient declines or if the patient had a previous TBI screen at another facility and this is so identified on the clinical reminder (requires patch release 1-8-08).
  - If the clinical reminder is satisfied by the patient declining/refusing the screen, the clinical reminder will be automatically reactivated in one year. (Note: A patient refusal satifies the reminder, i.e., the reminder does not reappear for one year. A patient who refuses screening will be included in the denominator but will not be in the numerator of this measure. This record will fail the measure).
  - If the clinical reminder is satisfied by checking "previous TBI screen at another facility" but the remote Clinical Reminder Health Summary fails to find a completed screen at another facility in the system, then the patient will not be included in the numerator (ie. The record will fail the measure).

Methodology

- Data Origin: The National TBI screening clinical reminder is the source of data extracted by VSSC.
- Data Extraction/Reporting: Data is extracted by VSSC each month using 1 October, 2007 as their baseline date for completion of TBI screens and is reported on the VSSC website (http://vssc.med.va.gov/tbireports/selecttbi.aspx). The quarterly performance report is calculated by VSSC and reported to OQP for posting on the OQP and VSSC websites.
  - Data is collected monthly, but will be reported on cumulative EPRP quarter basis, cumulative to the fiscal year.
  - VSSC will provide reports drillable to the SSN level to serve as a case finder for facilities to follow-up with veterans who were not screened for TBI with their VHA clinical visit(s).
- Data Scoring:
  - The last visit to Nexus or Dental Clinic in a measurement period is defined as the qualifying visit for the denominator cohort.
  - The qualifying visit is compared with the TBI health factors distributed with national TBI Screening Clinical Reminder and extracted from local VistA systems.
  - A TBI screen is considered completed when one of the following health factors is associated with a veteran's electronic health record prior to the end of the measurement period.
    - TBI-PREVIOUS TBI DX
    - TBI-SECTION 1-NO
    - TBI-SECTION 1-YES
  - In the case where both IRAQ/AFGAN SERVICE health factor and the NO IRAQ/AFGAN SERVICE health factor are found in the record, the veteran is considered as having Iraq or Afgan service.

- For veterans who visit multiple facilities, credit for a completed TBI screen is given to every facility visited. Patients who present for care at facility B and the health factors indicate that they were screened for TBI at facility A in the past, will be so identified on the clinical reminder (requiring patch released 1-8-08) and will be included in the numerator for facility B and all facilities visited thereafter.
- For veterans who visit multiple facilities and are not screened at any of the facilities, lack of completion of the TBI screen counts against each facility where a visit occurred and a TBI screen was not completed.
- Patients who refuse to be screened are considered “not screened” and are included in the denominator.
- In the national roll up of positive and negative screens for the VHA unique OEF/OIF cohort, the value of the actual completed screen for facility A for this patient will be counted.

****** Clinical Decision**

Thiazide Diuretic Use in Uncomplicated HTN, Mono-therapy

Indicator Statement: Outpatients with a diagnosis of hypertension (uncomplicated) on antihypertensive mono-drug therapy where the regimen includes a thiazide diuretic

Numerator: Number of unique outpatients with a diagnosis of hypertension (uncomplicated) on antihypertensive mono-drug therapy with an active prescription for a thiazide diuretic

Denominator: Number of unique outpatients with a diagnosis of hypertension (uncomplicated) on antihypertensive mono-drug therapy

Thiazide Diuretic Use in Uncomplicated HTN, Multi-Therapy

Indicator Statement: Outpatients with a diagnosis of hypertension (uncomplicated) on antihypertensive multi-drug therapy where the regimen includes a thiazide diuretic

Numerator: Number of unique outpatients with a diagnosis of hypertension (uncomplicated) on antihypertensive multi-drug therapy with an active prescription for a thiazide diuretic

Denominator: Number of unique outpatients with a diagnosis of hypertension (uncomplicated) on antihypertensive multi-drug therapy

Cohort for both: 100% Automated sample of patients with a diagnosis of uncomplicated hypertension on anti-hypertensive mono or multi-drug therapy

Definitions for both Thiazide Diuretic Measures

- **Patients with a diagnosis of hypertension** – Two ICD-9 diagnoses of hypertension in the outpatient setting *at the same facility* in the previous twenty-four months prior to the end date of the rolling three month period being evaluated. The ICD9 codes for hypertension are: 401.1 or 401.9 in any position. If patients have two or more diagnosis of hypertension in the past twenty-four months at more than one facility, the *most recent facility* where two outpatient diagnoses of hypertension occurred will be assigned the unique patient for this measurement purpose.
- **Patients receiving anti-hypertensive Mono therapy** - An active prescription at any facility for one drug class and one drug class only from any of the drugs in Table A. Monotherapy does not include fixed dose combinations products on Table A except the potassium sparing combination products of Hydrochlorothiazide/Triamterene or Hydrochlorothiazide/Amiloride. When electronically searching for drugs, **drug class, not drug name** is used to avoid counting two separate drug names in the same class overlapping prescriptions during the three month period as multi-therapy.
- **Patients receiving anti-hypertensive Multi-drug therapy** - An active prescription *at any facility* for two or more drugs from any of the drugs in Table A including any fixed dose combination product with the exception of the potassium sparing combinations. When electronically searching for drugs, **drug class, not drug name** is used.

Table A: Drug Names Used to Define Anti-Hypertension Mono or Multi-Drug Treatment

**Note: Fixed dose combinations qualify only as Multi-drug therapy with the exception of Potassium sparing combinations (Hydrochlorothiazide/Triamterene and Hydrochlorothiazide/Amiloride)*

ACE Inhibitors Benazepril Captopril Enalapril Fosinopril Lisinopril Moexipril Perindopril Quinapril Ramipril Trandolapril	**Angiotensin II Receptor Antagonists** Candesartan Eprosartan Irbesartan Losartan Olmesartan Telmisartan Valsartan	**Alpha1-Blockers** Doxazosin Prazosin Terazosin **Central Alpha Agonists** Clonidine Guanabenz Guanfacine Methyldopa **Alpha-Beta Blockers** Carvedilol Labetolol
Beta-Blockers Acebutolol Atenolol Betaxolol Bisoprolol Carteolol Metoprolol Nadolol Penbutolol Pindolol Propranolol Timolol Esmolol	**Calcium Channel Blockers** Diltiazem Verapamil Amlodipine Felodipine Isradipine Nicardipine Nifedipine Nisoldipine	**Peripheral Vasodilators** Hydralazine Minoxidil **Peripheral Adrenergic Inhibitors** Guanadrel Guanethidine Reserpine
Thiazide and Related Diuretics Bendroflumethiazide Benzthiazide Chlorothiazide Chlorthalidone Hydrochlorothiazide Hydrochlorothiazide/Triamterene Hydrochlorothiazide/Amiloride Hydrochlorothiazide/ Spironolactone Hydroflumethiazide Indapamide Methyclothiazide Metolazone Polythiazide Quinethazone Trichlormethiazide	**Aldosterone Antagonists** Eplerenone Spironolactone	**Potassium-Sparing Diuretics** Amiloride Triamterene
Renin Inhibitor Aliskiren		
***Fixed-dose Combinations** Hydrochlorothiazide/Irbesartan Hydrochlorothiazide/Lisinopril Hydrochlorothiazide/Losartan Hydrochlorothiazide/Valsartan Hydrochlorothiazide/Methyldopa Hydrochlorothiazide/Metoprolol Hydrochlorothiazide/Reserpine Hydrochlorothiazide/Timolol Hydrochlorothiazide/Moexipril	***Fixed-dose Combinations (con't)** Atenolol/Chlorthalidone Amlodipine/Benazepril Amlodipine/olmesartan Amlodipine/valsartan Benazepril/Hydrochlorothiazide Fosinopril/Hydrochlorothiazide Bisoprolol/Hydrochlorothiazide Hydralazine/Hydrochlorothiazide	***Fixed-dose Combinations (con't)** Trandolapril/Verapamil Polythiazide/Reserpine Chlorothiazide/Reserpine Hydroflumethiazide/Reserpine Methyclothiazide/Reserpine Trichlormethiazide/Reserpine Bendroflumethiazide/Nadolol Hydrochlorothiazide/Propranolol Chlorthalidone/Clonidine

Table A: Drug Names Used to Define Anti-Hypertension Mono or Multi-Drug Treatment **Note: Fixed dose combinations qualify only as Multi-drug therapy with the exception of Potassium sparing combinations (Hydrochlorothiazide/Triamterene and Hydrochlorothiazide/Amiloride)*		
Hydrochlorothiazide/Quinapril Hydrochlorothiazide/Eprosartan Hydrochlorothiazide/Telmisartan Hydrochlorothiazide/Olmesartan Hydrochlorothiazide/Candesartan	Enalapril/Felodipine Hydralazine/Hydrochlorothiazide/ Reserpine Enalapril/Hydrochlorothiazide Captopril/Hydrochlorothiazide Diltiazem/Enalapril	Bendroflumethiazide/rauwolfia serpentina Polythiazide/Prazosin Hydrochlorothiazide/Guanethidine Hydrochlorothiazide/Labetolol Chlorthalidone/Reserpine Deserpidine/Methyclothiazide Chlorothiazide/Methyldopa Aliskiren/HTCZ

Note: Loop diuretics are excluded from Table A as Furosemide is not considered equivalent to thiazides for CVD prevention and loops have never been tested in outcome trials (furosemide was only effective in lowering BP if given at least 40 mg BID or higher). Loops are necessary for volume/BP control in patients with low GFRs and are used (by convention/tradition) in heart failure, which is why this measure excludes HF and low GFR. Therefore, patients on a loop but no other antihypertensive drugs will be excluded from the denominator, even if they have 2 ICD9 codes for HTN, since they may be on a loop just for edema.

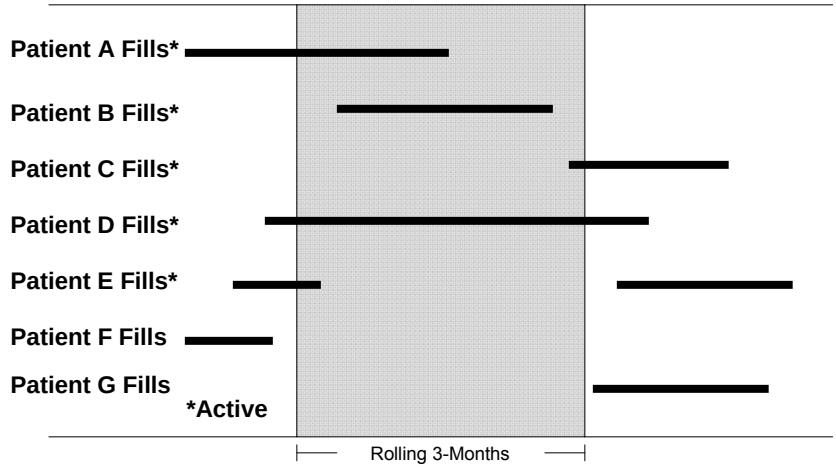
- **"Active" VA prescription** - In order for the drug to be considered active, it must have at least one fill/refill at any facility with at least one day's supply during the rolling 3 month review period of evaluation as follows:

RxRelease Date <= 3 Month Period End Date)
AND
(RxRelease Date + Day Supply >= 3 Month Period Begin Date)

This definition of "active VA prescription" applies to:

- Active prescription for mono or multi-drug anti-hypertensive medication (used to define the denominator(s))
- Active prescription for Lithium (used to define the Lithium exclusion)
- Active prescription for Thiazide-type diuretic (used to define the numerator(s))

Patients Actively on Antihypertensive Drug During Rolling 3-Month Period



A patient is considered actively on an antihypertensive drug if the patient has at least one day supply of the drug during the 3-month rolling period. In other words, if the drug rxfill is released to the patient on or before the last day of the 3-month period AND the released rxfill supplies the patient with at least one days supply in the 3-month period, the patient is actively on the drug.

(Rxfill Release Date <= 3-Month Period End Date)
and
(Rxfill Release Date + Day Supply >= 3-Month Period Begin Date)

- **Active Non VA Drug prescription:** In order for the Non-VA drug to be considered active, it must have at least one day activity during the rolling 3 month review period of evaluation using the following rules:

    - if DC date null, and start-date (or documentation-date when start-date null) <=the end date of the rolling 3 months; OR

    - if DC date>start-date (or documentation-date when start-date null), and DC date>beginning date of the rolling 3 months, and start-date (or documentation-date when start-date is null) <=the end date of the rolling 3 months

This definition of "active Non VA prescription" applies ONLY to:

- Active prescription for Thiazide-type diuretic
- Non VA Thiazides will only be searched for if an Active VA prescription cannot be located

- **Regimen includes an active VA or Non VA prescription for a thiazide diuretic**: The drugs or fixed dose combinations found in Table B are considered thiazide diuretics or like acting drugs and will be considered as in the thiazide drug class. An active prescription for thiazide can be *from any facility*. When electronically searching for drugs, **drug class, not drug name** is used.

Table B Thiazide and Related Diuretics or Combinations Containing a Thiazide		
Bendroflumethiazide	Hydrochlorothiazide/Irbesartan	Polythiazide/Reserpine
Benzthiazide	Hydrochlorothiazide/Lisinopril	Chlorothiazide/Reserpine
Chlorothiazide	Hydrochlorothiazide/Losartan	Hydroflumethiazide/Reserpine
Chlorthalidone	Hydrochlorothiazide/Valsartan	Methyclothiazide/Reserpine
Hydrochlorothiazide	Hydrochlorothiazide/Methyldopa	Trichlormethiazide/Reserpine
Hydrochlorothiazide/Triamterene	Hydrochlorothiazide/Metoprolol	Bendroflumethiazide/Nadolol

Hydrochlorothiazide/Amiloride Hydrochlorothiazide/Spironolactone Hydroflumethiazide Indapamide Methyclothiazide Metolazone Polythiazide Quinethazone Trichlormethiazide	Hydrochlorothiazide/Reserpine Hydrochlorothiazide/Timolol Hydrochlorothiazide/Moexipril Hydrochlorothiazide/Quinapril Hydrochlorothiazide/Eprosartan Hydrochlorothiazide/Telmisartan Hydrochlorothiazide/Olmesartan Hydrochlorothiazide/Candesartan Benazepril/Hydrochlorothiazide Fosinopril/Hydrochlorothiazide Bisoprolol/Hydrochlorothiazide Hydralazine/Hydrochlorothiazide Hydralazine/Hydrochlorothiazide/Reserpine Enalapril/Hydrochlorothiazide Captopril/Hydrochlorothiazide	Hydrochlorothiazide/Propranolol Chlorthalidone/Clonidine Bendroflumethiazide/rauwolfia serpentina Polythiazide/Prazosin Hydrochlorothiazide/Guanethidine Hydrochlorothiazide/Labetolol Chlorthalidone/Reserpine Deserpidine/Methyclothiazide Chlorothiazide/Methyldopa Atenolol/chlorthaldone

- **Uncomplicated Hypertension Patients** – Patients with a diagnosis of hypertension without any absolute exclusion AND without compelling indication for other medication as follows:

Absolute Exclusions to both Measures:

- Patients with an active prescription (the definition of active VA prescription is applied to the search for Lithium products) for any of the Lithium products including
    - LITHIUM CARBONATE CAP
    - LITHIUM CARBONATE TAB
    - LITHIUM CARBONATE TAB SA
    - LITHIUM CITRATE SYRUP

- Patients with an outpatient or inpatient diagnosis at any facility within the past 24 months prior to the end date of the rolling 3-month period being evaluated as follows:
    - Systolic Dysfunction as defined by any ICD-9 code of 428.0 or 428.1 or 428.9 or 398.91 or 428.2x or 428.4x
    - Cor Pulmonale as defined by any ICD9 code of 415.0 or 416.9
    - Hyponatremia as defined by any ICD9-CM code of 276.1
    - Hyperaldosteronism as defined by any ICD9-CM code of 255.1 or 255.1x
    - Stage IV, Stage V, or End Stage Renal Disease as defined by any ICD-9 code of 585.4, 585.5, 585.6
    - Spinal Cord Injury (SCI) is consistent with the SCI Cohort definition for all applicable performance measures as follows:

344.0x	Quadriplegia and quadriparesis
344.1	Paraplegia
806	Fracture of the vertebral column
806.0x	Cervical, closed
806.1x	Cervical, open
806.2x	Dorsal (thoracic), closed
806.3x	Dorsal (thoracic), open
806.4	Lumbar, closed
806.5	Lumbar, open
806.6x	Sacrum and coccyx, closed
806.7x	Sacrum and coccyx, open
806.8	Unspecified, closed
806.9	Unspecified, open
907.2	Late effect of SCI
952	SCI without evidence of spinal bone injury
952.0x	Cervical

952.1x	Dorsal (thoracic)
952.2	Lumbar
952.3	Sacral
952.4	Cauda equina
952.8	Multiple sites of spinal cord
952.9	Unspecified site of spinal cord

- Patients with a lab result at any facility within the past twenty-four months prior to the end date of the rolling three month period being evaluated as follows:
  - Patients in whom the most recent estimated Glomerular Filtration Rate (eGFR)13 is less than 30 cc/min, as calculated by the MDRD four variable formula (estimated GFR in cc/min per 1.73 m2): http://www.hdcn.com/calcf/gfr.htm
    Estimated GFR (ml/min/1.73m2): = 186 x (Scr) -1.154 x (Age)-0.203 x (0.742 if female) x (1.210 if African - American)
  - Patient in whom the most recent outpatient estimated Glomerular Filtration Rate (eGFR) performed at any facility and reported through VistA lab package is less than 30 cc/min
  - Patients in whom the most recent creatinine performed at any facility is ≥ 2.0

Note: In calculating the eGFR, four variables (age, gender, race and creatinine) are used and the following business rules apply,

- Most recent date of birth is used in the event of a discrepancy
- For Creatinine:
  - Missing creatinine variable is assumed to be not drawn
  - Multiple creatinine values at multiple sites, most recent is used
- In the event of multiple race fields for a single patient:
  - If no race available, assumed Non African American
  - If tie in the responses in race field, most recent is used
  - If multiple race responses, most frequent is used
- In the event of multiple gender fields for a single patient
  - If no gender available, assumed male
  - If multiple gender responses, most frequent used
  - If tie in gender response, most recent used

Additional Exclusions to both measures due to Compelling Indication for another agent

- Patients with any listed outpatient or inpatient diagnosis at any facility within the past twenty-four months prior to the end date of the rolling three month period being evaluated including exclusion for:
  - *Supraventricular Tachycardia* as defined by any code 427.0 or 427.31 or 427.32
  - *Angina* as defined by any ICD9-CM code of 411.1 or 411.81 or 411.89 or 413.0, or 413.1 or 413.9
  - *Diabetes* as defined by any of the following ICD-9 codes

ICD9 Code	Description
250.0	DIABETES MELLITUS
250.00	DMII WO CMP NT ST UNCNTR
250.01	DMI WO CMP NT ST UNCNTRL
250.02	DMII WO CMP UNCNTRLD
250.03	DMI WO CMP UNCNTRLD
250.10	DMII KETO NT ST UNCNTRLD
250.11	DMI KETO NT ST UNCNTRLD
250.12	DMII KETOACD UNCONTROLD
250.13	DMI KETOACD UNCONTROLD
250.20	DMII HPRSM NT ST UNCNTRL
250.21	DMI HPRSM NT ST UNCNTRLD
250.22	DMII HPROSMLR UNCONTROLD

ICD9 Code	Description
250.23	DMI HPROSMLR UNCONTROLD
250.30	DMII O CM NT ST UNCNTRLD
250.31	DMI O CM NT ST UNCNTRLD
250.32	DMII OTH COMA UNCONTROLD
250.33	DMI OTH COMA UNCONTROLD
250.40	DMII RENL NT ST UNCNTRLD
250.41	DMI RENL NT ST UNCNTRLD
250.42	DMII RENAL UNCNTRLD
250.43	DMI RENAL UNCNTRLD
250.50	DMII OPHTH NT ST UNCNTRL
250.51	DMI OPHTH NT ST UNCNTRLD
250.52	DMII OPHTH UNCNTRLD
250.53	DMI OPHTH UNCNTRLD
250.60	DMII NEURO NT ST UNCNTRL
250.61	DMI NEURO NT ST UNCNTRLD
250.62	DMII NEURO UNCNTRLD
250.63	DMI NEURO UNCNTRLD
250.70	DMII CIRC NT ST UNCNTRLD
250.71	DMI CIRC NT ST UNCNTRLD
250.72	DMII CIRC UNCNTRLD
250.73	DMI CIRC UNCNTRLD
250.80	DMII OTH NT ST UNCNTRLD
250.81	DMI OTH NT ST UNCNTRLD
250.82	DMII OTH UNCNTRLD
250.83	DMI OTH UNCNTRLD
250.90	DMII UNSPF NT ST UNCNTRL
250.91	DMI UNSPF NT ST UNCNTRLD
250.92	DMII UNSPF UNCNTRLD
250.93	DMI UNSPF UNCNTRLD
357.2	NEUROPATHY IN DIABETES
362.0	OTHER RETINAL DISORDERS
362.01	DIABETIC RETINOPATHY NOS
362.02	PROLIF DIAB RETINOPATHY
366.41	DIABETIC CATARACT
648.00	DIABETES IN PREG-UNSPEC
648.01	DIABETES-DELIVERED
648.02	DIABETES-DELIVERED W P/P
648.03	DIABETES-ANTEPARTUM
648.04	DIABETES-POSTPARTUM
962.3	POISON-INSULIN/ANTIDIAB
E932.3	ADV EFF INSULIN/ANTIDIAB

or

- Patients with one outpatient fill (or refill) of a diabetes drug with a day supply of 31 or greater filled within the 24 month window **or**
- Two outpatient fills (or refill) of a diabetes drug with a day supply of 30 or less filled within the 24 month window

Diabetes Drugs include:

VA Drug Class	VA Drug Class Name	Drug Name
HS500	BLOOD GLUCOSE REGULATION AGENTS	EXENATIDE
HS501	INSULIN	INSULIN
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	ACARBOSE
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	ACETOHEXAMIDE
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	CHLORPROPAMIDE
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	GLIMEPIRIDE
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	GLIPIZIDE
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	GLUCOSE

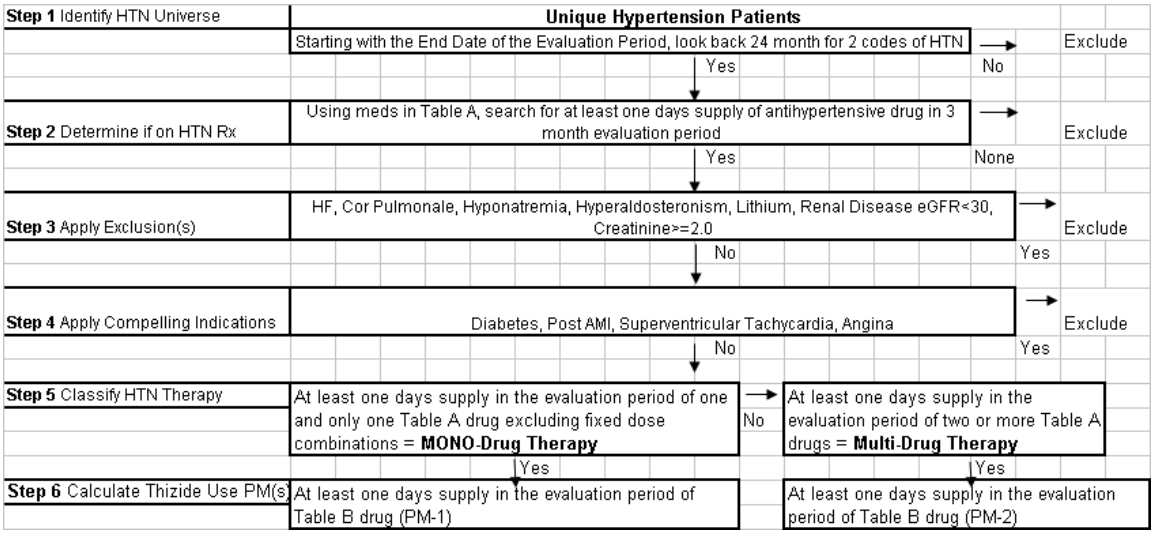
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	GLYBURIDE
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	GLYBURIDE/METFORMIN
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	METFORMIN
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	METFORMIN/ROSIGLITAZONE
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	MIGLITOL
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	NATEGLINIDE
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	PIOGLITAZONE
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	REPAGLINIDE
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	ROSIGLITAZONE
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	TOLAZAMIDE
HS502	ORAL HYPOGLYCEMIC AGENTS,ORAL	TOLBUTAMIDE
HS503	ANTIHYPOGLYCEMICS	DEXTROSE
HS503	ANTIHYPOGLYCEMICS	DIAZOXIDE
HS503	ANTIHYPOGLYCEMICS	GLUCAGON
HS503	ANTIHYPOGLYCEMICS	GLUCOSE

- Patients with any listed outpatient or inpatient diagnosis at any facility within the past five years prior to the end of the rolling three month period being evaluated including exclusion for:
    - *Post AMI* as defined by any ICD9 code of 411.0 or 410.xx or 412.0
    - Other Forms of *Chronic Ischemic Heart Disease* as defined by any ICD9 code of 414.xx

- **Note**: Hyperuricemia may develop in patients treated with a thiazide-type diuretic, although it is often asymptomatic. Therefore, continuation of a thiazide-type diuretic in patients with asymptomatic hyperuricemia is appropriate. If the patient develops symptomatic gout, or has a history of gout, medications to treat the hyperuricemia and/or symptoms of gout may be initiated/adjusted before discontinuing the thiazide so that the patient may receive the cardiovascular benefits of the thiazide. This risk vs. benefit of this decision should be discussed with the patient. Gout was included in the denominator(s) of both performance measures.

Methodology:

- Data origin & extraction: Pharmacy Benefits Management Database
- PM Logic:



- Sample size/selection: 100% sample of uncomplicated HTN patients from the PBM database
- Scoring: N/D*100 = percent
  - Number of uncomplicated hypertensive patients on antihypertensive monotherapy with active thiazide prescription / Number of uncomplicated hypertensive patients on antihypertensive monotherapy x 100 = Percent of uncomplicated monotherapy hypertension patients getting a thiazide
  - Number of uncomplicated hypertensive patients on antihypertensive multi-drug therapy with active thiazide prescription / Number of uncomplicated hypertensive patients on antihypertensive multi-drug therapy x 100 = Percent of uncomplicated multi-drug therapy hypertension patients getting a thiazide

Indicator Reporting is planned to be a quarterly report using the 3 month evaluation period as follows:

	Three Month Periods of Evaluation for Thiazide Prescription											
EBB Report Quarter Schedule	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Q1 First Week of February FY09	→	→	→									
Q2 First Week of May FY09				→	→	→						
Q3 First Week of August FY09							→	→	→			
Q4 First Week of November FY09										→	→	→

Data will be displayed on the VSSC web site with real SSN drill down capacity for authenticated users. Reporting will also include exclusion information.

***** Clinical Decisions

DVT Prophylaxis for high risk inpatients

Rationale:
Deep venous thrombosis is common and associated with catastrophic outcomes and can be prevented. As many as ten percent of hospital deaths may be the result of a pulmonary embolus. [1] Most VA hospital inpatients have one or more risk factor increasingly the likelihood of VTE (age> 60 years, morbid obesity, severe cardiac or respiratory disease, active malignancy, estrogen therapy, hip fracture or knee replacement, inflammatory bowel disease). A recent review of high risk patients admitted to VA hospitals nationally demonstrated variation in the implementation of VTE prophylaxis and thus suggests an important opportunity for improvement that might results in reduction in hospital mortality.

Indicator Statement: TM5a: Percentage of patients in identified high risk groups with an order for heparin, a heparin agent, or Coumadin.

Numerator: Number of patients in high risk diagnostic groups for whom heparin, a heparin agent, or Coumadin is ordered.

Denominator: Total number of patients in high risk diagnostic groups as defined below.

Exclusions:

- Acute care inpatients in wards identified as nursing home, psychiatric, or rehabilitation as defined by the ward specialty.
- Surgical Care Inpatients
- Also excluded are acute care stays (Non-ICU) less than 48 hours, and ICU stays which end less than 24 hours after hospital admission.

Cohort: Acute care inpatients (ICU and non-ICU) with high risk conditions for VTE.

Definitions:
Acute Care Inpatients

- **ICU Patient:** ICU patients are identified by the treating specialty associated with the ward location code to which the patient is assigned. ICU treating specialties include SURGICAL ICU, MEDICAL ICU, MEDICAL ICU/CCU, CARDIAC INTENSIVE CARE UNIT.
- **Non-ICU Patient:** Patients on wards that have a treating specialty other than an ICU treating specialty.
- **High Risk Inpatients:** Inpatients with the following primary diagnoses or conditions
- Medical Diagnoses (ICU and Non-ICU):
    - Congestive heart failure
    - Pneumonia
    - Respiratory failure
    - Sepsis
    - Renal failure
    - Hip fracture
    - Malignancy

  Mechanically ventilated patients:

- ICU patients only

- **Heparin, Heparin Agent, or Coumadin Order:** An order for heparin, a heparin agent, or Coumadin is determined by the National Drug Class associated with the ordered medication. Drug classes of BL100 and BL110 are used to identify these drugs.
- **Diagnoses**: ICD9 codes associated with the primary diagnosis for each ward stay are used to identify patients with high risk medical conditions for VTE. These codes include but are not limited to:
  - Congestive heart failure
    - 391.2, 398.91, 402.01, 402.11, 402.91, 404.01, 404.03, 404.11, 404.13, 404.91,422.90, 422.91, 422.99, 425.2, 428.0, 428.1, 428.20, 428.21, 428.22 , 428.23,428.30, 428.31, 428.32, 428.33, 428.40, 428.41, 428.42, 428.43, 428.9, 429.0, 429.1, 429.82, 674.50, 674.54, 425.1, 425.4, 425.5, 425.9
  - Pulmonary Embolism
    - 415-415.99
  - Pneumonia
    - 003.22, 018.83, 031.0, 032.9, 033.0, 033.9, 039.1, 052.1, 073.0, 083.0, 130.4, 480.0, 480.1, 480.2, 480.8, 480.9, 481, 482.0, 482.1, 482.2, 482.30, 482.31, 482.32, 482.39, 482.40, 482.41, 482.49, 482.81, 482.82, 482.83, 482.84, 482.89, 482.9, 483.0, 483.1, 483.8, 485, 486, 487.0, 487.1, 487.8, 488, 513.0, 010.00, 010.03, 010.83, 010.85, 010.90, 010.92, 011.00, 011.01, 011.02, 011.03, 011.10, 011.12, 011.13, 011.14, 011.15, 011.16, 011.20, 011.21, 011.22, 011.23, 011.24, 011.25, 011.26, 011.36, 011.40, 011.41, 011.44, 011.45, 011.46, 011.54, 011.55, 011.60, 011.62, 011.63, 011.64, 011.66, 011.80, 011.82, 011.83, 011.84, 011.85, 011.86, 011.90, 011.91, 011.92, 011.93, 011.94, 011.95, 011.96, 012.16, 018.03, 018.04, 018.80, 018.82, 018.84, 018.85, 018.86, 018.90, 018.93, 018.94, 018.95, 018.96
  - Respiratory failure
    - 239.1, 079.82, 517.3, 518.5, 518.81, 518.82, 518.83, 518.84, 799.0, 799.01, 799.1, 807.05, 807.06, 807.07, 807.08, 807.09, 807.18, 807.4, 994.7, V46.11, V46.12, V46.13, V46.14
  - Sepsis
    - 003.1, 036.2, 038.0, 038.10, 038.11, 038.19, 038.2, 038.3, 038.40, 038.41, 038.42, 038.43, 038.44, 038.49, 038.8, 038.9, 785.52, 995.90, 995.91, 995.92, 995.93
  - Renal failure
    - 591, 593.3, 593.4, 593.5, 598.9, 599.6, 599.60, 599.69, 600.01, 600.11, 600.21, 600.91, 753.20, 753.22, 788.29, 283.11, 445.81, 446.21, 453.3, 580.0, 580.4, 580.89, 580.9, 581.0, 581.1, 581.2, 581.3, 581.89, 581.9, 582.0, 582.1, 582.2, 582.4, 582.89, 582.9, 583.0, 583.1, 583.2, 583.4, 583.6, 583.7, 583.89, 583.9, 584.5, 584.6, 584.7, 584.8, 584.9, 586, 596.0, 728.88, 753.10, 753.12, 753.13, 753.19, 788.5, 791.3, 958.5
  - Hip Fractures
    - 733.42, 820.00, 820.01, 820.02, 820.03, 820.09, 820.10, 820.11, 820.12, 820.13, 820.19, 820.20, 820.21, 820.22, 820.30, 820.31, 820.32, 820.8, 820.9, V43.64, V54.13
  - Malignancy
    - 173.0-173.9, 232.0-232.9, 172.0-172.9, 164.0-164.9, 165.8, 165.9,

170.0-170.9, 171.0-171.9, 174.0-174.9, 175.0, 175.9, 179, 180.0, 180.8, 180.9, 181, 182.0, 182.1, 182.8, 183.0, 183.8, 183.9, 184.0, 184.3, 184.4, 184.8, 190.0, 190.1, 190.2, 190.3, 190.4, 190.6, 190.7, 190.8, 190.9, 193, 194.0, 194.1, 194.5, 194.6, 194.8, 194.9, 195.1, 195.2, 195.3, 195.4, 195.5, 195.8, 202.32, 202.33, 202.50, 202.60, 202.61, 202.62, 202.63, 202.64, 202.66, 202.67, 202.68, 233.0, 233.1, 233.2, 233.3, 234.0, 234.8, 236.0, 236.2, 236.6, 236.99, 237.2, 237.3, 237.4, 237.70, 237.71, 237.72, 238.0, 238.1, 238.2, 238.3, 238.8, 238.9, 239.2, 239.3, 239.4, 239.7, 239.8, 239.9, 338.3, V07.39, V10.00, V10.02, V10.21, V10.3, V10.46, V10.52, V58.0, V58.1, V58.11, V58.12, V58.42, V66.1, V66.2, V67.1, V67.2, V76.3, V76.49, V76.51

  - GI Inflammation
    - 45.50, 45.51, 45.52, 45.61, 45.62, 45.63
  - GI Obstruction
    - 41.1, 41.2, 41.32, 41.33, 41.39, 41.42, 41.43, 41.5, 41.93, 41.95, 41.99, 42.09, 42.11, 42.12, 42.31, 42.52, 42.53, 42.54, 42.55, 42.58, 42.59, 42.62, 42.66, 42.7, 42.82, 42.83, 42.84, 42.85, 42.87, 42.89, 42.99, 43.0, 43.3, 44.21, 44.31, 44.38, 44.39, 44.5, 44.61, 44.63, 44.64, 44.65, 44.66, 44.67, 44.68, 44.69, 44.92, 44.95, 44.97, 44.98, 44.99, 45.01, 45.02, 45.03, 45.19, 45.28, 46.91

Mechanically ventilated patients: The following ICD9 procedure codes are used to determine whether a patient was mechanically ventilated:

- 93.90, 93.91, 93.92, 93.93, 96.04, 96.70, 96.71, 96.72

Methodology:

- Data origin: Data are extracted quarterly from local facility VISTA systems. Specific VISTA files from which data are extracted include the Patient Treatment File (PTF), Pharmacy, Surgery and Laboratory files. Data are extracted 30 days after the end of a quarter in order to ensure that the PTF records have been closed.

******Patient Safety**

Reduction in Insulin-Induced Hypoglycemia Risk

Rationale:
A growing body of evidence suggests that both hypoglycemia and hyperglycemia are associated with adverse outcomes in hospitalized patients. When glucose levels are <70 mg/dL but above 45 mg/dL, hypoglycemia presents with increased tremulousness, weakness, sweating, and palpitations, and difficulty speaking. If unrecognized, however, as glucose levels drift below around 45 mg/dL, neuro-glyco-penic responses predominate with symptoms of drowsiness, confusion, changes in behavior, coma, seizure and even death. Efforts to better control hyperglycemia have been associated with increased incidence of hypoglycemia in patients on oral hypoglycemic agents as well as on insulin. Hypoglycemic events in the hospital may occur with changes in the meal schedule (NPO) or content or as a result of changes in the metabolism of hypoglycemic agents.

The problem is that hyperglycemia has also been associated with increased length of stay, increased renal injury, as well as increased mortality in hospitalized patients in critical care units (patients post-cardiovascular surgery and AMI cases predominate in published studies). Moreover, glycemic control with insulin therapy in selected populations appears to reduce morbidity and mortality. Questions that remain unanswered regarding management of hyperglycemia in inpatients include determination of the appropriate and safe target range and population. The goal then is reasonable glycemic control avoiding episodes of hypoglycemia

The standard metrics for assessing glycemic control in the hospital setting or "glucometrics" has not yet been established despite their importance in the assessment of quality and safety in the management of inpatients. A recently published study comparing various units of measurement found that a "patient-day" model most accurately reflects the episodes of inpatient hypoglycemia while mean glucose is a reasonable estimate of hyperglycemic management. [(1)]. This reference suggests as a benchmark a goal of <10% of patient days on insulin should have an episode of hypoglycemia defined as a glucose <60 mg/dL.

Indicator Statement TM5b: Percentage of ICU Patients Days with hypoglycemia (≤ 45 mg/dL)

Numerator: Number of ICU patient days in which a glucose level below 45mg/dl is recorded for those patients on insulin

Denominator: Number of ICU patient days for those patients with an insulin order

Exclusions:
- Non-ICU patients are excluded from this measure.
- Patients with hepatic failure are excluded.

Cohort: ICU inpatients with an order for insulin at some time between the date of hospital admission and the discharge date of their first ICU stay. Only the patient's first ICU stay is used.

Definitions:

- **Hypoglycemia:** a serum blood glucose reading <45mg/dl
- **Patients on Insulin:** A patient with an order for insulin at some time between the date of hospital admission and the discharge data of their first ICU stay

- **ICU Patient:** ICU patients are identified by the treating specialty associated with the ward location code to which the patient is assigned. ICU treating specialties include SURGICAL ICU, MEDICAL ICU, MEDICAL ICU/CCU, and CARDIAC INTENSIVE CARE UNIT.
- **Insulin Order:** An order for Insulin is determined by the National Drug Class associated with the ordered medication. Drug classes of HS501 and HS502 are used to identify these drugs.
- **Glucose Measurements:** Serum glucose measurements including point of care measurements are used in the calculation.

Methodology:

- Data origin: Data are extracted quarterly from local facility VISTA systems. Specific VISTA files from which data are extracted include the Patient Treatment File (PTF), Pharmacy, Surgery and Laboratory files. Data are extracted 30 days after the end of a quarter in order to ensure that the PTF records have been closed.

****** Utilization**

Hospital OMELOS Reduction

Indicator Statement: This indicator subtracts the observed length of stay from the predicted length of stay among all patients admitted to acute care bed sections in the hospital

Cohort: Patients admitted for inpatient acute care (medical, surgical or neurology service) in the hospital and who survive for 35 days.

Exclusions:
- Patients on the psychiatric, rehabilitation, extended care, spinal cord units, nursing home or substance abuse bed sections.
- Transplant Surgery patients identified by ICD-9-CM diagnostic and procedure codes
- Transfers to other facilities by discharge status
- Patients who die in the hospital within the first 35 days

- **Hospital OMELOS Definition:** The observed LOS (date and time of discharge from the hospital minus date and time of admission to the hospital in hours / 24 to convert to days) minus the predicted length of stay where the predicted length of stay is determined from a linear regression model using as independent predictors age, diagnosis, co morbid conditions, and the worst of 11 laboratory tests drawn during the 24 hours surrounding admission (sodium, blood urea nitrogen, glucose, creatinine, hematocrit, white blood cell count, bilirubin, albumin, ph, PACO2, PAO2) and source of hospital admission (nursing home, operating room, ward, other hospital, ED/ OPC)

- **Target**: VA hospitals with a OMELOS < or = to 0 in baseline year of 2008 will maintain their OMELOS at < or equal to 0
- **Target**: VA hospitals with a OMELOS > 0 in baseline year of 2008 will demonstrate a 50% reduction

Methodology:
- Data origin and validation: Administrative data from facility VISTA systems is used:
  - o "treating specialty" field determines "acute care" in the hospital location file of the PTF
  - o Laboratory data (requires customized mapping)
  - o Validation is done by distribution of measured lab values and diagnoses

- Extraction*:* Data is extracted 30 days after the end of each quarter using a fiscal year. IPEC reports the facility, ICU and VISN specific results to each VISN using the fiscal year quarters where Q1 (October, November, December) will be reported in February, Q2 (January, February, March) reported in May, and Q3 (April, May, June) reported in August
- Sample Size: 100% of acute care hospital admissions are included in the sample.
- Scoring logic: Data is scored by IPEC and targets are facility specific.

******Access**

Patient Waiting Times – Clinic

Rationale:
Eligibility Reform changes and the new enrollment process have increased the demand for patient care services in the Veterans Health Administration (VHA). New patients represent a subset of patients who experience the longest wait times. Many organizations measure specialty care wait times from the date the consult was initiated until the date the patient was seen. This new patient wait time closely approximates this approach. Waiting time to receive an appointment is a primary source of dissatisfaction among stakeholders.

Primary care and specialty care "new" patient measures for appointments seen within 30 days of creation date will, again, be calculated from the scheduling package as in previous years. For new patients, the measures "start" when the patients are SEEN then look backward to when the appointment was made. Calculations for "new" patients are made based on patients not having been seen in the clinic at that facility in the previous 24 months. There is then an assumption that all "new" appointments are a request for a "next available appointment".

Indicator Statement: Percent of new patients seen within 30 days of appointment creation date or entry onto wait list

Measure/Clinic/Specialty Care	Stop Code	Mnemonic
3a1 Audiology	203	Wtm20
3a2 Cardiology	303	Wtm21
3a3 Dermatology	304	Wtm36
3a4 Eye care	407, 408	Wtm22
3a5 Gastroenterology	307	Wtm23
3a6 Orthopedics	409	Wtm25
3a7 Podiatry	411	Wtm38
3a8 Primary Care	322, 323, 350, 704**	Wtm26
3a9 Urology	414	Wtm27

****531 discontinued; 704 added**

Numerator: The number of patients from the denominator who experienced a total waiting time of 30 days or less

Denominator: The number of first outpatient encounters made by a patient to the clinic group in the reporting month where

- The DSS secondary stop code of the encounter is NOT on exclusion list.
- The encounter is with an eligible provider, as evidenced by having at least one of the providers listed on the encounter with a person class that is on the list of eligible provider person classes.
- The patient has **not** had a prior encounter that meets conditions 1 & 2 above at the parent facility in the past 24 months in the same clinic group.
- The appointment was not made while the patient was an inpatient or within 7 days of discharge.
- The denominator is the sum of the new patient encounters for the quarter.

Cohort: All new patients seeking care in the primary or specialty care clinics

Definitions:

- **New patient**: The number of first outpatient encounters made by patients to a clinic group in the reporting month where
    - The secondary stop code of the encounter is not on the exclusion list
    - The encounter is with an eligible provider, as evidenced by having at least one of the providers listed on the encounter with a person class that is on the list of eligible provider types
    - The patient has not had a prior encounter that meets conditions above at the parent facility in the past 24 months in the same clinic group or in a clinic where the patient is seen for a procedure by that clinic group's specialist.

- **DSS Secondary Stop Code exclusion list**: The encounter will not be counted if the secondary DSS stop code of the encounter is

107	EKG	474	Research
115	Ultrasound	103	Telephone
152	Angiograph catheterization	430	Cysto Room Unit
311	Pacemaker	328	Med/Surg Day MDSU
333	Cardiac catheterization	321	GI Endoscopy
334	Cardiac Stress Test	329	Medical Procedures Unit
999	Employee Health	435	Surgical Procedures Unit

- **Clinic group**: The following is the list of clinics that are grouped together as a single clinic for computation purposes:
    - Primary Care is Primary Care (323), Women's Health (322), Geriatric Primary Care (350), Pap Testing (704)
    - Eye Care is Ophthalmology (407) and Optometry (408)
- **List of clinics determining if appointment is for a new or established patient:** The additional clinics include those in which the patient was seen for a procedure by that clinic group's specialist.
    - GI is Gastroenterology (307), Hepatology (337), and GI Endoscopy (321). GI Endoscopy (321) and Hepatology (337) are used to determine whether patient has new vs established status, but are not scored in the clinic in the Wait Time measure results. In addition, visits to 429 (Outpatient care in the OR) & 327 (Medical physician performing invasive OR procedure) when the secondary stop code to the clinic is 307 or 321 will be included.
    - Cardiology is Cardiology (303), Pacemaker (311), and Cardiac Cath (333). In addition, visits to 429 (Outpatient care in the OR) & 327 (Medical physician performing invasive OR procedure) when the secondary stop code to the clinic is 303 or 333 will be included.
    - Urology is Urology (414) and Cystoscopy (430). In addition, visits to 429 (Outpatient care in the OR) & 327 (Medical physician performing invasive OR procedure) when the secondary stop code to the clinic is 414 or 430 will be included.
- **New patient wait time**: the time in days between the encounter date and the creation date of the appointment that initiated the encounter. Wait times due to cancellations of

appointments by clinic (but not of appointments cancelled by patient) or time spent on the wait list are factored into this calculation, if applicable.

- **Wait time due to clinic cancellation**: If an appointment was created as the result of a clinic cancellation then the original appointment creation date is used as the start date for the new patient wait time calculation. If an appointment has been cancelled by the clinic then it is "linked" to the "remake" appointment by either of the following criteria:
    - Cancelled appointment is auto-rebooked.
    - Appointment is cancelled and remade on the same day for the same patient for the same primary DSS stop code at the same facility.

  If there are any other appointments for the same patient and same primary DSS stop code between this cancelled and remade appointment then the link is broken and the association is not made.
- **Wait time due to time spent on the wait list**: If a patient has spent time on the Electronic Wait List (EWL), this waiting time is added to the total wait time. The wait list stay is linked to the appointment that made the encounter by the following:
    - Patient was on the wait list waiting for an appointment in a primary DSS stop code that is the same as the stop code of the appointment for the new patient encounter **and**
    - The parent facility where the new patient encounter took place is the same as the parent facility where the patient was waiting on the wait list.
    - The wait list stay will **not** be linked with the appointment for the new patient encounter if any of the following occur:
        - The patient was removed from the wait list in error
        - The patient was entered on the wait list and removed from the wait list on the same day (assumed to be error)
    - The time in days between the day the patient is removed from the wait list and the date the linked appointment was created is greater than 7 days
    - The patient was waiting less than 7 days on the wait list
- **Eligible providers:** An encounter is only considered in this analysis if it is with an Audiologist (or Audiology tech), Optometrist, MD/DO (including residents), NP/CNS, PA, SW, Psychologist as represented VA Provider Class Codes.

****** Clinical Decisions**

New Diagnosis of Depression

Rationale: This indicator monitors the degree to which veterans with a new diagnosis of depression receive effective pharmacological treatment of depression during the 12 week acute treatment phase. It is patterned after a HEDIS measure to provide opportunity for non-VA comparison. Although labeled 'Mental Health", it should be recognized many patients with a diagnosis of depression are appropriately provided services exclusively in Primary Care Clinics throughout the time period of these measures. In baseline VA data the new diagnosis of depression was made approximately 50% of the time in Primary Care clinics. Data are collected electronically with 100% sample. Due to the time lag to acquire nationally rolled up pharmacy and workload data, this measure will follow the EPRP quarters for reporting but be reported one quarter in arrears. Patients will be reported in the month the acute phase treatment period is completed.

About Antidepressant Management - Nearly 1 in 6 people with severe, untreated depression, commit suicide. Depression affects people of all ages, but often first occurs in a person's late twenties. Elderly people also suffer from high rates of depression.[1] Fortunately, many people can improve through treatment with appropriate medications.

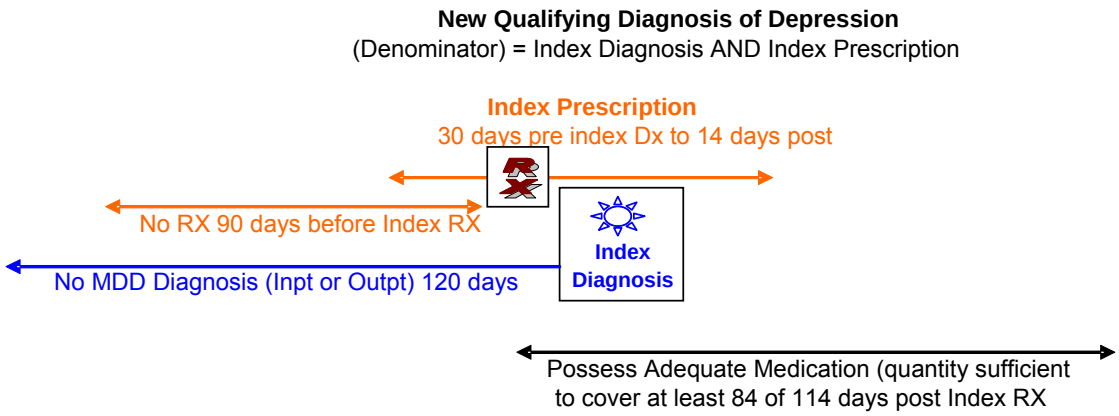
Indicator Statement: The percentage of patients who were diagnosed with a new episode of depression, and treated with antidepressant medication, and who remained on an antidepressant drug for at least 84 treatment days (12 weeks) after the Index Prescription date.

Numerator: Patients diagnosed with a new episode of depression and treated with antidepressant medication who have adequate medication for at least 84 treatment days (12 weeks) after the Index prescription date (30 gap days allowed therefore 84 treatment days + 30 gap days = 114 days examined)

Denominator: Patients diagnosed with a new episode of depression and treated with an antidepressant medication as defined in this measure.

Schematic of Measure

Depression: Continuity of Medication



Definitions:

- **Index Episode Start Date** The earliest encounter date during the review period with a qualifying Diagnosis of Major Depression
- **Acute Treatment Phase** - The 84 day phase starting the day after the Index Episode Start Date (Date of Index Major Depression Diagnosis)
- **Qualifying Diagnosis of Major Depression**
  - At least one principal diagnosis of major depression in any inpatient or outpatient setting, **or**
  - At least two secondary diagnosis of major depression on different dates of service in any outpatient setting, **or**
  - At least one secondary diagnosis of associated with any inpatient discharge

Note: *Date of the index diagnosis is the date of the earliest outpatient visit or date of discharge from inpatient status*

Codes to Identify Major Depression

Description	ICD-9-CM Codes
Major depression*	296.20-296.25, or 296.30-296.35, or 298.0, or 300.4, or 309.1, or 311

*Brief depressive reaction (309.0) is not used for diagnosis, since it includes grief reaction (believed to be the most common use of that code). Additionally, other possible codes that could indicate depression diagnosis (296.4-296.9, 309.0, 309.28) are not included in this list because these codes are less specific in identifying eligible patients.

- **Negative Diagnosis History** – A period of 120 days (4 months) on or before the Index Episode Start Date, during which time the patient had no inpatient or outpatient encounters containing either a principal or secondary diagnosis of depression.

Codes to Identify Negative Major Depression Diagnosis History

Description	ICD-9-CM Codes
Prior depressive episodes (120 days prior to New MDD)	296.2-296.9, or 298.0,or 300.4, or 309.0, or 309.1, or 309.28, or 311

- **Index Prescription Date** – The earliest prescription date for antidepressants filled within a 44-day period as defined as 30 days prior to, through 14 days on or after the Index Episode

Start Date. Antidepressants used to determine prescription date include: http://www.ncqa.org/Programs/HEDIS/2006/Volume2/NDC/FinalList/index.htm

- **Tricyclic antidepressants (TCA)** and other cyclic antidepressants (Amitriptyline, Desipramine, Doxepin, Imipramine, Nortriptyline, Trimipramine, Mirtazapine, Clomipramine, Maprotiline, Protriptyline, Amoxapine). *Note the Tricyclic antidepressants drug class is NOT included in this performance measure since field validation efforts revealed that this drug class is often used for sleep or pain rather than depression thus yielding false positive results. This drug class is included however in the HEDIS comparison version of the measure as HEDIS instruction continues to include this drug class.*
- **Selective serotonin reuptake inhibitors (SSRI)** (Citalopram, Fluoxetine, Paroxetine, Sertraline, Fluvoxamine, Escitalopram,)
- **Monoamine oxidase inhibitors (MAOI)** (Phenelzine, Tranylcypromine, Isocarboxazid,)
- **Serotonin-norepinephrine reuptake inhibitors (SNRI)** (Venlafaxine,Duloxetine)
- **Others** (Bupropion, Nefazodone, Trazodone)

  Note: Nefazodone and Trazodone are NOT included in this performance measure since field validation efforts revealed that these drugs may be prescribed for reasons other than depression thus yielding false positive results. These drugs are included however in the HEDIS comparison version of the measure as HEDIS instruction continues to include these drugs.

- **Negative Medication History** - A period of 90 days (3 months) on or before the Index Prescription Date, during which time the patient had no prescription (new or refill prescriptions) for a listed antidepressant drug noted under Index Prescription Date definition.
  Note*: In order to ascertain that the patient wasn't 'finishing' a prior prescription during the 90 days prior to a diagnosis, data is reviewed back to 119 days.*
  Note*: The FRP date field from the Pharmacy Benefits Management (PBM) is used to calculate medication coverage for patients.*

- **New episode of depression** – To qualify as a New Episode of Major Depression, two criteria (diagnosis and medications) must be met:
  - Must Have Both Index Diagnosis of Major Depression **AND** Negative Diagnosis History **AND**
  - Must Have Both Index prescription **AND** Negative Medication History

Note*: A patient may be included in this measure more than once if the qualifying criteria are met.*

Effective Acute Phase Antidepressant Medication Treatment: Continuity of treatment with antidepressant medications to cover at least 84 days of 114 days following the Index Prescription Date. A 'gap' in antidepressant medications of no more than 30 days total is allowed to accommodate the clinical practice of 'washing out' one medication before starting another if needed, and/or delay in filling/picking up a prescription. Overlapping prescriptions of different medications on the same day are not counted twice. To determine the continuity of treatment, sum the number of gap days to the number of treatment days for a maximum of 114 days from the Index Prescription date. For all prescriptions filled within 114 days of the Index Prescription Date, count until a total of 84 treatment days has been established. Patients whose gap days exceed 30 or who do not have 84 treatment days within the 114 days after the Index Prescription Date are not counted in the numerator.

Methodology:

- Data Origin: Visit and diagnosis from Austin Automation Center; Prescription data from the Pharmacy Benefits Management (PBM) data warehouse
- Extraction: electronic
- Sample Size: 100%
- Repository: Office of Quality and Performance
- Time Frame Issues: Data will be reported for the EPRP quarter in which the patient completes the acute treatment phase. 1st qtr includes patients who completed the 84 day acute treatment phase in Oct or November, 2nd qtr (Dec, Jan, Feb), 3rd Qtr (Mar, Apr, May), and 4th Qtr (June, July, Aug). Quarterly reports will be provided as follows:

Effective Medication Coverage:	Executive Briefing Book report date (one quarter in arrears due to data delays)	Reports patients with an index prescription date occurring during the period (30 days prior to 14 days after the index diagnosis of depression):	Without a prior prescription for a depression related medication occurring during the period (119 days prior to index prescription date):	With sufficient medication to cover at least 84 of 114 days post index prescription date over the period:
Quarter 1 Oct -Nov	First Friday May 08	06/09/2008 - 09/21/2008	02/10/2008 - 05/25/2008	10/01/2008 - 01/13/2009
Quarter 2 Dec Jan Feb	First Friday August 08	08/09/2008 - 12/21/2008	04/12/2008 - 08/24/2008	12/01/2008 - 04/13/2009
Quarter 3 Mar Apr May	Mid-October 08	11/08/2008 - 03/22/2009	07/12/2008 - 11/24/2008	03/01/2009 - 07/14/2009
Quarter 4 Jun Jul Aug	First Friday February 09	02/07/2009 - 06/22/2009	10/12/2008 - 02/24/2009	06/01/2009 - 10/14/2009

- **Scoring:** The metric uses all VAMC encounters and information available in the Austin Information Technology Center (AITC), so information from all centers is used. *For a patient to 'qualify' for the denominator, they need to have been seen in VHA sometime in the prior 13-24 months,* NOT had a previous diagnosis or prescription for the prescribed period of time AT ANY VAMC. Likewise, if they have qualified and are in the denominator a prescription from ANY VAMC will be credited toward meeting the requirement for the numerator. The facility where the patient qualifies received the 'credit' or the 'failure' for the patient meeting the requirements.

HRSA Quality e-Measures Inventory
June, 2010

HRSA Quality Measure	Topic/ Condition	Sub-Topic/ Sub-Condition	Type	Setting	Numerator	Denominator	Data source	Purpose(s) for which measure is used	Where, how data is reported	Timing of measure implement./ Updates
Blood Pressure Controlled	Primary Care	Hypertension	Outcome	Ambulatory	Number of patients with diagnosis of: HTN (but not DM) whose BP is <140/90 mmHg; or HTN AND DM, CKD, or CAD whose BP is < 130/80 mmHg	Number of patients with diagnosis of hypertension in the population of focus	Electronic health records and/or manual chart review	Quality improvement and performance measurement	Electronic reporting to program/bureau	Current
LDL-C at Goal	Primary Care	Cholesterol	Outcome	Ambulatory	Number of patients with diagnosis of: CAD with LDL-C < 70 mg/dL; DM and not CAD with LDL-C <100 mg/dL	Number of patients with diagnosis of dyslipidemia in the population of focus	Electronic health records and/or manual chart review	Quality improvement and performance measurement	Electronic reporting to program/bureau	Current
Diabetes, Poor control (A1C > 9%)	Primary Care	Diabetes	Outcome	Ambulatory	Number of patients with A1C > 9%	Number of patients with diagnosis of diabetes in the population of focus	Electronic health records and/or manual chart review	Quality improvement and performance measurement	Electronic reporting to program/bureau	Current
Diabetes, Good Control (A1C < 7%)	Primary Care	Diabetes	Outcome	Ambulatory	Number of patients with A1C < 7%	Number of patients with diagnosis of diabetes in the population of focus	Electronic health records and/or manual chart review	Quality improvement and performance measurement	Electronic reporting to program/bureau	Current
INR Within Range	Patient Safety/ Care Coordination	Cardiovascular/ Venous Thromboembolism	Outcome	Ambulatory	Number of patients with last INR within therapeutic range	Number of patients who are on anticoagulation therapy in the population of focus	Electronic health records and/or manual chart review	Quality improvement and performance measurement	Electronic reporting to program/bureau	Current
Patients with Persistent Asthma on Controller Therapy (ICS, LTRA, cromolyn)	Primary Care	Asthma	Outcome	Ambulatory	Patients in reporting period with a diagnosis of persistent asthma receiving controller therapy (e.g., Inhaled Corticosteroid, Leukotriene Receptor Antagonists, cromolyn)	All patients in the population of focus with a diagnosis of persistent asthma	Electronic health records and/or manual chart review	Quality improvement and performance measurement	Electronic reporting to program/bureau	Current

HRSA Quality e-Measures Inventory
June, 2010

HRSA Quality Measure	Topic/ Condition	Sub-Topic/ Sub-Condition	Type	Setting	Numerator	Denominator	Data source	Purpose(s) for which measure is used	Where, how data is reported	Timing of measure implement./ Updates
CSD Patients Showing Clinically Significant Improvement	Mental Health	Depression	Outcome	Ambulatory	Patients in reporting period who show clinically significant improvement	All patients in the population of focus with a diagnosis of Clinically Significant Depression (CSD)	Electronic health records and/or manual chart review	Quality improvement and performance measurement	Electronic reporting to program/bureau	Current
Antiretroviral medication for HIV+ patients	Infectious Diseases & Population Health	HIV/AIDS	Outcome	Ambulatory	Number of patients who are HIV+ from the population of focus who are currently prescribed a HAART	Number of patients who are HIV+ in the population of focus	Electronic health records and/or manual chart review	Quality improvement and performance measurement	Electronic reporting to program/bureau	Current
Adverse Drug Event (ADE): an injury resulting from the use of a drug	Patient Safety	Care Coordination/ Medication Management	Outcome	Ambulatory	Total number of ADEs detected in the month		Electronic health records and/or manual chart review	Quality improvement and performance measurement	Electronic reporting to program/bureau	Current
Potential Adverse Drug Event (pADE): an event that was identified and avoided with appropriate interventions before affecting the patient	Patient Safety	Care Coordination/ Medication Management	Outcome	Ambulatory	Total number of pADEs identified and prevented in the month		Electronic health records and/or manual chart review	Quality improvement and performance measurement	Electronic reporting to program/bureau	Current

HRSA Quality e-Measures Inventory
June, 2010

HRSA Quality Measure	Topic/ Condition	Sub-Topic/ Sub-Condition	Type	Setting	Numerator	Denominator	Data source	Purpose(s) for which measure is used	Where, how data is reported	Timing of measure implement./ Updates
Percentage of pregnant women with HIV infection who are prescribed antiretroviral therapy.	Infectious Diseases & Population Health	HIV/AIDS; Prenatal Care; Preventive Health	Process	Ambulatory	Number of HIV-infected pregnant women who were prescribed antiretroviral therapy during the 2nd and 3rd trimester	Number of HIV-infected pregnant women who had a medical visit with a provider with prescribing privileges, i.e., MD, PA, NP, at least once in the measurement year. EXCLUSIONS: 1. Patients newly enrolled in care during last three months of the year, 2. Patients whose pregnancy is terminated, 3. Pregnant patients who are in the 1st trimester.	Electronic health records and/or manual chart review	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percentage of clients with HIV infection who had 2 or more CD4 T-cell counts performed in the measurement year.	Infectious Diseases & Population Health	HIV/AIDS	Process	Ambulatory	Number of HIV-infected clients who had 2 or more CD4 T-cell counts performed at least 3 months apart during the measurement year	Number of HIV-infected clients who had a medical visit with a provider with prescribing privileges, i.e., MD, PA, NP, at least once in the measurement year. EXCLUSIONS: Patients newly enrolled in care during the last six months of the year	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed

HRSA Quality e-Measures Inventory
June, 2010

HRSA Quality Measure	Topic/ Condition	Sub-Topic/ Sub-Condition	Type	Setting	Numerator	Denominator	Data source	Purpose(s) for which measure is used	Where, how data is reported	Timing of measure implement./ Updates
Percentage of clients with AIDS who are prescribed HAART.	Infectious Diseases & Population Health	HIV/AIDS	Process	Ambulatory	Number of clients with AIDS who were prescribed a HAART regimen within the measurement year	Number of clients who: have a diagnosis of AIDS (history of a CD4 T-cell count below 200 cells/mm3 or other AIDS-defining condition), and had at least one medical visit with a provider with prescribing privileges, i.e., MD, PA, NP, in the measurement year. EXCLUSION: Patients newly enrolled in care during last three months of the measurement year	Electronic health records and/or manual chart review	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percentage of clients with HIV infection who had two or more medical visits in an HIV care setting in the measurement year.	Infectious Diseases & Population Health	HIV/AIDS	Process	Ambulatory	Number of HIV-infected clients who had a medical visit with a provider with prescribing privileges, i.e., MD, PA, NP, in an HIV care setting two or more times at least 3 months apart during the measurement year	Number of HIV-infected clients who had a medical visit with a provider with prescribing privileges at least once in the measurement year. EXCLUSION: Patients newly enrolled in care during last six months of the year	Electronic health records and/or manual chart review	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed

HRSA Quality e-Measures Inventory
June, 2010

HRSA Quality Measure	Topic/ Condition	Sub-Topic/ Sub-Condition	Type	Setting	Numerator	Denominator	Data source	Purpose(s) for which measure is used	Where, how data is reported	Timing of measure implement./ Updates
Percentage of clients with HIV infection and a CD4 T-cell count below 200 cells/mm3 who were prescribed Pneumocystis carinii pneumonia (PCP) prophylaxis.	Infectious Diseases & Population Health	HIV/AIDS	Process	Ambulatory	Number of HIV-infected clients with CD4 T-cell counts below 200 cells/mm3 who were prescribed PCP prophylaxis	Number of HIV-infected clients who: had a medical visit with a provider with prescribing privileges, i.e. MD, PA, NP at least once in the measurement year, and had a CD4 T-cell count below 200 cells/mm3. EXCLUSIONS: 1.) Patients with CD4 T-cell counts below 200 cells/mm3 repeated within 3 months rose above 200 cells/mm3. 2.) Patients newly enrolled in care during last three months of the measurement year.	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Visits with a specialist in HIV/AIDS.	Infectious Diseases & Population Health	HIV/AIDS; Care Coordination	Process	Ambulatory	Number of HIV-infected clients who had an HIV specialist visit during each trimester of the measurement year	Number of HIV-infected clients with at least two primary care visits during the measurement year	Electronic Medical Record/Electronic Health Record	Quality of care	HIVQUAL reports, Data software on an annual basis	Current/ Reviewed annually
Testing for CD4 count and viral load.	Infectious Diseases & Population Health	HIV/AIDS	Process	Ambulatory	Number of HIV-infected clients who had a CD4 and viral load during each trimester of the measurement year	Number of HIV-infected clients with at least two primary care visits during the measurement year	Electronic health records and/or manual chart review	Quality of care	HIVQUAL reports, Data software on an annual basis	Current/ Reviewed annually
Stable antiretroviral therapy.	Infectious Diseases & Population Health	HIV/AIDS	Process	Ambulatory	Number of HIV-infected clients who were clinically stable on antiretroviral therapy during each trimester of the measurement year	Number of HIV-infected clients with at least two primary care visits during the measurement year	Electronic Medical Record/Electronic Health Record	Quality of care	HIVQUAL reports, Data software on an annual basis	Current/ Reviewed annually

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Adherence to Antiretroviral (ARV) therapy	Infectious Diseases & Population Health	HIV/AIDS	Process	Ambulatory	Number of HIV-infected clients who had an adherence assessment during each trimester of the measurement year	Number of HIV-infected clients with at least two primary care visits during the measurement year	Electronic Medical Record/Electronic Health Record	Quality of care	HIVQUAL reports, Data software on an annual basis	Current/ Reviewed annually
Gynecology (GYN) screening.	Infectious Diseases & Population Health	HIV/AIDS; Access to Primary Care Services	Process	Ambulatory	Number of HIV-infected females clients who had a pelvic exam, cervical pap test, GC, and Chlamydia screening in the measurement year	Number of HIV-infected female clients with at least two primary care visits during the measurement year	Electronic Medical Record/Electronic Health Record	Quality of care	HIVQUAL reports, Data software on an annual basis	Current/ Reviewed annually
Tuberculosis (TB) screening.	Infectious Diseases & Population Health	HIV/AIDS; Preventive Health; Infectious Disease Screening	Process	Ambulatory	Number of HIV-infected clients with a TB test completed and read in the past 24 months	Number of HIV-infected clients with at least two primary care visits during the measurement year with no prior history of TB or positive PPD	Electronic Medical Record/Electronic Health Record	Quality of care	HIVQUAL reports, Data software on an annual basis	Current/ Reviewed annually
Mental health screening	Infectious Diseases & Population Health	HIV/AIDS; Mental Health Screening	Process	Ambulatory	Number of HIV-infected patients screened in 7-9 components in the measurement year	Number of HIV-infected clients with at least two primary care visits during the measurement year	Electronic Medical Record/Electronic Health Record	Quality of care	HIVQUAL reports, Data software on an annual basis	Current/ Reviewed annually
Lipid screening.	Infectious Diseases & Population Health	HIV/AIDS; Cholesterol Screening	Process	Ambulatory	Number of HIV-infected patients on ARV who received a lipid screening in the measurement year	Number of HIV-infected clients on ARV with at least two primary care visits during the measurement year	Electronic Medical Record/Electronic Health Record	Quality of care	HIVQUAL reports, Data software on an annual basis	Current/ Reviewed annually
Pneumocystis carinii pneumonia (PCP) prophylaxis.	Infectious Diseases & Population Health	HIV/AIDS	Process	Ambulatory	Number of HIV-infected clients with CD4 T-cell counts below 200 cells/mm3 who were prescribed PCP prophylaxis	Number of HIV-infected clients with CD4 T-cell counts below 200 cells/mm3	Electronic Medical Record/Electronic Health Record	Quality of care	HIVQUAL reports, Data software on an annual basis	Current/ Reviewed annually

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Sexually transmitted disease (STD) screening.	Infectious Diseases & Population Health	HIV/AIDS; Preventive Health; Infectious Disease Screening	Process	Ambulatory	Number of HIV-infected clients with at least two primary care visits who received STD screening	Number of HIV-infected clients with at least two primary care visits	Electronic Medical Record/Electronic Health Record	Quality of care	HIVQUAL reports, Data software on an annual basis	Current/ Reviewed annually
Pneumococcal vaccination.	Infectious Diseases & Population Health	HIV/AIDS; Preventive Health - Vaccinations	Process	Ambulatory	Number of HIV-infected clients with at least two primary care visits who received PneumoVax in the past 10 years	Number of HIV-infected clients with at least two primary care visits	Electronic Medical Record/Electronic Health Record	Quality of care	HIVQUAL reports, Data software on an annual basis	Current/ Reviewed annually
Substance use screening.	Infectious Diseases & Population Health	HIV/AIDS; Behavioral Health Screening	Process	Ambulatory	Number of HIV-infected clients with at least two primary care visits who had a documented discussion on substance use during the measurement year	Number of HIV-infected clients with at least two primary care visits	Electronic Medical Record/Electronic Health Record	Quality of care	HIVQUAL reports, Data software on an annual basis	Current/ Reviewed annually
Tobacco use screening.	Infectious Diseases & Population Health	HIV/AIDS; Behavioral Health Screening	Process	Ambulatory	Number of HIV-infected clients with at least two primary care visits who had a documented discussion on tobacco use during the measurement year	Number of HIV-infected clients with at least two primary care visits	Electronic Medical Record/Electronic Health Record	Quality of care	HIVQUAL reports, Data software on an annual basis	Current/ Reviewed annually
Dental screening	Infectious Diseases & Population Health	HIV/AIDS; Oral Health Screening	Process	Ambulatory	Number of HIV-infected clients with at least two primary care visits who had a documented dental exam during the measurement year	Number of HIV-infected clients with at least two primary care visits	Electronic Medical Record/Electronic Health Record	Quality of care	HIVQUAL reports, Data software on an annual basis	Current/ Reviewed annually
Case management.	Infectious Diseases & Population Health	HIV/AIDS	Process	Ambulatory	Number of HIV-infected clients with at least two primary care visits receiving case management services	Number of HIV-infected clients with at least two primary care visits receiving case management services	Electronic Medical Record/Electronic Health Record	Quality of care	HIVQUAL reports, Data software on an annual basis	Current/ Reviewed annually

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Adherence Discussion and Case Management	Infectious Diseases & Population Health	HIV/AIDS	Process	Ambulatory	Number of HIV-infected clients with at least two primary care visits receiving case management services who received a documented discussion on adherence every trimester during the measurement year	Number of HIV-infected clients with at least two primary care visits receiving case management services	Electronic Medical Record/Electronic Health Record	Quality of care	HIVQUAL reports, Data software on an annual basis	Current/ Reviewed annually
Percentage of clients with HIV infection on ARVs who were assessed and counseled for adherence 2 or more times in the measurement year	Infectious Diseases & Population Health	HIV/AIDS; Care Coordination	Process	Ambulatory	Number of HIV infected clients, as part of their primary care, who were assessed and counseled for adherence 2 or more times at least 3 months apart	Number of HIV-infected clients on ARV therapy who had a medical visit with a provider with prescribing privileges at least once in the measurement year. EXCLUSIONS: 1. Patients newly enrolled in care during the last six months of the year 2. Patients who initiated ARV therapy during the last six months of the year	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed

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Percentage of women with HIV infection who have a Pap screening in the measurement year	Infectious Diseases & Population Health	HIV/AIDS; Access to Primary Care Services	Process	Ambulatory	Number of HIV-infected female clients who had Pap screen results documented in the measurement year	Number of HIV-infected female clients who were ≥18 years old in the measurement year or reported having a history of sexual activity, and had a medical visit with a provider with prescribing privileges at least once in the measurement year EXCLUSIONS: 1. Patients who were < 18 years old and denied history of sexual activity 2. Patients who have had a hysterectomy for non-dysplasia/non-malignant indications	Electronic health records and/or manual chart review	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percentage of clients with HIV infection who completed the vaccination series for Hepatitis B	Infectious Diseases & Population Health	HIV/AIDS; Preventive Health - Vaccinations	Process	Ambulatory	Number of HIV-infected clients with documentation of having ever completed the vaccination series for Hepatitis B	Number of HIV-infected clients who had a medical visit with a provider with prescribing privileges at least once in the measurement year EXCLUSIONS: 1. Patients newly enrolled in care during the measurement year 2. Patients with evidence of current HBV infection 3. Patients with evidence of past HBV infection with immunity	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed

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Percentage of clients for whom Hepatitis C (HCV) screening was performed at least once since the diagnosis of HIV infection	Infectious Diseases & Population Health	HIV/AIDS; Infectious Disease Screening	Process	Ambulatory	Number of HIV-infected clients who have documented HCV status in chart	Number of HIV-infected clients who had a medical visit with a provider with prescribing privileges at least once in the measurement year	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percentage of clients with HIV infection who received HIV risk counseling within the measurement year	Infectious Diseases & Population Health	HIV/AIDS; Access to Primary Care Services; Disease Counseling	Process	Ambulatory	Number of HIV-infected clients, as part of their primary care, who received HIV risk counseling	Number of HIV-infected clients who had a medical visit with a provider with prescribing privileges at least once in the measurement year	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percentage of clients with HIV infection on HAART who had a fasting lipid panel during the measurement year	Infectious Diseases & Population Health	HIV/AIDS; Cholesterol Screening	Process	Ambulatory	Number of HIV-infected clients who were prescribed HAART and had a fasting lipid panel in the measurement year	Number of HIV-infected clients who were on HAART and who had a medical visit with a provider with prescribing privileges at least once in the measurement year	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percent of clients with HIV infection who received an oral exam by a dentist at least once during the measurement year	Infectious Diseases & Population Health	HIV/AIDS; Oral Health Screening	Process	Ambulatory	Number of clients who had an oral exam by a dentist during the measurement year, based on self report or other documentation	Number of clients with HIV infection who had a medical visit with a provider with prescribing privileges at least once in the measurement year	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed

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Percentage of adult clients with HIV infection who had a test for syphilis performed within the measurement year	Infectious Diseases & Population Health	HIV/AIDS; Preventive Health; Infectious Disease Screening	Process	Ambulatory	Number of HIV-infected clients who had a serologic test for syphilis performed at least once during the measurement year	Number of HIV-infected clients who were ≥ 18 years old in the measurement year or had a history of sexual activity < 18 years, and had a medical visit with a provider with prescribing privileges at least once in the measurement year. EXCLUSIONS: Patients who were < 18 years old and denied a history of sexual activity	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percentage of clients with HIV infection who received testing with results documented for latent tuberculosis infection (LTBI) since HIV diagnosis	Infectious Diseases & Population Health	HIV/AIDS; Preventive Health; Infectious Disease Screening	Process	Ambulatory	Number of clients who received documented testing for LTBI with any approved test since HIV diagnosis	Number of HIV-infected clients who do not have a history of previous documented culture-positive TB disease or previous documented positive TST or IGRA and had a medical visit with a provider with prescribing privileges at least once in the measurement year	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed

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Percentage of clients with HIV infection at risk for sexually transmitted infections who had a test for Chlamydia within the measurement year	Infectious Diseases & Population Health	HIV/AIDS; Infectious Disease Screening	Process	Ambulatory	Number of HIV-infected clients who had a test for Chlamydia	Number of HIV-infected clients who were either a) newly enrolled in care, b) sexually active, or c) had a STI within the last 12 months; and had a medical visit with a provider with prescribing privileges at least once in the measurement year. EXCLUSIONS: Patients who were < 18 years old and denied a history of sexual activity	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percentage of clients with HIV infection at risk for sexually transmitted infections who had a test for gonorrhea within the measurement year	Infectious Diseases & Population Health	HIV/AIDS; Preventive Health; Infectious Disease Screening	Process	Ambulatory	Number of HIV-infected clients who had a test for gonorrhea	Number of HIV-infected clients who were either a) newly enrolled in care, b) sexually active, or c) had a STI within the last 12 months; and had a medical visit with a provider with prescribing privileges at least once in the measurement year. EXCLUSIONS: Patients who were ≤ 18 years old and denied a history of sexual activity	Electronic health records and/or manual chart review	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed

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Percentage of clients with HIV infection who have been screened for Hepatitis B virus infection status	Infectious Diseases & Population Health	HIV/AIDS; Preventive Health; Infectious Disease Screening	Process	Ambulatory	Number of HIV-infected clients who have documented Hepatitis B infection status in health record	Number of HIV-infected clients who had a medical visit with a provider with prescribing privileges at least once in the measurement year. EXCLUSIONS: Patients with documentation of complete Hepatitis B vaccination	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percentage of clients with HIV and Hepatitis B or Hepatitis C infection who received alcohol counseling within the measurement year	Infectious Diseases & Population Health	HIV/AIDS; Behavioral Health	Process	Ambulatory	Number of HIV-infected clients who received alcohol counseling	Number of HIV-infected clients who were co-infected with HBV or HCV and had a medical visit with a provider with prescribing privileges at least once in the measurement year	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percentage of clients with HIV infection who have received influenza vaccination within the measurement period	Infectious Diseases & Population Health	HIV/AIDS; Preventive Health - Vaccinations	Process	Ambulatory	Number of HIV-infected clients who received influenza vaccination within this time frame	Number of HIV-infected clients who had a medical visit with a provider with prescribing privileges at least once in the measurement year. EXCLUSIONS: Patients allergic to vaccine components	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed

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Percentage of clients with HIV infection with CD4 count < 50 cells/mm^3 who were prescribed *Mycobacterium avium* Complex prophylaxis within the measurement year	Infectious Diseases & Population Health	HIV/AIDS	Process	Ambulatory	Number of HIV-infected clients with CD4 count < 50 cells/mm^3 who were prescribed MAC prophylaxis	Number of HIV-infected clients with CD4 count < 50 cells/mm^3 and had a medical visit with a provider with prescribing privileges at least once in the measurement year. EXCLUSIONS: Patients with disseminated MAC	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percentage of new clients with HIV infection who have had a mental health screening	Infectious Diseases & Population Health	HIV/AIDS; Mental Health Screening	Process	Ambulatory	Number of HIV-infected clients who received a mental health screening	Number of HIV-infected clients who were new during the measurement year and had a medical visit with a provider with prescribing privileges at least once in the measurement year	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percentage of clients with HIV infection who ever received pneumococcal vaccine	Infectious Diseases & Population Health	HIV/AIDS; Preventive Health - Vaccinations	Process	Ambulatory	Number of HIV-infected clients who ever received pneumococcal vaccine	Number of HIV-infected clients who had a medical visit with a provider with prescribing privileges at least once in the measurement year. EXCLUSIONS: Patients with CD4 counts < 200 cells/mm^3 within the measurement year	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed

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Percentage of new clients with HIV infection who have been screened for substance use (alcohol and drugs) in the measurement year	Infectious Diseases & Population Health	HIV/AIDS; Behavioral Health Screening	Process	Ambulatory	Number of new HIV-infected clients who were screened for substance use within the measurement year	Number of HIV-infected clients who were new during the measurement year and had a medical visit with a provider with prescribing privileges at least once in the measurement year	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percentage of clients with HIV infection who received tobacco cessation counseling within the measurement year	Infectious Diseases & Population Health	HIV/AIDS; Behavioral Health	Process	Ambulatory	Number of HIV-infected clients who received tobacco cessation counseling	Number of HIV-infected clients who used tobacco products within the measurement year and had a medical visit with a provider with prescribing privileges at least once in the measurement year. EXCLUSIONS: Patients who deny tobacco use throughout the measurement year	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percentage of clients with HIV infection for whom Toxoplasma screening was performed at least once since the diagnosis of HIV infection	Infectious Diseases & Population Health	HIV/AIDS; Preventive Health; Infectious Disease Screening	Process	Ambulatory	Number of HIV-infected clients who have documented Toxoplasma status in health record	Number of HIV-infected clients who had a medical visit with a provider with prescribing privileges at least once in the measurement year. EXCLUSIONS: Patients with known toxoplasmic disease, e.g. *Toxoplasma gondii* encephalitis	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed

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Percentage of HIV-infected medical case management clients who had a medical case management care plan developed and/or updated two or more times in the measurement year	Infectious Diseases & Population Health	HIV/AIDS; Care Coordination	Process	Ambulatory	Number of HIV-infected medical case management clients who had a medical case management care plan developed and/or updated two or more times which are at least three months apart in the measurement year.	Number of HIV-infected medical case management clients who had at least one medical case management encounter in the measurement year. EXCLUSIONS: 1. Medical case management clients who initiated medical case management services in the last six months of the measurement year. 2. Medical case management clients who were discharged from medical case management services prior to six months of service in the measurement year.	Electronic health records and/or manual chart review	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed

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Percentage of HIV-infected medical case management clients who had two or more medical visits in an HIV care setting in the measurement year.	Infectious Diseases & Population Health	HIV/AIDS; Care Coordination	Process	Ambulatory	Number of HIV-infected medical case management clients who had a medical visit with a provider with prescribing privileges two or more times at least three months apart in the measurement year that is documented in the medical case management record.	Number of HIV-infected medical case management clients who had at least one medical case management encounter in the measurement year. EXCLUSIONS: 1. Medical case management clients who initiated medical case management services in the last six months of the measurement year. 2. Medical case management clients who were discharged from medical case management services prior to six months of service in the measurement year.	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percentage of HIV-infected oral health patients who had a dental and medical health history (initial or updated) at least once in the measurement year.	Infectious Diseases & Population Health	HIV/AIDS; Oral Health	Process	Ambulatory	Number of HIV-infected oral health patients who had a dental and medical health history (initial or updated) at least once in the measurement year	Number of HIV-infected oral health patients that received a clinical oral evaluation at least once in the measurement year. EXCLUSIONS: 1. Patients who had only an evaluation or treatment for a dental emergency in the measurement year. 2. Patients who were < 12 months old.	Electronic health records and/or manual chart review	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed

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Percentage of HIV-infected oral health patients who had a dental treatment plan developed and/or updated at least once in the measurement year.	Infectious Diseases & Population Health	HIV/AIDS; Oral Health	Process	Ambulatory	Number of HIV-infected oral health patients who had a dental treatment plan developed and/or updated at least once in the measurement year	Number of HIV-infected oral health patients that received a clinical oral evaluation at least once in the measurement year. EXCLUSIONS: 1. Patients who had only an evaluation or treatment for a dental emergency in the measurement year. 2. Patients who were < 12 months old.	Electronic health records and/or manual chart review	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percentage of HIV-infected oral health patients who received oral health education at least once in the measurement year.	Infectious Diseases & Population Health	HIV/AIDS; Oral Health	Process	Ambulatory	Number of HIV-infected oral health patients who received oral health education at least once in the measurement year.	Number of HIV-infected oral health patients that received a clinical oral evaluation3 at least once in the measurement year. EXCLUSIONS: 1. Patients who had only an evaluation or treatment for a dental emergency in the measurement year. 2. Patients who were < 12 months old.	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed

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Percentage of HIV-infected oral health patients who had a periodontal screen or examination at least once in the measurement year.	Infectious Diseases & Population Health	HIV/AIDS; Oral Health	Process	Ambulatory	Number of HIV-infected oral health patients who had a periodontal screen or examination at least once in the measurement year	Number of HIV-infected oral health patients that received a clinical oral evaluation at least once in the measurement year. EXCLUSIONS: 1. Patients who had only an evaluation or treatment for a dental emergency in the measurement year. 2. Edentulist patients (complete). 3. Patients who were <13 years old.	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed
Percentage of HIV-infected oral health patients with a Phase 1 treatment plan that is completed within 12 months.	Infectious Diseases & Population Health	HIV/AIDS; Oral Health	Process	Ambulatory	Number of HIV-infected oral health patients that completed Phase 1 treatment within 12 months of establishing a treatment plan.	Number of HIV-infected oral health patients with a Phase 1 treatment plan established in the year prior to the measurement year. EXCLUSIONS: Patients who had only an evaluation or treatment for a dental emergency in the year prior to the measurement year.	Electronic Medical Record/Electronic Health Record	Quality of care	Providers use for continuous quality improvement	Current/ Annually, and as needed

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Average hemoglobin A1c (HbA1c) for diabetic patients in the electronic patient registry system (goal: average HbA1c of less than 7 percent).	Primary Care	Diabetes	Outcome	Ambulatory	All patients with a diagnosis of DM who have had an HbA1c in the past 12 months	Number of patients in the clinical information system	Electronic Health Record or Patient Registry System	Quality improvement and program measurement	Electronic Reporting to Program Coordinator	Current/ Annually
Percent of patients with blood pressure less than 130/80 mm Hg	Primary Care	Diabetes/ HTN	Outcome	Ambulatory	The number of diabetic patients in the clinical information system with blood pressure reading less than 130/80 at last reading within the past 12 months	The number of diabetic patients in the clinical information system with a documented blood pressure in the last 12 months.	Electronic Health Record or Patient Registry System	Quality improvement and program measurement	Electronic Reporting to Program Coordinator	Current/ Annually
Percent of patients with low-density lipoprotein (LDL) less than 100 mg/dL	Primary Care	Diabetes/ Cholesterol	Outcome	Ambulatory	The number of diabetic patients in the clinical information system whose most recent fasting LDL was less than 100 (in the last 12 months)	The number of patients with a fasting LDL in the past 12 months	Electronic Health Record or Patient Registry System	Quality improvement and program measurement	Electronic Reporting to Program Coordinator	Current/ Annually
Percent of patients with blood pressure < 140/90 mm Hg	Primary Care	Hypertension	Outcome	Ambulatory	The number of patients with a diagnosis of cardiovascular disease in the clinical information system with blood pressure reading less than 140/90 at last reading within the past 12 months	The patients in the clinical information system with a documented blood pressure in the last 12 months	Electronic Health Record or Patient Registry System	Quality improvement and program measurement	Electronic Reporting to Program Coordinator	Current/ Annually

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Percent of patients with LDL < 130 mg/dL	Primary Care	Cardiovascular Disease/ Cholesterol	Outcome	Ambulatory	The number of patients with a diagnosis of cardiovascular disease in the clinical information system whose most recent fasting LDL was less than 130 (in the last 12 months)	The number of patients with a fasting LDL in the past 12 months	Electronic Health Record or Patient Registry System	Quality improvement and program measurement	Electronic Reporting to Program Coordinator	Current/ Annually
Percent of patients who are current smokers	Behavioral Health	Tobacco Use/ Cardiovascular Disease	Outcome	Ambulatory	The number of patients with a diagnosis of cardiovascular disease in the registry who are current smokers (documented within the last 12 months)	The total number of patients in the registry with smoking status documented within the last 12 months	Electronic Health Record or Patient Registry System	Quality improvement and program measurement	Electronic Reporting to Program Coordinator	Current/ Annually
Percentage of children by 2 years of age with appropriate immunizations	Population Health	Preventive Services - Child Immunizations	Process/Outcome	Ambulatory	Number of children who have received 4x DTaP/DT, 3x IPV, 1x MMR, 3x HiB, 3xHepB, 1x VZV, and 4x PCV vaccines by their second birthday.	Number of children who turn two years of age during the measurement year	Electronic Health Record or Patient Registry System	Quality improvement and program measurement	Electronic Reporting to Program Coordinator	Current/ Annually
Percentage of adolescents 13 years of age with appropriate immunizations documented according to age group	Population Health	Preventive Services - Adolescent Immunizations	Process/Outcome	Ambulatory	Number of adolescents who have received a second MMR, completion of HepBx3, and Varicella (VZV)	Number of adolescents who are 13 years of age during measurement year.	Electronic Health Record or Patient Registry System	Quality improvement and program measurement	Electronic Reporting to Program Coordinator	Current/ Annually

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Percent of adult patients with Type 1 or Type 2 diabetes with most recent hemoglobin A1c (HbA1c) greater than 9.0% in the last year	Primary Care	Diabetes	Outcome	Ambulatory	Number of adult patients whose most recent hemoglobin A1c level during the measurement year is greater than 9.0%.	Number of adult patients 18-75 years of age during measurement year with a diagnosis of type 1 or 2 diabetes.	Electronic Health Record or Patient Registry System	Quality improvement and program measurement	Electronic Reporting to Program Coordinator	Current/ Annually
Percent of adult patient, 18 years or older whose blood pressure was less than 140/90 mm/Hg	Primary Care	Hypertension	Outcome	Ambulatory	Patients with last systolic blood pressure measurement less than 140 mm Hg and diastolic blood pressure less than 90 mm Hg during measurement year.	All patients greater than or equal to 18 years of age during measurement year with diagnosis of hypertension (HTN)	Electronic Health Record or Patient Registry System	Quality improvement and program measurement	Electronic Reporting to Program Coordinator	Current/ Annually
Percent of adult patient, 18 years or older, diagnosed with diabetes, whose blood pressure was less than 130/80 mm/Hg	Primary Care	Diabetes	Outcome	Ambulatory	Number of adult patients diagnosed with diabetes whose most recent blood pressure (BP) was less than 130/80 mm/Hg.	All patients greater than or equal to 18 years of age during measurement year with diagnosis of type 1 or 2 diabetes.	Electronic Health Record or Patient Registry System	Quality improvement and program measurement	Electronic Reporting to Program Coordinator	Current/ Annually
Percent of adult patients in the target population who have been screened for depression	Behavioral Health	Depression	Outcome	Ambulatory	Number of adult patients of the grant project that have been screened for depression.	All patients greater than or equal to 18 years of age in the target population of the grant project.	Electronic Health Record or Patient Registry System	Quality improvement and program measurement	Electronic Reporting to Program Coordinator	Current/ Annually
Percent of patients with a comprehensive oral exam and treatment plan, completed within a 12 month period.	Oral Health	Access; Care Coordination	Outcome	Ambulatory	Number of adult patients with a comprehensive oral exam and treatment plan, completed within a 12 month period.	All patients greater than or equal to 18 years of age in the target population of the grant project.	Electronic Health Record or Patient Registry System	Quality improvement and program measurement	Electronic Reporting to Program Coordinator	Current/ Annually

HRSA Quality e-Measures Inventory
June, 2010

HRSA Quality Measure	Topic/ Condition	Sub-Topic/ Sub-Condition	Type	Setting	Numerator	Denominator	Data source	Purpose(s) for which measure is used	Where, how data is reported	Timing of measure implement./ Updates
Percentage of patients with a diagnosis of diabetes who have a BMI>25 who have lost 10 pounds in the last 12 months	Primary Care	Diabetes/ Overweight	Outcome	Ambulatory	Number of patients with a diagnosis of diabetes who have a BMI > 25 who have lost 10 pounds in the last 12 months*	Total number of patients with a diagnosis of diabetes mellitus in the clinical information system who have a BMI > 25 in the measurement year	Electronic Health Record or Patient Registry System	Quality improvement and program measurement	Electronic Reporting to Program Coordinator	Current/ Annually
Percentage of patients with a diagnosis of cardiovascular disease who have a BMI > 25 who have lost 10 pounds in the last 12 months	Primary Care	Cardiovascular/ Overweight	Outcome	Ambulatory	Number of patients from the denominator who have a BMI > 25 who have lost 10 pounds in the last 12 months*	Total number of patients with a diagnosis of cardiovascular disease in the clinical information system who have a BMI > 25 in the measurement year	Electronic Health Record or Patient Registry System	Quality improvement and program measurement	Electronic Reporting to Program Coordinator	Current/ Annually
The percent of women participating in Maternal and Child Health Bureau (MCHB)-funded projects who have an ongoing source of primary and preventative care services for women.	Primary Care/ Care Coordination	Maternal & Child Health; Access	Outcome	Ambulatory	The number of women participating in MCHB-funded projects who have an ongoing source of primary and preventative care services during the reporting period	The number of women participating in MCHB-funded projects during the reporting year	Provider Electronic Health Record or MCHB Program Patient Records	Quality improvement and program performance measurement	Electronic Reporting Program/Bureau	Current

HRSA Quality e-Measures Inventory
June, 2010

HRSA Quality Measure	Topic/ Condition	Sub-Topic/ Sub-Condition	Type	Setting	Numerator	Denominator	Data source	Purpose(s) for which measure is used	Where, how data is reported	Timing of measure implement./ Updates
The number of women participating in Maternal and Child Health Bureau (MCHB) supported programs requiring a referral, who receive a completed referral.	Primary Care/ Care Coordination	Maternal & Child Health	Process	Ambulatory	Unduplicated number of MCHB funded program participants who have completed service referrals	Unduplicated number of MCHB funded program participants who have a need fro which a referral was made for health services	Provider Electronic Health Record or MCHB Program Patient Records	Quality improvement and program performance measurement	Electronic Reporting Program/Bureau	Current
The percent of pregnant participants of Maternal and Child Health Bureau (MCHB) supported programs who have a prenatal care visit in the first trimester of pregnancy.	Primary Care/ Care Coordination	Maternal & Child Health; Access; Prenatal Care	Process	Ambulatory	Number of program participants with reported first prenatal visit during the first trimester	Total number of program participants who are pregnant at any time during the reporting year	Provider Electronic Health Record or MCHB Program Patient Records	Quality improvement and program performance measurement	Electronic Reporting Program/Bureau	Current
The percentage of all children, age 0 to 18, participating in MCHB-funded programs who receive coordinated, ongoing, comprehensive care within a medical home.	Primary Care/ Care Coordination	Maternal & Child Health; Access	Process	Ambulatory	The number of children participating in MCHB-funded projects, age 0 to 18, who receive coordinated, ongoing, comprehensive care within a medical home during the reporting period.	The number of children participating in MCHB-funded projects, age 0 to 18, during the reporting period.	Provider Electronic Health Record or MCHB Program Patient Records	Quality improvement and program performance measurement	Electronic Reporting Program/Bureau	Current

HRSA Quality e-Measures Inventory
June, 2010

HRSA Quality Measure	Topic/ Condition	Sub-Topic/ Sub-Condition	Type	Setting	Numerator	Denominator	Data source	Purpose(s) for which measure is used	Where, how data is reported	Timing of measure implement./ Updates
The percentage of completed referrals among women in MCHB-funded programs.	Primary Care/ Care Coordination	Maternal & Child Health	Process	Ambulatory	Number of referrals to health and other supportive services made MCHB-funded programs that are completed.	Number of referrals to health and other supportive services made by MCHB-funded programs.	Provider Electronic Health Record or MCHB Program Patient Records	Quality improvement and program performance measurement	Electronic Reporting Program/Bureau	Current
The percentage of women participating in MCHB-funded programs who smoke in the last three months of pregnancy.	Behavioral Health	Maternal & Child Health; Prenatal Care; Tobacco Use	Outcome	Ambulatory	Number of MCHB-funded program participants who smoked during the last three months of pregnancy.	Number of MCHB-funded program participants who are pregnant at any time during the reporting period.	Provider Electronic Health Record or MCHB Program Patient Records	Quality improvement and program performance measurement	Electronic Reporting Program/Bureau	Current

Brigham and Women's Quality Metrics

	Metric	Data Source
Ambulatory EMR	% of providers achieving ≥80% of patients with coded BP and BMI in flow sheets	*UNDER DEVELOPMENT: Ambulatory EMR*
	% of providers achieving ≥80% of patients with at least one coded entry on patient problem lists	
	% of providers who send relevant patient reminders for preventive/follow-up care to ≥50% of patients	
Improving Survival	Code Survival / Discharged Alive	Chart abstraction / Code database
	Mortality / Observed vs Expected (Ratio)	UHC Database
	Mortality Rate	UHC database
	Neonatal Combined Mortality and Morbidity Rate	Chart abstraction / Vermont Oxford database
	Rapid Response Team events	*COMING SOON* Chart abstraction / Code database
Inpatient Infection Prevention	Blood Stream Infections per 1000 Device Days	Infection Control
	Foley Catheter Utilization Rate	Nursing database
	Hand Hygiene Compliance (%)	Nursing Database (direct observations)
	MRSA Nosocomial Cases per 1000 Patient Days	Infection Control
	Surgical Site Infection Rate	Infection Control
	Vent Associated Pneumonia	Resp Therapy database (chart review)
	Ventilator Bundle Data (%)	Resp Therapy database (chart review)
	VRE Nosocomial Cases per 1000 Patient Days	Infection Control
Joint Commission NPSGs	Communicating Critical Test Results Compliance (%)	Laboratory
	Labeling Meds on Sterile Field Compliance (%)	Nursing database (direct observations)
	Medical Record Audit Compliance (%)	Nursing database (chart review)
	Procedural Sedation Audit Compliance (%)	Nursing database (chart review)
	Restraint Audit (%)	Nursing database (chart review)
	WHO Surgical Checklist Compliance (%)	BWH OR Database (direct observations)
	Universal Protocol (%)	Nursing database (chart review)
Inpatient Flow	30-Day Readmission Rate	UHC Database
	ALOS / Observed vs Expected (Ratio)	UHC Database
	Average Length of Stay	UHC Database
	ED Length of Stay	CHASE (internal database)
Patient Safety	AHRQ PSIs	*COMING SOON*
	Safety Reporting (# events by type)	rL Safety reporting database
	Pressure Ulcer Prevalence	Nursing prevalence study
	Serious Reportable Events	rL Safety reporting database
	Slip / Fall Incidents per 1000 Patient Days	rL Safety reporting database
Satisfaction	Ambulatory Patient Satisfaction /Survey mean	Press,Ganey
	Emergency Dept Satisfaction /Survey mean)	Press,Ganey
	Inpatient Satisfaction / HCAHPS (% rating 9 or 10)	Press,Ganey
	Inpatient Satisfaction / Survey mean	Press,Ganey
	Procedural Patient Satisfaction / Survey mean	Press,Ganey
	Radiology Patient Satisfaction / Survey mean	Press,Ganey

	Metric	Data Source
Quality Outcomes	3rd and 4th Degree Lacerations	CHASE (internal database)
	Ambulatory HEDIS Non-Compliance	CHASE (internal database)
	NHQM Core Measures / AMI	Chart abstraction / UHC database
	NHQM Core Measures / Heart Failure	Chart abstraction / UHC database
	NHQM Core Measures / Pneumonia	Chart abstraction / UHC database
	NHQM Core Measures / Surgical Care	Chart abstraction / UHC database
	NHQM Core Measures / Outpatient Surgical Care	Chart abstraction / UHC database
	Stroke Thrombolysis with 60 minutes	Chart abstraction / Outcome Sciences database

CCHMC Divisional Condition-Specific Measures: Detail

Division	Condition	Outcome Measure Name	Outcome Measure Description
Rheumatology	Juvenile Idiopathic Arthritis	Function - CHAQ	The percentage of patients achieving optimal functional status as measured by Childhood Health Assessment Questionnaire (CHAQ)
Rheumatology	Juvenile Idiopathic Arthritis	Function - ROM	Proportion of patients achieving optimal functional status as measured by full joint range of motion (ROM)
Rheumatology	Juvenile Idiopathic Arthritis	Uveitis Screening	Proportion of patients screened for iridocyclitis (eye disease) at appropriate intervals
Rheumatology	Juvenile Idiopathic Arthritis	Lab Surveillance	Proportion of patients on second line medication screened for lab surveillance
Rheumatology	Juvenile Idiopathic Arthritis	Risk Behavior Screenings	Percentage of patients with JRA who are asked about risk behavior at clinic visit.
Rheumatology	Juvenile Idiopathic Arthritis	Complete Clinical Response	Percentage of JIA clinic patients achieving Wallace criteria for inactive disease.
Rheumatology	Juvenile Idiopathic Arthritis	Patient Confidence	The percentage of JIA patients who report confidence in ability to carry out an agreed upon treatment plan
Rheumatology	Juvenile Idiopathic Arthritis	Quality of Life	The average scores (mean) of the PedsQL Questionnaires (Rheumatology & generic module) administered to JIA patients and their parents
Rheumatology	Juvenile Idiopathic Arthritis	Pain Score	The percent of patients who report a score of <= 3 on visual analog scale (VAS) to indicate pain
Rheumatology	Juvenile Idiopathic Arthritis	Self-Management	Percent of identified patient encounters that successfully received required bundle elements.
Rheumatology	Juvenile Idiopathic Arthritis	PPD Testing for Biologic Meds - Initial [a]	Percentage of JIA patients who completed a PPD test within 90 days of receiving their initial biologic medication prescription.
Rheumatology	Juvenile Idiopathic Arthritis	PPD Testing for Biologic Meds - Annual [b]	Percentage of JIA patients who complete an annual PPD test
Rheumatology	Juvenile Fibromyalgia	Quality of Life - Patient	The average scores (mean) of the Patient-PedsQL Questionnaires (generic module) administered to JFM patients
Rheumatology	Juvenile Fibromyalgia	Quality of Life - Parent	The average scores (mean) of the Parent-PedsQL Questionnaires (generic module) administered to parents of JFM patients
Rheumatology	Juvenile Fibromyalgia	Minimal Pain	The percent of patients who report a score of ≤ 4 on visual analog scale (VAS) to indicate minimal pain.
Rheumatology	Juvenile Fibromyalgia	Sleeping Well	Percent of patients who report sleeping well, as indicated by a sleep score of 4 or less on a visual analog scale (VAS)
Rheumatology	Juvenile Fibromyalgia	Good Energy	Percent of patients who report good energy during the week, as indicated by a fatigue score of 4 or less on a visual analog scale (VAS)
Rheumatology	Juvenile Fibromyalgia	Patient Confidence	The percent of patients who report confidence in ability to carry out an agreed upon treatment plan
Rheumatology	Juvenile Fibromyalgia	Pain Coping Efficacy	Percent of patients who report ability to cope with pain, as indicated by a pain coping efficacy score of 4 or greater
Rheumatology	Juvenile Fibromyalgia	Exercise Goal Achievement	Percent of patients who report achievement of exercise goals between physical therapy visits
Rheumatology	Juvenile Fibromyalgia	Medication Risks Counseling	Percent of patients counseled on suicide and overdose risks at initiation of antidepressant medication therapy for JFM

Division	Condition	Outcome Measure Name	Outcome Measure Description
Rheumatology	Juvenile Fibromyalgia	Suicide Screening	Percent of visits where patients on an ongoing regimen of antidepressant medication were screened for suicide risk at regular intervals
Rheumatology	Juvenile Fibromyalgia	CBT Completion	Percent of patients referred for cognitive behavioral therapy who completed therapy
Rheumatology	Juvenile Dermatomyositis	Clinical Improvement	Percent of patients achieving clinical improvement as defined by PRINTO criteria
Rheumatology	Juvenile Dermatomyositis	Quality of Life - Patient [a]	The average scores (mean) of the Patient-PedsQL Questionnaires (Rheumatology & generic module) administered to JDM patients
Rheumatology	Juvenile Dermatomyositis	Quality of Life - Patient [b]	The average scores (mean) of the Patient-PedsQL Questionnaires (Rheumatology & generic module) administered to JDM patients
Rheumatology	Juvenile Dermatomyositis	Quality of Life - Parent [a]	The average scores (mean) of the Parent-PedsQL Questionnaires (Rheumatology & generic module) administered to parents of JDM patients
Rheumatology	Juvenile Dermatomyositis	Quality of Life - Parent [b]	The average scores (mean) of the Parent-PedsQL Questionnaires (Rheumatology & generic module) administered to parents of JDM patients
Rheumatology	Juvenile Dermatomyositis	Optimal Functional Status	The percentage of patients achieving optimal functional status as measured by Childhood Health Assessment Questionnaire (CHAQ)
Rheumatology	Juvenile Dermatomyositis	Optimal Muscle Strength	The percentage of patients achieving optimal muscle status as measured by Childhood Myositis Assessment Score (CMAS)
Rheumatology	Juvenile Dermatomyositis	Minimal Pain	The percent of patients who report a score of <= 3 on visual analog scale (VAS) to indicate pain
Rheumatology	Juvenile Dermatomyositis	Height < 10^{th} Percentile	The percentage of JDM patients below the 10th percentile in height
Rheumatology	Juvenile Dermatomyositis	BMI > 90^{th} Percentile	The percentage of JDM patients above the 90th percentile in body mass index (BMI)
Rheumatology	Juvenile Dermatomyositis	Patient Confidence	The percentage of patients who report confidence in ability to carry out an agreed upon treatment plan
Rheumatology	Juvenile Dermatomyositis	MTX Safety Screening	Percent of patients on Methotrexate screened for side effects (lab surveillance as defined by ACR criteria)
Rheumatology	Juvenile Dermatomyositis	MTX Risk Screening	Percent of patients, age 13 years and older, on Methotrexate screened for risk behaviors (ethanol use, tobacco use, sexual activity)
Ophthalmology	Retinopathy of Prematurity [ROP]	Retinal Detachment	Percent of patients who had peripheral or total retinal detachment during the ROP screening process
Ophthalmology	Retinopathy of Prematurity [ROP]	ROP Protocol Completion	Percent of patients who completed screening protocol
Ophthalmology	Retinopathy of Prematurity [ROP]	Inpatient to Outpatient Transition	Percent of patients transitioning from NICU who had their first outpatient ROP check in the recommended follow-up time period
Ophthalmology	Retinopathy of Prematurity [ROP]	Outpatient Follow-up	Percent of patients who had at least one ambulatory visit and are within the recommended follow-up time period for the next ROP check
Ophthalmology	Retinopathy of Prematurity [ROP]	Timely Surgical Intervention	Percent of patients treated within 72 hours of referral for ablation surgery for ROP
Ophthalmology	Amblyopia	Optimal Visual Acuity	Percent of patients who have best corrected visual acuity of 20/30 or better in the amblyopic eye or eyes

Division	Condition	Outcome Measure Name	Outcome Measure Description
Ophthalmology	Amblyopia	Average Patient Adherence	Percent of patients with an average adherence score of excellent (3.5 or greater) while on patching or atropine therapy
Ophthalmology	Uveitis	Optimal Visual Acuity	Percent of patients with best corrected visual acuity of 20/20 or better
Ophthalmology	Uveitis	Optimal Visual Acuity - Non-Verbal Exam	Percent of patients with optimal visual acuity based on a non-verbal visual acuity exam
Ophthalmology	Uveitis	Inactive Uveitis	Percent of patients whose Uveitis is inactive or in remission
Ophthalmology	Uveitis	Worsening Uveitis	Percent of patients whose Uveitis is worsening
Ophthalmology	Uveitis	Screening Follow-up	Percent of patients who are within the recommended follow-up time period for Uveitis screening
Pulmonary Medicine	Asthma	Well Controlled Asthma	Percent of Asthma patients seen in the Asthma Center having well controlled asthma
Pulmonary Medicine	Asthma	ED Visit	Percent of active asthma patients with asthma-related ED visit(s) in the previous month
Pulmonary Medicine	Asthma	Asthma-Related Hospitalizations	Percent of active asthma patients with asthma-related hospitalizations in the previous month
Pulmonary Medicine	Asthma	Pulmonary Function Test	Percent of asthma patients who receive a Pulmonary Function Test (PFT)
Pulmonary Medicine	Asthma	Perceived Asthma Control	Percent of asthma patients who perceive their asthma to be well controlled
Pulmonary Medicine	Asthma	Key Element Documentation	Percent of visits with asthma patients that have all key elements documented in the EMR
Pulmonary Medicine	Asthma	Perfect Care	Percent of active asthma patients receiving perfect care.
Pulmonary Medicine	Asthma	Flu Vaccine	Percent of active asthma patients who received or actively declined a flu vaccine in the most recent flu season.
Urology	Anorectal Malformations	Renal Function	Percent of patients with anorectal malformation whose renal function is stable or improved since their last visit
Urology	Anorectal Malformations	Visit Reliability	Percent of patients with anorectal malformation who had an annual Urology clinic visit
Urology	Anorectal Malformations	Renal Ultrasound Reliability	Percent of patients with anorectal malformation who had a renal ultrasound completed in the past year.
Urology	Anorectal Malformations	Renal Profile Reliability	Percent of patients with anorectal malformation who had a renal profile completed in the past year.
Urology	Anorectal Malformations	Urodynamic Study Reliability	Percent of patients with anorectal malformation who had a urodynamic study completed in the past year
Urology	Anorectal Malformations	VCUG Reliability	Percent of patients with anorectal malformation who have had a VCUG in the past year
Urology	Anorectal Malformations	Cystoscopy Reliability	Percent of patients with cloacal anomaly that underwent a bladder augmentation procedure $\geq$ 6 years ago had a cystoscopy done in the past year
Urology	Posterior Urethral Valves	Renal Function	Percent of patients with anorectal malformation whose renal function is stable or improved since their last visit
Urology	Posterior Urethral Valves	Visit Reliability	Percent of patients with anorectal malformation who had an annual Urology clinic visit
Urology	Posterior Urethral Valves	Renal Ultrasound Reliability	Percent of patients with anorectal malformation who had a renal ultrasound completed in the past year.
Urology	Posterior Urethral Valves	Renal Profile Reliability	Percent of patients with anorectal malformation who had a renal profile completed in the past year.

Division	Condition	Outcome Measure Name	Outcome Measure Description
Urology	Posterior Urethral Valves	Urodynamic Study Reliability	Percent of patients with anorectal malformation who had a urodynamic study completed in the past year
Urology	Posterior Urethral Valves	VCUG reliability	Percent of patients with anorectal malformation who have had a VCUG in the past year
Urology	Posterior Urethral Valves	Cystoscopy Reliability	Percent of patients with cloacal anomaly that underwent a bladder augmentation procedure ≥ 6 years ago had a cystoscopy done in the past year
Urology	Neurogenic Bladder in Spina Bifida	Renal Function	Percent of patients with anorectal malformation whose renal function is stable or improved since their last visit
Urology	Neurogenic Bladder in Spina Bifida	Visit Reliability	Percent of patients with anorectal malformation who had an annual Urology clinic visit
Urology	Neurogenic Bladder in Spina Bifida	Renal Ultrasound Reliability	Percent of patients with anorectal malformation who had a renal ultrasound completed in the past year.
Urology	Neurogenic Bladder in Spina Bifida	Renal Profile Reliability	Percent of patients with anorectal malformation who had a renal profile completed in the past year.
Urology	Neurogenic Bladder in Spina Bifida	Urodynamic Study Reliability	Percent of patients with anorectal malformation who had a urodynamic study completed in the past year
Urology	Neurogenic Bladder in Spina Bifida	VCUG Reliability	Percent of patients with anorectal malformation who have had a VCUG in the past year
Urology	Neurogenic Bladder in Spina Bifida	Cystoscopy Reliability	Percent of patients with cloacal anomaly that underwent a bladder augmentation procedure ≥ 6 years ago had a cystoscopy done in the past year
Nephrology	Kidney Transplant	Creatinine Clearance	Percentage of patients whose creatinine clearance level is greater than the national average, 0 to 7 years post transplant
Nephrology	Kidney Transplant	Rejection Episodes	Percent of kidney transplant patients experiencing graft rejection episode(s) in past 3 months – biopsy proven or empiric successful steroid use
Nephrology	Kidney Transplant	Optimal Immuno-Suppression	Percent of kidney transplant patients whose immuno-suppressant serum drug level is acceptable, as compared to an individualized target
Nephrology	Kidney Transplant	Hypertension Management	Percent of kidney transplant patients with a diagnosis of hypertension whose care of the comorbid condition is effectively managed to existing guidelines and standards
Nephrology	Kidney Transplant	Hyperlipidemia Management	Percent of kidney transplant patients with a diagnosis of hyperlipidemia whose care of the comorbid condition is effectively managed to existing standards
Nephrology	Kidney Transplant	Diabetes Management	Percent of kidney transplant patients with a diagnosis of diabetes whose care of the comorbid condition is effectively managed to existing guidelines and standards
Nephrology	Kidney Transplant	BMI Management	Percent of kidney transplant patients with a BMI measurement above the 85th percentile
Nephrology	Kidney Transplant	Perfect Care	Percent of kidney transplant patients who have had all of their follow-up care appropriately provided
Nephrology	Kidney Transplant	Acceptable Growth	Percentage of kidney transplant patients whose height is above the national average for kidney transplant patients, 0 to 6 years post-transplant
Nephrology	Kidney Transplant	Quality of Life - Patient	The average scores (mean) of the generic Patient-PedsQL Questionnaires administered to kidney

Division	Condition	Outcome Measure Name	Outcome Measure Description
			transplant patients
Nephrology	Kidney Transplant	Quality of Life - Parents	The average scores (mean) of the Parent Report PedsQL Questionnaires (generic module) administered to parents of kidney transplant patients
Nephrology	Elevated Blood Pressure	Blood Pressure Evaluated	Percentage of hypertension clinic visits where the patient's blood pressure is evaluated
Nephrology	Elevated Blood Pressure	Blood Pressure Documented	Percentage of hypertension clinic visits with blood pressure measurements documented in all nine key structured data fields in the EMR
Nephrology	Elevated Blood Pressure	Systolic Diagnosis	Percentage of hypertension clinic patients who have their systolic blood pressure type documented into one of the 7 diagnosis categories
Nephrology	Elevated Blood Pressure	Diastolic Diagnosis	Percentage of hypertension clinic patients who have their diastolic blood pressure type documented into one of the 7 diagnosis categories
Nephrology	Elevated Blood Pressure	Systolic Diagnosis - New Patient	Percentage of new at-risk hypertension clinic patients who have their systolic blood pressure type documented into one of the 7 diagnosis categories
Nephrology	Elevated Blood Pressure	Diastolic Diagnosis - New Patient	Percentage of new at-risk hypertension clinic patients who have their diastolic blood pressure type documented into one of the 7 diagnosis categories
Colorectal Surgery	Bowel Management in Anorectal Malformation, Hirschsprung's Disease, and Idiopathic Constipation	Program satisfaction - long term	Percent of patients/families who are satisfied with Bowel Management Program outcome at 3 month follow-up
Colorectal Surgery	Bowel Management in Anorectal Malformation, Hirschsprung's Disease, and Idiopathic Constipation	Program success - long term	Percent of patients/families who rate the Bowel Management Program as successful at 3 month follow-up
Colorectal Surgery	Bowel Management in Anorectal Malformation, Hirschsprung's Disease, and Idiopathic Constipation	Quality of life - long term	Percent of patients/families who believe the Bowel Management Program has improved their quality of life
Colorectal Surgery	Bowel Management in Anorectal Malformation, Hirschsprung's Disease, and Idiopathic Constipation	Program success - clinician	Percent of patients who achieve success with the Bowel Management Program, as judged by clinician

Division	Condition	Outcome Measure Name	Outcome Measure Description
Colorectal Surgery	Bowel Management in Anorectal Malformation, Hirschsprung's Disease, and Idiopathic Constipation	Program satisfaction - short term	Percent of patients/families who are satisfied with Bowel Management Program outcome at program conclusion
Colorectal Surgery	Bowel Management in Anorectal Malformation, Hirschsprung's Disease, and Idiopathic Constipation	Program success - short term	Percent of patients/families who rate the Bowel Management Program as successful at program completion
Colorectal Surgery	Bowel Management in Anorectal Malformation, Hirschsprung's Disease, and Idiopathic Constipation	Patient Understanding	Percent of patients/families who understand what they were taught in the Bowel Management Program
Colorectal Surgery	Bowel Management in Anorectal Malformation, Hirschsprung's Disease, and Idiopathic Constipation	Quality of life - short term	Percent of patients/families who believe the Bowel Management Program will improve their quality of life
Allergy & Clinical Immunology	Asthma	Well Controlled Asthma	Percent of Asthma patients seen in the Asthma Center* having well controlled asthma
Allergy & Clinical Immunology	Asthma	ED Visit	Percent of active asthma patients with asthma-related ED visit(s) in the given month.
Allergy & Clinical Immunology	Asthma	Asthma-Related Hospitalizations	Percent of active asthma patients with asthma-related hospitalizations in the previous month.
Allergy & Clinical Immunology	Asthma	Pulmonary Function Test	Percent of asthma patients who receive a Pulmonary Function Test (PFT)
Allergy & Clinical Immunology	Asthma	Perceived Asthma Control	Percent of asthma patients who perceive their asthma to be well controlled
Allergy & Clinical Immunology	Asthma	Key Element Documentation	Percent of visits with asthma patients that have all key elements documented in the EMR
Allergy & Clinical Immunology	Asthma	Perfect Care	Percent of active asthma patients receiving perfect care.
Allergy & Clinical Immunology	Asthma	Flu Vaccine	Percent of active asthma patients who received or actively declined a flu vaccine in the most recent flu season.

Division	Condition	Outcome Measure Name	Outcome Measure Description
Allergy & Clinical Immunology	Food Allergy	Episode-Free Management	Percent of food allergy patients who are episode-free since their last visit
Allergy & Clinical Immunology	Food Allergy	Appropriate Treatment Response	Percent of food allergy patients experiencing an episode since their last visit who received an appropriate treatment response
Allergy & Clinical Immunology	Food Allergy	Recall Food Avoidance	Percent of food allergy patients whose parent recalls effective trigger food avoidance techniques
Allergy & Clinical Immunology	Food Allergy	Recall Treatment Response	Percentage of food allergy patients experiencing an episode since their last visit who have their parent's treatment response documented into any of the 6 response categories
Allergy & Clinical Immunology	Food Allergy	Epinephrine Pen	Percent of food allergy patients who have a non-expired epinephrine pen for emergent treatment
Allergy & Clinical Immunology	Food Allergy	Adjusted EpiPen	Percent of food allergy patients who are ≥ 25kg and have a non-expired epinephrine pen that is adjusted to their weight and age
Allergy & Clinical Immunology	Food Allergy	Follow-up Testing	Percent of food allergy patients who receive follow-up testing within 18 months of their previous visit.
Allergy & Clinical Immunology	Food Allergy	Food Allergy Status	Percent of food allergy patients that are re-evaluated and who no longer have a food allergy
Allergy & Clinical Immunology	Food Allergy	Nutritional Assessment	Percent of food allergy patients who receive a nutritional assessment.
Fetal Care Center	Twin-Twin Transfusion Syndrome	Diagnosis	Diagnosis validated (OB's diagnosis confirmed or new diagnosis assigned)
Fetal Care Center	Twin-Twin Transfusion Syndrome	Staging	Staging assigned (if applicable)
Fetal Care Center	Twin-Twin Transfusion Syndrome	Plan of care	Plan of care outlined (including surgical intervention indicated)
Fetal Care Center	Twin-Twin Transfusion Syndrome	Survival	Fetal survival to delivery *(long term outcome measure)*
Fetal Care Center	Twin-Twin Transfusion Syndrome	Effective intervention	Surgical intervention was effective/successful *(short term outcome measure)*
Fetal Care Center	Congenital Cystic Adenomatoid Malformation	Diagnosis	Diagnosis validated (OB's diagnosis confirmed or new diagnosis assigned)
Fetal Care Center	Congenital Cystic Adenomatoid Malformation	Severity	Severity of CCAM determined (CVR)
Fetal Care Center	Congenital Cystic Adenomatoid Malformation	Plan of care	Plan of care outlined (including surgical intervention indicated)
Fetal Care Center	Congenital Cystic Adenomatoid Malformation	Survival	Survival of infant post resection *(long term outcome measure)*

Division	Condition	Outcome Measure Name	Outcome Measure Description
Fetal Care Center	Congenital Cystic Adenomatoid Malformation	Effective intervention	Surgical intervention was effective/successful *(short term outcome measure)*
Fetal Care Center	Congenital Diaphragmatic Hernia	Diagnosis	Diagnosis validated (OB's diagnosis confirmed or new diagnosis assigned)
Fetal Care Center	Congenital Diaphragmatic Hernia	Severity	Severity of CDH determined
Fetal Care Center	Congenital Diaphragmatic Hernia	Plan of care	Plan of care outlined (including surgical intervention indicated)
Fetal Care Center	Congenital Diaphragmatic Hernia	Survival	Survival of infant *(long term outcome measure)*
Neurosurgery	VP Shunt	Early intervention	Infants enrolled in multidisciplinary early intervention program
Neurosurgery	VP Shunt	School return	Days from surgery to return to prior level of schooling (patients pre-K thru college)
Neurosurgery	VP Shunt	Clinic visit reliability	Patient adherence to follow-up within time frame indicated by doctor at last visit
Neurosurgery	VP Shunt	Ophthalmology referral	All applicable patients received referral to Ophthalmology, and follow-up letter received
Neurosurgery	VP Shunt	Problem Inquiry	Patient/family queried re: potential problems they may have developed
Neurosurgery	VP Shunt	Baseline MRI	Baseline brain MRI done by age 2 (spinal dysraphism for MM patients)
Neurosurgery	VP Shunt	Routine imaging	Head CT or limited-sequence MRI AND shunt X-ray done at age 5, 10, and 15
Neurosurgery	VP Shunt	ED visit	Percent of patients seen in the Emergency Department since last visit
Neurosurgery	VP Shunt	Patient Confidence	Percent of patients who report confidence in ability to recognize signs of shunt malfunction, as indicated by a confidence score > 7 on Visual Analog Scale (VAS) - segmented by time since surgery; Michelle to draft question to ask families
Neurosurgery	VP Shunt	Quality of Life - Patient	Mean score of PedsQL generic module questionnaires administered to patients
Neurosurgery	VP Shunt	Quality of Life - Parent	Mean score of PedsQL generic module questionnaires administered to parents
Neurosurgery	VP Shunt	Problems Reported	Shunt-related problems following surgery
Neurosurgery	VP Shunt	Problems Resolved	Recurrence of shunt-related problems
Neurosurgery	Tethered Cord	School/work return	Days from surgery to return to prior level of schooling/child care/work
Neurosurgery	Tethered Cord	Diagnostic discrepancy	Comparison of pre- and post-surgical Neurosurgery diagnosis (percent matching)
Neurosurgery	Tethered Cord	Patient Confidence	Percent of patients who report confidence in ability to provide necessary at-home care, as indicated by a confidence score > 7 on Visual Analog Scale (VAS) - segmented by time since surgery
Neurosurgery	Tethered Cord	Quality of Life - Patient	Mean score of PedsQL generic module questionnaires administered to patients
Neurosurgery	Tethered Cord	Quality of Life - Parent	Mean score of PedsQL generic module questionnaires administered to parents
Neurosurgery	Tethered Cord	Bowel/bladder improvement	Bowel/bladder problems improved or resolved at 1-year follow-up
Neurosurgery	Tethered Cord	Tests improved	Pre-op test results improved at 1-year follow-up

Division	Condition	Outcome Measure Name	Outcome Measure Description
Neurosurgery	Epilepsy	Seizure Frequency	Percent of patients who report a reduction in the frequency of seizures since their initial visit
Neurosurgery	Epilepsy	Seizure Duration	Percent of patients who report a reduction in the duration of seizures since their initial visit
Neurosurgery	Epilepsy	Seizure Severity	Percent of patients who report a reduction in the severity of seizures since their initial visit
Neurosurgery	Epilepsy	Seizure Semiology	Percent of patients with different (new) types of seizures presenting after epilepsy surgery
Neurosurgery	Epilepsy	Engel Score	Percent of patients at each level of post-operative clinician assessment of seizure activity and management, using validated tool (Engel Scale)
Neurosurgery	Epilepsy	Neuropsychology Evaluation	Percent of patients showing improvement, decline, and no change from pre-op to post-op assessment
Neurosurgery	Epilepsy	Quality of Life Change - Patient	Percent of patients indicating improved, worsened, and stable QoL from pre-op to post-op assessment (calculated from QOL scores obtained in Neurology)
Neurosurgery	Epilepsy	Quality of Life Change - Parent	Percent of parents indicating improved, worsened, and stable QoL from pre-op to post-op assessment (calculated from QOL scores obtained in Neurology)
Neurology	Headache	Frequency Reduction	Percent of follow-up patients reporting a 50% or greater reduction in the frequency of their headaches from initial visit to current visit
Neurology	Headache	Disability Score Reduction	Percent of follow-up patients reporting a 50% or greater reduction in disability score (as assessed by PedMIDAS) due to their headaches from initial visit to current visit
Neurology	Headache	Disability Grade Reduction	Percent of follow-up patients with a Level III or VI disability grade rating at initial visit reporting a full grade level or greater reduction in the disability grade rating of their headaches from initial visit to current visit
Neurology	Headache	Medication Side Effects	Percent of patients who report experiencing no side effects from medications
Neurology	Headache	Acute Therapy	Percent of patients reporting that acute therapy works at onset
Neurology	Headache	Healthy Lifestyle	Percent of follow-up patients that report engaging in healthy lifestyle habits (defined as: drink at least 6 glasses of fluid a day; do not skip meals; sleep at least 8 hours per night; and, exercise 3 or more times per week)
Neurology	Headache	ICHD-II Diagnosis	Percent of patients for whom The International Classification of Headache Disorders 2nd Edition (ICHD-II) criteria was used to make a diagnosis
Neurology	Headache	ICHD-II Criteria	Percent of new patients for whom enough data was collected to use The International Classification of Headache Disorders 2nd Edition (ICHD-II) criteria for making a diagnosis of migraine without aura
Neurology	Headache	School Absence	Mean number of missed days of school per semester for follow-up patients
Neurology	Headache	Quality of Life - Patient	Mean score of PedsQL generic module questionnaires administered to patients
Neurology	Headache	Quality of Life - Parent	Mean score of PedsQL generic module questionnaires administered to parents
Neurology	Duchenne Muscular Dystrophy	Age of Death	Mean age of death of patients with Duchenne Muscular Dystrophy
Neurology	Duchenne Muscular	Age of Loss of Ambulation	Mean age of loss of ambulation for patients with Duchenne Muscular Dystrophy

Division	Condition	Outcome Measure Name	Outcome Measure Description
	Dystrophy		
Neurology	Duchenne Muscular Dystrophy	Independent Ambulation	Percent of patients with Duchenne Muscular Dystrophy age 12-16 years old with independent ambulation
Neurology	Duchenne Muscular Dystrophy	Ankle Contractures	Percent of patients with Duchenne Muscular Dystrophy and less than 11 years old with ankle contractures
Neurology	Duchenne Muscular Dystrophy	Knee and Hip Contractures	Percent of patients with Duchenne Muscular Dystrophy and less than 11 years old with knee and/or hip contractures
Neurology	Duchenne Muscular Dystrophy	Lumbar Spine	Percent of patients with Duchenne Muscular Dystrophy with a lumbar spine Z-score within the normal range (-2 to +2)
Neurology	Duchenne Muscular Dystrophy	Functional Mobility	Percent of patients with Duchenne Muscular Dystrophy equal to or greater than 10 years old but less than 13 years old with improved or stable functional mobility scores over the past 6 months
Neurology	Duchenne Muscular Dystrophy	Timed Gower's Maneuvers	Percent of patients with Duchenne Muscular Dystrophy less than 12 years old with improved or stable Timed Gower's maneuvers over the past 6 months
Neurology	Duchenne Muscular Dystrophy	Carrier Status Testing	Percentage of mothers of patients with Duchenne Muscular Dystrophy who are tested for, or have documentation of being tested for, their DMD carrier status
Neurology	Epilepsy	Seizure Freedom - Short Term	Percent of epilepsy patients who report experiencing no seizures in the past 6 – 11 months
Neurology	Epilepsy	Seizure Freedom - Long Term	Percent of epilepsy patients who report experiencing no seizures in the past 12 months or longer
Neurology	Epilepsy	Medication Side Effects	Percent of epilepsy patients who report experiencing no side effects from medications in the past 4 weeks
Neurology	Epilepsy	Medication Side Effects Intolerabliity	Percent of epilepsy patients experiencing medication side effects who report that those side effects are intolerable
Neurology	Epilepsy	Medication Side Effects Significance	Percent of epilepsy patients who report experiencing moderate to very significant side effects from medications in the past 4 weeks
Neurology	Epilepsy	Medication Side Effects Severity	Percent of epilepsy patients who report experiencing moderate to high severity side effects from medications in the past 4 weeks
Neurology	Epilepsy	Quality of Life - Patient	The average scores (mean) of PedsQL Generic Module questionnaires administered to epilepsy patients each month
Neurology	Epilepsy	Quality of Life - Parent	The average scores (mean) of the Parent Report PedsQL Questionnaires (generic module) administered to parents of epilepsy patients each month
Neurology	Movement Disorders	Tics Severity Reduction - YGTSS	Percent of patients with tics that report experience a 25% reduction in the severity of the tics at their current visit as compared to their initial visit within the past year (as assessed by the Yale Global Tic Severity Scale)
Neurology	Movement Disorders	Tics Impairment - YGTSS	Percent of patients with tics that report having zero impairment from tics at their current visit (as assessed by the Yale Global Tic Severity Scale)

Division	Condition	Outcome Measure Name	Outcome Measure Description
Neurology	Movement Disorders	Obsessions and Compulsions Reduction - CY-BOCS	Percent of patients with obsessive-compulsive disorder that report "much control" of their obsessions and compulsions (score less then 10 on the Child Yale-Brown Obsessive Compulsive Score) at their current visit
Neurology	Movement Disorders	Tremor Reduction - BTS	Percent of patients with tremors that report mild or no presence of tremors (score less than 2 on the Brief Tremor Scale) at their current visit
Neurology	Movement Disorders	Ataxia Reduction - SARA	Percent of patients with ataxia that report only slight or no difficulty/disturbance due to ataxia (score less than 9 on the Scale for the Assessment and Rating of Ataxia) at their current visit
Neurology	Movement Disorders	Dystonia Reduction - FMDS	Percent of patients with dystonia that report only slight or no difficulty/disturbance due to dystonia (score less than 9 on the Fahn-Marsden Dystonia Scale) at their current visit
Neurology	Movement Disorders	Chorea Reduction - USCRS	Percent of patients with chorea that report minimal or no impact on their motor functioning due to chorea (score less than 9 on the motor assessment subscale of the UFMG Sydenham's Chorea Rating Scale) at their current visit
Neurology	Movement Disorders	ADHD Reduction - Vanderbilt	Percent of patients with ADHD that are reported as exhibiting occasional or no symptoms due to ADHD (score less than 19 on the Total Symptoms Subscale Score on the Vanderbilt Assessment Scale) at their current visit
Neurology	Movement Disorders	Quality of Life - Patient	Mean score of PedsQL generic module questionnaires administered to patients
Neurology	Movement Disorders	Quality of Life - Parent	Mean score of PedsQL generic module questionnaires administered to parents
Occupational & Physical Therapy	Elbow Loss of Range of Motion After Surgery or Trauma	Full ROM - Flexion	The percent of patients with loss of elbow range of motion achieving full flexion of the injured elbow as compared to the healthy elbow at the time of discharge
Occupational & Physical Therapy	Elbow Loss of Range of Motion After Surgery or Trauma	Full ROM - Extension	The percent of patients with loss of elbow range of motion achieving full flexion of the treatedelbow as compared to the healthy elbow at the time of discharge
Occupational & Physical Therapy	Elbow Loss of Range of Motion After Surgery or Trauma	Discharge Pain Score	The percent of patients with loss of elbow range of motions self reporting a pain score less than or equal to 2 on a Visual Analog Scale administered at discharge
Occupational & Physical Therapy	Elbow Loss of Range of Motion After Surgery or Trauma	Discharge Oucher Scale	The percent of patients with loss of elbow range of motion reported to have a pain score less than or equal to 2 on an Oucher Pain Scale administered at discharge
Occupational & Physical Therapy	Elbow Loss of Range of Motion After Surgery or Trauma	Quality of Life - Health and Activity	The percent of patients with loss of elbow range of motion who reported improved scores on the Health and Activity section of the PedsQL at their discharge visit as compared to their initial visit
Occupational & Physical Therapy	Elbow Loss of Range of Motion After Surgery or Trauma	QuickDASH Score	The percent of patients with loss of elbow range of motion who reported an improvement in their total score on the QuickDASH Outcome Measure at their discharge visit as compared to their initial visit
Occupational & Physical Therapy	Elbow Loss of Range of Motion After Surgery or Trauma	Flexion Strength	The percent of patients with loss of elbow range of motion who scored a 5 on the Manual Muscle Test for flexion strength of the treated elbow at discharge

Division	Condition	Outcome Measure Name	Outcome Measure Description
Occupational & Physical Therapy	Elbow Loss of Range of Motion After Surgery or Trauma	Extension Strength	The percent of patients with loss of elbow range of motion who scored a 5 on the Manual Muscle Test for extension strength of the treated elbow at discharge
Occupational & Physical Therapy	Elbow Loss of Range of Motion After Surgery or Trauma	Return to Activity	The percent of patients with loss of elbow range of motion self reporting a functional status sufficient to allow them to return to pre-injury activities at discharge
Occupational & Physical Therapy	Elbow Loss of Range of Motion After Surgery or Trauma	Pain Assessment Adherence	The percent of visits where a pain assessment was completed by a therapist treating a patient for loss of elbow range of motion
Occupational & Physical Therapy	Elbow Loss of Range of Motion After Surgery or Trauma	ROM Assessment Adherence	The percent of visits where a passive range of motion assessment was completed by a therapist treating a patients for loss of elbow range of motion
Occupational & Physical Therapy	Elbow Loss of Range of Motion After Surgery or Trauma	Patient Self Management	The percent of patients treated for loss of elbow range of motion who are able to consistently demonstrate their home exercise program independently
Occupational & Physical Therapy	Congenital Muscular Torticollis	Cervical ROM - Passive	The percent of patients with Congenital Muscular Torticollis with normal passive cervical lateral flexion and passive rotation at the final visit of the episode of care
Occupational & Physical Therapy	Congenital Muscular Torticollis	Active Cervical Rotation	The percent of patients with Congenital Muscular Torticollis with normal active cervical rotation at the final visit of the episode of care
Occupational & Physical Therapy	Congenital Muscular Torticollis	Head Righting	The percent of patients with Congenital Muscular Torticollis who score ≥ 2 on the Muscle Function Scale at the final visit of the episode of care.
Occupational & Physical Therapy	Congenital Muscular Torticollis	Symmetrical Posture	The percent of patients with Congenital Muscular Torticollis with normal symmetrical posture in all developmentally appropriate functional positions at their final visit of the episode of care.
Occupational & Physical Therapy	Congenital Muscular Torticollis	Symmetrical Gross Motor	The percent of patients with Congenital Muscular Torticollis who demonstrated all developmentally appropriate symmetrical gross motor skills correctly at the final visit of episode of care.
Occupational & Physical Therapy	Congenital Muscular Torticollis	Self Care Management	The percent of patients or caregivers of patients with Congenital Muscular Torticollis who are able to consistently demonstrate their home exercise program independently at each treatment visit.
Occupational & Physical Therapy	Congenital Muscular Torticollis	Screenings Completed	The percent of patients with Congenital Muscular Torticollis who had all the recommended screenings
Occupational & Physical Therapy	Constraint Induced Movement Therapy	COPM Adherence	The percent of patients who had a Canadian Occupational Performance Measure (COPM) assessment completed at the first treatment appointment or within 30 days prior to their first treatment appointment
Occupational & Physical Therapy	Constraint Induced Movement Therapy	Activity Selection	The percent of patients/caregivers who make a weekly selection of at least one skill to focus on for the home program
Occupational & Physical Therapy	Constraint Induced Movement Therapy	Activity Log Return	The percent of activity logs returned by the patient/caregiver by the reassessment appointment

Division	Condition	Outcome Measure Name	Outcome Measure Description
Occupational & Physical Therapy	Constraint Induced Movement Therapy	Self Management - New Activities	The percent of caregivers/patients who are able to correctly demonstrate at least one new home program activity as taught by the therapist at each treatment visit during the month
Occupational & Physical Therapy	Constraint Induced Movement Therapy	Self Management - Previous Activities	The percent of caregivers/patients who are able to correctly demonstrate at least one previously learned home program activity at each treatment visit during the month
Occupational & Physical Therapy	Constraint Induced Movement Therapy	Self Management Confidence Level	The percent of caregivers/patients who report a confidence level of ≥ 7 (question from SMC) regarding self management of care at their third treatment visit Self Management Bundle question
Occupational & Physical Therapy	Constraint Induced Movement Therapy	Program Completion	The percent of patients who successfully complete their Constraint Induced Movement Therapy protocol
Occupational & Physical Therapy	Constraint Induced Movement Therapy	Spontaneous Function Analysis	The percent of patients who score ≥ 4 points on the Shriners Hospital Upper Extremity Evaluation Spontaneous Functional Analysis at the reassessment visit compared to the evaluation or initial treatment visit
Occupational & Physical Therapy	Constraint Induced Movement Therapy	Dynamic Position Analysis	The percent of patients who score ≥ 4 points on the Shriners Hospital Upper Extremity Evaluation Dynamic Positional Analysis at the reassessment visit as compared to the evaluation or initial treatment visit
Occupational & Physical Therapy	Constraint Induced Movement Therapy	COPM Satisfaction	The percent of Constraint Induced Movement Therapy patients who score higher on their Canadian Occupational Performance Measure for Satisfaction at the reassessment visit compared to the assessment of initial therapy visit
Occupational & Physical Therapy	Constraint Induced Movement Therapy	COPM Performance	The percent of Constraint Induced Movement Therapy patients who score higher on their Canadian Occupational Performance Measure for Performance at the reassessment visit compared to the assessment of initial therapy visit
Audiology	Permanent Hearing Loss Treatment	Access to Sound	Percentage of follow-up patients with a permanent hearing loss who demonstrate an improvement in their access to sound with the use of a hearing loss device
Audiology	Permanent Hearing Loss Treatment	Auditory Perception and Skills	Percentage of follow-up patients with a permanent hearing loss who demonstrate an improvement in their auditory perception and skills with the use of a hearing loss device, as assessed by the Auditory Skills Checklist (ASC)
Audiology	Permanent Hearing Loss Treatment	Patient Independence	Percentage of follow-up patients 10 years of age and older with a permanent hearing loss who report an improvement in their independence with the use of a hearing loss device as assessed with the Patient Independence Tool
Audiology	Permanent Hearing Loss Treatment	Care Plan Adherence	Percentage of visits where parents of follow-up patients with a permanent hearing loss report adhering to care plan recommendations at their child's current visit
Audiology	Permanent Hearing Loss Treatment	Permanent Hearing Loss	Percentage of patients seen in Audiology that have a new, definitive diagnosis of permanent hearing loss

Division	Condition	Outcome Measure Name	Outcome Measure Description
Audiology	Infant Hearing Screening and Diagnosis	Screening for Hearing Loss	Percent of patients less than twelve months old (adjusted age) that are seen in Audiology who are screened for hearing loss by one month of age
Audiology	Infant Hearing Screening and Diagnosis	Diagnosis of Hearing Loss	Percent of patients less than twelve months old (adjusted age) that did not pass the screening who receive a comprehensive audiological evaluation for hearing loss by three months of age
Audiology	Infant Hearing Screening and Diagnosis	Hearing Loss Intervention	Percent of patients less than twelve months old (adjusted age) with a confirmed diagnosis of permanent hearing loss who begin receiving intervention for the hearing loss by six months of age
Audiology	Infant Hearing Screening and Diagnosis	Care Plan Adherence	Percent of patients less than twelve months old (adjusted age) with a diagnosis of unspecified or temporary hearing loss who return to Audiology for a follow-up visit by six months of age
Developmental & Behavioral Pediatrics	Autism	Diagnosis Classification Shift Out of Spectrum	Percentage of follow-up patients with Autism whose diagnostic classification shifts out of the autism spectrum
Developmental & Behavioral Pediatrics	Autism	Severity Status	Percentage of follow-up patients with Autism who demonstrate an improvement in their severity status from baseline and/or previous visit to follow-up visit
Developmental & Behavioral Pediatrics	Autism	Quality of Life - Parent	Mean score of PedsQL generic module questionnaires administered to parents of patients with Autism
Developmental & Behavioral Pediatrics	Spina Bifida	Patient Independence - Patient Report	Percentage of adolescent follow-up patients 12 to 21 years old with Spina Bifida who report an improvement in their independence and self-management skills from baseline visit to annual follow-up visit, as assessed by the patient version of the Adolescent Self-Management and Independence Scales (AMIS II)
Developmental & Behavioral Pediatrics	Spina Bifida	Patient Independence - Parent Report	Percentage of parents of adolescent follow-up patients 12 to 21 years old with Spina Bifida who report an improvement in their child's independence and self-management skills from baseline visit to annual follow-up visit, as assessed by the parent version of the Adolescent Self-Management and Independence Scales (AMIS II)
Developmental & Behavioral Pediatrics	Spina Bifida	Mobility Maintenance	Percentage of follow-up patients with Spina Bifida who demonstrate an improvement or maintenance in their mobility level from baseline visit to annual follow-up visit
Developmental & Behavioral Pediatrics	Spina Bifida	Self Catheterization	Percentage of follow-up patients 10 years of age and older with Spina Bifida who are able to catheterize themselves.
Developmental & Behavioral Pediatrics	Spina Bifida	Growth Parameters Measurement	Percentage of visits where patients with Spina Bifida have their growth parameters accurately measured
Developmental & Behavioral Pediatrics	Spina Bifida	Blood Pressure Measurement	Percentage of visits where patients with Spina Bifida have their blood pressure accurately measured
Developmental & Behavioral Pediatrics	Spina Bifida	Psychosocial Functioning - Pediatric Patients	Percent of follow-up patients less than 18 years old with Spina Bifida who have their depression symptoms annually assessed by the Child Depression Inventory

Division	Condition	Outcome Measure Name	Outcome Measure Description
Developmental & Behavioral Pediatrics	Spina Bifida	Psychosocial Functioning - Older Patients	Percent of follow-up patients 18 years and older with Spina Bifida who have their depression symptoms annually assessed by the Beck Depression Inventory
Developmental & Behavioral Pediatrics	Spina Bifida	Quality of Life - Patient	Mean score of PedsQL generic module questionnaires administered to patients with Spina Bifida
Developmental & Behavioral Pediatrics	Spina Bifida	Quality of Life - Parent	Mean score of PedsQL generic module questionnaires administered to parents of patients with Spina Bifida
Developmental & Behavioral Pediatrics	Down Syndrome	Communication Skills	Percentage of follow-up patients with Down Syndrome who demonstrate an improvement in their communication skills from baseline visit to annual follow-up visit, as assessed by the Vineland Adaptive Behavior Scale - II (Receptive Communication and Expressive Communication subdomain scores)
Developmental & Behavioral Pediatrics	Down Syndrome	Daily Living Skills	Percentage of follow-up patients with Down Syndrome who demonstrate an improvement in their daily living skills from baseline visit to annual follow-up visit, as assessed by the Vineland Adaptive Behavior Scale - II (Daily Living Skills domain score)
Developmental & Behavioral Pediatrics	Down Syndrome	Socialization Skills	Percentage of follow-up patients with Down Syndrome who demonstrate an improvement in their socialization skills from baseline visit to annual follow-up visit, as assessed by the Vineland Adaptive Behavior Scale - II (Socialization domain score)
Developmental & Behavioral Pediatrics	Down Syndrome	Motor Skills	Percentage of follow-up patients with Down Syndrome who demonstrate an improvement in their motor skills from baseline visit to annual follow-up visit, as assessed by the Vineland Adaptive Behavior Scale - II (Motor Skills domain score)
Developmental & Behavioral Pediatrics	Down Syndrome	Growth Parameters Measurement	Percentage of patients with Down Syndrome who have their growth parameters accurately measured at every visit
Developmental & Behavioral Pediatrics	Down Syndrome	Health Care Guidelines	Percentage of patients with Down Syndrome who are provided care at their current visit according to the recommendations specified in the Health Care Guidelines for Individuals with Down Syndrome: 1999 Revision
Developmental & Behavioral Pediatrics	Down Syndrome	Individualized Education Plan	Percentage of school-aged patients with Down Syndrome who have had their individualized education plan (IEP) evaluated based on the appropriateness of goals, the degree to which goals are specific and measurable, and the appropriateness of the program and placement
Developmental & Behavioral Pediatrics	Down Syndrome	Quality of Life - Patient	Mean score of PedsQL generic module questionnaires administered to patients 12 - 18 years old with Down Syndrome
Developmental & Behavioral Pediatrics	Down Syndrome	Quality of Life - Parent	Mean score of PedsQL generic module questionnaires administered to parents of patients with Down Syndrome
Speech Pathology	Dysphagia	Age Appropriate Diet	Percentage of patients with Dysphagia for whom the age appropriate diet status is documented in the EMR

Division	Condition	Outcome Measure Name	Outcome Measure Description
Speech Pathology	Dysphagia	Family Impact	Percentage of parents of patients with Dysphagia who report a reduction in family impact due to Dysphagia from initial visit to current visit, as assessed by the Pediatric Feeding and Swallowing Disorders Family Impact Scale - Revised (PFSDFIS-R)
Speech Pathology	Dysphagia	Instrumental Assessment	Percentage of patients with Dysphagia who have received orders a Video Swallow Study (VSS) and came back to the Speech Pathology clinic for Video Swallow Study
Speech Pathology	Dysphagia	Treatment Recommendations	Percentage of patients with Dysphagia for whom the treatment recommendations are documented in the EMR
Speech Pathology	Dysphagia	Treatment Schedule Adherence	Percentage of visits with patients where the parents adhere to their child's treatment appointment schedule
Speech Pathology	Dysphagia	Compensatory Strategies	Percentage of patient visits with aspriation who have a sensory response and trialed compensatory strategy documented in the EMR
Speech Pathology	Speech Sound Disorders	Intelligibility in Conversation -NOMS	Percentage of patients with a Speech Sound Disorder who demonstrate an improvement in intelligibity in conversation from baseline visit to quarterly follow-up visit, as assessed by the Intelligibility Scale
Speech Pathology	Speech Sound Disorders	Clinical Assessment	Percentage of patients with a Speech Sound Disorder who have a recent audiological exam completed and documented in the EMR
Speech Pathology	Speech Sound Disorders	Severity Characteristics	Percentage of visits where the early language evaluation is documented in the EMR
Speech Pathology	Speech Sound Disorders	Treatment Schedule Adherence	Percentage of parents of patients with a Speech Sound disorder who adhere to their child's treatment appointment schedule
Speech Pathology	Speech Sound Disorders	Quality of Life - Patient	Mean score of PedsQL generic module questionnaires administered to patients with a Speech Sound Disorder
Speech Pathology	Speech Sound Disorders	Quality of Life - Parent	Mean score of PedsQL generic module questionnaires administered to parents of patients with a Speech Sound Disorder
Speech Pathology	Speech Sound Disorders	Speech Sound Disorder Type	Percentage of visits with an early language evaluation in which type of speech sound disorder is documented in the EMR (Epic)
Behavioral Medicine and Clinical Psychology	Attention Deficit Hyperactivity Disorder	Functional Impairment - Group	Functional impairment is reduced following parental attendance at group treatment for ADHD
Behavioral Medicine and Clinical Psychology	Attention Deficit Hyperactivity Disorder	Functional Impairment - Individual	Functional impairment is reduced following individual treatment for ADHD
Behavioral Medicine and Clinical Psychology	Attention Deficit Hyperactivity Disorder	Severity of Problems - Group	Severity of problems is reduced following group treatment for ADHD
Behavioral Medicine and Clinical Psychology	Attention Deficit Hyperactivity Disorder	Severity of Problems - Individual	Functional impairment is reduced following individual treatment for ADHD

Division	Condition	Outcome Measure Name	Outcome Measure Description
Behavioral Medicine and Clinical Psychology	Attention Deficit Hyperactivity Disorder	Symptom Reduction - Group	Symptoms are reduced following group treatment for ADHD
Behavioral Medicine and Clinical Psychology	Attention Deficit Hyperactivity Disorder	Symptom Reduction - Individual	Symptoms are reduced following individual treatment for ADHD
Behavioral Medicine and Clinical Psychology	Attention Deficit Hyperactivity Disorder	Treatment Success - Group	Group treatment for ADHD is successful
Behavioral Medicine and Clinical Psychology	Attention Deficit Hyperactivity Disorder	Treatment Success - Individual	Individual treatment for ADHD is successful
Behavioral Medicine and Clinical Psychology	Attention Deficit Hyperactivity Disorder	Parent Confidence - Group	Parent confidence in their ability to manage their child's problematic behaviors following group treatment for ADHD
Behavioral Medicine and Clinical Psychology	Attention Deficit Hyperactivity Disorder	Parent Confidence - Individual	Parent confidence in their ability to manage their child's problematic behaviors following individual treatment for ADHD
Behavioral Medicine and Clinical Psychology	Attention Deficit Hyperactivity Disorder	Homework Adherence	Success on homework adherence among patients enrolled in individual/family treatment for ADHD
Behavioral Medicine and Clinical Psychology	Attention Deficit Hyperactivity Disorder	Treatment Progress - Early Indicator - Individual	Problem severity is reduced following individual/family treatment for ADHD
Behavioral Medicine and Clinical Psychology	Attention Deficit Hyperactivity Disorder	IRS Collected - Group	IRS is collected according to protocol for patients enrolled in group treatment for ADHD
Behavioral Medicine and Clinical Psychology	Attention Deficit Hyperactivity Disorder	IRS Collected - Individual	IRS is collected according to protocol for patients enrolled in individual treatment for ADHD
Behavioral Medicine and Clinical Psychology	Obsessive Compulsive Disorder	Recovery - CY-BOCS	Severity of problems is reduced following treatment for OCD
Behavioral Medicine and Clinical Psychology	Obsessive Compulsive Disorder	Symptom Improvement - CY-BOCS	Symptom Severity is reduced following active treatment for OCD
Behavioral Medicine and Clinical Psychology	Obsessive Compulsive Disorder	Treatment Success - CY-BOCS	Treatment for OCD is successful

Division	Condition	Outcome Measure Name	Outcome Measure Description
Behavioral Medicine and Clinical Psychology	Obsessive Compulsive Disorder	Symptom Severity - SOCSS-T	Severity of Symptoms is mild following active treatment for OCD
Behavioral Medicine and Clinical Psychology	Obsessive Compulsive Disorder	Functioning - SOCSS-F	Impact on functioning is minimal following active treatment for OCD
Behavioral Medicine and Clinical Psychology	Obsessive Compulsive Disorder	Control - SOCSS-C	Control of symptoms is effective following active treatment for OCD
Behavioral Medicine and Clinical Psychology	Obsessive Compulsive Disorder	Distress - SOCSS-D	Distress is minimal following active treatment for OCD
Behavioral Medicine and Clinical Psychology	Obsessive Compulsive Disorder	Parent Confidence	Parent confidence in their ability to help their child manage their OCD symptoms following active treatment for OCD
Behavioral Medicine and Clinical Psychology	Obsessive Compulsive Disorder	Homework Adherence	Success on homework adherence among patients receiving active treatment for OCD
Behavioral Medicine and Clinical Psychology	Obsessive Compulsive Disorder	Treatment Progress - Early Indicator	Problem severity is reduced following active treatment for OCD
Behavioral Medicine and Clinical Psychology	Obsessive Compulsive Disorder	CY-BOCS Collected	CY-BOCS is collected according to protocol for patients enrolled in active treatment for OCD
Behavioral Medicine and Clinical Psychology	Obsessive Compulsive Disorder	SOCSS Collected	SOCSS is collected according to protocol for patients enrolled in active treatment for OCD
Behavioral Medicine and Clinical Psychology	Pain Management	Functional Disability	Percent of children treated for pain management that experience at least a 25% reduction in functional disability on the Functional Disability Inventory, or FDI, at the end of active treatment
Behavioral Medicine and Clinical Psychology	Pain Management	Coping Efficacy	Percent of children treated for pain management that show an increase in coping efficacy on the Pain Coping Questionnaire efficacy items, or PCQ, at the end of active treatment.
Behavioral Medicine and Clinical Psychology	Pain Management	Pain Intensity	Percent of children treated for pain management that show at least a 30% reduction in average pain intensity on the Brief Pain Inventory, or BPI, at the end of active treatment
Behavioral Medicine and Clinical Psychology	Pain Management	Treatment Success	Percent of children completing active treatment for pain management that meet the criteria for “treatment success” (improvement on functional disability, coping efficacy, and/or pain intensity) at the end of treatment

Division	Condition	Outcome Measure Name	Outcome Measure Description
Behavioral Medicine and Clinical Psychology	Pain Management	Pain Type	Percent of children assessed for pain management that have their pain type (chronic or episodic) documented at assessment
Behavioral Medicine and Clinical Psychology	Pain Management	Pain Location	Percent of visits for pain management that has documentation on pain location.
Behavioral Medicine and Clinical Psychology	Pain Management	Homework Adherence	Percent of visits that children receiving active treatment for pain management achieve success on homework adherence
Behavioral Medicine and Clinical Psychology	Pain Management	Treatment Progress - Early Indicator	Percent of children being treated for pain management that experience a reduction in functional disability (total score on the Functional Disability Inventory, or FDI) at the most recent visit.
Behavioral Medicine and Clinical Psychology	Pain Management	FDI Collected	Percent of visits among children enrolled in active treatment for pain management that have a Functional Disability Inventory (FDI) collected according to protocol (total score calculated)
Behavioral Medicine and Clinical Psychology	Pain Management	Coping Efficacy Collected	Percent of visits among children enrolled in active treatment for pain management that have a Pain Coping Questionnaire (PCQ) efficacy score
Behavioral Medicine and Clinical Psychology	Pain Management	Pain Intensity Collected	Percent of visits among children enrolled in active treatment for pain management that have a Brief Pain Inventory(BPI) collected according to protocol
Gastroenterology	Inflammatory Bowel Disease	Disease Remission	Percentage of patients with inactive disease and who were diagnosed > 112 days before visit
Gastroenterology	Inflammatory Bowel Disease	Prednisone Reduction	Percent of patients taking prednisone (excluding patients diagnosed in last 112 days)
Gastroenterology	Inflammatory Bowel Disease	Infliximab Trough Level Test	Percent of visits where patient is receiving infliximab (Remicade), whose disease activity is moderate or severe, and they have had their infliximab trough level measured within 180 days of infusion
Gastroenterology	Inflammatory Bowel Disease	Quality of Life	Percent of patients with IBD with patient global assessment greater than or equal to 8 (as of the last visit, within the last 12 months)
Gastroenterology	Intestinal Failure	Optimizing TPN Treatment	Percent of IF patients who are on TPN with acid reduction therapy.
Gastroenterology	Intestinal Failure	Flu Vaccine	Percent of active IF patients who received or actively declined a flu vaccine in the most recent flu season.
Gastroenterology	Intestinal Failure	Optimal Immuno-Suppression	Percent of small bowel transplant patients whose Tacrolimus (immuno-suppressant drug) level is acceptable, as compared to target range protocol.
Gastroenterology	Intestinal Failure	Quality of Life	Percent of active IF patients whose quality of life has improved or stayed the same since their last visit
Gastroenterology	Intestinal Failure	Conjugated Bilirubin	Percent of active IF patients whose conjugated bilirubin is greater than 2.
Gastroenterology	Liver Transplant	Renal Function	Renal Function: Percentage of liver transplant patient population with measured GFR >70.
Gastroenterology	Liver Transplant	Target Range	Percentage of liver transplant patient population with immunosuppression drug level in range.

Division	Condition	Outcome Measure Name	Outcome Measure Description
Gastroenterology	Liver Transplant	Quality of Life - Patient	The average score (mean) of PedsQL Generic Module questionnaire administered to liver transplant patients
Gastroenterology	Liver Transplant	Quality of Life - Parent	The average score (mean) of PedsQL Generic Module questionnaire administered to parents of liver transplant patients
Pediatric and Thoracic Surgery	Cervical Spine Clearance	Clinical Clearance Evaluation	The percent of patient visits where the criteria for clinical clearance is applied before collar removal
Pediatric and Thoracic Surgery	Cervical Spine Clearance	Radiograph Utilization	The percent of patients that receive appropriate c-spine radiographs if patient was not cleared at first Trauma Clinic visit
Pediatric and Thoracic Surgery	Cervical Spine Clearance	Patient/Caregiver Education	The percent of c-spine patient visits that document education was given to patient/caregiver in the ED
Pediatric and Thoracic Surgery	Cervical Spine Clearance	Effective Pain Management	The percent of c-spine patient visits in which patient/family states that adequate pain management was provided in the ED if needed
Psychiatry	Pathological Aggression	Initial Aggression Screening	Percentage of patients seen in psychiatry who are screened for aggression at their initial appointment/evaluation
Psychiatry	Pathological Aggression	Annual Aggression Screening	Percentage of patients seen in psychiatry who are screened for aggression at their annual session
Psychiatry	Pathological Aggression	Appropriate Medication	Percentage of patients with ADHD and pathological aggression who are receiving ADHD medications
Psychiatry	Pathological Aggression	Psychotherapy Therapy	Psychotherapy Referral (PA-4) Percentage of patients with ADHD and pathological aggression who receive a referral for psychotherapy
Psychiatry	Pathological Aggression	Symptom Improvement	Percentage of patients with ADHD and pathological aggression who report improvement in severity status from baseline to follow-up assessment (with the BRACHA)
Psychiatry	Bipolar Disorder	Metabolic Assessment [a]	Percentage of bipolar patients that are assessed for diabetes, hypercholesterolemia and hyperlipidemia at baseline and within 130 days after initiating treatment with an atypical antipsychotic agent
Psychiatry	Bipolar Disorder	Metabolic Assessment [b]	Percentage of bipolar patients that are assessed for diabetes, hypercholesterolemia and hyperlipidemia at baseline and within 130 days after initiating treatment with an atypical antipsychotic agent
Psychiatry	Bipolar Disorder	Health Assessment	Percentage of visits where patients with bipolar disorder that are being treated with psychotropic medications receive a health assessment which includes: weight, blood pressure, and pulse monitoring at least quarterly
Psychiatry	Bipolar Disorder	Appropriate Follow-up	Percentage of patients who were diagnosed with a new episode of bipolar disorder and treated with an atypical antipsychotic medication that had at least 3 follow-up visits during the acute treatment phase (90 days).
Psychiatry	Bipolar Disorder	Symptom/Function Improvement	Percentage of bipolar patients who demonstrate an improvement in their symptom and functioning status from their initial to 3-month follow-up assessment (CGI-S/CGI-IMP)
Psychiatry	Bipolar Disorder	Suicide Screening	Percentage of visits where patients with bipolar disorder are assessed for risk of suicide.
Psychiatry	Depression	Health Assessment	Percentage of patients with major depressive disorder who are being treated with psychotropic medications who receive a health assessment which includes: weight, blood pressure, and pulse

Division	Condition	Outcome Measure Name	Outcome Measure Description
			monitoring at least quarterly
Psychiatry	Depression	Appropriate Follow-up	Percentage of patients who were diagnosed with a new episode of major depressive disorder and treated with antidepressant medications that had at least 3 follow-up visits during the acute treatment phrase (90 days).
Psychiatry	Depression	Symptom and Function Improvement	Percentage of patients with major depressive disorders who demonstrate an improvement in their symptom and functioning status from their initial to 3-month follow-up assessment (QIDS)
Psychiatry	Depression	Suicide Screening	Percentage of visits where patients with major depressive disorder are assessed for risk of suicide.
Psychiatry	Depression	Therapy Referral	Psychotherapy Referral (MDD-5) Percentage of patients with major depressive disorder who receive a referral for psychotherapy.
Psychiatry	Depression	Metabolic Assessment [a]	Percentage of patients with a major depressive disorder that are assessed for diabetes, hypercholesterolemia and hyperlipidemia at baseline and within 130 days after initiating treatment with an atypical antipsychotic agent
Psychiatry	Depression	Metabolic Assessment [b]	Percentage of patients with a major depressive disorder that are assessed for diabetes, hypercholesterolemia and hyperlipidemia at baseline and within 130 days after initiating treatment with an atypical antipsychotic agent
Heart Institute	Syncope	Orthostatic Blood Pressure	Percent of patients in syncope clinic receiving an orthostatic blood pressure evaluation
Heart Institute	Syncope	Family History Assessment	Percent of patients in syncope clinic who received a family history evaluation that included assessment of: syncope events, cardiac arrest, and sudden death
Heart Institute	Syncope	Situational History Assessment	Percent of patients in syncope clinic that experience syncope symptoms during exercise
Heart Institute	Syncope	School Attendance	Percent of follow up patients whose school attendance has improved since the last visit
Heart Institute	Syncope	Symptom Improvement	Percent of follow up patients whose syncope events have decreased since the last visit
Heart Institute	Syncope	Quality of Life	Percent of patients with improvement in quality of life scores (PedsQL) on follow-up
Heart Institute	Tetralogy of Fallot	Clinic Visit Reliability	Percentage of patients with repaired tetralogy of Fallot who had an annual clinic visit.
Heart Institute	Tetralogy of Fallot	ECG Management	Percentage of patients with repaired tetralogy of Fallot who had an annual ECG conducted.
Heart Institute	Tetralogy of Fallot	MRI Management	Percentage of patients with repaired tetralogy of Fallot greater than or equal to 10 years of age who had an MRI conducted every 3 years.
Heart Institute	Tetralogy of Fallot	Chest X-Ray Screening	Percent of patients with repaired tetralogy of Fallot who had a chest x-ray conducted every 5 years.
Heart Institute	Cardiomyopathy	Readmission Rates	Percent of patients with cardiomypathy who are readmitted within 90 days.
Heart Institute	Cardiomyopathy	Incidence of Arrhythmias	Percent of cardiomypathy patients who develop arrhythmias.
Heart Institute	Cardiomyopathy	Aborted/Sudden Death	Percent of cardiomypathy patients who experience aborted or sudden death.
Heart Institute	Cardiomyopathy	Appropriate Medication	Percent of dilated cardiomypathy patients being

Division	Condition	Outcome Measure Name	Outcome Measure Description
		Use 1	treated with an ACE-I.
Heart Institute	Cardiomyopathy	Appropriate Medication Use 2	Percent of dilated cardiomypathy patients being treated with B Block medications.
Heart Institute	Cardiomyopathy	Quality of Life	Percent of patients with improvement in quality of life scores (PedsQL) on follow-up
Heart Institute	Obesity	BMI Monitoring	Percentage of visits for patients with obesity where BMI is documented.
Heart Institute	Obesity	BMI Decrease	Percent of follow up patients with obesity whose BMI has decreased (at ≥ 6 months of treatment).
Heart Institute	Obesity	Metabolic Assessment	Percentage of patients with obesity who are assessed for hypertension, diabetes hyperlipidemia, and nonalcoholic steatohepatitis at their initial visit (or prior to the initial visit).
Heart Institute	Obesity	Waist Measurement Decrease	Percentage of follow-up patients with obesity who are ≥ 6 years old, whose waist size has decreased (at ≥ 6 months of treatment).
Heart Institute	Obesity	Waist Measurement	Percentage of visits for patients who are ≥ 6 years old with obesity where waist measurement is documented.
Heart Institute	Obesity	Readiness Measure	Percent of obese patients/cargivers who report they are ready to make changes to improve their health.
Plastic Surgery	Cleft Palate & Lip	Cleft Palate Classification	Percentage of classifiable patients who had documented cleft palate classification at their initial clinic visit.
Plastic Surgery	Cleft Palate & Lip	Speech Therapy	Percentage of patients seen in cleft palate clinic that were referred to speech therapy by 3 years of age.
Plastic Surgery	Cleft Palate & Lip	Fistula Development	Percentage of patients seen in cleft palate clinic who developed a fistula 3 months or 1 year post palate repair surgery.
Plastic Surgery	Craniosynostosis	Suture Classification	Percentage of classifiable patients who had documented cranial suture formation classification at their initial clinic visit.
Plastic Surgery	Craniosynostosis	Specialist Bundle	Percentage of patients with a craniosynostosis diagnosis that have visited all three of the following specialists within 3 months of an abnormal exam finding: opthamologist, neurosurgeon, and plastic surgeon.
Endocrinology	Obesity	BMI Monitoring	Percentage of visits for patients with obesity where BMI is documented.
Endocrinology	Obesity	BMI Decrease >= 35%	Percent of follow up patients with obesity whose BMI has decreased (at ≥ 6 months of treatment).
Endocrinology	Obesity	Metabolic Assessment	Percentage of patients with obesity who are assessed for hypertension, diabetes hyperlipidemia, and nonalcoholic steatohepatitis at their initial visit (or prior to the initial visit).
Endocrinology	Obesity	Normal LDL	Percentage of follow-up patients with obesity who are ≥ 6 years old, whose waist size has decreased (at ≥ 6 months of treatment).
Endocrinology	Obesity	Waist Measurement Decrease	Percentage of visits for patients who are ≥ 6 years old with obesity where waist measurement is documented.
Endocrinology	Obesity	Readiness Measure	Percent of obese patients/cargivers who report they are ready to make changes to improve their health.
Endocrinology	Diabetes	Blood Pressure Documented	Percentage of diabetes clinic patients with a diabetes diagnosis that also have documented blood pressure percentile values

Division	Condition	Outcome Measure Name	Outcome Measure Description
Endocrinology	Diabetes	Hypertension Management	Percentage of diabetes clinic patients with a diabetes diagnosis and also a diagnosis of hypertension that had a documented blood pressure value within the normal range within 13 months after the first documented elevated blood pressure value
Endocrinology	Diabetes	Blood Pressure Management	Percentage of diabetes clinic patients with a diabetes diagnosis with blood pressure > 90th percentile over three consecutive visits who received: screening labs, initiation of pharmacological treatment, and referral to RD in the last 18 months
Endocrinology	Diabetes	Family History Screening	Percentage of diabetes clinic patients 2 years of age or older with a diabetes diagnosis and also a positive or unknown family history of hyperlipidemia who have a documented lipid panel ordered by 3 months after first visit
Endocrinology	Diabetes	Fasting LDL	Percentage of diabetes clinic patients with fasting LDL values <130 in the last 13 months
Endocrinology	Diabetes	Patient Education	Percentage of diabetes clinic patients in Tanner Stage 2 to 5 (adrenarche) of pubertal development and with LDL values greater than or equal to 130 who have discussed plant sterols and lifestyle modifications with an RD or other healthcare provider
Endocrinology	Diabetes	HgA1c Goal	Percentage of diabetes clinic patients that reached their HgbA1c goal
Endocrinology	Diabetes	Self Management	Percentage of Type I diabetes patients seen in the diabetes clinic within the last 6 months with documented self monitoring of blood glucose values 4 times/day or more
Bariatric Surgery	Bariatric Surgery	Pre-Operative Weight Loss	Percent of patients achieving pre-operative weight loss
Bariatric Surgery	Bariatric Surgery	Average Pre-Op Weight Loss	Average pre-operative weight loss
Bariatric Surgery	Bariatric Surgery	BMI Decrease >= 35%	Percent of patients with a decrease in BMI ≥ 35% after bariatric surgery
Bariatric Surgery	Bariatric Surgery	Average Post-Op BMI Change	Average % of change in BMI after surgery
Bariatric Surgery	Bariatric Surgery	Weight Increase Post-Op	Percent of patients that regain more than 50% of lost weight
Bariatric Surgery	Bariatric Surgery	Resolved Type II Diabetes Mellitus	Percent of patients that regain more than 50% of lost weight
Bariatric Surgery	Bariatric Surgery	Resolved Obstructive Sleep Apnea	Percent of patients whose Obstructive Sleep Apnea (OSA) has been resolved post surgery
Bariatric Surgery	Bariatric Surgery	Resolved Hypertension	Percent of patients whose Hypertension has been resolved post surgery
Bariatric Surgery	Bariatric Surgery	Resolved Dyslipidemia	Percent of patients whose Dyslipidemia has been resolved post surgery
Bariatric Surgery	Bariatric Surgery	Operative and Post-Operative Complication Rates [a]	1) Intra-operative – percent of patients who experience operative complications 2) Immediate post-operative – percent of patients who experience post-operative complications 3) Re-admission rate – percent of patients who are readmitted within 30 days of their bariatric surgery date 4) Emergency room visits – percent of patients who have an ER visit within 30 days of their bariatric surgery date

Division	Condition	Outcome Measure Name	Outcome Measure Description
Bariatric Surgery	Bariatric Surgery	Operative and Post-Operative Complication Rates [b]	1) Intra-operative – percent of patients who experience operative complications 2) Immediate post-operative – percent of patients who experience post-operative complications 3) Re-admission rate – percent of patients who are readmitted within 30 days of their bariatric surgery date 4) Emergency room visits – percent of patients who have an ER visit within 30 days of their bariatric surgery date
Bariatric Surgery	Bariatric Surgery	Operative and Post-Operative Complication Rates [c]	1) Intra-operative – percent of patients who experience operative complications 2) Immediate post-operative – percent of patients who experience post-operative complications 3) Re-admission rate – percent of patients who are readmitted within 30 days of their bariatric surgery date 4) Emergency room visits – percent of patients who have an ER visit within 30 days of their bariatric surgery date
Bariatric Surgery	Bariatric Surgery	Operative and Post-Operative Complication Rates [d]	1) Intra-operative – percent of patients who experience operative complications 2) Immediate post-operative – percent of patients who experience post-operative complications 3) Re-admission rate – percent of patients who are readmitted within 30 days of their bariatric surgery date 4) Emergency room visits – percent of patients who have an ER visit within 30 days of their bariatric surgery date
Bariatric Surgery	Bariatric Surgery	Vitamin B12 Deficiency	Percent of patients with post-operative nutritional vitamin B12 deficiency
Bariatric Surgery	Bariatric Surgery	Vitamin D Insufficiency	Percent of patients with post-operative nutritional vitamin D insufficiency
Physical Medicine & Rehab	Celebral Palsy	Gross Motor Function Assessment	Percent of patients assessed for gross motor function and verify GMFCS level at each clinic visit
Physical Medicine & Rehab	Celebral Palsy	Gross Motor Function Stability	Percent of patients whose GMFCS level is the same or improved since their last visit
Physical Medicine & Rehab	Celebral Palsy	School Attendance	Mean number of missed days of school per month for follow-up patients
Physical Medicine & Rehab	Celebral Palsy	Hip Surveillance	Percent of patients that receive a baseline x-ray of the hip by 24 months of age
Physical Medicine & Rehab	Celebral Palsy	Pain Assessment Adherence	The percent of visits where a pain assessment was completed
Physical Medicine & Rehab	Celebral Palsy	Clinic Visit Reliability	What percentage of CP patients had an annual visit
End of Formatting	End of Formatting	End of Formatting	

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HealthPartners Medical Group - Health Dimension Measures

Category	Topic	Measure	Division
Care Model Process	Pre-Visit Planning	% of primary care/specialty care visits that were pre-visit planned during the reporting month.	Primary Care Specialty Care
	After Visit Summary (AVS)	% of completed visits where an after visit summary was printed.	Primary Care Specialty Care
Child & Teen Checkup (C&TC)	C&TC – Up to date	% of patients who are CTC eligible who have had a primary care visit in the quarter AND had a CTC exam within the age appropriate time period (last 2 months if patient is less than 6 months of age, last 6 months if patient is 6 months to 17 months of age; last 1 year if patient is 18 months to 6 years of age; last 2 years if patient is 7 to 20 years of age).	Primary Care
	LEAD – Up to date	% of patients who are 12-30 months of age, CTC eligible, had a primary care visit in the last quarter and had a lead test in the last 12 months.	
Depression Care	PHQ-9 Follow-up (6 & 12 months)	% of eligible patients with major depression that have documentation of a PHQ-9 assessment at 6 months and 12 months (+/- 30 days) following their index contact.	Behavioral Health Primary Care
	Remission Rate (6 & 12 months)	% of eligible patients with major depression whose PHQ-9 score at 6 months/12 months (+/- 30days) is <5.	
	Response Rate (6 & 12 months)	% of eligible patients with major depression that show a 50% or greater decrease in their PHQ-9 score at 6 months and 12 months (+/-30 days) following their index contact date.	
Diabetes Care	Optimal Diabetes Care Measure (ODCM)	% of patients with diabetes who have had an A1c in the last 12 months with a value <=7.9, LDL screen in last 12 months with a value <= 99, last recorded blood pressure <= 129 and <= 79, documented non-tobacco user and documented regular aspirin user.	Primary Care Specialty Care
	ODCM – Payor disparity	**%** point difference between the Optimal Diabetes Care rate for patients with PMAP (public programs) coverage and patients with all other insurance coverage (commercial, Medicare, self-pay).	Primary Care Specialty Care
	ODCM – Race disparity	% point difference between the Optimal Diabetes Care rate for white patients and patients of color.	Primary Care Specialty Care
	HbA1c Improvement (6 & 12 months)	% of new patients to endocrinology that show an improvement over their baseline A1c at 6 months & 12 months following the date of their initial visit in Endocrinology.	Specialty Care
	HbA1c Improvement – Met A1c Goal (6 & 12 months)	% of new patients to endocrinology whose A1c result at 6 months & 12 months following the date of their initial visit in Endocrinology is at goal or < 8.0.	Specialty Care

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Category	Topic	Measure	Division
Hepatitis A	Hepatitis A – Measure	% of patients 1 year of age or older that were seen in the Travel Medicine Department that have had at least 1 dose of Hepatitis A or are immune.	Specialty Care
Infusion Therapy	IV Butterfly Attempt - % one attempt	% of infusions where there was only one attempt to insert an infusion butterfly	Specialty Care
	Peripheral IV Attempts - % one attempt	% of infusions where there was only one attempt to insert a peripheral IV.	
	Implanted Port without Complications	% of infusions with no complications with an implanted port.	
	PICC Line without Complications	% of infusions with no complications with an implanted port.	
Immunizations - Pediatric	18-24 months Combos #1	% of children who had a primary care visit in the last quarter who are up-to-date with the required immunizations. The following immunizations and doses are required for a child to be up-to-date: **Combo 1** - DTaP - 4 doses, PCV- 4 doses, IPV - 3 doses, Hib - 4 doses, HBV - 3 doses, MMR - 1 dose, Varicella - 1 dose. **Combo 2** - All of Combo 1 AND rotavirus - 3 doses, HAV - 2 doses, influenza - 2 dose.	Primary Care
	24 months Combos #2		
Immunizations – Adolescent	13 Year Old – Combo #1	% of children who have their 13th birthday during the reporting quarter and had a primary care visit in the last 12 months who are up-to-date with the required Immunizations. The following immunizations and doses are required for a 13 year old to be up to date: **Combo 1:** HBV (3 doses), MMR (1 dose if given on or between the 4th and 13th birthdays OR 2 doses is given on or between their 1st and 4th birthdays), Varicella (2 doses). **Combo 2:** Td/Tdap (1 dose), MCV4/MPSV4 (1 dose).	Primary Care
	13 Year Old – Combo #2		
Language & Race	Race Documented	% of patients seen in the reporting quarter who have race/ethnicity collected.	Behavioral Health, Primary Care Specialty Care
	Language Documented	% of patients seen in the reporting quarter who have language preference collected	

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Category	Topic	Measure	Division
Pre-End Stage Kidney Disease (ESKD)	Optimal Pre-ESKD Care Measure	% of patients with Chronic Kidney Disease who have had an annual PTH with a value <70pmol/L(Stage III), <110pmol/L (Stage IV), <300pmol/L (Stage V), an annual LDL with a value <100 mg/dl, an annual Hgb with a value >10.0 g/dl, last recorded systolic blood last recorded systolic blood pressure <135mm/hg, last recorded diastolic blood pressure <85mm/Hg, and an annual HbA1c with a value <8% (Diabetes only).	Specialty Care
Preventive Care	Chlamydia Screening	% of sexually active female patients, ages 16-25, who have been screened for Chlamydia in the 12 months prior to and including their most recent primary care visit.	Primary Care Specialty Care
	Cholesterol Screening	% of eligible patients (men ages 35-75 and women ages 45-75) who have documentation of cholesterol screening (Total cholesterol AND HDL-Cholesterol) in the 5 years prior to and including their most recent primary care visit.	
	Colorectal Screening	% of eligible patients (African Americans age 45-80, all others age 50-80) who have been screened for colorectal cancer by Colonoscopy in the last 10 years or Flexible Sigmoidoscopy or Double Contrast Barium Enema (DCBE) in the last 5 years and/or Fecal Occult Blood Test (FOBT) or Fecal Colorectal Screening (FIT) in the last 12 months prior to and including their most recent primary care visit.	
	Breast Cancer Screening	% of eligible women age 50-75 who have been screened by Mammography in the 18 months prior to and including their most recent primary care visit. (Excludes patients with bilateral mastectomy).	
	Cervical Cancer Screening	%of eligible women age 21-64 who have been screened for cervical cancer by Pap in the 3 years prior to and including their most recent primary care visit, (Excludes patients s/p hysterectomy).	
	Composite Measure	% of eligible adult patients who are up to date with all age and gender appropriate preventive services including breast cancer screening, cervical cancer screening, Chlamydia screening, cholesterol screening, and colon cancer screening.	
Preventive Care – Payor Disparities	Chlamydia Screening Cholesterol Screening Colorectal Screening Breast Cancer Screening Cervical Cancer Screening Composite Measure	**%** point difference between the preventive screening rate for patients with PMAP (public programs) coverage and patients with all other insurance coverage (commercial, Medicare, self-pay) Reported for each preventive service measure.	Primary Care Specialty Care
Preventive Care – Race Disparities	Chlamydia Screening Cholesterol Screening Colorectal Screening Breast Cancer Screening Cervical Cancer Screening	% point difference between the preventive screening rate for white patients and patients of color. Reported for each preventive service measure.	Primary Care Specialty Care

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Category	Topic	Measure	Division
	Composite Measure		
Preventive Care – Same Day Mammograms	Mammogram booked future	% of women ages 50-75 due for a mammogram at the time of their primary care or OB/GYN office visit, who had documentation that a mammogram was booked for the future on the day of their office visit.	Primary Care Specialty Care
	Same Day Mammography	% of women ages 50-75 due for a mammogram at the time of their primary care or OB/GYN office visit, who had a mammogram booked and completed on the day of their office visit.	
Rheumatoid Arthritis	% RA pts assessed for disease activity	% of patients assessed for disease activity at least once in the past 12 mths.	Specialty Care
	% RA pts assessed for functional status	% of patients from base population assessed for functional status at least once in the past 12 mths.	
	% RA pts assessed for disease processes	% of patients with at least one documented assessment and classification of disease process in the past 12 mths.	
	% RA pts on DMARD therapy	% of patients, who were prescribed, dispensed or administered at least one ambulatory prescription for a DMARD in the past 12 mths.	
	% RA pts newly on DMARD screened for TB	**%** of patients for whom a TB screening was performed and results interpreted within six months prior to receiving a first course of therapy using a biologic DMARD.	
	% RA pts assessed for Glucocorticoid use	% of patients who have been assessed for Glucocorticoid use at least once in the past 12 months.	
Seriously Mentally Ill (SMI)	SMI Optimal Bundle	% of SMI patients who have had an LDL screen in last 12 months with a value <130, BMI documented in last 12 months with a value <30, documented non-tobacco user, an HbA1c in the last 12 months with a value <8.0, if diabetic or Fasting Blood Sugar (FBS) measured in last 12 months with a value <126, if no diabetes, AND visit with a primary care provider in the last 12 months.	Behavioral Health
	SMI Metabolic Bundle)	% of SMI patients who have had an LDL screen in last 12 months with a value <130, BMI documented in last 12 months with a value <30, documented non-tobacco user, and HbA1c in the last 12 months with a value <8.0, if diabetic or Fasting Blood Sugar (FBS) measured in last 12 months with a value <126, if no diabetes.	
	Annual Primary Care Visit	% of SMI patients that have a visit with a primary care provider in the12 months prior to and including the last day of the reporting month.	

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Category	Topic	Measure	Division
Spine Care	No Narcotic Prescription	% of patients without any documentation of a narcotic being ordered by the visit provider in the first six weeks following their initial visit.	Primary Care
	No Imaging Referral	% of patients without any documentation of an imaging test being ordered by the visit provider in the first six weeks following their initial visit.	
	No Surgical Referral	% of patients without any documentation of a referral to surgery being ordered by the visit provider in the first six weeks following their initial visit	
	No Injection Referral	% of patients without any documentation of a referral to administer injection being ordered by the visit provider in the first six weeks following their initial visit	
	Received Education	% of patients who have documentation that they received advice/education for normal activities at the initial visit for back pain	
	Composite Measure	% of spine care measures each patient met. This measure is calculated at the patient level to determine the percentage of measures the patient met.	Primary Care
Vascular Care	Optimal Vascular Care (OVC)	% of patients with vascular disease who have had an LDL screen in the last 15 mos. with a value ≤99 mg/dL, a blood pressure screen in the last 12 mos. that is ≤129 and ≤79 mm Hg, documented non-tobacco user and documented regular aspirin use.	Primary Care Specialty Care
Weight Management	Annual BMI	P% of adult patients, ages 18-64, and children/ adolescents, ages 5 - 17, who have a documented BMI in Epic within the 12 months prior to and including their most recent primary care or specialty visit during the quarter.	Primary Care

Kaiser Permanente Measures

Big Q Performance Metrics Program Measure Status - Jun 9, 2010		
#	Domain	SubDomain and/or Metric Detail
1.00	Clinical Effectiveness	HSMR data + benchmarks, (Inpat Mcare only, qrtly)
1.10	Clinical Effectiveness	HEDIS Annual Data + Benchmarks (Outpat only, annual data) approx each August.
1.20	Clinical Effectiveness	HEDIS-like measures supplied by CMI (Outpat only, qrtrly data)
1.30	Clinical Effectiveness	TJC Data & benchmarks (Inpat Core Measures , qrtrly data.)
1.40	Clinical Effectiveness	Equitable Care
1.51	Clinical Effectiveness	Infection Control Rate View
1.52	Clinical Effectiveness	Infection Control Process View
2.00	Safety	Safety-Never Events.
2.10	Safety	Blood Stream Infection
2.20	Safety	Falls: Moderate / Severe Fall injuries per 1,000 patient days (Nursing View only) (_SA)
2.30	Safety	Hospital Acquired Pressure Ulcers (HAPU) (_SA)
2.40	Safety	People Pulse Survey (Safety View) Updated each Feb.
2.50	Safety	Workplace Safety (Safety View)

Kaiser Permanente Measures

Big Q Performance Metrics Program Measure Status - Jun 9, 2010		
#	Domain	SubDomain and/or Metric Detail
3.00	Clinical Risk Management	Medical Malpractice Lawsuits with a payout per 100,000 members. Annual Update.
4.10	Service Quality, Ambulatory (CAHPS)	All CAHPS Measures displayed on Big Q. Updated bi-annually.
4.20	Service Quality, Inpatient (HCAHPS)	All HCAHPS measures displayed on Big Q. Updated qtrly now. Monthy update.
5.10	Resource Stewardship	PMPM, non-risk adjusted + risk adjusted factors
5.11	Resource Stewardship	Total Care Delivery PMPM (top level)
5.20	Resource Stewardship	Inpatient Utilization
5.21	Resource Stewardship	Inpatient Cost/Day
5.30	Resource Stewardship	Milliman Benchmarks
5.40	KFH	KFH View Measures
Misc	Nursing View	People Pulse Survey Data

Core Value Metrics Executive Report

1st Quarter 2010

Produced by Utility for Care Data Analysis
For internal KP use only

Table of Contents

Kaiser Permanente Measures

Lifestyle Risks

For the 12 month period ending: December 31, 2009

Customer Name: Sample ABC Inc

Commercial

Regions: NC

At a Glance - Your Group's Demographics				
	Sample ABC Inc		KP Regional Avg	KP Comparison
	2008 Q4	2009 Q4	2009 Q4	
Subscribers				
Members				
Avg Age				
Gender (% female)				
Avg Family Size				

Percent of members measured at a clinical visit*	Your Group's Health
The % of Adult members with a recorded result for BMI:	The % of Adults who are Overweight or Obese:
The % of members ages 18-75 with a recorded result for Cholesterol:	The % of Adults with Borderline/High total cholesterol:
The % of members ages 18+ with a recorded result for Smoking status:	The % of Adults who smoke:
The % of members ages 18-85 with a recorded result for Blood Pressure:	The % of Adults with a blood pressure >= 140/90:

Weight Management

BMI Measurements*+: Adults (Ages 21-74)			
	2008 Q4	2009 Q4	Definitions
Underweight			Percentage of members aged 21-74 with a recorded BMI that is less than 18.5. Excludes maternity.

Normal			Percentage of members aged 21-74 with a recorded BMI that is >= 18.5 and <= 24.9. Excludes maternity.
Overweight			Percentage of members aged 21-74 with a recorded BMI that is >= 25.0 and <= 29.9. Excludes maternity.
Obese			Percentage of members aged 21-74 with a recorded BMI that is >= 30.0. Excludes maternity.
BMI Measurements*+: Children (Ages 2-20)			
	2008 Q4	**2009 Q4**	**Definitions**
Underweight			Percentage of members aged 2-20 with a BMI Percentile that is < 5.0. Excludes maternity.
Normal			Percentage of members aged 2-20 with a BMI Percentile that is >= 5.0 and <= 84.9. Excludes maternity.
Overweight			Percentage of members aged 2-20 with a BMI Percentile that is >= 85.0 and <= 94.9. Excludes maternity.
Obese			Percentage of members aged 2-20 with a BMI Percentile that is >= 95.0. Excludes maternity.
Cholesterol Management			
Total Cholesterol*: Adults (Ages 18-75)^			
	2008 Q4	**2009 Q4**	**Definitions**
Desirable			Percentage of members with a CHOLESTEROL result less than 200.
Borderline High			Percentage of members with a CHOLESTEROL result between 200 and 239.
High			Percentage of members with a CHOLESTEROL result >= 240.
LDL Results*: Adults (Ages 18-75)^			
	2008 Q4	**2009 Q4**	**Definitions**
Optimal/Near Optimal			Percentage of members aged 18-75 with a LDL result that is <= 129.

Borderline High			Percentage of members aged 18-75 with a LDL result between 130 and 159.
High			Percentage of members aged 18-75 with a LDL result >=160.

Blood Pressure Control

Blood Pressure*: Adults (Ages 18-85)^

	2008 Q4	2009 Q4	Definitions
BP less than 140/90			Percentage of members aged 18-85 with an average Blood Pressure reading less than 140/90.
BP greater than or equal to 140/90			Percentage of members aged 18-85 with an average Blood Pressure reading greater than or equal to 140/90.

Smoking

Smoking Status*: Adults (Ages 18+)

	2008 Q4	2009 Q4	Definitions
Yes-I smoke			Percentage of members aged 18+ with a Smoking Status result of Yes, Infrequent, or Passive.
No-I do not smoke			Percentage of members aged 18+ with a Smoking Status result of Never or Quit.

Footnotes:

***** of those with a recorded result during the measurement period

> 12-month time period for BMI and Blood Pressure results

> 5-year time period for Cholesterol results

> Lifetime for Smoking Status

^ Ages are based on HEDIS standards for age on similar measures.

+ Weight Management/BMI categorizations are based on CDC guidelines.

ISS (Insufficient Sample Size) will be displayed if eligible member population for the measure is less than 30.

Marshfield Clinic

- Patients on a PDE-5 inhibitor and a nitrate
- Patients on a chronic schedule II medication with no office visit in the last 12 months
- Patients on metformin with no creatinine or a creatinine > 1.5
- Patients on PTU with no monitoring for liver toxicity
- Patients on Lithium with no level in the last 3 months (going to change that to last 6 months)
- Patients on an anti-cholinergic and oral potassium who have not had their potassium monitored
- Patients on desmopressin nasal spray instead of tablets for enuresis (nasal spray is no longer recommended in children)

Massachusetts General Hospital

Massachusetts General Physicians Organization

Requires EHR

	A	B	C	D	E	F	G
	Level 2	**MeasTagName**	**MeasTitle**	**MeasDescShort**	**Num**	**Denom**	**Requires E.H.R.**
1.	Professional Practice Evaluation	OPPE	**Anesthesia Preoperative H&P in Electronic Format**	Anesthesia Preoperative H&P in Electronic Format	Number of H&Ps in electronic format	Number of patients encountered	Yes
2.	P4P	2010 Managed Care contracts	**Cancer Screening**				Yes
3.	Professional Practice Evaluation	OPPE	**Cardiac Major Access Complications**		Total # Events	Total Number of Cases by Provider	Yes
4.	Professional Practice Evaluation	OPPE	**Cardiac Perforation / Tamponade**	Cardiac Perforation / Tamponade	Total # Events	Total Number of Cases by Provider	Yes
5.	Professional Practice Evaluation	OPPE	**Chemo Exception Order Rate**	Chemo Exception Order Rate	Number of Cycle 1 Chemo Exception Orders	Total number of Cycle 1 Chemo orders	Yes
6.	Professional Practice Evaluation	OPPE	**Completion of EOV Module in LMR**	Completion of EOV Module in LMR	# Visits with a completed EOV module in the LMR within 24 hours of the visit	# Visits	Yes
7.	Professional Practice Evaluation	OPPE	**Compliance with Signing Anesthesia Record**	Proper compliance signed in the anesthetic record within 'D' time + 120 min	Number of anesthetic records signed within 120 min of ‘D’ time	All anesthetics staffed by the provider.	Yes
8.	Professional Practice Evaluation	OPPE	**Correlation of Nuclear Cardiology Scan Interpretations with Cardiac Caths**	Correlation of Nuclear Cardiology Scan Interpretations with Cardiac Catheterizations	Number of segments read correctly (correlated)	Total number of segments read	Yes

	A	B	C	D	E	F	G
	Level 2	**MeasTagName**	**MeasTitle**	**MeasDescShort**	**Num**	**Denom**	**Requires E.H.R.**
9.	Professional Practice Evaluation	OPPE	**Co-Sign Note Completion Rate**	Note Completion Rates	1) # Visits with a co-signed resident note in the LMR within 120 hours of the visit 2) # ultrasounds with dictations completed within 10 days of the procedure	# visits / procedures	Yes
10	Leapfrog	Leapfrog	**CPOE**	Computerized Provider Order Entry			Yes
11	Professional Practice Evaluation	OPPE	**DEx Utilization**	DEx Utilization	Number of DEx discharge summaries completed within 5 days	Total DEx discharge summaries	Yes
12	Professional Practice Evaluation	OPPE	**Documentation of Blood Pressure Measurement**	Documentation of EtCO2 Monitoring between 'B' and 'C' Times for General Anesthetics	The number of general anesthetics in which blood pressure is recorded before detection of potent anesthetic agents in the expired gas.	All general anesthetics with potent inhaled agents.	Yes
13	Professional Practice Evaluation	OPPE	**Documentation of EtCO2 Monitoring**	Documentation of EtCO2 Monitoring between 'B' and 'C' Times for General Anesthetics	All general anesthetics with EtCO2 monitoring	All general anesthetics	Yes
14	QI Program	2010, Term 1	**e-Prescribing Use (Individual)**		# electronic scripts	# claims	Yes
15	Professional Practice Evaluation	OPPE	**Fluvax**	Identifies physician's attention to and documentation of flu vaccine administration for patients 65 years			Yes

	A	B	C	D	E	F	G
	Level 2	MeasTagName	MeasTitle	MeasDescShort	Num	Denom	Requires E.H.R.
				and older.			
16	Professional Practice Evaluation	OPPE	**H&P Completion within 24 Hours**	H&P Completion within 24 Hours	# H&Ps completed within 24 hours	# H&Ps reviewed	Yes
17	Professional Practice Evaluation	OPPE	**Health Care Proxy**	Health Care Proxy	80% of your active patients have a health care proxy in their medical record	Total Number of active patients by physician	Yes
18	QI Program	2010, Term 1	**Improved Intra-Operative Glucose Monitoring in Diabetic Patients**	Improved Intra-Operative Glucose Monitoring in Diabetic Patients			Yes
19	Professional Practice Evaluation	OPPE	**Notes in EMR within 120 hours**	Notes in EMR within 120 hours	# visits with a preliminary note in an approved EMR within 120 hours of the visit	# outpatient visits	Yes
20	Professional Practice Evaluation	OPPE	**Organ Space Infection Rate**	Organ Space Infection Rate	Number of organ space infections by procedure group per NSQIP	Total number of cases by procedure group per NSQIP	Yes
21	Professional Practice Evaluation	OPPE	**PAML Completion**	PAML Completion	Number of patients with PAML completed	Number of patients encountered	Yes
22	Professional Practice Evaluation	OPPE	**Pathology Report TAT**	Pathology Report Turn Around Time	Number of cases signed out within 4 dyas during week of service	Total number of cases received during week of service	Yes
23	Professional Practice Evaluation	OPPE	**PCI Access Site Complications**		Total # Events	Total Number of Cases by Provider	Yes

	A	B	C	D	E	F	G
	Level 2	**MeasTagName**	**MeasTitle**	**MeasDescShort**	**Num**	**Denom**	**Requires E.H.R.**
24	Professional Practice Evaluation	OPPE	**PCI Cardiac Perforations**		Total # Events	Total Number of Cases by Provider	Yes
25	Professional Practice Evaluation	OPPE	**PCI Strokes**		Total # Events	Total Number of Cases by Provider	Yes
26	Professional Practice Evaluation	OPPE	**Pneumovax**	Pneumovax	Vaccination was administered or previously received	Medicare patients at least 65 years,time frame is Jan 1-Dec 31 with an office CPT for this visit	Yes
27	QI Program	2010, Term 1	**Problem List Documentation**	Problems Documented on Problem List			Yes
28	Professional Practice Evaluation	OPPE	**Proper Completion of Clinical TTE Duties**	TEE complication rates No more than 1% TEE related death in 24 months OR No more than 2% esophageal perforations in 24 months Proper completion of clinical TTE duties 1. < 90% compliance with immediate reporting of echoes 2. < 80% compliance with routine TTE studies on inpatients interpreted within 24 “working” or business hours of test performance 3. < 80% compliance with routine TTE studies on outpatients interpreted within 72 working hours of test performance 4. < 75% compliance with accurate documentation and	Total # Events	Total Number of Cases by Provider	Yes

	A	B	C	D	E	F	G
	Level 2	**MeasTagName**	**MeasTitle**	**MeasDescShort**	**Num**	**Denom**	**Requires E.H.R.**
				reporting of critical values 5. < 95% compliance with successful lab coverage/supervision duties during each of the assigned sessions or identified replacement			
29	Professional Practice Evaluation	OPPE	**ROE Use by Clinicians**	ROE Use by Clinicians	# Exams ordered through ROE by the individual physician (not ancilliary staff).	# Exams ordered under the physician's name through ROE within the last 6 months.	Yes
30	Professional Practice Evaluation	OPPE	**Sample of CT Interpretations Compared with Pathology**	Sample of CT Interpretations Compared with Pathology	Number of discrepancies	Total number of impressions in the radiology report stating acute appendicitis	Yes
31	Professional Practice Evaluation	OPPE	**Screening Mammography Recall Rate**	Screening Mammography Recall Rate	Number of women recalled from screening	Total number of cases interpreted	Yes
32	Professional Practice	OPPE	**Timeliness of Operative**	Operative Notes	Operative notes	Total number of	Yes

	A	B	C	D	E	F	G
	Level 2	**MeasTagName**	**MeasTitle**	**MeasDescShort**	**Num**	**Denom**	**Requires E.H.R.**
	Evaluation		**Notes**		dictated within 24 hours	operations	
33	Professional Practice Evaluation	OPPE	**Turn Around Time for Radiology Reports**	Turn Around Time for Radiology Reports	# preliminary reports finalized within the specified number of hours	Total number of preliminary reports finalized	Yes
34	Professional Practice Evaluation	OPPE	**Use of Results Manager**	Use of Results Manager			Yes
35	QI Program	2010, Term 1	**Use of Results Manager for Critical Labs**	Use of Results Manager for Critical Labs			Yes
36							

Could Use EHR

	A	B	C	D	E	F	G
	Level 2	MeasTagName	**MeasTitle**	MeasDescShort	Num	Denom	Requires E.H.R.
1	Professional Practice Evaluation	OPPE	**30-day Mortality after Lobectomy**	30-day Mortality after Lobectomy	Number of deaths 30 days post lobectomy procedure	Total number of non-laryngeal cases completed	Maybe
2	Professional Practice Evaluation	OPPE	**Complications Following Diagnostic Cerebral Angiography**	Complications Following Diagnostic Cerebral Angiography	Number of patients who have a clinical stroke following diagnostic angiography.	Total number of patients who have a diagnostic angiography.	Maybe
3	Professional Practice Evaluation	OPPE	**CT-Guided Needle Biopsy Results**	CT-Guided Needle Biopsy Results	Number of positive and negative cytopathology results	Total number of biopsies performed	Maybe
4	Professional Practice Evaluation	OPPE	**Documentation of grade/stage of diabetic foot ulcers**	Documentation of grade/stage of diabetic foot ulcers			Maybe
5	Professional Practice Evaluation	OPPE	**Graft Loss Incidence**	Graft Loss Incidence	Number of cases with graft loss requiring	Total number of graft cases	Maybe

	A	B	C	D	E	F	G
	Level 2	MeasTagName	**MeasTitle**	MeasDescShort	Num	Denom	Requires E.H.R.
					>10% regrafting		
6	QI Program	2010, Term 1	**Hepatocellular Screening Program**	Hepatocellular Screening Program			Maybe
7	Professional Practice Evaluation	OPPE	**Readmissions (All Cause)**	Readmissions within 30 days	# Patients who are readmitted within 30 days of the original surgery relating to a quality event.	# Patients who are admitted for surgery	Maybe
8	Professional Practice Evaluation	OPPE	**Returns to ED within 72 hours**	Returns to ED within 72 hours with Same Chief Complaint Resulting in an Admission.	# returns to the ED within 72 hours with same chief complaint resulting in an admission	N/A	Maybe
10	Professional Practice Evaluation	FPPE (new MDs)	**Returns to ED within 72 hours**	Returns to ED within 72 hours with Same Chief Complaint Resulting in an Admission.	# returns to the ED within 72 hours with same chief complaint resulting in an admission	N/A	Maybe
11	Professional Practice Evaluation	OPPE	**Returns to the OR (All Cause)**	Return to the OR within 30 days	# Patients who return to the OR within 30 days of the original surgery relating to a quality event.	# Patients who have surgery	Maybe
12	Professional Practice Evaluation	OPPE	**Timely Completion of Inpatient Medical Records**	Timely Completion of Medical Records	Number of records reviewed, completed, appended with attestation (if needed), and signed within 21 days of date of service	Number of records	Maybe
13	Professional Practice Evaluation	OPPE	**Unplanned Return to the OR**	Unplanned Return to the OR	Number of unplanned returns to OR	Total number of cases	Maybe

	A	B	C	D	E	F	G
	Level 2	MeasTagName	**MeasTitle**	MeasDescShort	Num	Denom	Requires E.H.R.
					within 30 days of procedure		
14							

The development and testing of EHR-based care coordination performance measures in ambulatory care

This work supported by a grant from the Commonwealth Fund (#20090102).

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Table 1. Preliminary Specification of 5 Recommended Coordination Measures

	From the Primary Care Perspective	From the Specialty Care Perspective
Eligible Population (denominator)	Number of patients aged 18 and over who were sent to another clinician for referral or consultation. Exclusions: Patients who self-refer to a specialist	Number of patients aged 18 and over who were referred to a specialist and seen by that clinician. Exclusions: Patients who self-refer to a specialist
Referral Loop Opened	**1A. Critical Information Communicated with Request for Referral to Specialist (Sent by PCP)** Number of patients in the denominator with relevant clinical information communicated using the Continuity of Care Document (HL7 CCD) with request for referral to specialist. Relevant clinical information is defined as: • Activity Requested (referral, consultation, co-management) • The clinical reason for requesting the referral/consultation • Preferred timing for completion of the referral/consultation • Problem list • Medication list • Medical history, including relevant test results	**1B. Critical Information Communicated with Request for Referral to Specialist (Received by Specialist)** Number of patients in the denominator with relevant clinical information communicated using the Continuity of Care Document (HL7 CCD) with request for referral to specialist. Relevant clinical information is defined as: • Activity Requested (referral, consultation, co-management) • The clinical reason for requesting the referral/consultation • Preferred timing for completion of the referral/consultation • Problem list • Medication list • Medical history, including relevant test results
Patient Informed	**2. Primary Care Communication about Referral to Patient/Family** Number of referred patients where Primary Care Clinician gave patient written information on reason for referral/consultation. Information must include: Reason for need for specialist involvement Name and contact information for specialist	**4. Specialist Communication of Results to Patient/Family** Number of patients in the denominator seen by a specialist where the specialist provided written results to the patient
Referral Loop Closed	**5. Primary Care Clinician Review of Specialist Report** Number of referred patients seen by the specialist where the Primary Care Clinician reviewed the results of the specialist report.	**3. Specialist Report to Primary Care Physician** Number of patients in the denominator where the specialist communicated results in a report to the Primary Care Clinician using the Continuity of Care Document (HL7 CCD). Elements of the report must include: • Findings • Treatment Recommendations including degree of shared management of patient and roles for specialist and primary care clinician. Exclusions: Patients in the eligible population who refuse to allow sharing of results with primary care physician

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Nemours Physician Quality P4P Measurement Domain Measures - 2010
Asthma admission rates compared to population
Three elements of Medication Reconciliation
Prophylactic Antibiotics
Anesthesia related Unexpected admissions from PACU from Outpatient surgery
Maintaining normothermia in operating room for non-cardiac surgery
Cardiac Catheterization Complications
Accuracy of ECHO readings impacting surgery
Reduction in reintubation after elective extubation
Central line infection reduction
Leave without treatment post triage
HgbA1C with visit and focused education if worse
Growth status classification and focused plan if worse
Timely Immunization Rate
Care Coordination of pre-operative scoliosis patients
Unexpected asthma rehospitalizations within 7 days
Multidrug resistant organism antibiotic assessment within 48 hours
Critical Test Value Reporting 24/7
Improvement in reading turnaround for NCCJ non-ortho patients
Use of central line insertion "bundle" to prevent central line infections
Neonatal central line blood stream infection rate reduction
Dialysis efficiency index score
New patients with amblyopia also receiving cyclopegic exam
Assuring post assessment timely scheduling of patients with Retinopathy of Prematurity
Tonsillectomy and Adenoidectomy complications

Frozen section results reported within 20 min
Three pathologist concurrence on new solid tumor readings
Psychological testing results send to primary physician or documented variance
Continuity of Care
New ADHD patients or first line medications with 2 follow-up visits with assessment
Failed sedations
Nemours Systems Measures 2010
% of Patients sending messages via MyNemours
% of Lab Results Released via MyNemours
Gastro Time Spent by patient "door to door"
Ortho Time Spent By Patient
% of first contact resolution
% of incident tickets resolved within established service guidelines
% of PDDs that have been signed by the Project Owner (can be signed or email of approval)
% of active PDD's updated passing
Number of LEAN improvements for Florida/Delaware
Percentage of Successful Kiosk Check-ins
Business Continuity Applications (BCA) Readiness Drills
Readiness Drills
% of Labs results that are interfaced
Cardiac Patient Monitoring Project to Plan
Measure the Radio Frequency Identification Device (RFID) project to plan
Percentage of Specialties with EMR Declared Clinical Care Coordination
Immunizations Current for Patients Between 19 and 36 months of Age
E-Prescribing rates

Medication Alerts with an Action Taken
Measure Incident Reports
Medication Reconciliation
New "sign-ups" to MyNemours
Percentage of connected discharge phone calls
New "sign ups" to NemoursLink
Time Spent by Patient "Door to Door"
Number of New Patient Visits to ACC's
Number of New Visits to ACC's for Selected Services
# of Completed Transports from Partner Hospitals
New Visits to Primary Care
Cost per Adjusted Patient Day
Cost per RVU
Time to Bed From Decision to Admit in ED
% of Clean Claims First Time
% On-time starts in Operating Room for first case
% of DV specialties with EMR-declared clinical coordination process
Immunizations Current for Patients Between 19 and 36 Months of Age
% of National Patient Safety goals applicable to children's care are at/above benchmark
% of children in Nemours primary care practices counseled on 5-2-1 Almost None at well child visit (once per year)
% of patients in Nemours Delaware primary care practices who have a BMI above the 85th %ile who have received NHPS packet

Park Nicollet Measures
Clinical Reporting Analytics 2010 Reports

	Category / Condition	MEASURE	Frequency	Time (Hours/month)	Priority:1=Critical (Required for requlatory compliance, Certification or center of Excellence) 2=High (Strategic or Critical operational process, P4P > $100K) 3=Med (operational question, transparency, RPIW?, P4P < $100K) 4=Low (Explanation required on spec sheet for needing report)
BCBS	BCBS	Multiple measures	Yearly	78	2
Core Measure	AMI, CABG, CHF, PNEUMONIA,	Multiple measures	Monthly	152	1
Core Measure	HOP - Hospital Outpt Surgical	SCIP INF 1& 2. Prophylactic antibiotic selection & within 1 hour prior to surg incision	Monthly	16	1
Core Measure	SCIP- inpatient surgical	CABG, Other Cardiac, Vascular, Colon, HIP/KNEE graph updates, misses	Monthly	84	1
GYN M&M	OB / GYN M & M Report	15 measures	Monthly	2	3
I/P Quality Improve-ment	Advanced Directives	Beacon, IP Glucose< Adv Dir, Palliative care, Delirium, Stroke, Sepsis, UTI, Central Lines, Cardiology	Monthly	14	Varies
Joint Comm	Stroke Center of Excellence	Stroke Certification 8 measures	Monthly	8	1

Park Nicollet Measures

Clinical Reporting Analytics 2010 Reports

	Category / Condition	MEASURE	Frequency	Time (Hours/month)	Priority:1=Critical (Required for requlatory compliance, Certification or center of Excellence) 2=High (Strategic or Critical operational process, P4P > $100K) 3=Med (operational question, transparency, RPIW?, P4P < $100K) 4=Low (Explanation required on spec sheet for needing report)
Joint Comm- per BY LAWS	Moderate Sedation, Transfusions, Surg Case indications- (By laws)	Moderate Sedation, Surgical Indications, Transfusions	Monthly	48	1
LEAP FROG	AAA, AMI, AVR, Bariatric, Deliveris, Resections, PCI, Pneumonia,	Abdominal Aortic Aneurysm Repair - 4 measures	Yearly	87	3
Med Home	Asthma (PEDS)am & Adult Medical Home (AP/Chlamydia/Med Home)	Medical Home asthma registry & Registry report of Diabetes, HTN, HF and OVC measures	Monthly	10	1
MNCM	Depression	Behavioral Health & Primary Care Depression (PHQ9)	Quarterly	5.5	1
MNCM	DM, OVC, HIT Surveys	Diabetes Pts 18-75 Organization Performance	Yearly	68	1
O/P Quality Improvement	Chlamydia, Diamond, HTN, LEAD, OVC	Multiple measures	Monthly	9	3
DM	DM- Endo ONLY	ENDO D5 measures & ENDO DEFECTS	Monthly	9	3

Park Nicollet Measures
Clinical Reporting Analytics 2010 Reports

	Category / Condition	MEASURE	Frequency	Time (Hours/month)	Priority:1=Critical (Required for requlatory compliance, Certification or center of Excellence) 2=High (Strategic or Critical operational process, P4P > $100K) 3=Med (operational question, transparency, RPIW?, P4P < $100K) 4=Low (Explanation required on spec sheet for needing report)
DM	DM- Primary Care ONLY	Primary Care DM - 5 measures and composite	Monthly	4	3
DM	DM Primary Care & Endo Combined 5 measures	Diabetes unassigned patients, % A1c<7, A1c<9, BP <130/80, LDL <100, No Tobacco Use, Pts >40 on ASA	Monthly	6	3
Patient Choice	Patient Choice Survey	Define Process	Yearly	40	1
PGP	CAD< CHF< DM< HTN< PREVENTIVE	Audits, Set up- includes querying data, setting up spreadsheets, cross-cover, etc.	Yearly	960 (1.9 fte over 3 month period.)	1
Tel Assurance	CHF	Principal CHF-30 Day All Cause, Principle cause Readmissions, averted	Monthly	3	none?
Trauma	MN Trauma Registry for Level III Trauma Center	Review MN Trauma Registry Inclusion Criteria for admissions and EC transfers	Monthly	48	1
Wound	Wound Clinic	Wound Type, Avg. % Healed and Avg. days and visits from Admit and DC in WC	Monthly	4	1

	Category / Condition	MEASURE	Frequency	Time (Hours/month)	Priority:1=Critical (Required for requlatory compliance, Certification or center of Excellence) 2=High (Strategic or Critical operational process, P4P > $100K) 3=Med (operational question, transparency, RPIW?, P4P < $100K) 4=Low (Explanation required on spec sheet for needing report)
mandatory	CRIMSON	File Management	Monthly	3	2
mandatory	Premier	CMS, Premier, submits/validation, QNET ADMIN,	Monthly	80	2