List of Measures under Consideration for December 1, 2016

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OVERVIEW

Background

The Centers for Medicare & Medicaid Services (CMS) is issuing this List of Measures under Consideration (MUC) to comply with Section 1890A(a)(2) of the Social Security Act (the Act), which requires the Department of Health and Human Services (DHHS) to make publicly available a list of certain categories of quality and efficiency measures it is considering for adoption through rulemaking for the Medicare program. Among the measures, the list includes measures we are considering that were suggested to us by the public. When organizations, such as physician specialty societies, request that CMS consider measures, CMS attempts to include those measures and make them available to the public so that the Measure Applications Partnership (MAP), the multi-stakeholder groups convened as required under 1890A of the Act, can provide their input on all potential measures and ensure alignment where appropriate. This list is larger than what will ultimately be adopted by CMS for optional or mandatory reporting programs in Medicare.

CMS will continue its goal of aligning measures across programs. Measure alignment includes establishing core measure sets for use across similar programs, and looking first to existing program measures for use in new programs. Further, CMS programs must balance competing goals of establishing parsimonious sets of measures, while including sufficient measures to facilitate multi-specialty provider participation.

Statutory Requirement

Section 3014 of the Patient Protection and Affordable Care Act (ACA) (P.L. 111-148, enacted on March 23, 2010) added Section 1890A to the Social Security Act, which requires that DHHS establish a federal pre-rulemaking process for the selection of certain categories of quality and efficiency measures for use by DHHS. These measures are described in section 1890(b)(7)(B) of the Act. One of the steps in the pre-rulemaking process requires that DHHS make publicly available, not later than December 1 annually, a list of quality and efficiency measures DHHS is considering adopting, through the federal rulemaking process, for use in the Medicare program.

The pre-rulemaking process includes the following additional steps:

1. Providing the opportunity for multi-stakeholder groups to provide input not later than February 1 annually to DHHS on the selection of quality and efficiency measures;
2. Considering the multi-stakeholder groups' input in selecting quality and efficiency measures;
3. Publishing in the Federal Register the rationale for the use of any quality and efficiency measures that are not endorsed by the entity with a contract under Section 1890 of the Act, which is currently the National Quality Forum (NQF)[1]; and

[1] The rationale for adopting measures not endorsed by the consensus-based entity will be published in rulemaking where such measures are proposed and finalized.

4. Assessing the quality and efficiency impact of the use of endorsed measures and making that assessment available to the public at least every three years. (The 2012 and 2015 editions of that report and related documents are available at the website of the CMS National Impact Assessment.)

Fulfilling DHHS's Requirement to Make Its Measures under Consideration Publicly Available

The attached MUC List, which is compiled by CMS, will be posted for CMS on the NQF website. This posting will satisfy an important requirement of the pre-rulemaking process by making public the quality and efficiency measures described in section 1890(b)(7)(B) that DHHS is considering for use under Medicare. Additionally, the CMS website will indicate that the MUC list is being posted on the NQF website.

Included Measures

This MUC List identifies the quality and efficiency measures under consideration by the Secretary of DHHS for use in the Medicare program. Measures that appear on this list but are not selected for use under the Medicare program for the current rulemaking cycle will remain under consideration for future rulemaking cycles. They remain under consideration only for purposes of the particular program or other use for which CMS was considering them when they were placed on the MUC List. These measures can be selected for those previously considered purposes and programs/uses in future rulemaking cycles. This MUC List as well as prior

year MUC Lists and Measure Applications Partnership (MAP) Reports can be found at: https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityMeasures/Pre-Rule-Making.html.

Applicable Programs

The following programs that now use or will use quality and efficiency measures have been identified for inclusion on this list.

1. Ambulatory Surgical Center Quality Reporting Program (ASCQR)
2. End-Stage Renal Disease Quality Incentive Program (ESRD QIP)
3. Home Health Quality Reporting Program (HH QRP)
4. Hospice Quality Reporting Program (HQRP)
5. Hospital-Acquired Condition Reduction Program (HACRP)
6. Hospital Inpatient Quality Reporting Program (HIQR)
7. Hospital Outpatient Quality Reporting Program (HOQR)
8. Hospital Readmissions Reduction Program (HRRP)
9. Hospital Value-Based Purchasing Program (HVBP)
10. Inpatient Psychiatric Facility Quality Reporting Program (IPFQR)
11. Inpatient Rehabilitation Facility Quality Reporting Program (IRF QRP)

12. Long-Term Care Hospital Quality Reporting Program (LTCH QRP)
13. Medicare and Medicaid EHR Incentive Program for Eligible Hospitals (EHs) and Critical Access Hospitals (CAHs)
14. Medicare Shared Savings Program (MSSP)
15. Merit-based Incentive Payment System (MIPS)
16. Prospective Payment System (PPS)-Exempt Cancer Hospital Quality Reporting Program (PCHQR)
17. Skilled Nursing Facility Quality Reporting Program (SNF QRP)
18. Skilled Nursing Facility Value-Based Purchasing Program (SNF VBP)

Measures List Highlights

Through publication of this list, CMS will make publicly available and seek the multi-stakeholder groups' input on 97 measures under consideration for use in the Medicare program. We note several important points to consider and highlight:

- Of the applicable programs covered by the ACA 3014 pre-rulemaking process, all programs contributed measures to this list except the Hospital-Acquired Condition Reduction Program, the Hospital Readmissions Reduction Program, and the Skilled Nursing Facility Value-Based Purchasing Program. All Hospital Readmissions Reduction Program measures that CMS is considering for possible future adoption have previously appeared on the MUC List, and CMS has received MAP input on those measures.

- If CMS chooses not to adopt a measure under this list for the current rulemaking cycle, the measure remains under consideration by the Secretary and may be proposed and adopted in subsequent rulemaking cycles without being published again as part of a future MUC list.
- The NQF already endorses many of the measures contained in this list, with a number of other measures pending endorsement.
- Some measures are part of a mandatory reporting program. However, a number of measures, if adopted, would be part of an optional reporting program. Under optional programs, providers or suppliers may choose whether to participate.
- CMS sought to be inclusive with respect to new measures on the MUC List. For example, three meetings were convened to obtain input and consensus on the MUC List from across the Department of Health and Human Services.
- CMS will continue aligning measures across programs whenever possible, including establishing “core” measure sets, and, when choosing measures for new programs, it will look first to measures that are currently in existing programs. CMS’s goal is to fill critical gaps in measurement that align with and support the National Quality Strategy.
- The MUC List includes measures that CMS is currently considering for the Medicare program. Inclusion of a measure on this list does not require CMS to adopt the measure for the identified program.
- Measures contained on this list had to fill a quality and efficiency measurement need and were assessed for alignment among CMS programs when applicable.

- In an effort to provide a more meaningful List of Measures under Consideration, CMS included only measures that contain adequate specifications.
- The following components of the Department of Health and Human Services contributed to and supported CMS in publishing a majority of measures on this list:
  1. Office of the Assistant Secretary for Health
  2. Office of the National Coordinator for Health Information Technology
  3. National Institutes of Health
  4. Agency for Healthcare Research and Quality
  5. Health Resources and Services Administration
  6. Centers for Disease Control and Prevention
  7. Substance Abuse and Mental Health Services Administration
  8. Office of the Assistant Secretary for Planning and Evaluation
  9. Indian Health Service

Recent Legislation

The Improving Medicare Post-Acute Care Transformation Act of 2014 (IMPACT Act) requires that post-acute care (PAC) settings, including Long-Term Care Hospitals (LTCHs), Inpatient Rehabilitation Facilities (IRFs), Skilled Nursing Facilities (SNFs), and Home Health Agencies (HHAs), report standardized patient assessment data with respect to certain clinical assessment categories and with respect to quality measures by means of the PAC patient assessment instruments (Minimum Data Set—MDS for SNFs, Outcome and Assessment Information Set—OASIS for HHAs, Inpatient Rehabilitation Facility Patient Assessment Instrument—IRF-PAI for IRFs, and Long-Term Care Hospital Continuity Assessment Record and Evaluation [CARE] Data Set for LTCHs). Further, the IMPACT Act requires the submission of data pertaining to resource use and other measure domains. The IMPACT Act requires that the assessment data reported by PAC providers be standardized and interoperable to allow for the exchange of such data to facilitate coordinated care and improved beneficiary outcomes.

In order to comply with the IMPACT Act requirements, CMS added certain quality measure concepts on the 2016 MUC list with respect to IRF settings for the Inpatient Rehabilitation Facility Quality Reporting Program (IRF QRP), LTCH settings for the Long-Term Care Hospital Quality Reporting Program (LTCH QRP), SNF settings for the Skilled Nursing Facility Quality Reporting Program (SNF QRP), and HHAs for the Home Health Quality Reporting Program (HH QRP). Measure concepts added to the 2016 MUC list are: (1) the Transfer of Information at Post-Acute Care Admission, Start, or Resumption of Care from Other Providers/Settings; (2) the

Transfer of Information at Post-Acute Care Discharge or End of Care to Other Providers/Settings; and (3) the Application of the Percent of Residents or Patients with Pressure Ulcers that are New or Worsened. Additionally, for the HH QRP, two additional quality measures were added to the 2016 MUC List to comply with the IMPACT Act: (1) the Percent of Home Health Patients with an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function; and (2) the Percent of Residents Experiencing One or More Falls with Major Injury. Additional measures required by the IMPACT Act will be made publicly available and transmitted to the MAP in the future.

The measure concepts that CMS has included in the 2016 MUC List are intended to address the domains for which the Secretary is required under the IMPACT Act to specify measures in FY/CY 2018 rulemaking. Therefore, to meet the immediate, statutorily required FY/CY 2018 timelines, our review and consideration were given to measures that:

- Address a current area for improvement that is tied to a stated domain within the Act;
- Minimize added burden to the providers;
- Where possible, avoid any impact on current assessment items that are already collected;
- Where possible, avoid duplication of existing assessment concepts.

Section 101 of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) repealed the Medicare sustainable growth rate (SGR) methodology for updates to the physician fee schedule (PFS) and replaced it with a series of specified annual update

percentages. It also established a new Merit-based Incentive Payment System (MIPS) for MIPS eligible clinicians under the PFS starting with calendar year 2019. Section 101 of MACRA also sunsets payment adjustments under the current programs of the Physician Quality Reporting System (PQRS), the Physician Value-Based Payment Modifier (VM), and the Medicare Electronic Health Records (EHR) Incentive Program for Eligible Professionals starting with calendar year 2019 and consolidates aspects of these programs into the new MIPS.

CMS issued a Notice of Proposed Rulemaking (NPRM) on May 9, 2016 regarding MIPS implementation (81 Fed. Reg. 28,162) and issued a Final Rule (FR) with comment period on 10/14/16 at https://qualitypaymentprogram.cms.gov. This final rule with comment period provided details on the finalized MIPS measures as well as which measures are "new" to MIPS and therefore have been submitted to peer-reviewed journals in accordance with Section 1848(q)(2)(D)(iv) of the Act.

The pre-rulemaking process is not required to apply to the selection of MIPS quality measures. The MAP process enables CMS to obtain additional input from relevant eligible clinician organizations and other stakeholders, including state and national medical societies, in finalizing the annual list of quality measures. In the October 14, 2016 final rule, CMS stated that the MAP's recommendations could be considered as part of the comprehensive assessment of each measure considered for inclusion under MIPS. Additionally, CMS finalized that a subset of the measures currently implemented in PQRS and VM would also be available for MIPS implementation. There are 35 measures on the 2016 MUC list that could be used under MIPS beginning in the 2018 performance period.

How to Navigate the Document

Headings in this document have been bookmarked to facilitate navigation. The remainder of this document consists of four sections:

- List of Measures under Consideration (page 16)
    - This table contains the complete list of measures under consideration with basic information about each measure and the programs for which the measure is being considered.
- Appendix A: Measure Specifications (page 47)
    - This table details the numerator, denominator, and exclusions for each measure.
- Appendix B: Measure Rationales (page 108)
    - This table describes the rationale for the measure, the peer-reviewed evidence justifying the measure, and/or the impact the measure is anticipated to achieve.
- Appendix C: Measures Listed by Program (page 209)
    - This series of tables lists the individual programs accepting each measure for consideration, and the National Quality Strategy (NQS) priorities (or domains) associated with each measure as submitted. The same measure may be under consideration for more than one CMS program, and may have more than one NQS priority (or domain).

Each table is preceded by a legend defining the contents of the columns. For more information, please contact Michelle Geppi at Michelle.Geppi@cms.hhs.gov.

NUMBER OF MEASURES UNDER CONSIDERATION BY PROGRAM[1]

CMS Program	Number of Measures under Consideration
Ambulatory Surgical Center Quality Reporting Program	3
End-Stage Renal Disease Quality Incentive Program	3
Home Health Quality Reporting Program	5
Hospice Quality Reporting Program	8
Hospital-Acquired Condition Reduction Program	0
Hospital Inpatient Quality Reporting Program	19
Hospital Outpatient Quality Reporting Program	3
Hospital Readmissions Reduction Program	0
Hospital Value-Based Purchasing Program	2
Inpatient Psychiatric Facility Quality Reporting Program	3
Inpatient Rehabilitation Facility Quality Reporting Program	3
Long-Term Care Hospital Quality Reporting Program	3
Medicaid and Medicare EHR Incentive Program for Eligible Hospitals and Critical Access Hospitals	6
Medicare Shared Savings Program	1
Merit-based Incentive Payment System	35
Prospective Payment System-Exempt Cancer Hospital Quality Reporting Program	10
Skilled Nursing Facility Quality Reporting Program	3
Skilled Nursing Facility Value-Based Purchasing Program	0

[2] A single measure may be under consideration for more than one program.

LIST OF MEASURES UNDER CONSIDERATION

Legend for List of Measures under Consideration

MUC ID: Gives users an identifier to refer to a unique measure. The "MUC16-" prefix is intended to aid future researchers in distinguishing among measures considered in different years.

Measure Title: The title of the measure.

Description: Gives users more detailed information about the measure, such as medical conditions to be measured, particular outcomes or results that could or should/should not result from the care and patient populations.

Measure Type: Refers to the domain of quality that a measure assesses:

- Composite: A combination of two or more component measures, each of which individually reflects quality of care, into a single quality measure with a single score.
- Cost/Resource Use: A count of the frequency of units of defined health system services or resources; some may further apply a dollar amount (e.g., allowable charges, paid amounts, or standardized prices) to each unit of resource use.
- Efficiency: Refers to a relationship between a specific level of quality of health care provided and the resources used to provide that care.

- Intermediate Outcome: Refers to a change produced by a health care intervention that leads to a longer-term outcome (e.g., a reduction in blood pressure is an intermediate outcome that leads to a reduction in the risk of longer-term outcomes such as cardiac infarction or stroke).
- Outcome: The health state of a patient (or change in health status) resulting from healthcare, which can be desirable or adverse.
- Patient Reported Outcome: Refers to a measure of a patient's feelings or what they are able to do as they are dealing with diseases or conditions. These types may include Patient Reported Outcome Measures (PROMs) and Patient Reported Outcome-Based Performance Measures (PRO-PMs).
- Process: A healthcare service provided to, or on behalf of, a patient. This may include, but is not limited to, measures that may address adherence to recommendations for clinical practice based on evidence or consensus.
- Structure: Features of a healthcare organization or clinician relevant to the capacity to provide healthcare. This may include, but is not limited to, measures that address health IT infrastructure, provider capacity, systems, and other healthcare infrastructure supports.

Measure Steward: Refers to the party responsible for updating and maintaining a measure.

CMS Program(s): Refers to the applicable Medicare program(s) that may adopt the measure through rulemaking in the future.

List of Measures under Consideration

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
MUC16-31	CAHPS Hospice Survey: Rating of Hospice	Individual survey item asking respondents: "Using any number from 0 to 10, where 0 is the worst hospice care possible and 10 is the best hospice care possible, what number would you use to rate your family member's hospice care?" 0-10 rating scale with 0=Worst hospice care possible and 10=Best hospice care possible	Patient Reported Outcome	Centers for Medicare & Medicaid Services	HQRP
MUC16-32	CAHPS Hospice Survey: Hospice Team Communications	Multi-item measure. "While your family member was in hospice care..." P1: "How often did the hospice team keep you informed about when they would arrive to care for your family member?" P2: "How often did the hospice team explain things in a way that was easy to understand?" P3: "How often did the hospice team listen carefully to you when you talked with them about problems with your family member's hospice care?" P4: "How often did the hospice team keep you informed about your family member's condition?" P5: "How often did the hospice team listen carefully to you? P6: "How often did anyone from the hospice team give you confusing or contradictory information about your family member's condition or care?"	Patient Reported Outcome	Centers for Medicare & Medicaid Services	HQRP

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
MUC16-33	CAHPS Hospice Survey: Willingness to Recommend	Individual survey item asking respondents: "Would you recommend this hospice to your friends and family?"	Patient Reported Outcome	Centers for Medicare & Medicaid Services	HQRP
MUC16-35	CAHPS Hospice Survey: Getting Hospice Care Training	Multi-item measure P1: Did the hospice team give you the training you needed about what side effects to watch for from pain medication? P2: Did the hospice team give you the training you needed about if and when to give more pain medicine to your family member? P3: Did the hospice team give you the training you needed about how to help your family member if he or she had trouble breathing? P4: Did the hospice team give you the training you needed about what to do if your family member became restless or agitated? P5: Side effects of pain medicine include things like sleepiness. Did any member of the hospice team discuss side effects of pain medicine with your or your family member?	Patient Reported Outcome	Centers for Medicare & Medicaid Services	HQRP
MUC16-36	CAHPS Hospice Survey: Getting Timely Care	Multi-item measure P1: "While your family member was in hospice care, when you or your family member asked for help from the hospice team, how often did you get help as soon as you needed it?" P2: "How often did you get the help you needed from the hospice team during evenings, weekends, or holidays?"	Patient Reported Outcome	Centers for Medicare & Medicaid Services	HQRP
MUC16-37	CAHPS Hospice Survey: Getting	Multi-item measure P1: "While your family member was in hospice care, how much emotional support did you get	Patient Reported Outcome	Centers for Medicare & Medicaid Services	HQRP

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
	Emotional and Spiritual Support	from the hospice team?" P2: "In the weeks after your family member died, how much emotional support did you get from the hospice team?" P3: "Support for religious or spiritual beliefs includes talking, praying, quiet time, or other ways of meeting your religious or spiritual needs. While your family member was in hospice care, how much support for your religious and spiritual beliefs did you get from the hospice team?"			
MUC16-39	CAHPS Hospice Survey: Getting Help for Symptoms	Multi-item measure P1: "Did your family member get as much help with pain as he or she needed?" P2: "How often did your family member get the help he or she needed for trouble breathing?" P3: "How often did your family member get the help he or she needed for trouble with constipation?" P4: "How often did your family member receive the help he or she needed from the hospice team for feelings of anxiety or sadness?"	Patient Reported Outcome	Centers for Medicare & Medicaid Services	HQRP
MUC16-40	CAHPS Hospice Survey: Treating Family Member with Respect	Multi-item measure P1: "While your family member was in hospice care, how often did the hospice team treat your family member with dignity and respect?" P2: "While your family member was in hospice care, how often did you feel that the hospice team really cared about your family member?	Outcome	Centers for Medicare & Medicaid Services	HQRP

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
MUC16-41	Use of Antipsychotics in Older Adults in the Inpatient Hospital Setting	Proportion of inpatient hospitalizations for patients 65 years of age and older who do not demonstrate a threat to themselves or others but who receive antipsychotic medication therapy.	Process	Centers for Medicare & Medicaid Services	HIQR; EHR Incentive/EH/CAH
MUC16-48	Continuation of Medications Within 30 Days of Inpatient Psychiatric Discharge	This measure assesses whether psychiatric patients admitted to an inpatient psychiatric facility (IPF) for major depressive disorder (MDD), schizophrenia, or bipolar disorder (BD) were dispensed a prescription for evidence-based medication within 30 days of discharge. The performance period for the measure is one year.	Process	Centers for Medicare & Medicaid Services	IPFQR
MUC16-49	Medication Reconciliation at Admission	This measure assesses the percentage of inpatient psychiatric facility (IPF) hospitalizations with medication reconciliation completed within 24 hours of admission. The performance period for the measure is one year.	Process	Centers for Medicare & Medicaid Services	IPFQR
MUC16-50	Tobacco Use Screening (TOB-1)	This measure assesses the proportion of hospitalized adult patients who were comprehensively screened (or refused screening) within 3 days prior through 1 day after admission for tobacco use within the 30 days prior to the screening.	Process	Centers for Medicare & Medicaid Services	HIQR; EHR Incentive/EH/CAH
MUC16-51	Tobacco Use Treatment Provided or	TOB-2: *Are light tobacco users and received or refused practical counseling to quit within 3	Process	Centers for Medicare & Medicaid Services	HIQR; EHR Incentive/EH/CAH

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
	Offered (TOB-2)/Tobacco Use Treatment (TOB-2a)	days prior to or anytime during admission *Are heavy tobacco users and received or refused practical counseling to quit AND received, had a medical reason not to receive or refused FDA-approved cessation medications within 3 days prior to or anytime during admission TOB-2a: *Are light tobacco users and received practical counseling to quit within 3 days prior to or anytime during admission *Are heavy tobacco users and received practical counseling to quit AND received, or had a medical reason not to receive, FDA-approved cessation medications within 3 days prior to or anytime during admission			
MUC16-52	Tobacco Use Treatment Provided or Offered at Discharge (TOB-3)/Tobacco Use Treatment at Discharge (TOB-3a)	TOB-3: *Are light tobacco users and were referred to or refused counseling within 3 days prior to admission through 1 day after discharge *Are heavy tobacco users and were referred to or refused evidence-based counseling AND received, had a medical reason not to receive, or refused a prescription for FDA-approved cessation medication upon discharge TOB-3a: *Are light tobacco users and were referred to counseling within 3 days prior to admission through 1 day after discharge *Are heavy tobacco users and were referred to evidence-based counseling AND received or had a medical reason not to receive a	Process	Centers for Medicare & Medicaid Services	HIQR; EHR Incentive/EH/CAH

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
		prescription for FDA-approved cessation medication upon discharge			
MUC16-53	Influenza Immunization (IMM-2)	Inpatients age 6 months and older discharged during October, November, December, January, February or March who are screened for influenza vaccine status and vaccinated prior to discharge if indicated.	Process	Centers for Medicare & Medicaid Services	HIQR; EHR Incentive/EH/CAH
MUC16-55	Median Time from ED Arrival to ED Departure for Discharged ED Patients	Median elapsed time from emergency department arrival to emergency room departure for patients discharged from the emergency department	Process	Centers for Medicare & Medicaid Services	HOQR
MUC16-56	Median Time to Pain Management for Long Bone Fracture	Median time from emergency department arrival to time of initial oral, nasal or parenteral pain medication administration for emergency department patients with a principal diagnosis of long bone fracture (LBF)	Process	Centers for Medicare & Medicaid Services	HOQR
MUC16-61	The Percent of Home Health Patients with an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function	This quality measure reports the percent of patients/residents with an admission and a discharge functional assessment and a treatment goal that addresses function. The treatment goal provides evidence that a care plan with a goal has been established for the patient/resident.	Process	Centers for Medicare & Medicaid Services	HH QRP
MUC16-63	The Percent of Home Health Residents Experiencing One	This quality measure reports the percentage of patients/residents who experience one or more falls with major injury (defined as bone fractures, joint dislocations, closed head	Outcome	Centers for Medicare & Medicaid Services	HH QRP

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
	or More Falls with Major Injury	injuries with altered consciousness, or subdural hematoma) during the Home Health episode.			
MUC16-68	Patient Panel Smoking Prevalence IQR	Percentage of hospital patient panel who currently smoke according to the EHR structured data	Outcome	Centers for Medicare & Medicaid Services	HIQR
MUC16-69	Adult Local Current Smoking Prevalence	Percentage of adult (age 18 and older) in select county that currently smoke, defined as adults who reported having smoked at least 100 cigarettes in their lifetime and currently smoke.	Outcome	Centers for Disease Control and Prevention, Centers for Medicare & Medicaid Services	MIPS; MSSP
MUC16-72	Prescription of HIV Antiretroviral Therapy	Percentage of patients, regardless of age, with a diagnosis of HIV prescribed HIV antiretroviral therapy for the treatment of HIV infection during the measurement year.	Process	Health Resources and Services Administration (HRSA) - HIV/AIDS Bureau	MIPS
MUC16-73	HIV Medical Visit Frequency	Percentage of patients, regardless of age, with a diagnosis of HIV who had at least one medical visit in each 6-month period of the 24-month measurement period with a minimum of 60 days between medical visits.	Process	Health Resources and Services Administration (HRSA) - HIV/AIDS Bureau	MIPS
MUC16-74	Fixed-dose Combination of Hydralazine and Isosorbide Dinitrate Therapy for Self-identified Black or African American Patients with Heart Failure	Percentage of patients aged 18 years and older with a diagnosis of heart failure (HF) and a current or prior left ventricular ejection fraction (LVEF) <40% who are self-identified Black or African Americans and receiving Angiotensin-Converting Enzyme Inhibitor (ACEI) or Angiotensin Receptor Blocker (ARB) and Beta-blocker therapy who were prescribed a fixed-dose combination of hydralazine and	Process	National Minority Quality Forum	MIPS

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
	and Left Ventricular Ejection Fraction (LVEF) <40% on ACEI or ARB and Beta-blocker Therapy	isosorbide dinitrate seen for an office visit in the measurement period in the outpatient setting or at each hospital discharge			
MUC16-75	HIV Viral Suppression	Percentage of patients, regardless of age, with a diagnosis of HIV with a HIV viral load less than 200 copies/mL at last HIV viral load test during the measurement year.	Outcome	Health Resources and Services Administration (HRSA) - HIV/AIDS Bureau	MIPS
MUC16-87	Average change in back pain following lumbar discectomy and/or laminotomy	The average change (preoperative to three months postoperative) in back pain for patients 18 years of age or older who had lumbar discectomy laminotomy procedure.	Patient Reported Outcome	MN Community Measurement	MIPS
MUC16-88	Average change in back pain following lumbar fusion.	The average change (preoperative to one year postoperative) in back pain for patients 18 years of age or older who had lumbar spine fusion surgery.	Patient Reported Outcome	MN Community Measurement	MIPS
MUC16-89	Average change in leg pain following lumbar discectomy and/or laminotomy	The average change (preoperative to three months postoperative) in leg pain for patients 18 years of age or older who had lumbar discectomy laminotomy procedure	Patient Reported Outcome	MN Community Measurement	MIPS
MUC16-142	Application of Percent of Residents or Patients with Pressure Ulcers That Are New or	This quality measure reports the percent of SNF resident Part A stays with Stage 2-4 or unstageable pressure ulcers that are new or worsened since admission	Outcome	Centers for Medicare & Medicaid Services	SNF QRP

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
	Worsened (Short-Stay)				
MUC16-143	Application of Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short-Stay)	This quality measure reports the percent of IRF patient stays with Stage 2-4 or unstageable pressure ulcers that are new or worsened since admission	Outcome	Centers for Medicare & Medicaid Services	IRF QRP
MUC16-144	Application of Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short-Stay)	This quality measure reports the percent of LTCH patient stays with Stage 2-4 or unstageable pressure ulcers that are new or worsened since admission	Outcome	Centers for Medicare & Medicaid Services	LTCH QRP
MUC16-145	The Percent of Residents or Home Health Patients with Pressure Ulcers That Are New or Worsened (Short-Stay)	This quality measure reports the percent of Home Health patient episodes with Stage 2-4 or unstageable pressure ulcers that are new or worsened since Start of Care (SOC) or Resumption of Care (ROC).	Outcome	Centers for Medicare & Medicaid Services	HH QRP
MUC16-151	Febrile Neutropenia Risk Assessment Prior to Chemotherapy	Percentage of patients with a solid malignant tumor or lymphoma who had a febrile neutropenia (FN) risk assessment completed and documented in the medical record prior to the first cycle of intravenous chemotherapy	Process	RAND Corporation	MIPS

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
MUC16-152	Hospital Visits following Orthopedic Ambulatory Surgical Center Procedures	The measure score is an ASC-level rate of unplanned hospital visits within 7 days of an orthopedic procedure performed at an ASC.	Outcome	Centers for Medicare & Medicaid Services	ASCQR
MUC16-153	Hospital Visits following Urology Ambulatory Surgical Center Procedures	The measure score is an ASC-level rate of unplanned hospital visits within 7 days of a urology procedure performed at an ASC.	Outcome	Centers for Medicare & Medicaid Services	ASCQR
MUC16-155	Ambulatory Breast Procedure Surgical Site Infection (SSI) Outcome Measure	This measure is for the risk-adjusted Standardized Infection Ratio (SIR) for all Surgical Site Infections (SSIs) following breast procedures conducted at ambulatory surgery centers (ASCs) among adult patients (ages 18 - 108 years) and reported to the Centers for Disease Control and Prevention (CDC) National Healthcare Safety Network (NHSN). The measure compares the reported number of surgical site infections observed at an ASC with a predicted value based on nationally aggregated data. The measure was developed collaboratively by the CDC, the Ambulatory Surgery Center Quality Collaboration (ASC QC), and the Colorado Department of Public Health and Environment. CDC is the measure steward.	Outcome	Centers for Disease Control and Prevention	ASCQR
MUC16-165	Follow-Up After Hospitalization for Mental Illness	The percentage of discharges for patients 6 years of age and older who were hospitalized for treatment of selected mental illness diagnoses and who had an outpatient visit, an	Process	National Committee for Quality Assurance	HIQR

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
		intensive outpatient encounter or partial hospitalization with a mental health practitioner. Two rates are reported: - The percentage of discharges for which the patient received follow-up within 30 days of discharge - The percentage of discharges for which the patient received follow-up within 7 days of discharge.			
MUC16-167	Safe Use of Opioids – Concurrent Prescribing	Patients ages 18 years and older with active, concurrent prescriptions for opioids at discharge, or patients with active, concurrent prescriptions for an opioid and benzodiazepine at discharge	Process	Centers for Medicare & Medicaid Services	HIQR; HOQR; EHR Incentive/EH/CAH
MUC16-178	Alcohol Use Brief Intervention Provided or Offered and Alcohol Use Brief Intervention	The measure is reported as an overall rate which includes all hospitalized patients 18 years of age and older to whom a brief intervention was provided, or offered and refused, and a second rate, a subset of the first, which includes only those patients who received a brief intervention. The Provided or Offered rate (SUB-2), describes patients who screened positive for unhealthy alcohol use who received or refused a brief intervention during the hospital stay. The Alcohol Use Brief Intervention (SUB-2a) rate describes only those who received the brief intervention during the hospital stay. Those who refused are not included. These measures are intended to be used as part of a set of 4 linked measures addressing	Process	The Joint Commission	HIQR

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
		Substance Use (SUB-1 Alcohol Use Screening ; SUB-2 Alcohol Use Brief Intervention Provided or Offered; SUB-3 Alcohol and Other Drug Use Disorder Treatment Provided or Offered at Discharge; SUB-4 Alcohol and Drug Use: Assessing Status after Discharge [temporarily suspended]).			
MUC16-179	Alcohol Use Screening	Hospitalized patients 18 years of age and older who are screened within the first three days of admission using a validated screening questionnaire for unhealthy alcohol use. This measure is intended to be used as part of a set of 4 linked measures addressing Substance Use (SUB-1 Alcohol Use Screening; SUB-2 Alcohol Use Brief Intervention Provided or Offered; SUB-3 Alcohol and Other Drug Use Disorder Treatment Provided or Offered at Discharge; SUB-4 Alcohol and Drug Use: Assessing Status after Discharge [temporarily suspended]).	Process	The Joint Commission	HIQR
MUC16-180	Alcohol & Other Drug Use Disorder Treatment Provided or Offered at Discharge and Alcohol & Other Drug Use Disorder Treatment at Discharge	The measure is reported as an overall rate which includes all hospitalized patients 18 years of age and older to whom alcohol or drug use disorder treatment was provided, or offered and refused, at the time of hospital discharge, and a second rate, a subset of the first, which includes only those patients who received alcohol or drug use disorder treatment at discharge. The Provided or Offered rate (SUB-3) describes patients who are identified with alcohol or drug use disorder who receive or refuse at discharge a prescription for FDA-approved medications for	Process	The Joint Commission	HIQR

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
		alcohol or drug use disorder, OR who receive or refuse a referral for addictions treatment.			
MUC16-260	Hospital-Wide Risk Standardized Mortality Measure	This measure estimates hospital-level, risk-standardized mortality rate (RSMR) for Medicare fee-for-service (FFS) patients who are between the ages of 65 and 95. Death is defined as death from any cause within 30 days after the index admission date.	Outcome	Centers for Medicare & Medicaid Services	HIQR
MUC16-262	Measure of Quality of Informed Consent Documents for Hospital-Performed, Elective Procedures	This measure assesses the quality of informed consent documents for elective hospital-performed procedures for Medicare fee-for-service (FFS) patients. A sample of hospitals' informed consent documents are evaluated using an instrument developed for this purpose. Hospital-level performance will be derived from aggregating these individual informed consent document quality scores.	Outcome	Centers for Medicare & Medicaid Services	HIQR
MUC16-263	Communication about Pain During the Hospital Stay	The following questions (or a subset of questions) would replace the current Pain Management measure in the HCAHPS Survey with a new measure(s). The following items were tested in early 2016. CMS is currently analyzing the results, as well as discussing these potential new pain management items with focus groups and hospital staff. Multi-item measure (composite): HP1: "During this hospital stay, did you have any pain?" HP2: "During this hospital stay, how often did hospital staff talk with you about how much	Outcome	Centers for Medicare & Medicaid Services	HIQR; HVBP

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
		pain you had?" HP3: "During this hospital stay, how often did hospital staff talk with you about how to treat your pain?" HP4: "During this hospital stay, did you get medicine for pain?" HP5: "Before giving you pain medicine, did hospital staff describe possible side effects in a way you could understand?"			
MUC16-264	Communication about Treating Pain Post-Discharge	The following questions (or a subset of questions) would replace the current Pain Management measure in the HCAHPS Survey with a new measure(s). The following items were tested in early 2016. CMS is currently analyzing the results, as well as discussing these potential new pain management items with focus groups and hospital staff. Multi-item measure (composite): DP1: "Before you left the hospital, did someone talk with you about how to treat pain after you got home?" DP2: "Before you left the hospital, did hospital staff give you a prescription for medicine to treat pain?" DP3: "Before giving you the prescription for pain medicine, did hospital staff describe	Outcome	Centers for Medicare & Medicaid Services	HIQR; HVBP

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
		possible side effects in a way you could understand?"			
MUC16-268	Otitis Media with Effusion: Systemic Corticosteroids - Avoidance of Inappropriate Use	Percentage of patients aged 2 months through 12 years with a diagnosis of OME who were not prescribed systemic corticosteroids	Process	American Academy of Otolaryngology – Head and Neck Surgery (AAOHN)	MIPS
MUC16-269	Otitis Media with Effusion: Systemic Antimicrobials - Avoidance of Inappropriate Use	Percentage of patients aged 2 months through 12 years with a diagnosis of OME who were not prescribed systemic antimicrobials	Process	American Academy of Otolaryngology – Head and Neck Surgery (AAOHN)	MIPS
MUC16-271	Proportion of patients who died from cancer receiving chemotherapy in the last 14 days of life	Proportion of patients who died from cancer receiving chemotherapy in the last 14 days of life	Process	American Society of Clinical Oncology	PCHQR
MUC16-273	Proportion of patients who died from cancer admitted to the ICU in the last 30 days of life	Proportion of patients who died from cancer admitted to the ICU in the last 30 days of life	Intermediate Outcome	American Society of Clinical Oncology	PCHQR
MUC16-274	Proportion of patients who died from cancer admitted to	Proportion of patients who died from cancer admitted to hospice for less than 3 days	Intermediate Outcome	American Society of Clinical Oncology	PCHQR

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
	hospice for less than 3 days				
MUC16-275	Proportion of patients who died from cancer not admitted to hospice	Proportion of patients who died from cancer not admitted to hospice	Process	American Society of Clinical Oncology	PCHQR
MUC16-276$_1$	Preoperative Key Medications Review for Anticoagulation Medication (Group measure as defined by Am. Coll. of Surgeons)	Percentage of patients who take anticoagulation medication who are taken to the operating room for an elective intervention under regional anesthesia, monitored anesthesia care (MAC), and/or general anesthesia who have a peri-operative management plan for anticoagulation medications documented in the medical record.	Process	American College of Surgeons	MIPS

[1] Note: We are including certain measures on this list for consideration as a group, rather than as individual measures; where measures are being included as part of a group, we mark them with a subscript group number (e.g., MUC16-276$_1$). We are including these measures for consideration as a group to explore with a wide range of stakeholders the value of such groups and whether and, if so, how to incorporate such a group of measures into our existing quality programs. While such a group of measures may allow us to evaluate the full range or cycle of care delivery within certain practice areas, some of our existing programs do not accommodate a group of measures as we are including them here. For example, the Merit-based Incentive Payment System grants substantial flexibility to clinicians to select measures most appropriate and important to how they care for their patients, but such selection is generally permitted for individual measures, not for a group of measures as we are considering here. We solicit comment on the groups of measures and whether and, if so, how to incorporate them into existing programs.

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
MUC16-277$_1$	Postoperative Plan Communication with Patient and Family (Group measure as defined by Am. Coll. of Surgeons)	Percentage of patients who are taken to the operating room for an elective or emergent surgical procedure under regional anesthesia, MAC, and/or general anesthesia who had documented postoperative communication regarding the surgery and plan for care after discharge with the patient and the patient's family	Process	American College of Surgeons	MIPS
MUC16-278$_1$	Patient Frailty Evaluation (Group measure as defined by Am. Coll. of Surgeons)	Percentage of patients age 80 and older who have been evaluated for frailty prior to an elective operation.	Process	American College of Surgeons	MIPS
MUC16-279$_1$	Identification of Major Co-Morbid Medical Conditions (Group measure as defined by Am. Coll. of Surgeons)	Percentage of patients age 18 or older who are taken to the operating room for an elective surgical intervention under regional, and/or general anesthesia AND who have documentation of a significant co-morbid condition(s) in their medical record within 30 days of operation date.	Process	American College of Surgeons	MIPS
MUC16-280$_1$	Intraoperative Timeout Safety Checklist (Group measure as defined by Am. Coll. of Surgeons)	Percentage of patients age 18 or older who are taken to the operating room for an elective or emergent surgical intervention under regional, MAC, and/or general anesthesia for whom an intraoperative safety checklist is performed prior to incision that includes the patient's name, the procedure to be performed, laterality, confirmation of site marking, allergies, confirmation of the administration of preoperative antibiotic prophylaxis and VTE prophylaxis if appropriate, anticipated	Process	American College of Surgeons	MIPS

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
		equipment, placement of Bovie pad, correct patient positioning, and display of essential imaging.			
MUC16-281$_1$	Postoperative Care Coordination and Follow-up with Primary/Referring Provider (Group measure as defined by Am. Coll. of Surgeons)	Percentage of patients age 18 or older who are taken to the operating room for an elective or emergent surgical intervention under regional, MAC, and/or general anesthesia who had documented post-operative communication regarding the surgery with the patient's primary care physician or referring physician within the 30 days following surgery.	Process	American College of Surgeons	MIPS
MUC16-282$_1$	Perioperative Composite (Group measure as defined by Am. Coll. of Surgeons)	Percentage of patients who are taken to the operating room for an elective surgical intervention under regional anesthesia, monitored anesthesia care (MAC), and/or general anesthesia who have an updated history and physical (H&P), documentation that recent laboratory values were reviewed, and documentation of the site and side of surgery in the medical record within the 24 hours prior to surgery.	Process	American College of Surgeons	MIPS
MUC16-283$_1$	Postoperative Care Plan (Group measure as defined by Am. Coll. of Surgeons)	Percentage of patients age 18 or older who are taken to the operating room for an elective or emergent surgical intervention under regional, MAC, and/or general anesthesia who have a documented plan of care at the beginning of the postoperative phase of care that addresses: mobilization, pain management, diet, resumption of preoperative medications, management of drains/catheters/invasive lines, and wound care	Process	American College of Surgeons	MIPS

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
MUC16-284$_1$	Postoperative Review of Patient Goals of Care (Group measure as defined by Am. Coll. of Surgeons)	Percentage of patients who are taken to the operating room for an elective surgical procedure under regional anesthesia, MAC, and/or general anesthesia who had documented postoperative communication reviewing original goals of care expressed preoperatively and updating goals of care as appropriate.	Process	American College of Surgeons	MIPS
MUC16-285	Unplanned Hospital Readmission within 30 Days of Principal Procedure	Percentage of patients age 18 or older who had an unplanned hospital readmission within 30 days of principal procedure	Outcome	American College of Surgeons	MIPS
MUC16-286$_1$	Participation in a National Risk-adjusted Outcomes Surgical Registry (Group measure as defined by Am. Coll. of Surgeons)	This measure requires participation in at least one multi-center, standardized national data collection and feedback program that provides benchmarking relative to national data and uses process and/or outcome measures. This measure requires a “yes” or “no” response to whether a facility, program, or individual surgeon participates in a national risk-adjusted outcomes surgical registry.	Structure	American College of Surgeons	MIPS
MUC16-287	Bone Density Evaluation for Patients with Prostate Cancer and Receiving Androgen Deprivation Therapy	Patients determined as having prostate cancer currently undergoing androgen deprivation therapy (ADT) or prior use of ADT who receive an initial bone density evaluation.	Process	Oregon Urology Institute in collaboration with Large Urology Group Practice Association	MIPS

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
MUC16-288$_1$	Surgical Plan and Goals of Care (Preoperative Phase) (Group measure as defined by Am. Coll. of Surgeons)	Percentage of patients who have been given the purpose for the recommended procedure AND goals of care discussion has been documented in the medical record.	Process	American College of Surgeons	MIPS
MUC16-289$_1$	Preventative Care and Screening: Tobacco Screening and Cessation Intervention (Group measure as defined by Am. Coll. of Surgeons)	Percentage of patients age 18 or older who are active tobacco users who receive tobacco screening AND are offered cessation counseling at least 2 months prior to elective surgical procedure in order to delay the procedure until smoking cessation is possibly achieved.	Process	American College of Surgeons	MIPS
MUC16-291	Patient Experience with Surgical Care Based on the Consumer Assessment of Healthcare Providers and Systems (CAHPS) ® Surgical Care Survey (S-CAHPS)	The original S-CAHPS survey, as part of the surgical patient experience battery, were designed by the American College of Surgeons (ACS) and the Surgical Quality Alliance (SQA) to address the specific needs of surgical patients. The 6 composites and 1 single-item measure were endorsed by the CAHPS Consortium in 2010 and by the National Quality Forum (NQF) in 2012. Each composite and/or grouping is used to assess a particular domain of patient experience with surgical care quality, from the patient's perspective. *This entry combined 7 measures into one MUC List entry. They are 7 separate measures (6 composite and 1 single item measure).*	Patient Reported Outcome	American College of Surgeons	MIPS

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
MUC16-292$_1$	Resumption Protocol (Group measure as defined by Am. Coll. of Surgeons)	Percentage of patients age 18 or older who are taken to the operating room for an elective or emergent surgical intervention under regional, MAC, and/or general anesthesia who have a documented plan during a post-discharge follow-up encounter updating patient improvements in mobility, pain control, diet, resumption of home medications, wound care, and management of cutaneous/invasive devices (drains, IV lines, etc.).	Process	American College of Surgeons	MIPS
MUC16-293$_1$	Patient-Centered Surgical Risk Assessment and Communication (Group measure as defined by Am. Coll. of Surgeons)	Percentage of patients age 18 or older who underwent a non-emergency surgery who had their personalized risks of postoperative complications assessed by their surgical team prior to surgery using a clinical data-based, patient-specific risk calculator and who received personal discussion of those risks with a surgeon	Process	American College of Surgeons	MIPS
MUC16-294	Completion of a Malnutrition Screening within 24 Hours of Admission	Completion of a malnutrition screening using a validated screening tool to determine if a patient is at-risk for malnutrition, within 24 hours of admission to the hospital.	Process	The Academy of Nutrition and Dietetics	HIQR
MUC16-296	Completion of a Nutrition Assessment for Patients Identified as At-Risk for Malnutrition within 24 Hours of a	Patients age 65 years and older identified as at-risk for malnutrition based on a malnutrition screening who have a nutrition assessment documented in the medical record within 24 hours of the most recent malnutrition screening.	Process	The Academy of Nutrition and Dietetics	HIQR

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
	Malnutrition Screening				
MUC16-305	Standardized Transfusion Ratio for Dialysis Facilities	The risk adjusted facility level transfusion ratio "STrR" is specified for all adult dialysis patients. It is a ratio of the number of eligible red blood cell transfusion events observed in patients dialyzing at a facility, to the number of eligible transfusion events that would be expected under a national norm, after accounting for the patient characteristics within each facility. Eligible transfusions are those that do not have any claims pertaining to the comorbidities identified for exclusion, in the one year look back period prior to each observation window.	Outcome	Centers for Medicare & Medicaid Services	ESRD QIP
MUC16-308	Hemodialysis Vascular Access: Standardized Fistula Rate	Adjusted percentage of adult hemodialysis patient-months using an autogenous arteriovenous fistula (AVF) as the sole means of vascular access.	Intermediate Outcome	Centers for Medicare & Medicaid Services	ESRD QIP
MUC16-309	Hemodialysis Vascular Access: Long-term Catheter Rate	Percentage of adult hemodialysis patient-months using a catheter continuously for three months or longer for vascular access.	Intermediate Outcome	Centers for Medicare & Medicaid Services	ESRD QIP
MUC16-310	Intravesical Bacillus Calmette-Guerin for NonMuscle Invasive Bladder Cancer	Percentage of patients initially diagnosed with nonmuscle invasive bladder cancer and who received intravesical Bacillus-Calmette-Guerin (BCG) within 6 months of initial diagnosis.	Process	Oregon Urology Institute	MIPS
MUC16-312	Prevention of Post-Operative Vomiting (POV) -	Percentage of patients aged 3 through 17 years of age, who undergo a procedure under general anesthesia in which an inhalational	Process	American Society of Anesthesiologists	MIPS

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
	Combination Therapy (Pediatrics)	anesthetic is used for maintenance AND who have two or more risk factors for post-operative vomiting (POV), who receive combination therapy consisting of at least two prophylactic pharmacologic anti-emetic agents of different classes preoperatively or intraoperatively.			
MUC16-314	Transfer of Information at Post-Acute Care Admission, Start, or Resumption of Care from Other Providers/Settings	The IMPACT Act requires a quality measure on the transfer of health information and care preferences when an individual transitions between post-acute care (PAC) and hospitals, other PAC providers, or home. This process-based quality measure estimates the percent of patient or resident stays or episodes where information was sent from the previous provider/home at admission or the start/resumption of care. In addition, this quality measure assesses the modes of information transfer from one care provider to the subsequent provider/home.	Process	Centers for Medicare & Medicaid Services	SNF QRP
MUC16-316$_1$	Intraoperative Surgical Debriefing (Group measure as defined by Am. Coll. of Surgeons)	Percentage of patients age 18 or older who are taken to the operating room for an elective or emergent surgical intervention under regional, MAC, and/or general anesthesia for whom an intraoperative surgical debriefing takes place at the end of the case by the surgeon confirming wound classification, correct counts, procedure performed, specimen review, equipment review, postoperative destination and postoperative care plan including plan for	Process	American College of Surgeons	MIPS

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
		perioperative antibiotics, VTE prophylaxis and Foley catheter.			
MUC16-317	Safety Concern Screening and Follow-Up for Patients with Dementia	Percentage of patients with dementia or their caregiver(s) for whom there was a documented safety screening * in two domains of risk: dangerousness to self or others and environmental risks; and if screening was positive in the last 12 months, there was documentation of mitigation recommendations, including but not limited to referral to other resources.	Process	American Academy of Neurology, American Psychological Association	MIPS
MUC16-319	Transfer of Information at Post-Acute Care Admission, Start, or Resumption of Care from Other Providers/Settings	The IMPACT Act requires a quality measure on the transfer of health information and care preferences when an individual transitions between post-acute care (PAC) and hospitals, other PAC providers, or home. This process-based quality measure estimates the percent of patient or resident stays or episodes where information was sent from the previous provider/home at admission or the start/resumption of care. In addition, this quality measure assesses the modes of information transfer from one care provider to the subsequent provider/home.	Process	Centers for Medicare & Medicaid Services	IRF QRP
MUC16-321	Transfer of Information at Post-Acute Care Admission, Start, or Resumption of Care from Other Providers/Settings	The IMPACT Act requires a quality measure on the transfer of health information and care preferences when an individual transitions between post-acute care (PAC) and hospitals, other PAC providers, or home.	Process	Centers for Medicare & Medicaid Services	LTCH QRP

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
		This process-based quality measure estimates the percent of patient or resident stays or episodes where information was sent from the previous provider/home at admission or the start/resumption of care. In addition, this quality measure assesses the modes of information transfer from one care provider to the subsequent provider/home.			
MUC16-323	Transfer of Information at Post-Acute Care Discharge or End of Care to Other Providers/Settings	The IMPACT Act requires a quality measure on the transfer of health information and care preferences when an individual transitions between post-acute care (PAC) and hospitals, other PAC providers, or home. This process-based quality measure estimates the percent of patient or resident stays or episodes where information was sent from the PAC provider to the subsequent provider/home at discharge or end of care. In addition, this quality measure assesses the modes of information transfer from one care provider to the next.	Process	Centers for Medicare & Medicaid Services	SNF QRP
MUC16-325	Transfer of Information at Post-Acute Care Discharge or End of Care to Other Providers/Settings	The IMPACT Act requires a quality measure on the transfer of health information and care preferences when an individual transitions between post-acute care (PAC) and hospitals, other PAC providers, or home. This process-based quality measure estimates the percent of patient or resident stays or episodes where information was sent from the PAC provider to the subsequent provider/home	Process	Centers for Medicare & Medicaid Services	IRF QRP

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
		at discharge or end of care. In addition, this quality measure assesses the modes of information transfer from one care provider to the next.			
MUC16-327	Transfer of Information at Post-Acute Care Discharge or End of Care to Other Providers/Settings	The IMPACT Act requires a quality measure on the transfer of health information and care preferences when an individual transitions between post-acute care (PAC) and hospitals, other PAC providers, or home. This process-based quality measure estimates the percent of patient or resident stays or episodes where information was sent from the PAC provider to the subsequent provider/home at discharge or end of care. In addition, this quality measure assesses the modes of information transfer from one care provider to the next.	Process	Centers for Medicare & Medicaid Services	LTCH QRP
MUC16-343	Uterine artery embolization technique: Documentation of angiographic endpoints and interrogation of ovarian arteries	Documentation of angiographic endpoints of embolization AND the documentation of embolization strategies in the presence of unilateral or bilateral absent uterine arteries.	Process	Society of Interventional Radiology	MIPS
MUC16-344	Appropriate Documentation of a Malnutrition Diagnosis	Appropriate documentation of a malnutrition diagnosis for patients age 65 and older admitted to inpatient care who are found to be malnourished based on a nutrition assessment.	Process	The Academy of Nutrition and Dietetics	HIQR

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
MUC16-345[1]	Post-Discharge Review of Patient Goals of Care (Group measure as defined by Am. Coll. of Surgeons)	Percentage of patients who are taken to the operating room for an elective surgical procedure under regional anesthesia, MAC, and/or general anesthesia who had documented postoperative communication reviewing original goals of care expressed preoperatively and updating goals of care as appropriate occurring after discharge up until 90 days following discharge date.	Process	American College of Surgeons	MIPS
MUC16-347	Transfer of Information at Post-Acute Care Admission, Start, or Resumption of Care from Other Providers/Settings	The IMPACT Act requires a quality measure on the transfer of health information and care preferences when an individual transitions between post-acute care (PAC) and hospitals, other PAC providers, or home. This process-based quality measure estimates the percent of patient or resident stays or episodes where information was sent from the previous provider/setting at admission or the start/resumption of care. In addition, this quality measure assesses the modes of information transfer from one care provider to the subsequent provider/setting.	Process	Centers for Medicare & Medicaid Services	HH QRP
MUC16-357	Transfer of Information at Post-Acute Care Discharge or End of Care to Other Providers/Settings	The IMPACT Act requires a quality measure on the transfer of health information and care preferences when an individual transitions between post-acute care (PAC) and hospitals, other PAC providers, or home. This process-based quality measure estimates the percent of patient or resident stays or	Process	Centers for Medicare & Medicaid Services	HH QRP

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
		episodes where information was sent from the PAC provider to the subsequent provider/provider at discharge or end of care. In addition, this quality measure assesses the modes of information transfer from one care provider to the next.			
MUC16-372	Nutrition Care Plan for Patients Identified as Malnourished after a Completed Nutrition Assessment	Documentation of a nutrition care plan for those patients age 65 and older admitted to inpatient care who are found to be malnourished based on a completed nutrition assessment	Process	The Academy of Nutrition and Dietetics	HIQR
MUC16-375	Localized Prostate Cancer: Bowel function	The percentage of non-metastatic prostate cancer patients with a clinically-significant change in bowel function from baseline to follow-up, as measured by the validated Expanded Prostate Inventory Composite (EPIC) patient-reported outcome(EPIC-26 or EPIC-50).	Outcome	The University of Texas MD Anderson Cancer Center	PCHQR
MUC16-377	Localized Prostate Cancer: Sexual function	The percentage of non-metastatic prostate cancer patients with a clinically-significant change in sexual function from baseline to follow-up, as measured by the validated Expanded Prostate Inventory Composite (EPIC) patient-reported outcome).	Outcome	The University of Texas MD Anderson Cancer Center	PCHQR
MUC16-379	Localized Prostate Cancer: Urinary Frequency, Obstruction, and/or Irritation	The percentage of non-metastatic prostate cancer patients with a clinically-significant change in urinary frequency, obstruction, and/or irritation from baseline to follow-up, as measured by the validated Expanded Prostate	Outcome	The University of Texas MD Anderson Cancer Center	PCHQR

MUC ID	Measure Title	Description	Measure Type	Measure Steward	CMS Program(s)
		Inventory Composite (EPIC) patient-reported outcome).			
MUC16-380	Localized Prostate Cancer: Urinary Incontinence	The percentage of non-metastatic prostate cancer patients with a clinically-significant change in urinary incontinence from baseline to follow-up, as measured by the validated Expanded Prostate Inventory Composite (EPIC) patient-reported outcome).	Outcome	The University of Texas MD Anderson Cancer Center	PCHQR
MUC16-381	Localized Prostate Cancer: Vitality	The percentage of non-metastatic prostate cancer patients with a clinically-significant change in vitality from baseline to follow-up, as measured by the validated Expanded Prostate Inventory Composite (EPIC) patient-reported outcome (EPIC-26 or EPIC-50).	Outcome	The University of Texas MD Anderson Cancer Center	PCHQR
MUC16-393	PRO utilization in in non-metastatic prostate cancer patients	Use of a validated patient-reported outcome (PRO) instrument to measure functional status in adult, non-metastatic prostate cancer patients during the 12-month measurement period.	Structure	The University of Texas MD Anderson Cancer Center	PCHQR
MUC16-398	Appropriate Use Criteria - Cardiac Electrophysiology	The IAC Cardiac Electrophysiology accreditation program requires compliance to and evaluation of appropriate using published guidelines warranting the procedure.	Process	IAC	MIPS
MUC16-428	Identification of Opioid Use Disorder among Patients Admitted to Inpatient Psychiatric Facilities	The measure assesses the percentage of patients admitted to an inpatient psychiatric facility who were screened and evaluated for opioid use disorder. The performance period for the measure is one year.	Process	Centers for Medicare & Medicaid Services	IPFQR

APPENDIX A: MEASURE SPECIFICATIONS

Table Legend for Measure Specifications.

MUC ID: Gives users an identifier to refer to a unique measure.

Measure Title: The title of the measure.

Numerator: The numerator reflects the subset of patients in the denominator for whom a particular service has been provided or for whom a particular outcome has been achieved.

Denominator: The lower part of a fraction used to calculate a rate, proportion, or ratio. The denominator is associated with a given patient population that may be counted as eligible to meet a measure's inclusion requirements.

Exclusions: Exclusions are patients included in an initial population for whom there are valid reasons a process or outcome of care has not occurred. These cases are removed from the denominator. When clinical judgment is allowed, these are referred to as "exceptions." Denominator exceptions fall into three general categories: medical reasons, patients' reasons, and system reasons. Exceptions must be captured in a way that they could be reported separately.

Measure Specifications

MUC ID	Measure Title	Numerator	Denominator	Exclusions
MUC16-31	CAHPS Hospice Survey: Rating of Hospice	The top box numerator is the number of respondents in the hospice who answer "9" or "10." Top box scores for the measure are adjusted for mode of survey administration (at the individual respondent level) and case mix (at the hospice level) to calculate the overall hospice-level measure score.	The top box denominator is the total number of respondents in the hospice who answered the item.	-The hospice patient is still alive -The decedent's age at death was less than 18 -The decedent died within 48 hours of his/her last admission to hospice care -The decedent had no caregiver of record -The decedent had a caregiver of record, but the caregiver does not have a U.S. or U.S. Territory home address -The decedent had no caregiver other than a nonfamilial legal guardian -The decedent or caregiver requested that they not be contacted (i.e., by signing a no publicity request while under the care of hospice or otherwise directly requesting not to be contacted) -The caregiver is institutionalized, has mental/physical incapacity, has a language barrier, or is deceased -The caregiver reports on the survey that he or she "never" oversaw or took part in decedent's hospice care
MUC16-32	CAHPS Hospice Survey: Hospice Team Communications	CAHPS Hospice Survey measures are calculated using top-box scoring. The top-box score refers to the percentage of caregiver	The top box denominator is the number of respondents who answer at least one question in the multi-item measure (i.e., one of P1 through P6).	The hospice patient is still alive -The decedent's age at death was less than 18 -The decedent died within 48 hours of his/her last admission to hospice care

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		respondents that give the most positive response. For questions P1 through P5 in this measure, the top box numerator is the number of respondents who answer "Always." For question P6, the top box numerator is the number of respondents who answer "Never." Top box scores for each survey question within the measure are adjusted for mode of survey administration (at the individual respondent level) and case mix (at the hospice level), and then averaged to calculate the overall hospice-level measure score.		-The decedent had no caregiver of record -The decedent had a caregiver of record, but the caregiver does not have a U.S. or U.S. Territory home address -The decedent had no caregiver other than a nonfamilial legal guardian -The decedent or caregiver requested that they not be contacted (i.e., by signing a no publicity request while under the care of hospice or otherwise directly requesting not to be contacted) -The caregiver is institutionalized, has mental/physical incapacity, has a language barrier, or is deceased -The caregiver reports on the survey that he or she "never" oversaw or took part in decedent's hospice care
MUC16-33	CAHPS Hospice Survey: Willingness to Recommend	The top box numerator is the number of respondents in a hospice program who responded "Definitely yes." Top box scores for the measure are adjusted for mode of survey administration (at the individual respondent level) and case mix (at the hospice level) to calculate the overall hospice-level measure score.	The top box denominator is the total number of respondents in the hospice that answered the item.	-The hospice patient is still alive -The decedent's age at death was less than 18 -The decedent died within 48 hours of his/her last admission to hospice care -The decedent had no caregiver of record -The decedent had a caregiver of record, but the caregiver does not have a U.S. or U.S. Territory home address -The decedent had no caregiver other

MUC ID	Measure Title	Numerator	Denominator	Exclusions
				than a nonfamilial legal guardian -The decedent or caregiver requested that they not be contacted (i.e., by signing a no publicity request while under the care of hospice or otherwise directly requesting not to be contacted) -The caregiver is institutionalized, has mental/physical incapacity, has a language barrier, or is deceased -The caregiver reports on the survey that he or she "never" oversaw or took part in decedent's hospice care
MUC16-35	CAHPS Hospice Survey: Getting Hospice Care Training	CAHPS Hospice Survey measures are calculated using top-box scoring. The top-box score refers to the percentage of caregiver respondents that give the most positive response. For all questions in this measure, the top box numerator is the number of respondents who answer "Yes, definitely." Top box scores for each survey question within the measure are adjusted for mode of survey administration (at the individual respondent level) and case mix (at the hospice level), and then averaged to	The top box denominator is the number of respondents who answer at least one question in the multi-item measure (i.e., one of P1 through P5).	-The hospice patient is still alive -The decedent's age at death was less than 18 -The decedent died within 48 hours of his/her last admission to hospice care -The decedent had no caregiver of record -The decedent had a caregiver of record, but the caregiver does not have a U.S. or U.S. Territory home address -The decedent had no caregiver other than a nonfamilial legal guardian -The decedent or caregiver requested that they not be contacted (i.e., by signing a no publicity request while under the care of hospice or otherwise directly requesting not to be contacted)

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		calculate the overall hospice-level measure score.		-The caregiver is institutionalized, has mental/physical incapacity, has a language barrier, or is deceased -The caregiver reports on the survey that he or she "never" oversaw or took part in decedent's hospice care
MUC16-36	CAHPS Hospice Survey: Getting Timely Care	CAHPS Hospice Survey measures are calculated using top-box scoring. The top-box score refers to the percentage of caregiver respondents that give the most positive response. The top box numerator is the number of respondents who answer "Always." Top box scores for each survey question within the measure are adjusted for mode of survey administration (at the individual respondent level) and case mix (at the hospice level), and then averaged to calculate the overall hospice-level measure score.	The top box denominator is the number of respondents who answer at least one question in the multi-item measure (i.e., one of P1 or P2).	Exclusions from the denominator: -The hospice patient is still alive -The decedent's age at death was less than 18 -The decedent died within 48 hours of his/her last admission to hospice care -The decedent had no caregiver of record -The decedent had a caregiver of record, but the caregiver does not have a U.S. or U.S. Territory home address -The decedent had no caregiver other than a nonfamilial legal guardian -The decedent or caregiver requested that they not be contacted (i.e., by signing a no publicity request while under the care of hospice or otherwise directly requesting not to be contacted) -The caregiver is institutionalized, has mental/physical incapacity, has a language barrier, or is deceased -The caregiver reports on the survey that he or she "never" oversaw or took part in decedent's hospice care

MUC ID	Measure Title	Numerator	Denominator	Exclusions
MUC16-37	CAHPS Hospice Survey: Getting Emotional and Spiritual Support	CAHPS Hospice Survey measures are calculated using top-box scoring. The top-box score refers to the percentage of caregiver respondents that give the most positive response. For all questions in this measure, the top box numerator is the number of respondents who answer "Right amount." Top box scores for each survey question within the measure are adjusted for mode of survey administration (at the individual respondent level) and case mix (at the hospice level), and then averaged to calculate the overall hospice-level measure score.	The top box denominator is the number of respondents who answer at least one question in the multi-item measure (i.e., one of P1 through P3).	-The hospice patient is still alive -The decedent's age at death was less than 18 -The decedent died within 48 hours of his/her last admission to hospice care -The decedent had no caregiver of record -The decedent had a caregiver of record, but the caregiver does not have a U.S. or U.S. Territory home address -The decedent had no caregiver other than a nonfamilial legal guardian -The decedent or caregiver requested that they not be contacted (i.e., by signing a no publicity request while under the care of hospice or otherwise directly requesting not to be contacted) -The caregiver is institutionalized, has mental/physical incapacity, has a language barrier, or is deceased -The caregiver reports on the survey that he or she "never" oversaw or took part in decedent's hospice care
MUC16-39	CAHPS Hospice Survey: Getting Help for Symptoms	CAHPS Hospice Survey measures are calculated using top-box scoring. The top-box score refers to the percentage of caregiver respondents that give the most positive response. For	The top box denominator is the number of respondents who answer at least one question in the multi-item measure (i.e., one of P1 through P4).	-The hospice patient is still alive -The decedent's age at death was less than 18 -The decedent died within 48 hours of his/her last admission to hospice care -The decedent had no caregiver of record

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		question P1, the top box numerator is the number of respondents who answer "Yes, definitely." For questions P2, P3 and P4, the top box numerator is the number of respondents who answer "Always." Top box scores for each survey question within the measure are adjusted for mode of survey administration (at the individual respondent level) and case mix (at the hospice level), and then averaged to calculate the overall hospice-level measure score.		-The decedent had a caregiver of record, but the caregiver does not have a U.S. or U.S. Territory home address -The decedent had no caregiver other than a nonfamilial legal guardian -The decedent or caregiver requested that they not be contacted (i.e., by signing a no publicity request while under the care of hospice or otherwise directly requesting not to be contacted) -The caregiver is institutionalized, has mental/physical incapacity, has a language barrier, or is deceased -The caregiver reports on the survey that he or she "never" oversaw or took part in decedent's hospice care
MUC16-40	CAHPS Hospice Survey: Treating Family Member with Respect	CAHPS Hospice Survey measures are calculated using top-box scoring. The top-box score refers to the percentage of caregiver respondents that give the most positive response. For both questions in this measure, the top box numerator is the number of respondents who answer "Always." Top box scores for each survey question within the measure are adjusted for	The top box denominator is the number of respondents who answer at least one question in the multi-item measure (i.e., one of P1 or P2).	-The hospice patient is still alive -The decedent's age at death was less than 18 -The decedent died within 48 hours of his/her last admission to hospice care -The decedent had no caregiver of record -The decedent had a caregiver of record, but the caregiver does not have a U.S. or U.S. Territory home address -The decedent had no caregiver other than a nonfamilial legal guardian -The decedent or caregiver requested

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		mode of survey administration (at the individual respondent level) and case mix (at the hospice level), and then averaged to calculate the overall hospice-level measure score.		that they not be contacted (i.e., by signing a no publicity request while under the care of hospice or otherwise directly requesting not to be contacted) -The caregiver is institutionalized, has mental/physical incapacity, has a language barrier, or is deceased -The caregiver reports on the survey that he or she "never" oversaw or took part in decedent's hospice care
MUC16-41	Use of Antipsychotics in Older Adults in the Inpatient Hospital Setting	Inpatient hospitalizations for patients who received an order for an antipsychotic medication during the inpatient encounter	Inpatient hospitalizations for patients who are 65 and older	Denominator exclusions: Inpatient hospitalizations for patients with a diagnosis of schizophrenia, Tourette's syndrome, bipolar disorder, Huntington's disease at the time of admission Numerator exclusions: Inpatient hospitalizations for patients with documented indication that they are threatening harm to self or others
MUC16-48	Continuation of Medications Within 30 Days of Inpatient Psychiatric Discharge	The numerator for this measure includes: 1. Discharges with a principal diagnosis of major depressive disorder (MDD) in the denominator population for which patients were dispensed evidence-based medication within 30 days of discharge	The denominator for this measure includes admissions for patients: 1. Discharged from an IPF with a principal diagnosis of MDD, schizophrenia, or bipolar disorder 2. 18 years of age or older 3. Enrolled in Medicare fee-for-service Part A during the index admission and Parts B and D at least 30-days post-discharge	This measure excludes index admissions for patients: 1. Who received ECT during the inpatient stay 2. Who received TMS during the inpatient stay 3. Who were pregnant during the inpatient stay 4. Who had a secondary diagnosis of delirium

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		2. Discharges with a principal diagnosis schizophrenia in the denominator population for which patients were dispensed evidence-based medication within 30 days of discharge 3. Discharges with a principal diagnosis of bipolar disorder in the denominator population for which patients were dispensed evidence-based medication within 30 days of discharge	4. Discharged alive and alive during the follow-up period 5. Discharged to home	5. Who were discharged against medical advice
MUC16-49	Medication Reconciliation at Admission	The numerator for this measure is the number of admissions with adequate medication reconciliation defined as: 1) Prior to Admission (PTA) medication list is in the chart 2) PTA medication list is generated from both health system and patient generated data and includes all medications listed in the admission notes (e.g., History & Physical Exam) 3) Each documented medication has complete information regarding name, dose, route, frequency, last	Admissions to an IPF under the IPF Prospective Payment System (PPS) of at least 24 hours.	This measure excludes any patient transferred to an IPF from an acute care hospital or other inpatient psychiatric facility. Admissions from long-term care facilities are not considered transfers.

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		time taken, and indication 4) Each documented medication on the PTA list includes a reconciliation action to continue, discontinue, or modify the medication documented by a prescriber within 24 hours		
MUC16-50	Tobacco Use Screening (TOB-1)	Patients who were comprehensively screened or refused screening within 3 days prior through 1 day after admission for tobacco use within the 30 days prior to the screening. A comprehensive tobacco use screen should identify the type of tobacco product used (cigarettes, smokeless tobacco, pipe tobacco, cigars), as well as the amount of cigarette use and frequency of pipe tobacco and cigar use.	Patients age 18 years and older discharged from inpatient care during the measurement period, with a length of stay greater than 1 day and less than or equal to 120 days	Denominator Exclusions: Patients with comfort measures documented within 3 days prior to or anytime during admission. A diagnosis indicative of impaired cognition that overlaps with the encounter. Patients with documentation of impaired cognition within 3 days prior through 1 day after admission, as evidenced by: * An assessment of the patient's cognitive status * Explicit documentation of impaired cognition as a reason not to perform a tobacco screening assessment
MUC16-51	Tobacco Use Treatment Provided or Offered (TOB-2)/Tobacco Use Treatment (TOB-2a)	TOB-2: Patients who: *Are light tobacco users and received or refused practical counseling to quit within 3 days prior to or anytime during inpatient admission *Are heavy tobacco users and received or refused	Patients identified as current tobacco users who are age 18 years and older discharged from inpatient care during the measurement period, with a length of stay greater than 1 day and less than or equal to 120 days.	Denominator Exclusion: Patients with comfort measures documented within 3 days prior to or anytime during admission.

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		practical counseling to quit AND received, had a medical reason not to receive, or refused FDA-approved cessation medications within 3 days prior to or anytime during inpatient admission TOB-2a: Patients who: *Are light tobacco users and received practical counseling to quit within 3 days prior to or anytime during inpatient admission *Are heavy tobacco users and received practical counseling to quit AND received, or had a medical reason not to receive, FDA-approved cessation medications within 3 days prior to or anytime during inpatient admission		
MUC16-52	Tobacco Use Treatment Provided or Offered at Discharge (TOB-3)/Tobacco Use Treatment at Discharge (TOB-3a)	TOB-3: Patients who: *Are light tobacco users and were referred to or refused evidence-based outpatient counseling within 3 days prior to admission through 1 day after discharge *Are heavy tobacco users and were referred to or	Patients identified as current tobacco users age 18 years and older discharged from inpatient care to home or police custody during the measurement period, with a length of stay greater than 1 day and less than or equal to 120 days.	Denominator Exclusions: Patients with comfort measures documented within 3 days prior to or anytime during admission.

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		refused evidence-based outpatient counseling AND received, had a medical reason not to receive, or refused a prescription for FDA-approved cessation medication upon discharge TOB-3a: Patients who: *Are light tobacco users and were referred to evidence-based outpatient counseling within 3 days prior to admission through 1 day after discharge *Are heavy tobacco users and were referred to evidence-based outpatient counseling AND received or had a medical reason not to receive a prescription for FDA-approved cessation medication upon discharge		
MUC16-53	Influenza Immunization (IMM-2)	Inpatient discharges who were screened for influenza vaccine status and were vaccinated prior to discharge if indicated. Included Populations: - Patients who received the influenza vaccine during this inpatient hospitalization	Inpatients age 6 months and older discharged during the months of October, November, December, January, February or March.	Denominator Exclusions: - Patients who expire prior to hospital discharge - Patients with an organ or bone marrow transplant during the current hospitalization - Patients who are discharged to another acute care hospital

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		- Patients who received the influenza vaccine during the current year's flu season but prior to the current hospitalization - Patients who were offered and declined the influenza vaccine - Patients who have an allergy/sensitivity to the influenza vaccine, anaphylactic latex allergy or anaphylactic allergy to eggs, or for whom the vaccine is not likely to be effective because of bone marrow transplant within the past 6 months, or history of Guillain-Barre Syndrome within 6 weeks after a previous influenza vaccination.		- Patients who leave Against Medical Advice (AMA)
MUC16-55	Median Time from ED Arrival to ED Departure for Discharged ED Patients	Time (in minutes) from emergency department (ED) arrival to ED departure for patients discharged from the ED	Any emergency department (ED) patient from the facility's ED	Emergency department encounters where the patient expired during the encounter or where the ED visit is followed within an hour by an inpatient encounter at the same physical facility
MUC16-56	Median Time to Pain Management for Long Bone Fracture	Time (in minutes) from emergency department (ED) arrival to time of initial oral, intranasal or parenteral pain	- Patients with a patient age on Outpatient Encounter Date (Outpatient Encounter Date – Birthdate) greater than or equal to	- Patients less than 2 years of age - Patients who expired - Patients who left the emergency

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		medication administration for ED patients with a diagnosis of a long bone fracture (LBF). Previous measure specifications only allowed for oral pain medication to be administered for patients aged 2 through 18 years; the abstraction guidance has been removed for this measure allowing patients aged 18 and over to be included, increasing the number of cases for the measure.	2 years, and - An International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Principal Diagnosis Code for a (long bone) fracture (as defined in Appendix A, OP Table 9.0 of the original measure documentation), and - Patients with Pain Medication (as defined in the Data Dictionary), and - An Evaluation and Management (E/M) Code for emergency department (ED) encounter (as defined in Appendix A, OP Table 1.0 of the original measure documentation)	department against medical advice or discontinued care
MUC16-61	The Percent of Home Health Patients with an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function	The numerator for this quality measure is the number of patient/resident stays with functional assessment data for each self-care and mobility activity and at least one self-care or mobility goal.	Home Health patients included in this measure are at least 18 years of age, and have complete episodes.	There are no denominator exclusion criteria for this measure.

MUC ID	Measure Title	Numerator	Denominator	Exclusions
MUC16-63	The Percent of Home Health Residents Experiencing One or More Falls with Major Injury	The numerator for this quality measure is the number of patients/residents who experienced one or more falls that resulted in major injury during the episode.	Home Health patients included in this measure are at least 18 years of age, and have complete episodes.	A patient/resident stay is excluded from the denominator if missing data precludes calculation of the measure.
MUC16-68	Patient Panel Smoking Prevalence IQR	Number of patients in the denominator whose recorded status indicates they are current smokers	Number of patients seen in the hospital during the reporting period	An EP who sees no patients 13 years or older would be excluded from this requirement.
MUC16-69	Adult Local Current Smoking Prevalence	The numerator is current adult smokers (age 18 and older) in a geographically defined area who live in households.	The adult (age 18 and older) population in a geographically defined area who live in households	Adults 18 years or older are asked to take part in the survey and only one adult is interviewed per household. Adults living in vacation homes not occupied by household members for more than 30 days per year, group homes, institutions, prisons, hospitals and college dorms are excluded.
MUC16-72	Prescription of HIV Antiretroviral Therapy	Patients prescribed HIV antiretroviral therapy during the measurement year.	Patients, regardless of age, diagnosed with HIV during the first 3 months of the measurement year or prior to the measurement year who had at least one medical visit in the measurement year.	None
MUC16-73	HIV Medical Visit Frequency	Patients who had at least one medical visit in each 6-month period of the 24-month measurement period with a	Patients, regardless of age, with a diagnosis of HIV with at least one medical visit in the first 6 months	Patients who died at any time during the measurement period.

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		minimum of 60 days between first medical visit in the prior 6-month period and the last medical visit in the subsequent 6-month period. (Measurement period is a consecutive 24-month period of time.)	of the 24-month measurement period	
MUC16-74	Fixed-dose Combination of Hydralazine and Isosorbide Dinitrate Therapy for Self-identified Black or African American Patients with Heart Failure and Left Ventricular Ejection Fraction (LVEF) <40% on ACEI or ARB and Beta-blocker Therapy	Patients prescribed a fixed-dose combination of hydralazine and isosorbide dinitrate seen for an office visit in the measurement period in the outpatient setting or at each hospital discharge	All patients aged 18 years and older with a diagnosis of heart failure with a current or prior LVEF <40% who are self-identified Black or African Americans and receiving ACEI or ARB and Beta-blocker therapy	Denominator exclusions include: • Hypotension (severe or symptomatic) • Severe lupus erythematosus • Unstable angina • Peripheral neuritis • Patient actively taking Phosphodiesterase Type 5 (PDE5) Inhibitors
MUC16-75	HIV Viral Suppression	Patients with a HIV viral load less than 200 copies/mL at last HIV viral load test during the measurement year.	Patients, regardless of age, diagnosed with HIV during the first 3 months of the measurement year or prior to the measurement year who had at least one medical visit in the measurement year.	None

MUC ID	Measure Title	Numerator	Denominator	Exclusions
MUC16-87	Average change in back pain following lumbar discectomy and/or laminotomy	This measure is not a proportion or rate, and as such, does not have a numerator and denominator, but has an eligible population with a calculated result. The calculated result is: The average change (preoperative to three months postoperative) in back pain for all eligible patients.	This measure is not a proportion or rate, and as such, does not have a numerator and denominator, but has an eligible population with a calculated result. The eligible population is: Patients 18 years of age or older as of January 1 of the measurement period who had a lumbar discectomy and/or laminotomy procedure for a diagnosis of disc herniation performed by an eligible provider in an eligible specialty during the measurement period and whose back pain was measured by the Visual Analog Scale (VAS) within three months preoperatively AND at three months (6 to 20 weeks) postoperatively.	Patient had any additional spine procedures performed on the same date as the lumbar discectomy laminotomy.
MUC16-88	Average change in back pain following lumbar fusion.	This measure is not a proportion or rate, and as such, does not have a numerator and denominator, but has an eligible population with a calculated result. The calculated result is: The average change (preoperative to one year	This measure is not a proportion or rate, and as such, does not have a numerator and denominator, but has an eligible population with a calculated result. The eligible population is: Patients 18 years of age or older as of January 1 of the	None

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		postoperative) in back pain for all eligible patients.	measurement period who had a lumbar spine fusion surgery performed by an eligible provider in an eligible specialty during the measurement period and whose back pain was measured by the Visual Analog Scale (VAS) within three months preoperatively AND at one year (+/- 3 months) postoperatively.	
MUC16-89	Average change in leg pain following lumbar discectomy and/or laminotomy	This measure is not a proportion or rate, and as such, does not have a numerator and denominator, but has an eligible population with a calculated result. The calculated result is: The average change (preoperative to three months postoperative) in leg pain for all eligible patients.	This measure is not a proportion or rate, and as such, does not have a numerator and denominator, but has an eligible population with a calculated result. The eligible population is: Patients 18 years of age or older as of January 1 of the measurement period who had a lumbar discectomy and/or laminotomy procedure for a diagnosis of disc herniation performed by an eligible provider in an eligible specialty during the measurement period and whose leg pain was measured by the Visual Analog Scale (VAS) within three months preoperatively AND at three months (6 to 20 weeks) postoperatively.	Patient had any additional spine procedures performed on the same date as the lumbar discectomy laminotomy.

MUC ID	Measure Title	Numerator	Denominator	Exclusions
MUC16-142	Application of Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short-Stay)	SNF Numerator: The numerator is the number of SNF resident Medicare Part A stays that ended during the selected time window indicating one or more Stage 2-4 or unstageable pressure ulcers that were new or worsened since the start of the Medicare Part A Stay.	SNF Denominator: The denominator is the number of SNF resident Medicare Part A Stays with one or more MDS assessments included in their stay that are eligible for a look-back scan (except those with exclusions).	SNF Denominator Exclusions: 1. Resident Part A stays are excluded if none of the assessments that are included in the look-back scan has a usable response for items indicating the presence of new or worsened Stage 2, 3, 4, or unstageable pressure ulcers since the prior assessment. 2. Resident Part A stays are excluded if there is no initial assessment available to derive data for risk adjustment (covariates). 3. Death in facility tracking records are excluded from measure calculations. 4. Short-stay residents are excluded if the resident died during the stay.
MUC16-143	Application of Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short-Stay)	IRF Numerator: The numerator is the number of stays for which the IRF-PAI discharge assessment indicates one or more Stage 2-4 or unstageable pressure ulcer(s) that are new or worsened compared to the admission assessment.	IRF Denominator: The denominator is the number of Medicare patient stays* (Part A and Part C) with an IRF-PAI assessment, except those that meet the exclusion criteria. *IRF-PAI data are submitted for Medicare patients (Part A and Part C) only.	IRF Denominator Exclusions: 1. Patient stay is excluded if data on new or worsened Stage 2, 3, 4, and unstageable pressure ulcers are missing at discharge. 2. Patient stay is excluded if the patient died during the IRF stay.
MUC16-144	Application of Percent of Residents or Patients with Pressure Ulcers	LTCH Numerator: The numerator is the number of stays for which the LTCH CARE Data Set discharge assessment indicates one or	LTCH Denominator: The denominator is the number of patient stays with both an admission and discharge LTCH CARE Data Set assessment, except	LTCH Denominator Exclusions: 1. Patient stay is excluded if data on new or worsened Stage 2, 3, 4, and unstageable pressure ulcers are missing on the planned or unplanned

MUC ID	Measure Title	Numerator	Denominator	Exclusions
	That Are New or Worsened (Short-Stay)	more new or worsened Stage 2-4 or unstageable pressure ulcers compared to the admission assessment.	those that meet the exclusion criteria.	discharge assessment. 2. Patient stay is excluded if the patient died during the LTCH stay. 3. Patient stay is excluded if there is no admission assessment available to derive data for risk adjustment (covariates).
MUC16-145	The Percent of Residents or Home Health Patients with Pressure Ulcers That Are New or Worsened (Short-Stay)	The numerator is the number of episodes for which the OASIS assessment indicates one or more Stage 2-4 or unstageable pressure ulcer(s) that are new or worsened compared to the start or resumption of care.	The denominator is the number of patient episodes with both a start or resumption of care and end of care OASIS assessment, except those that meet the exclusion criteria.	1. Patient episode is excluded if data on new or worsened Stage 2, 3, 4, and unstageable pressure ulcers are missing on the End of Care. 2. Patient episode is excluded if the patient died during the home health episode. 3. Patient episode is excluded if there is no SOC/ROC available to derive data for risk adjustment (covariates).
MUC16-151	Febrile Neutropenia Risk Assessment Prior to Chemotherapy	Number of patients who had an FN risk assessment documented in the medical record prior to the first cycle of intravenous chemotherapy.	Number of patients 18 years of age or older with a solid malignant tumor or lymphoma receiving the first cycle of intravenous chemotherapy.	There are no exclusions
MUC16-152	Hospital Visits following Orthopedic Ambulatory Surgical Center Procedures	The outcome is any acute, unplanned hospital visit occurring within 7 days of the orthopedic surgical procedure performed at an ASC. Hospital visits include emergency department visits, observation stays, and	The cohort includes Medicare FFS patients aged 65 years and older undergoing orthopedic surgeries performed at ASCs. The measure includes only Medicare FFS patients who have 12 months of prior FFS enrollment.	The measure excludes patients from the denominator who do not have at least seven days of Medicare FFS enrollment following the ASC procedure.

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		unplanned inpatient admissions.	To identify eligible orthopedic surgeries, we first identified a list of procedures from Medicare's 2013 ASC list of covered procedures, which includes procedures for which ASCs can be reimbursed under the ASC payment system. This list is publicly available and annually reviewed and updated via a transparent process by Medicare. This list of ASC procedures is available for download at: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ASCPayment/ASC-Regulations-and-Notices-Items/CMS-1589-FC.html (download Addendum AA from website). We then focused on a subset of procedures - the "major" and "minor" global surgical package procedures - included on the list of covered ASC procedures. We identify "major" and "minor" using the global surgery indicator (GSI) values of 090 and 010, respectively, which identify surgeries of greater complexity and follow-up care based on Work Relative Value Units (RVUs).	

MUC ID	Measure Title	Numerator	Denominator	Exclusions
			To aggregate procedure-specific codes into the orthopedic procedures cohort, we used the Clinical Classifications Software (CCS) developed by the Agency for Healthcare Research and Quality (AHRQ). The CCS is a tool for clustering procedures into clinically meaningful categories using Common Procedural Terminology (CPT) codes by operation site. We include only procedures typically performed by orthopedic surgeons. Examples of orthopedic procedures include treatment of toe deformities, arthroscopic knee procedures, therapeutic procedures on muscles, tendons, joints, and bones, and treatment of fractures.	
MUC16-153	Hospital Visits following Urology Ambulatory Surgical Center Procedures	The outcome is any acute, unplanned hospital visit occurring within 7 days of the urology procedure performed at an ASC. Unplanned hospital visits include emergency department visits, observation stays, and	The cohort includes Medicare FFS patients aged 65 years and older undergoing urology procedures performed at ASCs. The measure includes only Medicare FFS patients who have 12 months of prior FFS enrollment. To identify eligible urology	The measure excludes patients from the denominator who do not have at least seven days of Medicare FFS enrollment following the ASC procedure.

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		unplanned inpatient admissions.	surgeries, we first identified a list of procedures from Medicare's 2013 ASC list of covered procedures, which includes procedures for which ASCs can be reimbursed under the ASC payment system. This list is publicly available and annually reviewed and updated via a transparent process by Medicare. This list of ASC procedures is available for download at: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ASCPayment/ASC-Regulations-and-Notices-Items/CMS-1589-FC.html (download Addendum AA from website). We then focused on a subset of procedures - the "major" and "minor" global surgical package procedures - included on the list of covered ASC procedures. We identify "major" and "minor" using the global surgery indicator (GSI) values of 090 and 010, respectively, which identify surgeries of greater complexity and follow-up care based on Work Relative Value Units (RVUs). We include cystoscopy with intervention – minor procedures	

MUC ID	Measure Title	Numerator	Denominator	Exclusions
			identified with the GSI value of 000 – in the urology measure cohort since this is a common procedure, often performed for therapeutic intervention by surgical teams, and has an outcome rate similar to other procedures in the urology measure cohort. To identify eligible urology procedures, we used the Clinical Classifications Software (CCS) developed by the Agency for Healthcare Research and Quality (AHRQ). The CCS is a tool for clustering procedures into clinically meaningful categories using Common Procedural Terminology (CPT) codes by operation site. We include only procedures typically performed by urologists. Examples of urology procedures include treatment or removal of all or part of the prostate gland, laser surgery of the prostate, therapeutic cystoscopy (scope used to examine the inside of the bladder), and fragmenting of kidney stones.	

MUC ID	Measure Title	Numerator	Denominator	Exclusions
MUC16-155	Ambulatory Breast Procedure Surgical Site Infection (SSI) Outcome Measure	Surgical site infections (SSIs) during the 30-day (superficial SSI) and 90-day (deep and organ/space SSI) postoperative periods following breast procedures in Ambulatory Surgery Centers. SSI is defined in accordance with the CDC's National Healthcare Safety Network (NHSN) surveillance protocol as an infection, following a breast procedure, of either the skin, subcutaneous tissue and breast parenchyma at the incision site (superficial incisional SSI), deep soft tissues of the incision site (deep incisional SSI), or any part of the body deeper than the fascial/muscle layers that is opened or manipulated during the operative procedure (organ/space SSI).	Breast procedures, as specified by the operative codes that comprise the breast procedure category of the NHSN Patient Safety Component Protocol, performed at ambulatory surgery centers. These (Current Procedural Terminology, i.e. CPT) codes are 11970, 19101, 19112, 19120, 19125, 19126, 19300, 19301, 19302, 19303, 19304, 19305, 19306, 19307, 19316, 19318, 19324, 19325, 19328, 19330, 19340, 19342, 19350, 19355, 19357, 19361, 19364, 19366, 19367, 19368, 19369, 19370, 19371, 19380	Hospital inpatients and hospital outpatient department patients, pediatric patients (younger than 18 years) and very elderly patients (older than 108 years), and brain-dead patients whose organs are being removed for donor purposes.
MUC16-165	Follow-Up After Hospitalization for Mental Illness	30-Day Follow-Up: An outpatient visit, intensive outpatient visit or partial hospitalization with a mental health practitioner within 30 days after discharge. Include outpatient visits, intensive	Patients 6 years and older as of the date of discharge who were discharged from an acute inpatient setting (including acute care psychiatric facilities) with a principal diagnosis of mental illness during the first 11 months	Exclude both the initial discharge and the readmission/direct transfer discharge if the readmission/direct transfer discharge occurs after the first 11 months of the measurement year (e.g., after December 1).

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		outpatient visits or partial hospitalizations that occur on the date of discharge. 7-Day Follow-Up: An outpatient visit, intensive outpatient visit or partial hospitalization with a mental health practitioner within 7 days after discharge. Include outpatient visits, intensive outpatient visits or partial hospitalizations that occur on the date of discharge.	of the measurement year (e.g., January 1 to December 1).	Exclude discharges followed by readmission or direct transfer to a nonacute facility within the 30-day follow-up period, regardless of principal diagnosis for the readmission. Exclude discharges followed by readmission or direct transfer to an acute facility within the 30-day follow-up period if the principal diagnosis was for non-mental health (any principal diagnosis code other than those included in the Mental Health Diagnosis Value Set). These discharges are excluded from the measure because rehospitalization or transfer may prevent an outpatient follow-up visit from taking place.
MUC16-167	Safe Use of Opioids – Concurrent Prescribing	Patients with active, concurrent prescriptions for opioids at discharge, or patients with active, concurrent prescriptions for an opioid and benzodiazepine at discharge	Patients ages 18 years and older on an active opioid or benzodiazepine prescription during the measurement period, discharged from a hospital encounter (inpatient, ED, or outpatient) during the measurement period	Denominator exclusions: Patients with cancer or patients receiving palliative care
MUC16-178	Alcohol Use Brief Intervention Provided or Offered and Alcohol Use Brief Intervention	SUB-2 The number of patients who received or refused a brief intervention. SUB-2a The number of patients who received a brief intervention.	The number of hospitalized inpatients 18 years of age and older who screen positive for unhealthy alcohol use or an alcohol use disorder (alcohol abuse or alcohol dependence).	The denominator has five exclusions as follows: • Patients less than 18 years of age • Patient who are cognitively impaired • Patients who refused or were not screened for alcohol use during the

MUC ID	Measure Title	Numerator	Denominator	Exclusions
				hospital stay • Patients who have a length of stay less than or equal to three days and greater than 120 days • Patients receiving Comfort Measures Only documented
MUC16-179	Alcohol Use Screening	The number of patients who were screened for alcohol use using a validated screening questionnaire for unhealthy drinking within the first three days of admission.	The number of hospitalized inpatients 18 years of age and older	The denominator has four exclusions: • Patients less than 18 years of age • Patients who are cognitively impaired • Patients who a have a duration of stay less than or equal to three days or greater than 120 days • Patients with Comfort Measures Only documented
MUC16-180	Alcohol & Other Drug Use Disorder Treatment Provided or Offered at Discharge and Alcohol & Other Drug Use Disorder Treatment at Discharge	SUB-3: The number of patients who received or refused at discharge a prescription for medication for treatment of alcohol or drug use disorder OR received or refused a referral for addictions treatment. SUB-3a: The number of patients who received a prescription at discharge for medication for treatment of alcohol or drug use disorder OR a referral for addictions treatment.	The number of hospitalized inpatients 18 years of age and older identified with an alcohol or drug use disorder	There are 11 exclusions to the denominator as follows: • Patients less than 18 years of age • Patient drinking at unhealthy levels who do not meet criteria for an alcohol use disorder • Patients who are cognitively impaired • Patients who expire • Patients discharged to another hospital • Patients who left against medical advice • Patients discharged to another healthcare facility • Patients discharged to home or another healthcare facility for hospice care • Patients who have a length of stay

MUC ID	Measure Title	Numerator	Denominator	Exclusions
				less than or equal to three days or greater than 120 days • Patients who do not reside in the United States • Patients receiving Comfort Measures Only documented
MUC16-260	Hospital-Wide Risk Standardized Mortality Measure	This outcome measure does not have a traditional numerator and denominator. We use this field to define the measure outcome. The outcome for this measure is 30-day all-cause mortality. Mortality is defined as death for any reason within 30 days after the index admission date, including in-hospital deaths.	The cohort includes inpatient admissions for patients aged 65 years and older, with a complete claims history for the 12 months prior to admission. If a patient has more than one admission in a year, one hospitalization is randomly selected for inclusion in the measure.	The measure excludes admissions for patients: - With inconsistent or unknown vital status or other unreliable data - Aged over 95 years old - Discharged against medical advice - Enrolled in the Medicare hospice program at any time in the 12 months prior to the index admission, including the first day of the index admission - With a principal diagnosis of cancer and enrolled in hospice during their index admission - With any diagnosis of metastatic cancer - Admissions for crush injury (CCS 234), burn (CCS 240), intracranial injury (CCS 233) or spinal cord injury (CCS 227) - Admissions for rehabilitation CCS 254 - Admissions for psychiatric diagnosis CCS 650, 651, 652, 654, 655, 656, 657, 658, 659, 662 & 670 - With a principal discharge diagnosis of anoxic brain damage (ICD-9 3481), persistent vegetative state (ICD-9 78003), prion diseases Creutzfeldt-

MUC ID	Measure Title	Numerator	Denominator	Exclusions
				Jakob disease (ICD-9 04619), Cheyne-Stokes respiration (ICD-9 78604), brain death (ICD-9 34882), respiratory arrest (ICD-9 7991), or cardiac arrest (ICD-9 4275) without a secondary diagnosis if acute myocardial infarction.
MUC16-262	Measure of Quality of Informed Consent Documents for Hospital-Performed, Elective Procedures	The outcome of this measure is the quality of a hospital's informed consent documents.	The measure cohort will include Medicare FFS beneficiaries who have undergone an elective, hospital-based procedure for which informed consent is considered standard practice. Identification of elective procedures will follow the algorithm used to identify the development cohort. The measure is broadly applicable to a range of procedures, including elective cardiac, orthopedic and urological procedures, and settings, such as accountable care organizations.	This aspect of the measure is currently under development.
MUC16-263	Communication about Pain During the Hospital Stay	HCAHPS Survey measures are calculated using top-box scoring. The top-box refers to the percentage of patients who choose the most positive response option. For questions HP2 and HP3 in this measure, the top-box numerator is number of respondents who answer "Always." For question HP5,	The top box denominator is the number of respondents who answer at least one of the questions in this multi-item measure, that is, questions HP2, HP3 and HP5.	Patients who respond "No" to question HP1 are excluded from questions HP2 and HP3. Patients who respond "No" to question HP4 are excluded from question HP5. In addition, the following types of patients are excluded from the HCAHPS Survey: Patients younger than 18 years old at time of admission; Patients who did not have at least one

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		the top-box numerator is number of respondents who answer "Yes." Questions HP1 and HP4 are screener items that serve to direct respondents to subsequent questions, if applicable. HP1: "During this hospital stay, did you have any pain?" HP2: "During this hospital stay, how often did hospital staff talk with you about how much pain you had?" HP3: "During this hospital stay, how often did hospital staff talk with you about how to treat your pain?" HP4: "During this hospital stay, did you get medicine for pain?" HP5: "Before giving you pain medicine, did hospital staff describe possible side effects in a way you could understand?"		overnight station in the hospital; Patients who were not admitted in the medical, surgical or maternity service lines; Patients who were not alive at time of discharge; "No-Publicity" patients – Patients who request that they not be contacted; Court/Law enforcement patients (i.e., prisoners); Patients with a foreign home address; Patients discharged to hospice care; Patients who are excluded because of state regulations; Patients discharged to nursing homes and skilled nursing facilities. For details, see HCAHPS Quality Assurance Guidelines, V11.0 at http://www.hcahpsonline.org/qaguidelines.aspx
MUC16-264	Communication about Treating Pain Post-Discharge	HCAHPS Survey measures are calculated using top-box scoring. The top-box refers to the percentage of patients who choose the most	The top box denominator is the number of respondents who answer at least one of the questions in this multi-item	Patients who respond "No" to question DP2 are excluded from question DP3. In addition, the following types of patients are excluded from the

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		positive response option. For questions DP1 and DP3, the top-box numerator is number of respondents who answer "Yes." Question DP2 is a screener item that serves to direct respondents to question DP3, if applicable. DP1: "Before you left the hospital, did someone talk with you about how to treat pain after you got home?" DP2: "Before you left the hospital, did hospital staff give you a prescription for medicine to treat pain?" DP3: "Before giving you the prescription for pain medicine, did hospital staff describe possible side effects in a way you could understand?"	measure, that is, questions DP1 and DP3.	HCAHPS Survey: Patients younger than 18 years old at time of admission; Patients who did not have at least one overnight station in the hospital; Patients who were not admitted in the medical, surgical or maternity service lines; Patients who were not alive at time of discharge; "No-Publicity" patients – Patients who request that they not be contacted; Court/Law enforcement patients (i.e., prisoners); Patients with a foreign home address; Patients discharged to hospice care; Patients who are excluded because of state regulations; Patients discharged to nursing homes and skilled nursing facilities. For details, see HCAHPS Quality Assurance Guidelines, V11.0 at http://www.hcahpsonline.org/qaguidelines.aspx
MUC16-268	Otitis Media with Effusion: Systemic Corticosteroids - Avoidance of Inappropriate Use	Patients who were not prescribed systemic corticosteroids	All patients aged 2 months through 12 years with a diagnosis of OME	Denominator Exception: Documentation of medical reason(s) for prescribing systemic corticosteroids
MUC16-269	Otitis Media with Effusion: Systemic Antimicrobials -	Patients who were not prescribed systemic antimicrobials	All patients aged 2 months through 12 years with a diagnosis of OME	Denominator Exceptions: Documentation of medical reason(s) for prescribing systemic antimicrobials

MUC ID	Measure Title	Numerator	Denominator	Exclusions
	Avoidance of Inappropriate Use			
MUC16-271	Proportion of patients who died from cancer receiving chemotherapy in the last 14 days of life	Patients who died from cancer and received chemotherapy in the last 14 days of life	Patients who died from cancer.	None
MUC16-273	Proportion of patients who died from cancer admitted to the ICU in the last 30 days of life	Patients who died from cancer and were admitted to the ICU in the last 30 days of life	Patients who died from cancer.	None
MUC16-274	Proportion of patients who died from cancer admitted to hospice for less than 3 days	Patients who died from cancer and spent fewer than three days in hospice.	Patients who died from cancer who were admitted to hospice	None
MUC16-275	Proportion of patients who died from cancer not admitted to hospice	Proportion of patients not enrolled in hospice	Patients who died from cancer.	None
MUC16-276_1	Preoperative Key Medications Review for Anticoagulation	All adults (18 years and older) who undergo an elective or emergent surgical procedure under regional,	All patients who take anticoagulation medication who are taken to the operating room for an elective surgical	Documentation that the plan for pre-operative anticoagulation management was discussed with the physician responsible for managing the

MUC ID	Measure Title	Numerator	Denominator	Exclusions
	Medication (Group measure as defined by Am. Coll. of Surgeons)	MAC, and/or general anesthesia for whom an intraoperative surgical debriefing takes place at the end of the case confirming correct counts, procedure and specimen review, wound class, fluids recorded, equipment review, postoperative destination and postoperative care plan including plan for perioperative antibiotics, VTE prophylaxis and Foley. The debriefing must be documented in the medical record.	intervention under regional, MAC, or general anesthesia.	patient's anticoagulation between 48 hours and 30 days prior to surgery.
MUC16-277$_1$	Postoperative Plan Communication with Patient and Family (Group measure as defined by Am. Coll. of Surgeons)	All patients age 18 or older who are taken to the operating room for an elective or emergent surgical procedure under regional anesthesia, MAC, and/or general anesthesia who had documented postoperative communication regarding the surgery and plan for care after discharge with the patient and the patient's family	All patients age 18 or older who are taken to the operating room for an elective or emergent surgical procedure under regional anesthesia, MAC, and/or general anesthesia	[none]
MUC16-278$_1$	Patient Frailty Evaluation (Group	All patients age 80 years and over who are 1) brought	All adults 80 years and older who 1) are brought from their home or	Frailty screen could not be completed due to patient condition (cognitive

MUC ID	Measure Title	Numerator	Denominator	Exclusions
	measure as defined by Am. Coll. of Surgeons)	from their home or normal living environment on the day of surgery AND 2) undergo a non-emergent/non-urgent, scheduled surgical procedure, AND 3) have documented frailty screening AND outcome of screening in the medical record.	normal living environment on the day of surgery AND 2) undergo a non-emergent/non-urgent, scheduled surgical procedure.	impairment, physical disability preventing participation) OR Frailty screen offered and patient refused participation.
MUC16-279[1]	Identification of Major Co-Morbid Medical Conditions (Group measure as defined by Am. Coll. of Surgeons)	All patients evaluated by an eligible professional who are scheduled for an elective surgical procedure AND who have documentation of clinically accurate and relevant co-morbid medical conditions in the medical record within 30 days prior to the procedure.	All adults (18 years and older) evaluated by an eligible professional who are scheduled for an elective surgical procedure.	Documentation in the patient's medical record that patient does not have any co-morbid medical conditions within 30 days prior to a patient undergoing an elective surgical procedure.
MUC16-280[1]	Intraoperative Timeout Safety Checklist (Group measure as defined by Am. Coll. of Surgeons)	All patients age 18 or older who are taken to the operating room for an elective or emergent surgical intervention under regional, MAC, and/or general anesthesia for whom an intraoperative safety checklist is performed prior to incision that includes the patient's name, the procedure to be performed,	All adults (18 years and older) who undergo an elective or emergent surgical procedure under regional, MAC, and/or general anesthesia	Trauma or emergent cases in which the patient is unstable, and completion of a full time-out is felt to compromise the patient's safety

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		laterality, confirmation of site marking, allergies, confirmation of the administration of preoperative antibiotic prophylaxis and VTE prophylaxis if appropriate, anticipated equipment, placement of Bovie pad, correct patient positioning, and display of essential imaging		
MUC16-281[1]	Postoperative Care Coordination and Follow-up with Primary/Referring Provider (Group measure as defined by Am. Coll. of Surgeons)	All adults (18 years and older) who undergo an elective or emergent surgical procedure under regional, MAC, and/or general anesthesia for whom documentation of post-operative communication with the patient's PCP or referring physician regarding the surgery is present in the medical record within the 30 days following surgery.	All adults (18 years and older) who undergo an elective or emergent surgical procedure under regional, MAC, and/or general anesthesia.	Documentation that the patient does not have a PCP or referring physician to communicate with post-operatively within 30 days following surgery.
MUC16-282[1]	Perioperative Composite (Group measure as defined by Am. Coll. of Surgeons)	All patients who are taken to the operating room for an elective surgical intervention under regional, MAC, and/or general anesthesia for whom an updated H&P, documentation of the review	All adults (18 years and older) who undergo an elective surgical procedure under regional, MAC, and/or general anesthesia.	Documentation within the 24 hours prior to surgery that no BMP, CBC, and/or PT/INR results from the 30 days prior to surgery are available for review.

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		of recent laboratory values, and documentation of the site and side of surgery are present in the medical record within the 24 hours prior to surgery.		
MUC16-283[1]	Postoperative Care Plan (Group measure as defined by Am. Coll. of Surgeons)	All patients age 18 or older who are taken to the operating room for an elective or emergent surgical intervention under regional, MAC, and/or general anesthesia who have a documented plan of care at the beginning of the postoperative phase of care that addresses: mobilization, pain management, diet, resumption of preoperative medications, management of drains/catheters/invasive lines, and wound care	All adults (18 years and older) who undergo an elective or emergent surgical procedure under regional, MAC, and/or general anesthesia	N/A
MUC16-284[1]	Postoperative Review of Patient Goals of Care (Group measure as defined by Am. Coll. of Surgeons)	All patients who had documented postoperative communication reviewing original goals of care expressed preoperatively and updating goals of care as appropriate. The patient's dominant goal of care and the goal of care discussion have been documented as	All patients who are brought from their home or normal living environment on the day of surgery AND taken to the operating room for an elective surgical procedure under regional anesthesia, MAC, and/or general anesthesia AND have goals of care discussion documented in the medical record. The patient's	1. Patients who are inpatient at an acute care hospital at the time of their current operation 2. Patients who are transferred from the Emergency Department (ED) 3. Patients who are transferred from a clinic 4. Patients who undergo an emergent/urgent surgical operation 5. Patients whose admission to the

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		one or more of the following: 1. Living as long as possible 2. Living independently 3. Keeping comfortable, symptom relief 4. Establishing a diagnosis or treating / curing a condition 5. Other (single sentence)	dominant goal of care and the goal of care discussion have been documented as one or more of the following: 1. Living as long as possible 2. Living independently 3. Keeping comfortable, symptom relief 4. Establishing a diagnosis or treating / curing a condition 5. Other (single sentence)	hospital was on any date prior to the date of the scheduled surgical procedure for any reason
MUC16-285	Unplanned Hospital Readmission within 30 Days of Principal Procedure	All adults (18 years and older) who underwent elective or emergency surgery who had an Inpatient readmission to the same hospital for any reason or an outside hospital (if known to the surgeon), within 30 days of the principal surgical procedure	All adults (18 years and older) who underwent elective or emergency surgery	N/A
MUC16-286$_1$	Participation in a National Risk-adjusted Outcomes Surgical Registry (Group measure as defined by Am. Coll. of Surgeons)	Whether or not there is participation in at least one multi-center national data collection and feedback program for elective surgery cases either via an institution based registry or surgeon specific registry.	N/A	N/A

MUC ID	Measure Title	Numerator	Denominator	Exclusions
MUC16-287	Bone Density Evaluation for Patients with Prostate Cancer and Receiving Androgen Deprivation Therapy	Patient with DEXA scan or bone mineral density scan initially or within 3 months of ADT initiation.	Diagnosis of prostate cancer Current or past usage of androgen deprivation therapy	None
MUC16-288$_1$	Surgical Plan and Goals of Care (Preoperative Phase) (Group measure as defined by Am. Coll. of Surgeons)	All patients who are 1) brought from their home or normal living environment on the day of surgery AND 2) undergo a non-emergent/non-urgent, scheduled surgical procedure, AND 3) have the purpose of the procedure documented in the medical record AND 4) have goals of care discussion documented in the medical record. (A) The purpose of the procedure was described and documented to be one or more of the following: 1. Establish a diagnosis 2. Relieve symptoms 3. Treat or cure a condition 4. Improve function and/or quality of life 5. Other (B) The patient's dominant	All adults (18 years and older) who 1) are brought from their home or normal living environment on the day of surgery AND 2) Surgery must be non-emergent/non-urgent scheduled procedure, performed in an operating room under MAC, regional, or general anesthesia	1. Patients who are inpatient at an acute care hospital 2. Patients who are transferred from an ED 3. Patients who are transferred from a clinic 4. Patients who undergo an emergent/urgent surgical case 5. Patients whose admission to the hospital was on any date prior to the date of the scheduled surgical procedure for any reason

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		goal of care and the goal of care discussion have been documented as one or more of the following: 1. Living as long as possible 2. Living independently 3. Keeping comfortable, symptom relief 4. Establishing a diagnosis or treating / curing a condition 5. Other (single sentence)		
MUC16-289[1]	Preventative Care and Screening: Tobacco Screening and Cessation Intervention (Group measure as defined by Am. Coll. of Surgeons)	All adults (18 years and older) who undergo an elective surgical procedure AND who are active tobacco users AND received cessation counseling at least 2 months prior to the scheduled elective procedure.	All patients evaluated by an eligible professional who are scheduled for an elective surgical procedure AND who are active tobacco users.	Documentation in the patient's medical record that the patient did not receive tobacco cessation counseling at least 2 months prior to the procedure due to the risk of delaying the elective surgical procedure is greater than the benefits of cessation of tobacco use.
MUC16-291	Patient Experience with Surgical Care Based on the Consumer Assessment of Healthcare Providers and Systems (CAHPS) ® Surgical Care Survey (S-CAHPS)	We recommend that S-CAHPS composites be calculated using a top-box scoring method. The top box score refers to the percentage of patients whose responses indicated excellent performance for a given measure. This approach is a kind of categorical scoring because the emphasis is on the score	The composite does not have a typical denominator statement. This section describes the target population. The major criteria for selecting patients were having had a major surgery as defined by CPT codes (90 day globals) within 3 to 6 months prior to the start of the survey. Both male and female adults (18 years of age and older)	The following patients would be excluded from all composites: (1) Surgical patients whose procedure was greater than 6 months or less than 3 months prior to the start of the survey. (2) Surgical patients younger than 18 years old. (3) Surgical patients who are institutionalized (e.g., psychiatric facility, nursing facility, or imprisoned) or deceased." (4) Surgery performed had to be scheduled and not an emergency procedure since emergency

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		for a specific category of responses. The composite measures do not have a typical numerator. This section is used to describe the composite score. The composite score is the average proportion of respondents who answered the most positive response category across the questions in the composite. The top box numerators for items within Composite measures 1, 2, 4, 5, and 6 is the number of respondents who answered "Yes, definitely" across the items in each composite. The top box composite score is the average proportion of respondents who answered "Yes, definitely" across the items in the composite. The top box numerator for items within Composite measure 3 is the number of respondents who answered "Yes" across the items in this composite. The top box composite score is the average proportion of respondents who answered "Yes" across the items in this	Measure/Component 1. Information to Help You Prepare for Surgery. Denominator statement: The top box denominator is the number of respondents who answer at least one of the questions in this multi-item measure, that is, Question 3 and Question 4. Measure/Component 2. How Well Surgeon Communicates with Patients Before Surgery. Denominator statement: The top box denominator is the number of respondents who answer at least one of the questions in this multi-item measure, that is, Question 9, Question 10, Question 11, and Question 12. Measure/Component 3. Surgeon's Attentiveness on Day of Surgery. Denominator statement: The top box denominator is the number of respondents who answer at least one of the questions in this multi-item measure, that is, Question 15 and Question 17.	procedures are unlikely to have visits with the surgeon before the surgery

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		composite. The top box numerator for the Measure 7, the Global Rating Item, is the number of respondents who answered 9 or 10 to the Global Rating Item. Note that for users who want to case-mix adjust their scores, case-mix adjustment can be done using the CAHPS macro and the adjustment is made prior to the calculation of the total score.	Measure/Component 4. Information To Help You Recover From Surgery. Denominator statement: The top box denominator is the number of respondents who answer at least one of the questions in this multi-item measure, that is, Question 26, Question 27, Question 28, and Question 29. Measure/Component 5. How Well Surgeon Communicates With Patients After Surgery. Denominator statement: The top box denominator is the number of respondents who answer at least one of the questions in this multi-item measure, that is, Question 31, Question 32, Question 33, and Question 34. Measure/Component 6. Helpful, Courteous, and Respectful Staff at Surgeon's Office. Denominator statement: The top box denominator is the number of respondents who answer at least one of the questions in this multi-item measure, that is, Question 36, and Question 37.	

MUC ID	Measure Title	Numerator	Denominator	Exclusions
			Measure/Component 7. Patients' Rating of the Surgeon. Denominator statement: The top box denominator is the number of respondents who answered this single-item global measure, that is, Question 35.	
MUC16-292$_1$	Resumption Protocol (Group measure as defined by Am. Coll. of Surgeons)	All patients age 18 or older who are taken to the operating room for an elective or emergent surgical intervention under regional, MAC, and/or general anesthesia who have a documented plan during a post-discharge follow-up encounter updating patient improvements in mobility, pain control, diet, resumption of home medications, wound care, and management of cutaneous/invasive devices (drains, IV lines, etc.). This encounter must take place within 30 days of discharge.	All adults (18 years and older) who undergo an elective or emergent surgical procedure under regional, MAC, and/or general anesthesia.	N/A
MUC16-293$_1$	Patient-Centered Surgical Risk Assessment and Communication (Group measure	Documentation of empirical, personalized risk assessment based on the patient's risk factors with a validated risk calculator using multi-	All adults (18 years and older) who underwent non-emergency surgery	N/A

MUC ID	Measure Title	Numerator	Denominator	Exclusions
	as defined by Am. Coll. of Surgeons)	institutional clinical data, the specific risk calculator used, and communication of risk assessment from risk calculator with the patient and/or family		
MUC16-294	Completion of a Malnutrition Screening within 24 Hours of Admission	Patients in the denominator who have a completed malnutrition screening documented in the medical record within 24 hours of admission to the hospital. For the purposes of this measure, it is recommended that a malnutrition screening be performed using a validated screening tool which may include but is not limited to one of the following validated tools: Malnutrition Screening Tool (MST) (Ferguson, 1999), Nutrition Risk Classification (NRC) (Kovacevich, 1997), Nutritional Risk Index (NRI) (Bouillanne, 2005), Nutritional Risk Screening 2002 (NRS-2002) (Kondrup, 2003), Short Nutrition	All patients age 18 years and older at time of admission who are admitted to an inpatient hospital.	Patients with length of stay < 24 hours

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		Assessment Questionnaire (SNAQ) (Kruizenga, 2005).		
MUC16-296	Completion of a Nutrition Assessment for Patients Identified as At-Risk for Malnutrition within 24 Hours of a Malnutrition Screening	Patients in the denominator who have a nutrition assessment documented in the medical record within 24 hours of the most recent malnutrition screening.	Patients age 65 years and older admitted to the hospital who were identified as at-risk for malnutrition upon completing a malnutrition screening.	Patients with a length of stay < 24 hours
MUC16-305	Standardized Transfusion Ratio for Dialysis Facilities	Number of eligible observed red blood cell transfusion events: An event is defined as the transfer of one or more units of blood or blood products into a recipient's blood stream (code set is provided in the numerator details) among patients dialyzing at the facility during the inclusion episodes of the reporting period. Inclusion episodes are those that do not have any claims pertaining to the comorbidities identified for exclusion, in the one year look back period prior to each observation window.	Number of eligible red blood cell transfusion events (as defined in the numerator statement) that would be expected among patients at a facility during the reporting period, given the patient mix at the facility. Inclusion episodes are those that do not have any claims pertaining to the comorbidities identified for exclusion, in the one year look back period prior to each observation window.	All transfusions associated with transplant hospitalization are excluded. Patients are also excluded if they have a Medicare claim for: hemolytic and aplastic anemia, solid organ cancer (breast, prostate, lung, digestive tract and others), lymphoma, carcinoma in situ, coagulation disorders, multiple myeloma, myelodysplastic syndrome and myelofibrosis, leukemia, head and neck cancer, other cancers (connective tissue, skin, and others), metastatic cancer, and sickle cell anemia within one year of their patient time at risk. Since these comorbidities are associated with higher risk of transfusion and require different anemia management practices that the measure is not intended to address, every patient's risk window is modified

MUC ID	Measure Title	Numerator	Denominator	Exclusions
				to have at least 1 year free of claims that contain these exclusion eligible diagnoses.
MUC16-308	Hemodialysis Vascular Access: Standardized Fistula Rate	The numerator is the adjusted count of adult patient-months using an AVF as the sole means of vascular access as of the last hemodialysis treatment session of the month.	All patients at least 18 years old as of the first day of the reporting month who are determined to be maintenance hemodialysis patients (in-center and home HD) for the entire reporting month at the same facility.	Exclusions that are implicit in the denominator definition include: •Pediatric patients (<18 years old) •Patients on Peritoneal Dialysis •Patient-months with in-center or home hemodialysis for less than a complete reporting month at the same facility In addition, the following exclusions are applied to the denominator: Patients with a catheter that have limited life expectancy: •Patients under hospice care in the current reporting month •Patients with metastatic cancer in the past 12 months •Patients with end stage liver disease in the past 12 months •Patients with coma or anoxic brain injury in the past 12 months
MUC16-309	Hemodialysis Vascular Access: Long-term Catheter Rate	The numerator is the number of adult patient-months in the denominator who were on maintenance hemodialysis using a catheter continuously for three months or longer as of the	All patients at least 18 years old as of the first day of the reporting month who are determined to be maintenance hemodialysis patients (in-center and home HD) for the complete reporting month at the same facility.	Exclusions that are implicit in the denominator definition include: -Pediatric patients (<18 years old) -Patients on Peritoneal Dialysis -Patient-months under in-center or home hemodialysis for less than a complete reporting month at the same facility

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		last hemodialysis session of the reporting month.		In addition, the following exclusions are applied to the denominator: Patients with a catheter that have limited life expectancy: -Patients under hospice care in the current reporting month -Patients with metastatic cancer in the past 12 months -Patients with end stage liver disease in the past 12 months -Patients with coma or anoxic brain injury in the past 12 months
MUC16-310	Intravesical Bacillus Calmette-Guerin for NonMuscle Invasive Bladder Cancer	Intravesical Bacillus-Calmette Guerin (BCG) instillation for initial dose or series. BCG dose can be full or partial and can be from any lot or manufacturer. BCG is initiated within 6 months of the bladder cancer diagnosis.	All patients initially diagnosed with nonmuscle invasive bladder cancer.	Denominator Exceptions: Immunosuppressed patients - AIDS, Leukemia, Lymphoma Active Tuberculosis Recurrent bladder cancer Unavailability of BCG
MUC16-312	Prevention of Post-Operative Vomiting (POV) - Combination Therapy (Pediatrics)	Patients who receive combination therapy consisting of at least two prophylactic pharmacologic anti-emetic agents of different classes preoperatively and intraoperatively	All patients, aged 3 through 17 years of age, who undergo a procedure under general anesthesia in which an inhalational anesthetic is used for maintenance AND who have two or more risk factors for POV	Cases in which an inhalational anesthetic is used only for induction

MUC ID	Measure Title	Numerator	Denominator	Exclusions
MUC16-314	Transfer of Information at Post-Acute Care Admission, Start, or Resumption of Care from Other Providers/Settings	The numerator for the admission measure is the number of patient/resident stays/episodes with an admission assessment indicating that health information and/or care preferences were received at admission, and the information transferred was from at least one of eight categories of information.	The denominator for the admission measure is the total number of SNF Medicare Part A covered resident stays.	Patient was not under the care of another provider immediately prior to this Admission/SOC/ROC.
MUC16-316$_1$	Intraoperative Surgical Debriefing (Group measure as defined by Am. Coll. of Surgeons)	All adults (18 years and older) who undergo an elective or emergent surgical procedure under regional, MAC, and/or general anesthesia for whom an intraoperative surgical debriefing takes place at the end of the case confirming correct counts, procedure and specimen review, wound class, fluids recorded, equipment review, postoperative destination and postoperative care plan including plan for perioperative antibiotics, VTE prophylaxis and Foley catheter. The debriefing	All adults, female and male, (18 years and older) who undergo an elective or emergent surgical procedure under regional, MAC, and/or general anesthesia.	N/A

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		must be documented in the medical record.		
MUC16-317	Safety Concern Screening and Follow-Up for Patients with Dementia	Patients with dementia or their caregiver(s) for whom there was a documented safety screening * in two domains of risk: dangerousness to self or others and environmental risks; and if screening was positive in the last 12 months, there was documentation of mitigation recommendations, including but not limited to referral to other resources. *The following is a non-exhaustive list of safety concerns in the two domains pertinent to this measure. To meet measure requirements a patient's medical record must have documentation of being screened on at least one concern from each of the two domains. Dangerousness to self (patient) or others(caregivers and other individuals) · Medication misuse · Physical aggressiveness · Wandering, including	All patients with dementia	Patient unable to communicate and informant not available.

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		addressing precautions that may include physical measures (e.g., locks, fences or hedges), video surveillance, GPS monitoring and Safe Return programs, personal companions, schedule modifications (e.g., adult day care and day programs), rehabilitative measures, and risk mitigation strategies · Inability to respond rapidly to crisis/household emergencies · Financial mismanagement, including being involved in "scams" · Other concerns raised by patient or their caregiver Environmental risks · Home safety risks that could arise from cooking or smoking · Access to firearms or other weapons · Access to potentially dangerous chemicals and other materials · Access to and operation of tools and equipment · Trip hazards in the home increasing the risk of falling		

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		· Other concerns raised by patient or their caregiver		
MUC16-319	Transfer of Information at Post-Acute Care Admission, Start, or Resumption of Care from Other Providers/Settings	The numerator for the admission measure is the number of patient/resident stays/episodes with an admission assessment indicating that health information and/or care preferences were received at admission, and the information transferred was from at least one of eight categories of information.	The denominator for the admission measure is the total number of IRF patient stays (Part A and Part C).	Patient was not under the care of another provider immediately prior to this Admission/SOC/ROC.
MUC16-321	Transfer of Information at Post-Acute Care Admission, Start, or Resumption of Care from Other Providers/Settings	The numerator for the admission measure is the number of patient/resident stays/episodes with an admission assessment indicating that health information and/or care preferences were received at admission, and the information transferred was from at least one of eight categories of information.	The denominator for the admission measure is the total number of LTCH patient stays.	Patient was not under the care of another provider immediately prior to this Admission/SOC/ROC.
MUC16-323	Transfer of Information at Post-Acute Care Discharge or End	The numerator for the discharge measure is the number of patient/resident stays with a discharge assessment indicating that	The denominator for this measure is the total number of SNF Medicare Part A covered resident stays.	Expired patients/residents

MUC ID	Measure Title	Numerator	Denominator	Exclusions
	of Care to Other Providers/Settings	health information and/or care preferences were provided to the next provider or agency at discharge, and the information transferred was from at least one of eight categories of information.	The receiving/admitting provider will be another PAC, a hospital or a critical access hospital, or, for home and community-setting patients, a physician(s) (e.g., primary care provider, family physician, specialist).	
MUC16-325	Transfer of Information at Post-Acute Care Discharge or End of Care to Other Providers/Settings	The numerator for the discharge measure is the number of patient/resident stays with a discharge assessment indicating that health information and/or care preferences were provided to the next provider or agency at discharge, and the information transferred was from at least one of eight categories of information.	The denominator for this measure is the total number of IRF patient stays (Part A and Part C). The receiving/admitting provider will be another PAC, a hospital or a critical access hospital, or, for home and community-setting patients, a physician(s) (e.g., primary care provider, family physician, specialist).	Expired patients/residents
MUC16-327	Transfer of Information at Post-Acute Care Discharge or End of Care to Other Providers/Settings	The numerator for the discharge measure is the number of patient/resident stays with a discharge assessment indicating that health information and/or care preferences were provided to the next provider or agency at discharge, and the information transferred	The denominator for this measure is the total number of LTCH patient stays. The receiving/admitting provider will be another PAC, a hospital or a critical access hospital, or, for home and community-setting patients, a physician(s) (e.g.,	Expired patients/residents

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		was from at least one of eight categories of information.	primary care provider, family physician, specialist).	
MUC16-343	Uterine artery embolization technique: Documentation of angiographic endpoints and interrogation of ovarian arteries	Number of patients undergoing uterine artery embolization for symptomatic leiomyomas and/or adenomyosis in whom embolization endpoints are documented separately for each embolized vessel AND ovarian artery angiography or embolization performed in the presence of variant uterine artery anatomy. Embolization endpoints: Complete stasis (static contrast column for at least 5 heartbeats) / Near-stasis (not static, but contrast visible for at least 5 heartbeats) / Slowed flow (contrast visible for fewer than 5 heartbeats) / Normal velocity flow with pruning of distal vasculature / Other [specify] / Not documented Embolization strategy options for variant uterine	All patients undergoing uterine artery embolization for symptomatic leiomyomas and/or adenomyosis.	SIR Guidance: Any patients that should be excluded from reporting either in the eligible population (denominator) or from both numerator and denominator (if patient experiences outcome then exclude from denominator and numerator; if not then include in denominator). Method to risk adjust measure.

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		artery anatomy: Ovarian artery angiography, Ovarian artery embolization, Abdominal Aortic angiography, None		
MUC16-344	Appropriate Documentation of a Malnutrition Diagnosis	Patients with a documented diagnosis of malnutrition.	Patients age 65 years and older admitted to inpatient care who have a completed nutrition assessment indicative of malnutrition documented in their medical record.	Patients with length of stay < 24 hours; Patients who are discharged to palliative care; Patients who are discharged to hospice; Patients who left against medical advice
MUC16-345$_1$	Post-Discharge Review of Patient Goals of Care (Group measure as defined by Am. Coll. of Surgeons)	All patients who had documented post-discharge communication reviewing original goals of care expressed preoperatively and updating goals of care as appropriate occurring after discharge up until 90 days following discharge date. The patient's dominant goal of care and the goal of care discussion have been documented as one or more of the following: 1. Living as long as possible 2. Living independently 3. Keeping comfortable, symptom relief 4. Establishing a diagnosis or	All patients who are brought from their home or normal living environment on the day of surgery AND taken to the operating room for an elective surgical procedure under regional anesthesia, MAC, and/or general anesthesia AND have goals of care discussion performed in the preoperative phase and documented in the medical record. The patient's dominant goals of care and the goal of care discussion have been documented as one or more of the following: 1. Living as long as possible 2. Living independently 3. Keeping comfortable, symptom relief 4. Establishing a diagnosis or	1. Patients who are inpatient at an acute care hospital at the time of their current operation 2. Patients who are transferred from the Emergency Department (ED) 3. Patients who are transferred from a clinic 4. Patients who undergo an emergent/urgent surgical operation 5. Patients whose admission to the hospital was on any date prior to the date of the scheduled surgical procedure for any reason

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		treating / curing a condition 5. Other (single sentence)	treating / curing a condition 5. Other (single sentence)	
MUC16-347	Transfer of Information at Post-Acute Care Admission, Start, or Resumption of Care from Other	The numerator for the admission measure is the number of patient/resident stays/episodes with an admission assessment indicating that health information and/or care preferences were received at admission, and the information transferred was from at least one of eight categories of information.	The denominator for the admission measure is the number of Medicare (Part A and Part C) and Medicaid home health quality episodes.	Patient was not under the care of another provider immediately prior to this Admission/SOC/ROC.
MUC16-357	Transfer of Information at Post-Acute Care Discharge or End of Care to Other Providers/Settings	The numerator for the discharge measure is the number of patient/resident stays with a discharge assessment indicating that health information and/or care preferences were provided to the next provider or agency at discharge, and the information transferred was from at least one of eight categories of information.	The denominator for this measure is the number of Medicare (Part A and Part C) and Medicaid home health quality episodes. The receiving/admitting provider will be another PAC, a hospital or a critical access hospital, or, for home and community-setting patients, a physician(s) (e.g., primary care provider, family physician, specialist).	1. Expired patients. 2. The agency was not made aware of this transfer timely and therefore was unable to transfer health information to the receiving facility
MUC16-372	Nutrition Care Plan for Patients Identified as Malnourished	Patients with a nutrition care plan documented in the patient´s medical record.	Patients age 65 years and older admitted to inpatient care who are found to be malnourished	Patients with length of stay < 24 hours

MUC ID	Measure Title	Numerator	Denominator	Exclusions
	after a Completed Nutrition Assessment	Care plan components include, but are not limited to: Completed assessment results; data and time stamp; treatment goals; prioritization based on treatment severity; prescribed treatment / nutrition intervention; identification of members of the Care Team, timeline for patient follow-up.	based on a completed nutrition assessment.	
MUC16-375	Localized Prostate Cancer: Bowel function	Patients with a clinically-significant change in bowel function from baseline to follow-up. Numerator definitions: Bowel function is measured as the Bowel function domain score via the EPIC-26 or EPIC-50 at baseline (0-6 months prior to the start of surgery or radiation at the reporting facility) AND follow up (1 year (± 3 months) after the date of surgery or the start of a radiation regimen at the reporting facility). Clinically significant change is	All non-metastatic prostate cancer patients undergoing radiation or surgical treatment for prostate cancer at the reporting facility. Denominator definitions: 'Non-metastatic' is defined as AJCC 7th edition M0 (non-M1) cancer stage, regardless of T and N.	Any patients that are unable to complete a baseline and follow-up survey due to death, language barrier, or physical or mental incapacity Patients with progression to metastatic disease during the follow up period Patients who stop treatment at or leave the reporting facility during the follow up period

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		defined in Skolarus et al., 2015.		
MUC16-377	Localized Prostate Cancer: Sexual function	Patients with a clinically-significant change in sexual function from baseline to follow-up. Numerator definitions: Sexual function is measured as the Sexual function domain score via the EPIC-26 or EPIC-50 at baseline (0-6 months prior to the start of surgery or radiation at the reporting facility) AND follow up (1 year (± 3 months) after the date of surgery or the start of a radiation regimen at the reporting facility). Clinically significant change is defined in Skolarus et al., 2015.	All non-metastatic prostate cancer patients undergoing radiation or surgical treatment for prostate cancer at the reporting facility. Denominator definitions: 'Non-metastatic' is defined as AJCC 7th edition M0 (non-M1) cancer stage, regardless of T and N.	Any patients that are unable to complete a baseline and follow-up survey due to death, language barrier, or physical or mental incapacity Patients with progression to metastatic disease during the follow up period Patients who stop treatment at or leave the reporting facility during the follow up period
MUC16-379	Localized Prostate Cancer: Urinary Frequency, Obstruction, and/or Irritation	Patients with a clinically-significant change in urinary frequency, obstruction, and/or irritation from baseline to follow-up Numerator definitions:	All non-metastatic prostate cancer patients undergoing radiation or surgical treatment for prostate cancer at the reporting facility. Denominator definitions: 'Non-metastatic' is defined as	Any patients that are unable to complete a baseline and follow-up survey due to death, language barrier, or physical or mental incapacity Patients with progression to metastatic disease during the follow up period Patients who stop treatment at or

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		Urinary frequency, obstruction, and/or irritation is measured as the Urinary frequency domain score via the EPIC-26 or EPIC-50 at baseline (0-6 months prior to the start of surgery or radiation at the reporting facility) AND follow up (1 year (± 3 months) after the date of surgery or the start of a radiation regimen at the reporting facility) Clinically significant change is defined in Skolarus et al., 2015.	AJCC 7th edition M0 (non-M1) cancer stage, regardless of T and N.	leave the reporting facility during the follow up period
MUC16-380	Localized Prostate Cancer: Urinary Incontinence	Patients with a clinically-significant change in urinary incontinence from baseline to follow-up. Numerator definitions: Urinary incontinence is measured as the Urinary function domain score via the EPIC-26 or EPIC-50 at baseline (0-6 months prior to the start of surgery or radiation at the reporting facility) AND follow up (1	All non-metastatic prostate cancer patients undergoing radiation or surgical treatment for prostate cancer at the reporting facility. Denominator definitions: 'Non-metastatic' is defined as AJCC 7th edition M0 (non-M1) cancer stage, regardless of T and N.	Any patients that are unable to complete a baseline and follow-up survey due to death, language barrier, or physical or mental incapacity Patients with progression to metastatic disease during the follow up period Patients who stop treatment at or leave the reporting facility during the follow up period

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		year (± 3 months) after the date of surgery or the start of a radiation regimen at the reporting facility) Clinically significant change is defined in Skolarus et al., 2015.		
MUC16-381	Localized Prostate Cancer: Vitality	Patients with a clinically-significant change in vitality from baseline to follow-up. Numerator definitions: Vitality is measured as the Vitality/Hormonal domain score via the EPIC-26 or EPIC-50 at baseline (0-6 months prior to the start of surgery or radiation at the reporting facility) AND follow up (1 year (± 3 months) after the date of surgery or the start of a radiation regimen at the reporting facility) Clinically significant change is defined in Skolarus et al., 2015.	All non-metastatic prostate cancer patients undergoing radiation or surgical treatment for prostate cancer at the reporting facility. Denominator definitions: 'Non-metastatic' is defined as AJCC 7th edition M0 (non-M1) cancer stage, regardless of T and N.	Any patients that are unable to complete a baseline and follow-up survey due to death, language barrier, or physical or mental incapacity Patients with progression to metastatic disease during the follow up period Patients who stop treatment at or leave the reporting facility during the follow up period
MUC16-393	PRO utilization in in non-metastatic	Facilities will respond to the following questions on an annual basis:	Number of institutions responding 'yes' to (A) Does your facility measure functional status	Facilities that do not see at least 11 patients with a diagnosis of non-

MUC ID	Measure Title	Numerator	Denominator	Exclusions
	prostate cancer patients	(A) Does your facility measure functional status outcomes in adult patients with non-metastatic prostate cancer using a validated survey instrument and a standardized implementation? (B) What is the name of the survey instrument administered? (C) Which of the following functional status domains are measured by the survey instrument? (select all that apply): Urinary function; Urinary Frequency, Obstruction, and/or Irritation; Sexual function; Bowel irritation; and, Vitality. (D) According to your implementation plan, how frequently is the survey administered to eligible patients? (E) Does your facility report survey results to a centralized location? (select one of the following options) National repository; State-based repository; Health system repository; Other repository; or, Do not report	outcomes in adult patients with non-metastatic prostate cancer using a validated survey instrument and a standardized implementation.	metastatic prostate cancer during the 12-month reporting period.

MUC ID	Measure Title	Numerator	Denominator	Exclusions
		the data outside the facility.) Numerator definitions: Adult = > 18 years at time of diagnosis 'Non-metastatic' is defined as AJCC 7th edition M0 (non-M1) cancer stage, regardless of T and N. Validated PRO instrument is defined as an instrument that has undergone psychometric testing that demonstrates the instrument reflects what it is supposed to measure Any PRO instrument validated for use to measure functional status in non-metastatic prostate cancer patients meets the numerator of this measure.		
MUC16-398	Appropriate Use Criteria - Cardiac Electrophysiology	Number of reports meeting AUC	Total number of reviews	None
MUC16-428	Identification of Opioid Use Disorder among	The numerator for this measure is the number of patients who were screened	The denominator for this measure includes any patient admitted to an IPF.	Numerator exclusions: 1. For the requirement of a urine drug screen test, the measure excludes

MUC ID	Measure Title	Numerator	Denominator	Exclusions
	Patients Admitted to Inpatient Psychiatric Facilities	for opioid use disorder with a urine drug screen test, had an evaluation of the prescription drug monitoring program (PDMP) database, and an assessment of the presence or absence of opioid use disorder (OUD) by a licensed clinician documented in the medical record.		patients -- who refused a urine drug screen test, or -- clinically deemed to be at no risk for having an opioid use disorder by a clinician. 2. For the requirement of prescription drug monitoring program (PDMP) database evaluation, the measure excludes patients -- under 18 years of age, or -- clinically deemed to be at no risk for having an opioid use disorder by a clinician. Denominator exclusion: the measure denominator excludes admissions with a duration of less than 24 hours

APPENDIX B: MEASURE RATIONALES

Legend for Measure Rationales

MUC ID: Gives users an identifier to refer to a measure.

Measure Title: Refers to the title of the measure.

Rationale: Refers to the rationale for the measure, the peer-reviewed evidence justifying the measure, and/or the impact the measure is anticipated to achieve.

Measure Rationale

MUC ID	Measure Title	Rationale
MUC16-31	CAHPS Hospice Survey: Rating of Hospice	The CAHPS Hospice Survey assesses key processes of care identified as critical to high quality hospice care by existing guidelines and conceptual models, including National Hospice and Palliative Care Organization standards of practice for hospice programs and the National Quality Forum Preferred Practices of Palliative and Hospice Care (Teno et al. 2001; Stewart et al. 1999; NQF 2006; NHPCO). Informal caregivers of hospice decedents are the best and only source of information for these measures. Survey measure content was developed based on responses to a call for topic areas in the Federal Register, a technical expert panel, an environmental scan of existing surveys for assessing experiences of end-of-life care, interviews with caregivers, as well as cognitive testing and a field test of draft survey instruments. A description of the development of the CAHPS Hospice Survey is available at: http://www.hospicecahpssurvey.org/globalassets/hospice-cahps3/home-page/hospice_field_test_report_2014.pdf.
MUC16-32	CAHPS Hospice Survey: Hospice Team Communications	The CAHPS Hospice Survey assesses key processes of care identified as critical to high quality hospice care by existing guidelines and conceptual models, including National Hospice and Palliative Care Organization standards of practice for hospice programs and the National Quality Forum Preferred Practices of Palliative and Hospice Care (Teno et al. 2001; Stewart et al. 1999; NQF 2006; NHPCO). Informal caregivers of hospice decedents are the best and only source of information for these measures. Survey measure content was developed based on responses to a call for topic areas in the Federal Register, a technical expert panel, an environmental scan of existing surveys for assessing experiences of end-of-life care, interviews with caregivers, as well as cognitive testing and a field test of draft survey instruments. A description of the development of the CAHPS Hospice Survey is available at: http://www.hospicecahpssurvey.org/globalassets/hospice-cahps3/home-page/hospice_field_test_report_2014.pdf.
MUC16-33	CAHPS Hospice Survey: Willingness to Recommend	The CAHPS Hospice Survey assesses key processes of care identified as critical to high quality hospice care by existing guidelines and conceptual models, including National Hospice and Palliative Care Organization standards of practice for hospice programs and the National Quality Forum Preferred Practices of Palliative and Hospice Care (Teno et al. 2001; Stewart et al. 1999; NQF 2006; NHPCO). Informal caregivers of hospice decedents are the best and only source of information for these measures. Survey measure content was developed based on responses to a call for topic areas in the Federal Register, a technical expert panel, an environmental scan of existing surveys for assessing experiences of end-of-life care, interviews with

MUC ID	Measure Title	Rationale
		caregivers, as well as cognitive testing and a field test of draft survey instruments. A description of the development of the CAHPS Hospice Survey is available at: http://www.hospicecahpssurvey.org/globalassets/hospice-cahps3/home-page/hospice_field_test_report_2014.pdf.
MUC16-35	CAHPS Hospice Survey: Getting Hospice Care Training	The CAHPS Hospice Survey assesses key processes of care identified as critical to high quality hospice care by existing guidelines and conceptual models, including National Hospice and Palliative Care Organization standards of practice for hospice programs and the National Quality Forum Preferred Practices of Palliative and Hospice Care (Teno et al. 2001; Stewart et al. 1999; NQF 2006; NHPCO). Informal caregivers of hospice decedents are the best and only source of information for these measures. Survey measure content was developed based on responses to a call for topic areas in the Federal Register, a technical expert panel, an environmental scan of existing surveys for assessing experiences of end-of-life care, interviews with caregivers, as well as cognitive testing and a field test of draft survey instruments. A description of the development of the CAHPS Hospice Survey is available at: http://www.hospicecahpssurvey.org/globalassets/hospice-cahps3/home-page/hospice_field_test_report_2014.pdf.
MUC16-36	CAHPS Hospice Survey: Getting Timely Care	The CAHPS Hospice Survey assesses key processes of care identified as critical to high quality hospice care by existing guidelines and conceptual models, including National Hospice and Palliative Care Organization standards of practice for hospice programs and the National Quality Forum Preferred Practices of Palliative and Hospice Care (Teno et al. 2001; Stewart et al. 1999; NQF 2006; NHPCO). Informal caregivers of hospice decedents are the best and only source of information for these measures. Survey measure content was developed based on responses to a call for topic areas in the Federal Register, a technical expert panel, an environmental scan of existing surveys for assessing experiences of end-of-life care, interviews with caregivers, as well as cognitive testing and a field test of draft survey instruments. A description of the development of the CAHPS Hospice Survey is available at: http://www.hospicecahpssurvey.org/globalassets/hospice-cahps3/home-page/hospice_field_test_report_2014.pdf.
MUC16-37	CAHPS Hospice Survey: Getting Emotional and Spiritual Support	The CAHPS Hospice Survey assesses key processes of care identified as critical to high quality hospice care by existing guidelines and conceptual models, including National Hospice and Palliative Care Organization standards of practice for hospice programs and the National Quality Forum Preferred Practices of Palliative and Hospice Care (Teno et al. 2001; Stewart et al. 1999; NQF 2006; NHPCO). Informal caregivers of hospice decedents are the best and only source of information for these measures. Survey measure content was

MUC ID	Measure Title	Rationale
		developed based on responses to a call for topic areas in the Federal Register, a technical expert panel, an environmental scan of existing surveys for assessing experiences of end-of-life care, interviews with caregivers, as well as cognitive testing and a field test of draft survey instruments. A description of the development of the CAHPS Hospice Survey is available at: http://www.hospicecahpssurvey.org/globalassets/hospice-cahps3/home-page/hospice_field_test_report_2014.pdf.
MUC16-39	CAHPS Hospice Survey: Getting Help for Symptoms	The CAHPS Hospice Survey assesses key processes of care identified as critical to high quality hospice care by existing guidelines and conceptual models, including National Hospice and Palliative Care Organization standards of practice for hospice programs and the National Quality Forum Preferred Practices of Palliative and Hospice Care (Teno et al. 2001; Stewart et al. 1999; NQF 2006; NHPCO). Informal caregivers of hospice decedents are the best and only source of information for these measures. Survey measure content was developed based on responses to a call for topic areas in the Federal Register, a technical expert panel, an environmental scan of existing surveys for assessing experiences of end-of-life care, interviews with caregivers, as well as cognitive testing and a field test of draft survey instruments. A description of the development of the CAHPS Hospice Survey is available at: http://www.hospicecahpssurvey.org/globalassets/hospice-cahps3/home-page/hospice_field_test_report_2014.pdf.
MUC16-40	CAHPS Hospice Survey: Treating Family Member with Respect	The CAHPS Hospice Survey assesses key processes of care identified as critical to high quality hospice care by existing guidelines and conceptual models, including National Hospice and Palliative Care Organization standards of practice for hospice programs and the National Quality Forum Preferred Practices of Palliative and Hospice Care (Teno et al. 2001; Stewart et al. 1999; NQF 2006; NHPCO). Informal caregivers of hospice decedents are the best and only source of information for these measures. Survey measure content was developed based on responses to a call for topic areas in the Federal Register, a technical expert panel, an environmental scan of existing surveys for assessing experiences of end-of-life care, interviews with caregivers, as well as cognitive testing and a field test of draft survey instruments. A description of the development of the CAHPS Hospice Survey is available at: http://www.hospicecahpssurvey.org/globalassets/hospice-cahps3/home-page/hospice_field_test_report_2014.pdf.
MUC16-41	Use of Antipsychotics in Older Adults in	Hospitalized patients are at risk for delirium, or "acute confusional state," which is a common clinical syndrome that is associated with increased mortality in ICU patients as well as the advancement of cognitive impairment. Antipsychotics are often used off-label as a method of treating patients in an acute confusional

MUC ID	Measure Title	Rationale
	the Inpatient Hospital Setting	state despite conflicting evidence regarding the effectiveness of antipsychotics in treating these disorders. Clinical guidelines recommend against using antipsychotics as a standard first line of treatment for patients experiencing aggressive behavior unless they present a threat to themselves or their caregivers. References: American Geriatrics Society updated Beers Criteria for potentially inappropriate medication use in older adults. Journal of the American Geriatrics Society. Oct 2015 ;63:2227-2246; 2015. Practice guideline for the treatment of patients with delirium. American Psychiatric Association. The American journal of psychiatry. May 1999;156(5 Suppl):1-20. Barr J, Fraser GL, Puntillo K, et al. Clinical practice guidelines for the management of pain, agitation, and delirium in adult patients in the intensive care unit. Crit Care Med. Jan 2013;41(1):263-306. Barr J, Pandharipande PP. The pain, agitation, and delirium care bundle: synergistic benefits of implementing the 2013 Pain, Agitation, and Delirium Guidelines in an integrated and interdisciplinary fashion. Crit Care Med. Sep 2013;41(9 Suppl 1):S99-115. Campbell N, Boustani MA, Ayub A, et al. Pharmacological management of delirium in hospitalized adults--a systematic evidence review. Journal of general internal medicine. Jul 2009;24(7):848-853. Flaherty JH, Gonzales JP, Dong B. Antipsychotics in the treatment of delirium in older hospitalized adults: a systematic review. Journal of the American Geriatrics Society. Nov 2011;59 Suppl 2:S269-276. NICE (National Institute for Health and Clinical Excellence) Dementia: Supporting people with dementia and their careers in health and social care. 2015 (Issued November 2006, Modified March 2015). Rooney S, Qadir M, Adamis D, McCarthy G. Diagnostic and treatment practices of delirium in a general hospital. Aging Clin Exp Res. Dec 2014;26(6):625-633. Sampson EL, White N, Leurent B, et al. Behavioural and psychiatric symptoms in people with dementia admitted to the acute hospital: prospective cohort study. The British journal of psychiatry: the journal of

MUC ID	Measure Title	Rationale
		mental science. Sep 2014;205(3):189-196. Sampson EL, White N, Lord K, et al. Pain, agitation, and behavioural problems in people with dementia admitted to general hospital wards: a longitudinal cohort study. Pain. Apr 2015;156(4):675-683. Tjia J, Briesacher BA, Peterson D, Liu Q, Andrade SE, Mitchell SL. Use of medications of questionable benefit in advanced dementia. JAMA internal medicine. Nov 2014;174(11):1763-1771.
MUC16-48	Continuation of Medications Within 30 Days of Inpatient Psychiatric Discharge	The medications that constitute the numerator are evidence-based with demonstrated efficacy and safety for MDD, schizophrenia, and bipolar disorder. The continued use of effective medication is implicit and underscored by a 2010 meta-analysis of 54 double-blind placebo-controlled relapse prevention studies which found that, among patients with depression who initially responded to drug therapy, continuation of antidepressants significantly reduced relapse (odds ratios 0.35; 95% CI 0.32–0.39), and this reduction was not affected by patient age, drug class, depression subtype, or treatment duration (Glue, Donovan, Kolluri, Emir, 2010). Furthermore, among patients with bipolar disorder, medication adherence was significantly associated with the course of illness (Sylvia, 2014). Among patients with schizophrenia, those who were "good compliers" according to the Medication Adherence Rating Scale had better outcomes in terms of rehospitalization rates and medication maintenance (Jaeger, Pfiffner, Weiser, et al., 2012). A review of the medication adherence literature found that as patient medication adherence increases, the average annual healthcare spending levels decrease (Braithwaite, Shirkhorshidian, Jones, Johnsrud, 2013; Roebuck, Liberman, Gemmill-Toyama, Brennan, 2011). This measure focuses on medication continuation rather than adherence because IPFs can implement a variety of processes to improve medication continuation during the transition from inpatient to outpatient care. Examples that have been shown to increase medication compliance and prevent negative outcomes associated with nonadherence include patient education, enhanced therapeutic relationships, shared decision-making, and text-message reminders, with emphasis on multidimensional approaches (Douaihy, Kelly, Sullivan, 2013; Haddad, Brain, Scott, 2014; Hung, 2014; Kasckow and Zisook, 2008; Lanouette, Folsom, Sciolla, Jeste, 2009; Mitchell, 2007; Sylvia, Hay, Ostacher, et al., 2013). Citations: * Braithwaite, S., Shirkhorshidian, I., Jones, K., & Johnsrud, M. (2013). The role of medication adherence in the US healthcare system. Retrieved from http://avalere.com/research/docs/20130612_NACDS_Medication_Adherence.pdf

MUC ID	Measure Title	Rationale
		* Douaihy, A. B., Kelly, T. M., & Sullivan, C. (2013). Medications for substance use disorders. Soc Work Public Health, 28(3-4), 264-278. doi: 10.1080/19371918.2013.759031 * Glue, P., Donovan, M. R., Kolluri, S., & Emir, B. (2010). Meta-analysis of relapse prevention antidepressant trials in depressive disorders. Australian and New Zealand Journal of Psychiatry, 44(8), 697-705. doi: 10.3109/00048671003705441 * Haddad, P. M., Brain, C., & Scott, J. (2014). Nonadherence with antipsychotic medication in schizophrenia: challenges and management strategies. Patient Relat Outcome Meas, 5, 43-62. doi: 10.2147/PROM.S42735 * Jaeger, S., Pfiffner, C., Weiser, P., Kilian, R., Becker, T., Langle, G., . . . Steinert, T. (2012). Adherence styles of schizophrenia patients identified by a latent class analysis of the Medication Adherence Rating Scale (MARS): a six-month follow-up study. Psychiatry Research, 200(2-3), 83-88. doi: 10.1016/j.psychres.2012.03.033 * Kasckow, J. W., & Zisook, S. (2008). Co-occurring depressive symptoms in the older patient with schizophrenia. Drugs and Aging, 25(8), 631-647. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18665657 * Lanouette, N. M., Folsom, D. P., Sciolla, A., & Jeste, D. V. (2009). Psychotropic medication nonadherence among United States Latinos: a comprehensive literature review. Psychiatric Services, 60(2), 157-174. doi: 10.1176/appi.ps.60.2.157 * Roebuck, M. C., Liberman, J. N., Gemmill-Toyama, M., & Brennan, T. A. (2011). Medication adherence leads to lower health care use and costs despite increased drug spending. Health Affairs, 30(1), 91-99. doi: 10.1377/hlthaff.2009.1087 * Sylvia, L. G., Hay, A., Ostacher, M. J., Miklowitz, D. J., Nierenberg, A. A., Thase, M. E., . . . Perlis, R. H. (2013). Association between therapeutic alliance, care satisfaction, and pharmacological adherence in bipolar disorder. Journal of Clinical Psychopharmacology, 33(3), 343-350. doi: 10.1097/JCP.0b013e3182900c6f * Sylvia, L. G., Reilly-Harrington, N. A., Leon, A. C., Kansky, C. I., Calabrese, J. R., Bowden, C. L., . . . Nierenberg, A. A. (2014). Medication adherence in a comparative effectiveness trial for bipolar disorder. Acta Psychiatrica Scandinavica, 129(5), 359-365. doi: 10.1111/acps.12202
MUC16-49	Medication Reconciliation at Admission	A systematic review published in 2012 examined 26 controlled studies related to hospital-based medication reconciliation practices (Mueller, Sponsler, Kripalani, Schnipper, 2012). The studies “consistently demonstrated a reduction in medication discrepancies (17/17 studies), potential adverse drug events (5/6 studies), and adverse drug events (2/3 studies).” Of the 26 studies identified, six were rated as good quality; five as fair; and 15 as poor, using the United States Preventive Services Task Force (USPSTF) criteria. Although the heterogeneity of the study designs makes it difficult to identify the key elements of successful

MUC ID	Measure Title	Rationale
		interventions, accurate pre-admission medication lists are critical to the medication reconciliation process as identified in the studies. Pre-admission medication reconciliation is further supported by two recent studies (MATCH and MARQUIS), which noted that most of the medication discrepancies or potential adverse drug events identified were the result of errors in obtaining the medication history (Gleason, McDaniel, Feinglass, et al., 2010; Salanitro, Kripalani, Resnic, et al., 2013). Five of the elements proposed by this measure concept are aligned with interventions from MATCH, MARQUIS, and the Joint Commission (2015). Specific to the IPF, a study indicated that 48% of patients had ≥ 1 errors in their medication history and that the rate of ADEs is one-third higher in IPFs than in acute care hospitals (Cornish, Knowles, Marchesano, et al., 2005). Citations: * Cornish, P. L., Knowles, S. R., Marchesano, R., Tam, V., Shadowitz, S., Juurlink, D. N., & Etchells, E. E. (2005). Unintended medication discrepancies at the time of hospital admission. Archives of Internal Medicine, 165(4), 424-429. doi:10.1001/archinte.165.4.424 * Gleason, K. M., McDaniel, M. R., Feinglass, J., Baker, D. W., Lindquist, L., Liss, D., & Noskin, G. A. (2010). Results of the Medications at Transitions and Clinical Handoffs (MATCH) study: an analysis of medication reconciliation errors and risk factors at hospital admission. Journal of General Internal Medicine, 25(5), 441-447. doi:10.1007/s11606-010-1256-6 * Mueller, S. K., Sponsler, K. C., Kripalani, S., & Schnipper, J. L. (2012). Hospital-based medication reconciliation practices: a systematic review. Archives of Internal Medicine, 172(14), 1057-1069. doi: 10.1001/archinternmed.2012.2246 * Salanitro, A. H., Kripalani, S., Resnic, J., Mueller, S. K., Wetterneck, T. B., Haynes, K. T., . . . Schnipper, J. L. (2013). Rationale and design of the Multi-center Medication Reconciliation Quality Improvement Study (MARQUIS). BMC Health Services Research, 13, 230. doi:10.1186/1472-6963-13-230 * The Joint Commission. (2015). National Patient Safety Goals Effective January 1, 2015: Hospital Accreditation Program. Retrieved from http://www.jointcommission.org/assets/1/6/2015_NPSG_HAP.pdf
MUC16-50	Tobacco Use Screening (TOB-1)	Tobacco use is the single greatest cause of disease in the United States today and accounts for more than 480,000 deaths each year (CDC MMWR 2014). Smoking is a known cause of multiple cancers, heart disease, stroke, complications of pregnancy, chronic obstructive pulmonary disease, other respiratory problems, poorer wound healing, and many other diseases (DHHS 2014). Tobacco use creates a heavy cost to society as well as to individuals. Smoking-attributable health care expenditures are estimated to be at least $130 billion per year in direct medical expenses for adults, and over $150 billion in lost productivity (DHHS 2014).

MUC ID	Measure Title	Rationale
		There is strong and consistent evidence that tobacco dependence interventions, if delivered in a timely and effective manner, significantly reduce the user's risk of suffering from tobacco-related disease and improve outcomes for those already suffering from a tobacco-related disease (DHHS 2000; Baumeister 2007; Lightwood 2003 and 1997; Rigotti 2012). Effective, evidence-based tobacco dependence interventions have been clearly identified and include brief clinician advice, individual, group, or telephone counseling, and use of FDA-approved medications. These treatments are clinically effective and extremely cost-effective relative to other commonly used disease prevention interventions and medical treatments. Hospitalization (both because hospitals are a tobacco-free environment and because patients may be more motivated to quit as a result of their illness) offers an ideal opportunity to provide cessation assistance that may promote the patient's medical recovery. Patients who receive even brief advice and intervention from their care providers are more likely to quit than those who receive no intervention (DHHS, 2008). References: Baumeister SE, Schumann A, Meyer C, et al. Effects of smoking cessation on health care use: is elevated risk of hospitalization among former smokers attributable to smoking-related morbidity? Drug Alcohol Depend. 2007 May 11;88(2-3):197-203. Epub 2006 Nov 21. Centers for Disease Control and Prevention. Current Cigarette Smoking Among Adults — United States, 2005–2013. Morbidity and Mortality Weekly Report (MMWR) 2014. 63(47); 1108-1112. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6347a4.htm?s_cid=mm6347a4_w Lightwood JM. The economics of smoking and cardiovascular disease. Prog Cardiovasc Dis. 2003 Jul-Aug;46(1):39-78. Lightwood JM, Glantz SA. Short-term economic and health benefits of smoking cessation: myocardial infarction and stroke. Circulation. 1997 Aug 19;96 (4):1089-96. Rigotti, et al. Interventions for smoking cessation in hospitalized patients. Cochrane Database of Systematic Reviews. 2012. Available from: http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD001837.pub3/abstract U.S. Department of Health and Human Services. Reducing tobacco use: a report of the Surgeon General. Atlanta, GA, U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2000.

MUC ID	Measure Title	Rationale
		US Department of Health and Human Services. The health consequences of smoking—50 years of progress: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, CDC; 2014. Available at http://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf U.S. Department of Health and Human Services. Tobacco Use and Dependence Guideline Panel. Treating Tobacco Use and Dependence: 2008 Update. Rockville, MD, U.S. Department of Health and Human Services; 2008 May. Available from: http://www.ncbi.nlm.nih.gov/books/NBK63952/
MUC16-51	Tobacco Use Treatment Provided or Offered (TOB-2)/Tobacco Use Treatment (TOB-2a)	Tobacco use is the single greatest cause of disease in the United States today and accounts for more than 480,000 deaths each year (CDC MMWR 2014). Smoking is a known cause of multiple cancers, heart disease, stroke, complications of pregnancy, chronic obstructive pulmonary disease, other respiratory problems, poorer wound healing, and many other diseases (DHHS 2014). Tobacco use creates a heavy cost to society as well as to individuals. Smoking-attributable health care expenditures are estimated to be at least $130 billion per year in direct medical expenses for adults, and over $150 billion in lost productivity (DHHS 2014). There is strong and consistent evidence that tobacco dependence interventions, if delivered in a timely and effective manner, significantly reduce the user's risk of suffering from tobacco-related disease and improve outcomes for those already suffering from a tobacco-related disease (DHHS 2000; Baumeister 2007; Lightwood 2003 and 1997; Rigotti 2012). Effective, evidence-based tobacco dependence interventions have been clearly identified and include brief clinician advice, individual, group, or telephone counseling, and use of FDA-approved medications. These treatments are clinically effective and extremely cost-effective relative to other commonly used disease prevention interventions and medical treatments. Hospitalization (both because hospitals are a tobacco-free environment and because patients may be more motivated to quit as a result of their illness) offers an ideal opportunity to provide cessation assistance that may promote the patient's medical recovery. Patients who receive even brief advice and intervention from their care providers are more likely to quit than those who receive no intervention (DHHS, 2008). References: Baumeister SE, Schumann A, Meyer C, et al. Effects of smoking cessation on health care use: is elevated risk of hospitalization among former smokers attributable to smoking-related morbidity? Drug Alcohol Depend. 2007 May 11;88(2-3):197-203. Epub 2006 Nov 21. Centers for Disease Control and Prevention. Current Cigarette Smoking Among Adults — United States, 2005–2013. Morbidity and Mortality Weekly Report (MMWR) 2014. 63(47); 1108-1112. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6347a4.htm?s_cid=mm6347a4_w

MUC ID	Measure Title	Rationale
		Lightwood JM. The economics of smoking and cardiovascular disease. Prog Cardiovasc Dis. 2003 Jul-Aug;46(1):39-78. Lightwood JM, Glantz SA. Short-term economic and health benefits of smoking cessation: myocardial infarction and stroke. Circulation. 1997 Aug 19;96 (4):1089-96. Rigotti, et al. Interventions for smoking cessation in hospitalized patients. Cochrane Database of Systematic Reviews. 2012. Available from: http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD001837.pub3/abstract U.S. Department of Health and Human Services. Reducing tobacco use: a report of the Surgeon General. Atlanta, GA, U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2000. US Department of Health and Human Services. The health consequences of smoking—50 years of progress: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, CDC; 2014. Available at http://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf U.S. Department of Health and Human Services. Tobacco Use and Dependence Guideline Panel. Treating Tobacco Use and Dependence: 2008 Update. Rockville, MD, U.S. Department of Health and Human Services; 2008 May. Available from: http://www.ncbi.nlm.nih.gov/books/NBK63952/
MUC16-52	Tobacco Use Treatment Provided or Offered at Discharge (TOB-3)/Tobacco Use Treatment at Discharge (TOB-3a)	Tobacco use is the single greatest cause of disease in the United States today and accounts for more than 480,000 deaths each year (CDC MMWR 2014). Smoking is a known cause of multiple cancers, heart disease, stroke, complications of pregnancy, chronic obstructive pulmonary disease, other respiratory problems, poorer wound healing, and many other diseases (DHHS 2014). Tobacco use creates a heavy cost to society as well as to individuals. Smoking-attributable health care expenditures are estimated to be at least $130 billion per year in direct medical expenses for adults, and over $150 billion in lost productivity (DHHS 2014). There is strong and consistent evidence that tobacco dependence interventions, if delivered in a timely and effective manner, significantly reduce the user's risk of suffering from tobacco-related disease and improve outcomes for those already suffering from a tobacco-related disease (DHHS 2000; Baumeister 2007; Lightwood 2003 and 1997; Rigotti 2012). Effective, evidence-based tobacco dependence interventions have been clearly identified and include brief clinician advice, individual, group, or telephone counseling, and use of FDA-approved medications. These treatments are clinically effective and extremely cost-effective relative to other commonly used disease prevention interventions and medical treatments. Hospitalization (both

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		because hospitals are a tobacco-free environment and because patients may be more motivated to quit as a result of their illness) offers an ideal opportunity to provide cessation assistance that may promote the patient's medical recovery. Patients who receive even brief advice and intervention from their care providers are more likely to quit than those who receive no intervention (DHHS, 2008). References: Baumeister, S. E., Schumann, A., Meyer, C., John, U., Volzke, H., & Alte, D. (2007). Effects of smoking cessation on health care use: Is elevated risk of hospitalization among former smokers attributable to smoking-related morbidity? Drug and Alcohol Dependence, 88(2–3), 197–203. Centers for Disease Control and Prevention. (2014). Current cigarette smoking among adults—United States, 2005–2013. Morbidity and Mortality Weekly Report (MMWR), 63(47), 1108–1112. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6347a4.htm?s_cid=mm6347a4_w. Lightwood, J. M. (2003). The economics of smoking and cardiovascular disease. Progress in Cardiovascular Diseases, 46(1), 39–78. Lightwood, J. M., & Glantz, S. A. (1997). Short-term economic and health benefits of smoking cessation: Myocardial infarction and stroke. Circulation, 96(4), 1089–1096. Rigotti, N. A., Clair, C., Munafo, M. R., & Stead, L. F. (2012). Interventions for smoking cessation in hospitalized patients. Cochrane Database of Systematic Reviews. Retrieved from http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD001837.pub3/abstract U.S. Department of Health and Human Services. (2014). The health consequences of smoking—50 years of progress: A report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services. Reducing tobacco use: a report of the Surgeon General. Atlanta, GA, U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2000. US Department of Health and Human Services. The health consequences of smoking—50 years of progress: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, CDC; 2014. Available at http://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf

MUC ID	Measure Title	Rationale
		U.S. Department of Health and Human Services. Tobacco Use and Dependence Guideline Panel. Treating Tobacco Use and Dependence: 2008 Update. Rockville, MD, U.S. Department of Health and Human Services; 2008 May. Available from: http://www.ncbi.nlm.nih.gov/books/NBK63952/
MUC16-53	Influenza Immunization (IMM-2)	Up to 1 in 5 people in the United States get influenza every season (CDC Key Facts 2015). Each year an average of approximately 226,000 people in the US are hospitalized with complications from influenza and between 3,000 and 49,000 die from the disease and its complications (Thompson 2003). Combined with pneumonia, influenza is the nation's 8th leading cause of death (Heron 2012). Up to two-thirds of all deaths attributable to pneumonia and influenza occur in the population of patients that have been hospitalized during flu season regardless of age (Fedson 2000). The Advisory Committee on Immunization Practices (ACIP) recommends seasonal influenza vaccination for all persons 6 months of age and older to highlight the importance of preventing influenza. Vaccination is associated with reductions in influenza among all age groups (Kostova 2013). The influenza vaccination is the most effective method for preventing influenza virus infection and its potentially severe complications. Screening and vaccination of inpatients is recommended, but hospitalization is an underutilized opportunity to provide vaccination to persons 6 months of age or older. References: Centers for Disease Control and Prevention. Key facts about influenza and the influenza vaccine, October 2015. Available at: http://www.cdc.gov/flu/keyfacts.htm. Accessed October 14, 2015. Fedson DS, Houck PM, Bratzler DW. Hospital-based influenza and pneumococcal vaccination: Sutton's Law applied to prevention. Infect Control Hosp Epi. 2000;21:692-699. Heron M. Deaths: Leading Causes for 2012. National Vital Statistics Reports; vol 64 no 10. Hyattsville, MD: National Center for Health Statistics. 2015. Kostova D, Reed C, Finelli L, Cheng P, Gargiullo PM, Shay DK, Singleton JA, Meltzer MI, Lu P,2 and Joseph S. Bresee1 Influenza Illness and Hospitalizations Averted by Influenza Vaccination in the United States, 2005-2011. PLoS One. 2013; 8(6): e66312

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		Thompson WW, Shay DK, Weintraub E, Brammer L, Cox N, Anderson LJ, Fukuda. Mortality associated with influenza and respiratory syncytial virus in the United States. JAMA. 2003 January 8; 289 (2): 179-186.
MUC16-55	Median Time from ED Arrival to ED Departure for Discharged ED Patients	In recent times, EDs have experienced significant overcrowding. Although once only a problem in large, urban, teaching hospitals, the phenomenon has spread to other suburban and rural healthcare organizations. According to a 2002 national U.S. survey, more than 90 percent of large hospitals report EDs operating "at" or "over" capacity. Overcrowding and heavy emergency resource demand have led to a number of problems, including ambulance refusals, prolonged patient waiting times, increased suffering for those who wait, rushed and unpleasant treatment environments, and potentially poor patient outcomes. Approximately one third of hospitals in the U.S. report increases in ambulance diversion in a given year, whereas up to half report crowded conditions in the ED. In a recent national survey, 40 percent of hospital leaders viewed ED crowding as a symptom of workforce shortages. ED crowding may result in delays in the administration of medication such as antibiotics for pneumonia and has been associated with perceptions of compromised emergency care. For patients with non-ST-segment-elevation myocardial infarction, long ED stays were associated with decreased use of guideline-recommended therapies and a higher risk of recurrent myocardial infarction. When EDs are overwhelmed, their ability to respond to community emergencies and disasters may be compromised. References: Derlet RW, Richards JR. Emergency department overcrowding in Florida, New York, and Texas. South Med J. 2002;95:846-9. Derlet RW, Richards JR. Overcrowding in the nation's emergency departments: complex causes and disturbing effects. Ann Emerg Med. 2000; 35:63-8. Fatovich DM, Hirsch RL. Entry overload, emergency department overcrowding, and ambulance bypass. Emerg Med J. 2003; 20:406-9. Hwang U, Richardson LD, Sonuyi TO, Morrison RS. The effect of emergency department crowding on the management of pain in older adults with hip fracture. J Am Geriatr Soc. 2006; 54:270-5. Pines JM, et al. ED crowding is associated with variable perceptions of care compromise. Acad Emerg Med. 2007;14:1176-81.

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		Pines JM, et al. Emergency department crowding is associated with poor care for patients with severe pain. Ann Emerg Med. 2008;51:6-7. Schull MJ, et al. Emergency department crowding and thrombolysis delays in acute myocardial infarction. Ann Emerg Med. 2004;44:577-85. Trzeciak S, Rivers EP. Emergency department overcrowding in the United States: an emerging threat to patient safety and public health. Emerg Med J. 2003;20:402-5. Wilper AP, Woolhandler S, Lasser KE, McCormick D, Cutrona SL, Bor DH, Himmelstein DU. Waits to see an emergency department physician: U.S. trends and predictors, 1997-2004. Health Aff (Millwood). 2008;27:w84-95.
MUC16-56	Median Time to Pain Management for Long Bone Fracture	Pain management in patients with long bone fractures is undertreated in emergency departments (Ritsema et al., 2007). Emergency department pain management has room for improvement (Ritsema et al., 2007). Patients with bone fractures continue to lack administration of pain medication as part of treatment regimens (Brown et al., 2003). When performance measures are implemented for pain management of these patients administration and treatment rates for pain improve (Herr & Titler, 2009). Disparities continue to exist in the administration of pain medication for minorities (Epps, Ware, & Packard, 2008; Todd, Samaroo, & Hoffman, 1993) and children as well (Brown et al., 2003; Friedland & Kulick, 1994). References: Brown JC, Klein EJ, Lewis CW, Johnston BD, Cummings P. Emergency department analgesia for fracture pain. Ann Emerg Med. 2003 Aug;42(2):197-205. Centers for Medicare and Medicaid Services (CMS). Hospital outpatient quality reporting specifications manual, version 9.0a. Baltimore (MD): Centers for Medicare and Medicaid Services (CMS); Effective 2016 Jan 1. various p. Epps CD, Ware LJ, Packard A. Ethnic wait time differences in analgesic administration in the emergency department. Pain Manag Nurs. 2008 Mar;9(1):26-32.

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		Friedland LR, Kulick RM. Emergency department analgesic use in pediatric trauma victims with fractures. Ann Emerg Med. 1994 Feb;23(2):203-7. Herr K, Titler M. Acute pain assessment and pharmacological management practices for the older adult with a hip fracture: review of ED trends. J Emerg Nurs. 2009 Jul;35(4):312-20. Ritsema TS, Kelen GD, Pronovost PJ, Pham JC. The national trend in quality of emergency department pain management for long bone fractures. Acad Emerg Med. 2007 Feb;14(2):163-9. Todd KH, Samaroo N, Hoffman JR. Ethnicity as a risk factor for inadequate emergency department analgesia. JAMA. 1993 Mar 24-31;269(12):1537-9.
MUC16-61	The Percent of Home Health Patients with an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function	See literature for NQF# 2631 about the importance of the admission and discharge functional assessment and a care plan that addresses function among home health patients and developing interventions.
MUC16-63	The Percent of Home Health Residents Experiencing One or More Falls with Major Injury	Falls are prevalent among community-dwelling older adults and a major source of morbidity and mortality; see the literature for NQF #0674.
MUC16-68	Patient Panel Smoking Prevalence IQR	Cigarette smoking is still the leading preventable cause of death and disease in the U.S. and costs the U.S. health care system nearly $170 billion in direct medical care for adults each year (CDC 2014a; HHS 2014; Xu et al. 2014). Currently more than 16 million US residents are living with a smoking-related illness (HHS 2014). Smoking harms nearly every organ in the body and has been causally linked to numerous cancers, heart

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		disease and stroke, chronic obstructive pulmonary disease, pneumonia, other respiratory diseases, aortic aneurysm, peripheral vascular disease, cataracts and blindness, age-related macular degeneration, periodontitis, diabetes, pregnancy and reproductive complications, bone fractures, arthritis, and reduced immune function (HHS, 2014). Mortality among current smokers is two to three times that of persons who never smoked (Jha et al. 2013). Since the first Surgeon General's Report on Smoking and Health in 1964, cigarette smoking has killed more than 20 million people in the U.S. (HHS 2014). Between 2005-2009, 87% of lung cancer deaths, 61% of all pulmonary disease deaths, and 32% of all coronary heart disease deaths were attributable to smoking and secondhand smoke exposure (HHS, 2014), making it an essential risk factor to address to reduce both disease burden and health care costs. The toll smoking takes on health extends beyond the smokers. Since 1964, almost 2.5 million nonsmoking adults have died from heart disease and lung cancer caused by exposure to secondhand smoke, and 100,000 babies have died of sudden infant death syndrome or complications from prematurity, low birth weight, or other conditions caused by parental smoking, particularly smoking by the mother (HHS, 2014). Reducing cigarette smoking in the community can impact the health and health care costs of nonsmokers as well. CDC (Centers for Disease Control and Prevention). (2014a). CDC's Tips from Former Smokers campaign provided outstanding return on investment. Atlanta, GA. Available at: http://www.cdc.gov/media/releases/2014/p1210-tips-roi.html. (Accessed 27 October, 2015). HHS (US Department of Health and Human Services). (2014). The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. Available at: http://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf. (Accessed 23 September, 2015). Xu X, Bishop EE, Kennedy SM, Simpson SA, Pechacek TF. (2014) Annual Healthcare Spending Attributable to Cigarette Smoking: An Update. American Journal of Preventive Medicine, 48(3), p.326-333. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4603661/ (Accessed 24 September, 2015). Jha, P. and Peto, R. (2014). Global effects of smoking, of quitting, and of taxing tobacco. New England Journal of Medicine, 2014(370), p.60-68. Available at: http://www.nejm.org/doi/full/10.1056/nejmra1308383. (Accessed 22 October, 2015). doi: 10.1056/NEJMra1308383
MUC16-69	Adult Local Current Smoking Prevalence	Cigarette smoking is still the leading preventable cause of death and disease in the U.S. and costs the U.S. health care system nearly $170 billion in direct medical care for adults each year (CDC 2014a; HHS 2014; Xu et al. 2014). Currently more than 16 million US residents are living with a smoking-related illness (HHS 2014).

MUC ID	Measure Title	Rationale
		Smoking harms nearly every organ in the body and has been causally linked to numerous cancers, heart disease and stroke, chronic obstructive pulmonary disease, pneumonia, other respiratory diseases, aortic aneurysm, peripheral vascular disease, cataracts and blindness, age-related macular degeneration, periodontitis, diabetes, pregnancy and reproductive complications, bone fractures, arthritis, and reduced immune function (HHS, 2014). Mortality among current smokers is two to three times that of persons who never smoked (Jha et al. 2013). Since the first Surgeon General's Report on Smoking and Health in 1964, cigarette smoking has killed more than 20 million people in the U.S. (HHS 2014). Between 2005-2009, 87% of lung cancer deaths, 61% of all pulmonary disease deaths, and 32% of all coronary heart disease deaths were attributable to smoking and secondhand smoke exposure (HHS, 2014), making it an essential risk factor to address to reduce both disease burden and health care costs. The toll smoking takes on health extends beyond the smokers. Since 1964, almost 2.5 million nonsmoking adults have died from heart disease and lung cancer caused by exposure to secondhand smoke, and 100,000 babies have died of sudden infant death syndrome or complications from prematurity, low birth weight, or other conditions caused by parental smoking, particularly smoking by the mother (HHS, 2014). Reducing cigarette smoking in the community can impact the health and health care costs of nonsmokers as well. CDC (Centers for Disease Control and Prevention). (2014a). CDC's Tips from Former Smokers campaign provided outstanding return on investment. Atlanta, GA. Available at: http://www.cdc.gov/media/releases/2014/p1210-tips-roi.html. (Accessed 27 October, 2015). HHS (US Department of Health and Human Services). (2014). The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. Available at: http://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf. (Accessed 23 September, 2015). Xu X, Bishop EE, Kennedy SM, Simpson SA, Pechacek TF. (2014) Annual Healthcare Spending Attributable to Cigarette Smoking: An Update. American Journal of Preventive Medicine, 48(3), p.326-333. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4603661/ (Accessed 24 September, 2015). Jha, P. and Peto, R. (2014). Global effects of smoking, of quitting, and of taxing tobacco. New England Journal of Medicine, 2014(370), p.60-68. Available at: http://www.nejm.org/doi/full/10.1056/nejmra1308383. (Accessed 22 October, 2015). doi: 10.1056/NEJMra1308383

MUC ID	Measure Title	Rationale
MUC16-72	Prescription of HIV Antiretroviral Therapy	HIV Antiretroviral therapy reduces HIV-associated morbidity and mortality by maximally inhibiting HIV replication (as defined by achieving and maintaining plasma HIV RNA (viral load) below levels detectable by commercially available assays). Emerging evidence also suggests that additional benefits of ART-induced viral load suppression include a reduction in HIV-associated inflammation and possibly its associated complications.
MUC16-73	HIV Medical Visit Frequency	Early linkage to and long-term retention in HIV care leads to better health outcomes. Linkage to HIV medical care shortly after HIV diagnosis and continuous care thereafter provide opportunities for risk reduction counseling, initiation of treatment, and other strategies that improve individual health and prevent onward transmission of infection (1-6). Delayed linkage and poor retention in care are associated with delayed receipt of antiretroviral treatment, higher rate of virologic failure, and increased morbidity and mortality (5,7). Poor retention in care during the first year of outpatient medical care is associated with delayed or failed receipt of antiretroviral therapy, delayed time to virologic suppression and greater cumulative HIV burden, increased sexual risk transmission behaviors, increased risk of long-term adverse clinical events, and low adherence to antiretroviral therapy (1,5,7,9). Early retention in HIV care has been found to be associated with time to viral load suppression and 2-year cumulative viral load burden among patients newly initiating HIV medical care (8). References: 1. Giordano TP, Gifford AL, White AC Jr, Suarez-Almazor ME, Rabeneck L, Hartman C, et al. Retention in care: a challenge to survival with HIV infection. Clin Infect Dis. 2007; 44:1493-9. 2. Cohen MS, Chen YQ, McCauley M, Gamble T, Hosseinipour MC, Kumarasamy N, et al.; HPTN 052 Study Team. Prevention of HIV -1 infection with early antiretroviral therapy. N Engl J Med. 2011; 365:493-505. 3. Giordano TP, White AC Jr, Sajja P, Graviss EA, Arduino RC, Adu-Oppong A, et al. Factors associated with the use of highly active antiretroviral therapy in patients newly entering care in an urban clinic. J Acquir Immune Defic Syndr. 2003; 32:399-405. 4. Lucas GM, Chaisson RE, Moore RD. Highly active antiretroviral therapy in a large urban clinic: risk factors for virologic failure and adverse drug reactions. Ann Intern Med. 1999; 131:81-7. 5. Metsch LR, Pereyra M, Messinger S, Del Rio C, Strathdee SA, Anderson-Mahoney P, et al.; Antiretroviral Treatment and Access Study (ART AS) Study Group. HIV transmission risk behaviors among HIV -infected persons who are successfully linked to care. Clin Infect Dis. 2008; 47:577-84.

MUC ID	Measure Title	Rationale
		6. Montaner JS, Lima VD, Barrios R, Yip B, Wood E, Kerr T, et al. Association of highly active antiretroviral therapy coverage, population viral load, and yearly new HIV diagnoses in British Columbia, Canada: a population-based study. Lancet. 2010; 376:532- 9. 7. Ulett KB, Willig JH, Lin HY, Routman JS, Abrams S, Allison J, Chatham A, Raper JL, Saag MS, Mugavero MJ. The therapeutic implications of timely linkage and early retention in HIV care. AIDS Patient Care STDS. 2009 Jan; 23(1):41-9. 8. Mugavero MJ, Amico KR, Westfall AO, Crane HM, Zinski A, Willig JH, Dombrowski JC, Norton WE, Raper JL, Kitahata MM, Saag MS. Early retention in HIV care and viral load suppression: implications for a test and treat approach to HIV prevention. J Acquir Immune Defic Syndr. 2012 Jan 1; 59(1):86-93. 9. Mugavero MJ, Lin HY, Willig JH, Westfall AO, Ulett KB, Routman JS, Abroms S, Raper JL, Saag MS, Allison JJ. Missed visits and mortality among patients establishing initial outpatient HIV treatment. Clin Infect Dis. 2009 Jan 15;48(2):248-56.
MUC16-74	Fixed-dose Combination of Hydralazine and Isosorbide Dinitrate Therapy for Self-identified Black or African American Patients with Heart Failure and Left Ventricular Ejection Fraction (LVEF) <40% on ACEI or ARB and Beta-blocker Therapy	The African-American Heart Failure Trial (A-HeFT) first published in 2004 demonstrated that there is significant benefit for African American patients who receive the fixed-dose combination therapy of hydralazine and isosorbide dinitrate. A-HeFT built on the findings from the two Vasodilator-Heart Failure Trials (V-HeFT). A-HeFT, which was ended early due to the mortality rates in the placebo population, demonstrated a 43% reduction in mortality, a 33% decrease in initial hospitalizations, and a 50% improvement in patient-reported quality of life (Taylor, 2004; Sharma, 2014). These results clearly demonstrate that the fixed-dose combination therapy significantly improves patient morbidity, mortality and quality of life in this clinical cohort. There is no substitute for the fixed-dose combination therapy. Even with this strong evidence of unprecedented efficacy and cost-effectiveness, research shows that more than 85% of African American patients are not receiving the quality of care that this therapy affords, constituting a significant gap in care quality (Dickson, 2015). The underuse of the fixed-dose combination of hydralazine plus isosorbide dinitrate in African Americans with severe heart failure is a health care and health quality disparity that exposes these patients to an elevated risk for mortality and hospitalization, and compromises efforts to contain the escalating system costs by preventing or reducing unnecessary hospitalizations and readmissions. Based upon research on the mortality benefit of the fixed-dose combination (Fonarow, 2011), the National Minority Quality Forum estimates that 51,542 (27%) of the 189,891 African American Medicare beneficiaries

MUC ID	Measure Title	Rationale
		who were being treated for heart failure and received their prescription drugs under Part D should have been treated with the fixed-dose combination; but only 2,377 (5%) had at least one prescription (30-day supply) of the therapy. Further, the National Minority Quality Forum estimates that between 2008 and 2010, only 3% of the eligible patient cohort in Medicare received the therapy. Given the documented number to treat to receive the mortality benefit (21), it can be estimated that from 2007 through 2010, 20,000 African American Medicare beneficiaries died as a result of the failure to receive quality care as defined by evidence-based guidelines. The proven benefits to this patient population are significant and there is a clear opportunity for improvement. Failure to do so constitutes a failure to provide quality and cost-effective care. As with other diagnoses and available therapies, we anticipate that the evidence supporting this measure will continue to evolve. For example, research continues to explore if the fixed-dose combination of hydralazine and isosorbide dinitrate is linked to a particular genetic polymorphism (NIH funded Genomic Response Analysis of Heart Failure Therapy in African Americans). References Dickson VV, Knafl GJ, Wald J, Riegel B. Racial differences in clinical treatment and self-care behaviors of adults with chronic heart failure. J Am Heart Assoc. 2015;4:1-13. Fonarow GC, Yancy CW, Hernandez AF, Peterson ED, Spertus JA, Heidenreich PA. Potential impact of optimal implementation of evidence-based heart failure therapies on mortality. Am Heart J. 2011;161:1024-1030. Sharma A, Colvin-Adams M, Yancy CW. Heart failure in African Americans: disparities can be overcome. Cleve Clin J Med. 2014;81:301-11. Taylor AL, Ziesche S, Yancy C, et al. Combination of isosorbide dinitrate and hydralazine in blacks with heart failure. N Engl J Med 2004; 351:2049–57.
MUC16-75	HIV Viral Suppression	Sustained viral load suppression is directly related to reduction in disease progression and to reduction in potential for transmission of infection. Among persons in care, sustained viral load suppression represents the cumulative effect of prescribed therapy, ongoing monitoring, and patient adherence. The proposed measure will direct providers' attention and quality improvement efforts towards this important outcome.

MUC ID	Measure Title	Rationale
MUC16-87	Average change in back pain following lumbar discectomy and/or laminotomy	Studies demonstrate that visual analog scales for the assessment of adult pain in general and back and leg pain specifically are valid, reliable and sensitive to change. Hawker, G. A., Mian, S., Kendzerska, T. and French, M. (2011), Measures of adult pain: Visual Analog Scale for Pain (VAS Pain), Numeric Rating Scale for Pain (NRS Pain), McGill Pain Questionnaire (MPQ), Short-Form McGill Pain Questionnaire (SF-MPQ), Chronic Pain Grade Scale (CPGS), Short Form-36 Bodily Pain Scale (SF-36 BPS), and Measure of Intermittent and Constant Osteoarthritis Pain (ICOAP). Arthritis Care & Research, 63: S240–S252. doi: 10.1002/acr.20543
MUC16-88	Average change in back pain following lumbar fusion.	According to the Journal of Neurosurgery: Spine's Guideline update for the performance of fusion procedures for degenerative disease of the lumbar spine, the assessment of functional outcomes, including pain, continues to be essential. Studies demonstrate that visual analog scales for the assessment of adult pain in general and back and leg pain specifically are valid, reliable and sensitive to change. Ghogawala MD, Zoher, et al. Guideline update for the performance of fusion procedures for degenerative disease of the lumbar spine. Part 2: Assessment of functional outcome following lumbar fusion. Journal of Neurosurgery: Spine. Jul 2014. DOI: 10.3171/2014.4.SPINE14258 Hawker, G. A., Mian, S., Kendzerska, T. and French, M. (2011), Measures of adult pain: Visual Analog Scale for Pain (VAS Pain), Numeric Rating Scale for Pain (NRS Pain), McGill Pain Questionnaire (MPQ), Short-Form McGill Pain Questionnaire (SF-MPQ), Chronic Pain Grade Scale (CPGS), Short Form-36 Bodily Pain Scale (SF-36 BPS), and Measure of Intermittent and Constant Osteoarthritis Pain (ICOAP). Arthritis Care & Research, 63: S240–S252. doi: 10.1002/acr.20543
MUC16-89	Average change in leg pain following lumbar discectomy and/or laminotomy	Studies demonstrate that visual analog scales for the assessment of adult pain in general and back and leg pain specifically are valid, reliable and sensitive to change. Hawker, G. A., Mian, S., Kendzerska, T. and French, M. (2011), Measures of adult pain: Visual Analog Scale for Pain (VAS Pain), Numeric Rating Scale for Pain (NRS Pain), McGill Pain Questionnaire (MPQ), Short-Form McGill Pain Questionnaire (SF-MPQ), Chronic Pain Grade Scale (CPGS), Short Form-36 Bodily Pain Scale (SF-36 BPS), and Measure of Intermittent and Constant Osteoarthritis Pain (ICOAP). Arthritis Care & Research, 63: S240–S252. doi: 10.1002/acr.20543
MUC16-142	Application of Percent of	Pressure ulcers are recognized as a serious medical condition. Considerable evidence exists regarding the seriousness of pressure ulcers, and the relationship between pressure ulcers and pain, decreased quality of

MUC ID	Measure Title	Rationale
	Residents or Patients with Pressure Ulcers That Are New or Worsened (Short-Stay)	life, and increased mortality in aging populations (Casey, 2013; Gorzoni and Pires, 2011; Thomas et al., 2013; Wuite-Chu, et al., 2011). Pressure ulcers interfere with activities of daily living and functional gains made during rehabilitation, predispose patients to osteomyelitis and septicemia, and are strongly associated with longer hospital stays, longer IRF stays, and mortality (Bates-Jensen, 2001; Park-Lee and Caffrey, 2009; Wang, et al., 2014). Additionally, patients with acute care hospitalizations related to pressure ulcers are more likely to be discharged to long-term care facilities (e.g., a nursing facility, an intermediate care facility, or a nursing home) than hospitalizations for all other conditions (Hurd, et al., 2010; IHI, 2007). Pressure ulcers typically result from prolonged periods of uninterrupted pressure on the skin, soft tissue, muscle, or bone (Bates-Jensen, 2001; IHI, 2007; Russo, et al., 2006). Elderly individuals in SNFs/NHs, LTCHs, and IRFs have a wide range of impairments or medical conditions that increase their risk of developing pressure ulcers, including but not limited to, impaired mobility or sensation, malnutrition or under-nutrition, obesity, stroke, diabetes, dementia, cognitive impairments, circulatory diseases, and dehydration. The use of wheelchairs and medical devices (e.g., hearing aid, feeding tubes, tracheostomies, percutaneous endoscopic gastrostomy tubes), a history of pressure ulcers, or presence of a pressure ulcer at admission are additional factors that increase pressure ulcer risk in elderly patients (Casey, 2013; Bates-Jensen, 2001; Park-Lee and Caffrey, 2009; Hurde, et al., 2010; AHRQ, 2009; Cai, et al., 2013; DeJong, et al., 2014; MacLean, 2003; Michel, et al., 2012; NPUAP, 2001; Reddy, 2011; Teno, et al., 2012). Many pressure ulcers are avoidable and can be prevented with appropriate intervention (Levine and Zulkowski, 2015; Crawford et al., 2014; Defloor et al., 2005) Casey, G. (2013). "Pressure ulcers reflect quality of nursing care." Nurs N Z 19(10): 20-24. Gorzoni, M. L. and S. L. Pires (2011). "Deaths in nursing homes." Rev Assoc Med Bras 57(3): 327-331. Thomas, J. M., et al. (2013). "Systematic review: health-related characteristics of elderly hospitalized adults and nursing home residents associated with short-term mortality." J Am Geriatr Soc 61(6): 902-911. White-Chu, E. F., et al. (2011). "Pressure ulcers in long-term care." Clin Geriatr Med 27(2): 241-258. Bates-Jensen BM. Quality indicators for prevention and management of pressure ulcers in vulnerable elders. Ann Int Med. 2001;135 (8 Part 2), 744-51. Park-Lee E, Caffrey C. Pressure ulcers among nursing home residents: United States, 2004 (NCHS Data Brief No. 14). Hyattsville, MD: National Center for Health Statistics, 2009. Available from http://www.cdc.gov/nchs/data/databriefs/db14.htm. Wang, H., et al. (2014). "Impact of pressure ulcers on outcomes in inpatient rehabilitation facilities." Am J Phys Med Rehabil 93(3): 207-216.

MUC ID	Measure Title	Rationale
		Hurd D, Moore T, Radley D, Williams C. Pressure ulcer prevalence and incidence across post-acute care settings. Home Health Quality Measures & Data Analysis Project, Report of Findings, prepared for CMS/OCSQ, Baltimore, MD, under Contract No. 500-2005-000181 TO 0002. 2010. Institute for Healthcare Improvement (IHI). Relieve the pressure and reduce harm. May 21, 2007. Available from http://www.ihi.org/IHI/Topics/PatientSafety/SafetyGeneral/ImprovementStories/FSRelievethePressureandReduceHarm.htm. Russo CA, Steiner C, Spector W. Hospitalizations related to pressure ulcers among adults 18 years and older, 2006 (Healthcare Cost and Utilization Project Statistical Brief No. 64). December 2008. Available from http://www.hcup-us.ahrq.gov/reports/statbriefs/sb64.pdf. Levine JM, Zulkowski KM. Secondary analysis of office of inspector general's pressure ulcer data: incidence, avoidability, and level of harm. Adv Skin Wound Care. 2015 Sep;28(9):420-8; quiz 429-30. doi: 10.1097/01.ASW.0000470070.23694.f3. PubMed PMID: 26280701. Crawford B, Corbett N, Zuniga A. Reducing hospital-acquired pressure ulcers: a quality improvement project across 21 hospitals. J Nurs Care Qual. 2014 Oct-Dec;29(4):303-10. doi: 10.1097/NCQ.0000000000000060. PubMed PMID: 24647120. Defloor T, De Bacquer D, Grypdonck MH. The effect of various combinations of turning and pressure reducing devices on the incidence of pressure ulcers. Int J Nurs Stud. 2005 Jan;42(1):37-46. PubMed PMID: 15582638.
MUC16-143	Application of Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short-Stay)	Pressure ulcers are recognized as a serious medical condition. Considerable evidence exists regarding the seriousness of pressure ulcers, and the relationship between pressure ulcers and pain, decreased quality of life, and increased mortality in aging populations (Casey, 2013; Gorzoni and Pires, 2011; Thomas et al., 2013; Wuite-Chu, et al., 2011). Pressure ulcers interfere with activities of daily living and functional gains made during rehabilitation, predispose patients to osteomyelitis and septicemia, and are strongly associated with longer hospital stays, longer IRF stays, and mortality (Bates-Jensen, 2001; Park-Lee and Caffrey, 2009; Wang, et al., 2014). Additionally, patients with acute care hospitalizations related to pressure ulcers are more likely to be discharged to long-term care facilities (e.g., a nursing facility, an intermediate care facility, or a nursing home) than hospitalizations for all other conditions (Hurd, et al., 2010; IHI, 2007). Pressure ulcers typically result from prolonged periods of uninterrupted pressure on the skin, soft tissue, muscle, or bone (Bates-Jensen, 2001; IHI, 2007; Russo, et al., 2006). Elderly individuals in SNFs/NHs, LTCHs, and IRFs have a wide range of impairments or medical conditions that increase their risk of developing

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		pressure ulcers, including but not limited to, impaired mobility or sensation, malnutrition or under-nutrition, obesity, stroke, diabetes, dementia, cognitive impairments, circulatory diseases, and dehydration. The use of wheelchairs and medical devices (e.g., hearing aid, feeding tubes, tracheostomies, percutaneous endoscopic gastrostomy tubes), a history of pressure ulcers, or presence of a pressure ulcer at admission are additional factors that increase pressure ulcer risk in elderly patients (Casey, 2013; Bates-Jensen, 2001; Park-Lee and Caffrey, 2009; Hurde, et al., 2010; AHRQ, 2009; Cai, et al., 2013; DeJong, et al., 2014; MacLean, 2003; Michel, et al., 2012; NPUAP, 2001; Reddy, 2011; Teno, et al., 2012). Many pressure ulcers are avoidable and can be prevented with appropriate intervention (Levine and Zulkowski, 2015; Crawford et al., 2014; Defloor et al., 2005) Casey, G. (2013). "Pressure ulcers reflect quality of nursing care." Nurs N Z 19(10): 20-24. Gorzoni, M. L. and S. L. Pires (2011). "Deaths in nursing homes." Rev Assoc Med Bras 57(3): 327-331. Thomas, J. M., et al. (2013). "Systematic review: health-related characteristics of elderly hospitalized adults and nursing home residents associated with short-term mortality." J Am Geriatr Soc 61(6): 902-911. White-Chu, E. F., et al. (2011). "Pressure ulcers in long-term care." Clin Geriatr Med 27(2): 241-258. Bates-Jensen BM. Quality indicators for prevention and management of pressure ulcers in vulnerable elders. Ann Int Med. 2001;135 (8 Part 2), 744-51. Park-Lee E, Caffrey C. Pressure ulcers among nursing home residents: United States, 2004 (NCHS Data Brief No. 14). Hyattsville, MD: National Center for Health Statistics, 2009. Available from http://www.cdc.gov/nchs/data/databriefs/db14.htm. Wang, H., et al. (2014). "Impact of pressure ulcers on outcomes in inpatient rehabilitation facilities." Am J Phys Med Rehabil 93(3): 207-216. Hurd D, Moore T, Radley D, Williams C. Pressure ulcer prevalence and incidence across post-acute care settings. Home Health Quality Measures & Data Analysis Project, Report of Findings, prepared for CMS/OCSQ, Baltimore, MD, under Contract No. 500-2005-000181 TO 0002. 2010. Institute for Healthcare Improvement (IHI). Relieve the pressure and reduce harm. May 21, 2007. Available from http://www.ihi.org/IHI/Topics/PatientSafety/SafetyGeneral/ImprovementStories/FSRelievethePressureandReduceHarm.htm. Russo CA, Steiner C, Spector W. Hospitalizations related to pressure ulcers among adults 18 years and older, 2006 (Healthcare Cost and Utilization Project Statistical Brief No. 64). December 2008. Available from http://www.hcup-us.ahrq.gov/reports/statbriefs/sb64.pdf. Levine JM, Zulkowski KM. Secondary analysis of office of inspector general's pressure ulcer data: incidence,

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		avoidability, and level of harm. Adv Skin Wound Care. 2015 Sep;28(9):420-8; quiz 429-30. doi: 10.1097/01.ASW.0000470070.23694.f3. PubMed PMID: 26280701. Crawford B, Corbett N, Zuniga A. Reducing hospital-acquired pressure ulcers: a quality improvement project across 21 hospitals. J Nurs Care Qual. 2014 Oct-Dec;29(4):303-10. doi: 10.1097/NCQ.0000000000000060. PubMed PMID: 24647120. Defloor T, De Bacquer D, Grypdonck MH. The effect of various combinations of turning and pressure reducing devices on the incidence of pressure ulcers. Int J Nurs Stud. 2005 Jan;42(1):37-46. PubMed PMID: 15582638.
MUC16-144	Application of Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short-Stay)	Pressure ulcers are recognized as a serious medical condition. Considerable evidence exists regarding the seriousness of pressure ulcers, and the relationship between pressure ulcers and pain, decreased quality of life, and increased mortality in aging populations (Casey, 2013; Gorzoni and Pires, 2011; Thomas et al., 2013; Wuite-Chu, et al., 2011). Pressure ulcers interfere with activities of daily living and functional gains made during rehabilitation, predispose patients to osteomyelitis and septicemia, and are strongly associated with longer hospital stays, longer IRF stays, and mortality (Bates-Jensen, 2001; Park-Lee and Caffrey, 2009; Wang, et al., 2014). Additionally, patients with acute care hospitalizations related to pressure ulcers are more likely to be discharged to long-term care facilities (e.g., a nursing facility, an intermediate care facility, or a nursing home) than hospitalizations for all other conditions (Hurd, et al., 2010; IHI, 2007). Pressure ulcers typically result from prolonged periods of uninterrupted pressure on the skin, soft tissue, muscle, or bone (Bates-Jensen, 2001; IHI, 2007; Russo, et al., 2006). Elderly individuals in SNFs/NHs, LTCHs, and IRFs have a wide range of impairments or medical conditions that increase their risk of developing pressure ulcers, including but not limited to, impaired mobility or sensation, malnutrition or under-nutrition, obesity, stroke, diabetes, dementia, cognitive impairments, circulatory diseases, and dehydration. The use of wheelchairs and medical devices (e.g., hearing aid, feeding tubes, tracheostomies, percutaneous endoscopic gastrostomy tubes), a history of pressure ulcers, or presence of a pressure ulcer at admission are additional factors that increase pressure ulcer risk in elderly patients (Casey, 2013; Bates-Jensen, 2001; Park-Lee and Caffrey, 2009; Hurde, et al., 2010; AHRQ, 2009; Cai, et al., 2013; DeJong, et al., 2014; MacLean, 2003; Michel, et al., 2012; NPUAP, 2001; Reddy, 2011; Teno, et al., 2012). Many pressure ulcers are avoidable and can be prevented with appropriate intervention (Levine and Zulkowski, 2015; Crawford et al., 2014; Defloor et al., 2005) Casey, G. (2013). "Pressure ulcers reflect quality of nursing care." Nurs N Z 19(10): 20-24.

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		Gorzoni, M. L. and S. L. Pires (2011). "Deaths in nursing homes." Rev Assoc Med Bras 57(3): 327-331. Thomas, J. M., et al. (2013). "Systematic review: health-related characteristics of elderly hospitalized adults and nursing home residents associated with short-term mortality." J Am Geriatr Soc 61(6): 902-911. White-Chu, E. F., et al. (2011). "Pressure ulcers in long-term care." Clin Geriatr Med 27(2): 241-258. Bates-Jensen BM. Quality indicators for prevention and management of pressure ulcers in vulnerable elders. Ann Int Med. 2001;135 (8 Part 2), 744-51. Park-Lee E, Caffrey C. Pressure ulcers among nursing home residents: United States, 2004 (NCHS Data Brief No. 14). Hyattsville, MD: National Center for Health Statistics, 2009. Available from http://www.cdc.gov/nchs/data/databriefs/db14.htm. Wang, H., et al. (2014). "Impact of pressure ulcers on outcomes in inpatient rehabilitation facilities." Am J Phys Med Rehabil 93(3): 207-216. Hurd D, Moore T, Radley D, Williams C. Pressure ulcer prevalence and incidence across post-acute care settings. Home Health Quality Measures & Data Analysis Project, Report of Findings, prepared for CMS/OCSQ, Baltimore, MD, under Contract No. 500-2005-000181 TO 0002. 2010. Institute for Healthcare Improvement (IHI). Relieve the pressure and reduce harm. May 21, 2007. Available from http://www.ihi.org/IHI/Topics/PatientSafety/SafetyGeneral/ImprovementStories/FSRelievethePressureandReduceHarm.htm. Russo CA, Steiner C, Spector W. Hospitalizations related to pressure ulcers among adults 18 years and older, 2006 (Healthcare Cost and Utilization Project Statistical Brief No. 64). December 2008. Available from http://www.hcup-us.ahrq.gov/reports/statbriefs/sb64.pdf. Levine JM, Zulkowski KM. Secondary analysis of office of inspector general's pressure ulcer data: incidence, avoidability, and level of harm. Adv Skin Wound Care. 2015 Sep;28(9):420-8; quiz 429-30. doi: 10.1097/01.ASW.0000470070.23694.f3. PubMed PMID: 26280701. Crawford B, Corbett N, Zuniga A. Reducing hospital-acquired pressure ulcers: a quality improvement project across 21 hospitals. J Nurs Care Qual. 2014 Oct-Dec;29(4):303-10. doi: 10.1097/NCQ.0000000000000060. PubMed PMID: 24647120. Defloor T, De Bacquer D, Grypdonck MH. The effect of various combinations of turning and pressure reducing devices on the incidence of pressure ulcers. Int J Nurs Stud. 2005 Jan;42(1):37-46. PubMed PMID: 15582638.
MUC16-145	The Percent of Residents or	Pressure ulcers are recognized as a serious medical condition. Considerable evidence exists regarding the seriousness of pressure ulcers, and the relationship between pressure ulcers and pain, decreased quality of

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	Home Health Patients with Pressure Ulcers That Are New or Worsened (Short-Stay)	life, and increased mortality in aging populations (Casey, 2013; Gorzoni and Pires, 2011; Thomas et al., 2013; Wuite-Chu, et al., 2011). Pressure ulcers interfere with activities of daily living and functional gains made during rehabilitation, predispose patients to osteomyelitis and septicemia, and are strongly associated with longer hospital stays, longer IRF stays, and mortality (Bates-Jensen, 2001; Park-Lee and Caffrey, 2009; Wang, et al., 2014). Additionally, patients with acute care hospitalizations related to pressure ulcers are more likely to be discharged to long-term care facilities (e.g., a nursing facility, an intermediate care facility, or a nursing home) than hospitalizations for all other conditions (Hurd, et al., 2010; IHI, 2007). Pressure ulcers typically result from prolonged periods of uninterrupted pressure on the skin, soft tissue, muscle, or bone (Bates-Jensen, 2001; IHI, 2007; Russo, et al., 2006). Elderly individuals in SNFs/NHs, LTCHs, and IRFs have a wide range of impairments or medical conditions that increase their risk of developing pressure ulcers, including but not limited to, impaired mobility or sensation, malnutrition or under-nutrition, obesity, stroke, diabetes, dementia, cognitive impairments, circulatory diseases, and dehydration. The use of wheelchairs and medical devices (e.g., hearing aid, feeding tubes, tracheostomies, percutaneous endoscopic gastrostomy tubes), a history of pressure ulcers, or presence of a pressure ulcer at admission are additional factors that increase pressure ulcer risk in elderly patients (Casey, 2013; Bates-Jensen, 2001; Park-Lee and Caffrey, 2009; Hurde, et al., 2010; AHRQ, 2009; Cai, et al., 2013; DeJong, et al., 2014; MacLean, 2003; Michel, et al., 2012; NPUAP, 2001; Reddy, 2011; Teno, et al., 2012). Many pressure ulcers are avoidable and can be prevented with appropriate intervention (Levine and Zulkowski, 2015; Crawford et al., 2014; Defloor et al., 2005) Casey, G. (2013). "Pressure ulcers reflect quality of nursing care." Nurs N Z 19(10): 20-24. Gorzoni, M. L. and S. L. Pires (2011). "Deaths in nursing homes." Rev Assoc Med Bras 57(3): 327-331. Thomas, J. M., et al. (2013). "Systematic review: health-related characteristics of elderly hospitalized adults and nursing home residents associated with short-term mortality." J Am Geriatr Soc 61(6): 902-911. White-Chu, E. F., et al. (2011). "Pressure ulcers in long-term care." Clin Geriatr Med 27(2): 241-258. Bates-Jensen BM. Quality indicators for prevention and management of pressure ulcers in vulnerable elders. Ann Int Med. 2001;135 (8 Part 2), 744-51. Park-Lee E, Caffrey C. Pressure ulcers among nursing home residents: United States, 2004 (NCHS Data Brief No. 14). Hyattsville, MD: National Center for Health Statistics, 2009. Available from http://www.cdc.gov/nchs/data/databriefs/db14.htm.

MUC ID	Measure Title	Rationale
		Wang, H., et al. (2014). "Impact of pressure ulcers on outcomes in inpatient rehabilitation facilities." Am J Phys Med Rehabil 93(3): 207-216. Hurd D, Moore T, Radley D, Williams C. Pressure ulcer prevalence and incidence across post-acute care settings. Home Health Quality Measures & Data Analysis Project, Report of Findings, prepared for CMS/OCSQ, Baltimore, MD, under Contract No. 500-2005-000181 TO 0002. 2010. Institute for Healthcare Improvement (IHI). Relieve the pressure and reduce harm. May 21, 2007. Available from http://www.ihi.org/IHI/Topics/PatientSafety/SafetyGeneral/ImprovementStories/FSRelievethePressureandReduceHarm.htm. Russo CA, Steiner C, Spector W. Hospitalizations related to pressure ulcers among adults 18 years and older, 2006 (Healthcare Cost and Utilization Project Statistical Brief No. 64). December 2008. Available from http://www.hcup-us.ahrq.gov/reports/statbriefs/sb64.pdf. Levine JM, Zulkowski KM. Secondary analysis of office of inspector general's pressure ulcer data: incidence, avoidability, and level of harm. Adv Skin Wound Care. 2015 Sep;28(9):420-8; quiz 429-30. doi: 10.1097/01.ASW.0000470070.23694.f3. PubMed PMID: 26280701. Crawford B, Corbett N, Zuniga A. Reducing hospital-acquired pressure ulcers: a quality improvement project across 21 hospitals. J Nurs Care Qual. 2014 Oct-Dec;29(4):303-10. doi: 10.1097/NCQ.0000000000000060. PubMed PMID: 24647120. Defloor T, De Bacquer D, Grypdonck MH. The effect of various combinations of turning and pressure reducing devices on the incidence of pressure ulcers. Int J Nurs Stud. 2005 Jan;42(1):37-46. PubMed PMID: 15582638.
MUC16-151	Febrile Neutropenia Risk Assessment Prior to Chemotherapy	Seven articles published from 2006 to 2016 provide insights into the benefits of FN risk assessment: Donohue (2006): Among patients receiving chemotherapy, the rates CSF prophylaxis were higher in those who were managed with a Risk Assessment Tool, than those in a “control group” that received care without use of the tool in an earlier time period (72% versus 28%, respectively, p<0.001). Conversely, the rates of adverse outcomes were higher in the control group than in the Risk Assessment Tool Group, but not statistically significant: febrile neutropenia (14% versus 11%, respectively), treatment with IV antibiotics (28% versus 14%), hospitalizations secondary to febrile neutropenia (16% versus 11%), and chemotherapy

MUC ID	Measure Title	Rationale
		dose reductions (10% versus 3%). Doyle (2006): In a pre-post intervention study of patients initiating chemotherapy or a new regimen, use of tool for assessing patient risk of FN lowered the rate of FN-related hospitalization by 78%, from 9.7% among 155 patients in FY04 to 2.1% among 189 patients in FY05 (P = 0.003). Miller (2006): In a study of an intervention with a computer-based risk assessment tool (CBRAT), the rate of documenting performance of an FN risk assessment was 13% before use of the CBRAT and 100% after its introduction (p<0.001). O'Brien et al. (2014): An intervention study in a hospital-based oncology unit used an FN risk assessment tool to decide which patients receiving chemotherapy to treat with CSF. Comparing the time periods before (N=233 patients) and after (N=226 patients) the tool was used, the incidence of FN was reduced by 52% (p=0.02). Krzemieniecki et al. (2014): A total of 1,347 patients with solid tumors were eligible for the study based on being scheduled for "myelotoxic" chemotherapy and having an "investigator-assessed FN risk" of ≥ 20%. The study found 45-80% of these patients, depending on the tumor site, did not receive G-CSF that was indicated by results of the FN risk assessment by the investigator and guideline recommendations. Freyer et al. (2015): In a study of 165 physicians and 944 patients, each physician rated FN risk for their own patients using factors they selected. Only 82% of patients with an FN risk at or above 20% based on the physician-assessed FN risk were scheduled to receive CSF indicating almost one of five patients would not receive G-CSF PP even though the patient's risk was rated higher than the threshold of 20%. Mäenpää et al. (2016): In a study of 690 breast cancer patients (stages I-III) receiving chemotherapy, a higher proportion of those with a high-risk regimen were given G-CSF primary prophylaxis than those with a lower-risk regimen (48% versus 22%). However, these results indicate that less than half of patients on a high-risk regimen received appropriate treatment with G-CSF. References: Donohue, R. (2006). Development and implementation of a risk assessment tool for chemotherapy-induced neutropenia. Oncol Nurs Forum, 33(2), 347-352.

MUC ID	Measure Title	Rationale
		Doyle, A. M. (2006). Prechemotherapy assessment of neutropenic risk. Oncology (Williston Park), 20(10 Suppl Nurse Ed), 32-39; discussion 39-40. Miller, K. (2010). Using a computer-based risk assessment tool to identify risk for chemotherapy-induced febrile neutropenia. Clin J Oncol Nurs, 14(1), 87-91. O'Brien, C., Dempsey, O., & Kennedy, M. J. (2014). Febrile neutropenia risk assessment tool: improving clinical outcomes for oncology patients. Eur J Oncol Nurs, 18(2), 167-174. Krzemieniecki, K., Sevelda, P., Erdkamp, F., Smakal, M., Schwenkglenks, M., Puertas, J., et al. (2014). Neutropenia management and granulocyte colony-stimulating factor use in patients with solid tumours receiving myelotoxic chemotherapy--findings from clinical practice. Support Care Cancer, 22(3), 667-677. Freyer, G., Kalinka-Warzocha, E., Syrigos, K., Marinca, M., Tonini, G., Ng, S. L., et al. (2015). Attitudes of physicians toward assessing risk and using granulocyte colony-stimulating factor as primary prophylaxis in patients receiving chemotherapy associated with an intermediate risk of febrile neutropenia. Med Oncol, 32(10), 236. Maenpaa, J., Varthalitis, I., Erdkamp, F., Trojan, A., Krzemieniecki, K., Lindman, H., et al. (2016). The use of granulocyte colony stimulating factor (G-CSF) and management of chemotherapy delivery during adjuvant treatment for early-stage breast cancer-Further observations from the IMPACT solid study. Breast, 25, 27-33.
MUC16-152	Hospital Visits following Orthopedic Ambulatory Surgical Center Procedures	Improving the quality of care provided at ASCs is a key priority in the context of growth in the number of ASCs and procedures performed in this setting. More than 60% of all medical or surgical procedures were performed at ASCs in 2006 – a three-fold increase from the late 1990s (Cullen et al. 2009). In 2013, more than 3.4 million Fee-for-Service (FFS) Medicare beneficiaries were treated at 5,364 Medicare-certified ASCs, and spending on ASC services by Medicare and its beneficiaries amounted to $3.7 billion (Medicare Payment Advisory Commission 2015). The patient population served at ASCs has increased not only in volume but also in age and complexity, which can be partially attributed to improvements in anesthetic care and innovations in minimally invasive surgical techniques (Bettelli 2009; Fuchs 2002). ASCs have become the preferred setting for the provision of low-risk surgical and medical procedures in the US, as many patients experience shorter wait times, prefer to avoid hospitalization, and are able to return rapidly to work (Cullen et al. 2009).

MUC ID	Measure Title	Rationale
		Therefore, in the context of growth in volume and diversity of procedures performed at ASCs, evaluating the quality of care provided at ASCs is increasingly important. As the number of orthopedic procedures increase in ASCs, it is important to evaluate the quality of care for patients undergoing these procedures. According to Medicare claims, approximately 7% of surgeries performed at ASCs were orthopedic in nature in 2007, which reflects a 77% increase in orthopedic procedures performed at ASCs from 2000 to 2007 (Goyal et al. 2016). Measuring and reporting seven-day unplanned hospital visits following orthopedic procedures will incentivize ASCs to improve care and care transitions. Many of the reasons for hospital visits are preventable. Patients often present to the hospital for complications of medical care, including infection, post-operative bleeding, urinary retention, nausea and vomiting, and pain. Martín-Ferrero et al. (2014) found that of 10,032 patients who underwent ambulatory orthopedic surgical procedures at an ambulatory surgery unit between June 1993 and June 2012, 121 (1.2%) patients needed attention in the emergency department during the first 24 hours after discharge because of pain (86 patients) or bleeding (35 patients). There were five subsequent hospitalizations for knee pain and swelling (Martín-Ferrero and Faour- Martín 2014). In conclusion, acute care visits following orthopedic surgery are an important and measurable outcome for surgeries and procedures performed at ASCs. Many of these unanticipated acute care visits occur at or after discharge and may not be readily visible to clinicians because patients often present to alternative facilities, such as emergency departments. Therefore, illuminating these events should facilitate efforts to improve patient outcomes following ASC procedures. Bettelli G. High risk patients in day surgery. Minerva anestesiologica. 2009;75(5):259-268. Cullen KA, Hall MJ, Golosinskiy A, Statistics NCfH. Ambulatory surgery in the United States, 2006. US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; 2009. Fuchs K. Minimally invasive surgery. Endoscopy. 2002;34(2):154-159. Goyal KS, Jain S, Buterbaugh GA, et al. The safety of hang and upper-extremity surgical procedures at a

MUC ID	Measure Title	Rationale
		freestanding ambulatory surgical center. The Journal of Bone and Joint Surgery. 2016;90:600-4. Martín-Ferrero MÁ, Faour- Martín O. Ambulatory surgery in orthopedics: experience of over 10,000 patients. Journal of Orthopaedic Surgery. 2014;19:332-338. Medicare Payment Advisory Commission (MedPAC). Report to Congress: Medicare Payment Policy. March 2015; http://www.medpac.gov/docs/default-source/reports/mar2015_entirereport_revised.pdf?sfvrsn=0.
MUC16-153	Hospital Visits following Urology Ambulatory Surgical Center Procedures	Improving the quality of care provided at ASCs is a key priority in the context of growth in the number of ASCs and procedures performed in this setting. More than 60% of all medical or surgical procedures are performed at ASCs in 2006 – a three-fold increase since the late 1990s (Cullen et al. 2009). In 2013, more than 3.4 million Fee-for-Service (FFS) Medicare beneficiaries were treated at 5,364 Medicare-certified ASCs, and spending on ASC services by Medicare and its beneficiaries amounted to $3.7 billion (Medicare Payment Advisory Commission 2015). The patient population served at ASCs has increased not only in volume but also in age and complexity, which can be partially attributed to improvements in anesthetic care and innovations in minimally invasive surgical techniques (Bettelli 2009; Fuchs 2002). ASCs have become the preferred setting for the provision of low-risk surgical and medical procedures in the US, as many patients experience shorter wait times, prefer to avoid hospitalization, and are able to return rapidly to work (Cullen et al. 2009). Therefore, in the context of growth in volume and diversity of procedures performed at ASCs, evaluating the quality of care provided at ASCs is increasingly important. As the number of urology procedures increases in ASCs, it is important to evaluate the quality of care for patients undergoing these procedures. A 1998 study found that urology procedures accounted for 4.8% of unanticipated admissions and was almost twice as likely as orthopedics, plastic surgery, or neurosurgery to have admissions (Fortier 1998). Similarly, a 2014 study found that outpatient urology surgery had an overall 3.7% readmission rate (Rambachan 2014). Using 5% national samples of Medicare FFS beneficiaries aged ≥65 years from 1998 to 2006, Hollingsworth et al. (2012) reported 30-day adjusted outcome rates for patients who underwent one of 22 common outpatient urologic procedures at ASCs. The 30-day adjusted rate of inpatient admission was 7.9% (0.4% same-day admission and 7.5% subsequent admission). Risk-adjustment variables included age, gender, race, comorbid status (assessed using an adaptation of the Charlson index), area of residence, and calendar year. Multivariable logistic regression analyses used robust variance estimators (Hollingsworth 2012). The study found that more frequent same-day admissions follow outpatient surgery at ASCs vs. hospitals.

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		Since urology procedure in the ASC is a significant predictive factor for unanticipated admissions compared to other procedures (Fortier 1998), measuring and reporting seven-day unplanned hospital visits following urology procedures will incentivize ASCs to improve care and care transitions. Many of the reasons for hospital visits are preventable. Patients often present to the hospital for complications of medical care, including urinary tract infection, calculus of ureter, urinary retention, hematuria, and septicemia. However, patient and staff education is an opportunity to improve the success rate of urology procedures in the ASC (Paez 2007). Using data from the Agency for Healthcare Research and Quality (AHRQ) Healthcare Cost and Utilization Project (HCUP), Owens et al. (2014) reported unadjusted outcomes for low-risk patients undergoing five types of low- to moderate-risk surgical procedures, including urology procedures (Owens 2014). The outcomes of interest included 14- and 30-day all-cause acute care visit rates. Acute care visits included subsequent ambulatory surgery visits and inpatient admissions; the authors specifically excluded ED visits that did not result in hospitalization from the outcome. The 14- and 30-day rates of transurethral prostatectomy acute care visits were 0.11% and .18%, respectively. In conclusion, acute care visits following urology surgery are an important and measurable outcome for surgeries and procedures performed at ASCs. Many of these unanticipated acute care visits occur at or after discharge and may not be readily visible to clinicians because patients often present to alternative facilities, such as emergency departments. Therefore, illuminating these events should facilitate efforts to improve patient outcomes following ASC procedures. Bettelli G. High risk patients in day surgery. Minerva anestesiologica. 2009;75(5):259-268. Cullen KA, Hall MJ, Golosinskiy A, Statistics NCfH. Ambulatory surgery in the United States, 2006. US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; 2009. Fortier J. Unanticipated admission after ambulatory surgery--a prospective study. Can J Anaesth. 1998;45(7):612-9. Fuchs K. Minimally invasive surgery. Endoscopy. 2002;34(2):154-159.

MUC ID	Measure Title	Rationale
		Hollingsworth JM. Surgical quality among Medicare beneficiaries undergoing outpatient urological surgery. The Journal of Urology. 2012;188(4):1274-1278. Medicare Payment Advisory Commission (MedPAC). Report to Congress: Medicare Payment Policy. March 2015; http://www.medpac.gov/docs/default-source/reports/mar2015_entirereport_revised.pdf?sfvrsn=0. Owens PLPL. Surgical site infections following ambulatory surgery procedures. JAMA : the journal of the American Medical Association. 2014;311(7):709-716. Paez A. Adverse events and readmissions after day-case urological surgery. International Braz J Urol. 2007;33(3):330-8. Rambachan A. Predictors of readmission following outpatient urological surgery Annals of the Royal College of Surgeons of England. Journal of Urology. 2014; 192(1):183-188.
MUC16-155	Ambulatory Breast Procedure Surgical Site Infection (SSI) Outcome Measure	Breast SSIs contribute a substantial portion of SSI in inpatient settings, and also have the one of the highest risk of any procedure type in outpatient settings. In the Netherlands, the rate of SSI following mastectomies in 2006 was 61% as determined by a study in 2006 (Mannien, 2006). A case control study performed in 2004 reported SSI rates following breast surgeries to be 25.8% (Vilar-Compte, 2004). One study of breast SSI risk in an HOPD reported an overall risk of 5.2%, with procedure-specific risks of 12.4% following mastectomy with immediate implant reconstruction, 6.2% following mastectomy with immediate reconstruction using a transverse rectus abdominis myocutaneous flap, 4.4% following mastectomy only, and 1.1% following breast reduction surgery (Olsen, 2008). Another study of SSI following breast cancer-related procedures reported a risk of 18.9% (Vilar-Compte, 2009). The cost incurred by each breast SSI attributable to the SSI was estimated by one analysis to be $4,901 per patient (Olsen, 2008). Though these estimates of risk vary from 1% to over 30% depending on procedure type, sample population, and definition of SSI, it is clear that breast procedure-related SSIs are a large burden to outpatient healthcare facilities. From 1980-1995, a significant trend in surgery was the transition from inpatient settings to outpatient ambulatory surgery settings due to advances in surgical techniques and economic incentives for ambulatory surgery (Kozak, 1999). In the current literature, the rates of SSI in ambulatory surgery centers is relatively low—however, aggregate numbers of infections can still cause a substantial burden, as those often result in

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		post-surgical visits and morbidity. ASCs have been shown to have a lower SSI rate than inpatient settings; in one study, SSI morbidity and recurrence rates in ambulatory surgery were half the rates in inpatient surgery. A 5-year study of SSIs in ambulatory surgery centers showed a rate of 2.8 SSI per 100 surgeries (Vilar-Compte, 2001). These rates are relatively consistent- another study reported a risk of SSI after outpatient surgery to be 3.5% (Grøgaard, 2001). Aside from morbidity alone, postsurgical visits due to SSI acquired during surgery contribute much to the cost burden on healthcare facilities. A study on postsurgical acute care visits for SSIs in ASCs demonstrated a rate of 3.09 SSI-related visits per 1000 procedures at 14 days after surgery and 4.84 per 1000 at 30 days after surgery (Owens, 2014). References Mannien, J., Wille, J. C., Snoeren, R. L., & Hof, S. V. (2006). Impact of Postdischarge Surveillance on Surgical Site Infection Rates for Several Surgical Procedures: Results From the Nosocomial Surveillance Network in The Netherlands. *Infection Control and Hospital Epidemiology Infect Control Hosp Epidemiol, 27*(8), 809-816. Volkow, P., Vilar-Compte, D., Jacquemin, B., & Robles-Vidal, C. (2004). Surgical Site Infections in Breast Surgery: Case-control Study. *World Journal of Surgery, 28*(3), 242-246. Vilar-Compte, D., Rosales, S., Hernandez-Mello, N., Maafs, E., & Volkow, P. (2009). Surveillance, Control, and Prevention of Surgical Site Infections in Breast Cancer Surgery: A 5-year Experience. *American Journal of Infection Control, 37*(8), 674-679. Olsen, M. A., et al. (2008). Hospital-Associated Costs Due to Surgical Site Infection After Breast Surgery. *Arch Surg Archives of Surgery, 143*(1), 53-60. Kozak LJ, McCarthy E, Pokras R. (1999). Changing Patterns of Surgical Care in the United States, 1980-1995. Health Care Financ Rev, 21(1), 31-49. Vilar-Compte D, Roldán R, Sandoval S, et al. (2001). Surgical Site Infections in Ambulatory Surgery: A 5-year Experience. *American Journal of Infection Control, 29*(2), 99-103. Grøgaard, B. (2001). Wound Infection in Day-surgery. *Ambulatory Surgery, 9*(2), 109-112.

MUC ID	Measure Title	Rationale
		Owens PL, Barrett ML, Raetzman S, Maggard-Gibbons M, Steiner CA. (2014). Surgical Site Infections Following Ambulatory Surgery Procedures. *Jama, 311*(7), 709-716.
MUC16-165	Follow-Up After Hospitalization for Mental Illness	This measure assesses whether health plan members who were hospitalized for a mental illness received timely follow-up visits. Studies suggest that patients who start treatment soon after diagnosis are less likely to have negative health and social outcomes. A plan's ability to improve its seven- and 30-day follow-up rates may result in better overall health outcomes. As studies have shown, efforts to facilitate treatment following a hospital discharge also lead to less attrition in the initial period of treatment. Thus, this time period may be an important opportunity for health plans to implement strategies aimed at establishing strong relationships with mental health providers and facilitate long-term engagement in treatment. Low-intensity interventions that can be applied widely are typically implemented at periods of high risk for treatment dropout, such as following an emergency room or hospital discharge or the time of entry into outpatient treatment (Kreyenbuhl 2009). Emerging evidence suggests that brief, low-intensity case management interventions are effective in bridging the gap between inpatient and outpatient treatment (Dixon 2009). For example, Boyer et al evaluated strategies aimed at increasing attendance at outpatient appointments following hospital discharge. They found that the most common factor in a patient's medical history that was linked to a patient having a follow-up visit was a discussion about the discharge plan between the inpatient staff and outpatient clinicians. Other strategies they found that increased attendance at appointments included having the patient meet with outpatient staff and visit the outpatient program prior to discharge (Boyer 2000). Although rates vary across studies, reviews of the literature suggest that up to one-third of individuals with serious mental illnesses who have had some contact with the mental health service system disengage from care. Younger age, male gender, ethnic minority background, and low social functioning have been consistently associated with disengagement from mental health treatment. Individuals with co-occurring psychiatric and substance use disorders, as well as those with early onset psychosis, are at particularly high risk of treatment dropout. Studies suggest that engagement strategies that specifically target these high-risk groups, as well as high-risk periods, including following an emergency room or hospital admission and the initial period of treatment, can improve outcomes (Kreyenbuhl 2009).
MUC16-167	Safe Use of Opioids – Concurrent Prescribing	Unintentional opioid overdose fatalities have become an epidemic in the last 20 years and a major public health concern in the United States (Rudd 2016). Reducing the number of unintentional overdoses has become a priority for numerous federal organizations including the Centers for Disease Control and Prevention (CDC), the Federal Interagency Workgroup for Opioid Adverse Drug Events, and the Substance Abuse and Mental Health Services Administration. The U.S. Food and Drug Administration recently

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		announced new requirements calling for class-wide changes to drug labeling, to help inform health care providers and patients of the serious risks associated with the combined use of certain opioid medications and benzodiazepines. Concurrent prescriptions of opioids or opioids and benzodiazepines puts patients at a greater risk of unintentional overdose due to the increased risk of respiratory depression (Dowell 2016). An analysis of national prescribing patterns shows that more than half of patients who received an opioid prescription in 2009 had filled another opioid prescription within the previous 30 days (NIDA 2011). Another analysis of more than 1 million hospital admissions in the United States found that over 43% of all patients with nonsurgical admissions were exposed to multiple opioids during their hospitalization (Herzig 2013). Studies of multiple claims and prescription databases have shown that between 5%-15% percent of patients receive concurrent opioid prescriptions and 5%-20% of patients receive concurrent opioid and benzodiazepine prescriptions across various settings (Liu 2013, Mack 2015, Park 2015). Patients who have multiple opioid prescriptions have an increased risk for overdose (Jena 2014). Rates of fatal overdose are ten times higher in patients who are co-dispensed opioid analgesics and benzodiazepines than opioids alone (Dasgupta 2015). Furthermore, concurrent use of benzodiazepines with opioids was prevalent in 31%-51% of fatal overdoses (Dowell 2016). Emergency Department (ED) visit rates involving both opioid analgesics and benzodiazepines increased from 11.0 in 2004 to 34.2 per 100,000 population in 2011 (Jones 2015). Adopting a measure that calculates the proportion of patients prescribed two or more different opioids or opioids and benzodiazepines concurrently, has the potential to reduce preventable mortality and reduce the costs associated with adverse events related to opioid use by 1) encouraging providers to identify patients with concurrent prescriptions of opioids or opioids and benzodiazepines and 2) discouraging providers from prescribing two or more different opioids or opioids and benzodiazepines concurrently. References: Dasgupta, N., et al. "Cohort Study of the Impact of High-dose Opioid Analgesics on Overdose Mortality", Pain Medicine, Wiley Periodicals, Inc., Sep 2015. http://onlinelibrary.wiley.com/doi/10.1111/pme.12907/abstract Dowell, D., Haegerich, T., Chou, R. "CDC Guideline for Prescribing Opioids for Chronic Pain - United States, 2016". MMWR Recomm Rep 2016;65. http://www.cdc.gov/media/dpk/2016/dpk-opioid-prescription-guidelines.html

MUC ID	Measure Title	Rationale
		Herzig, S., Rothberg, M., Cheung, M., et al. "Opioid utilization and opioid-related adverse events in nonsurgical patients in US hospitals". Nov 2013. DOI: 10.1002/jhm.2102. http://onlinelibrary.wiley.com/doi/10.1002/jhm.2102/abstract Jena, A., et al. "Opioid prescribing by multiple providers in Medicare: retrospective observational study of insurance claims", BMJ 2014; 348:g1393 doi: 10.1136/bmj.g1393. http://www.bmj.com/content/348/bmj.g1393 Jones, CM., McAninch, JK. "Emergency Department Visits and Overdose Deaths From Combined Use of Opioids and Benzodiazepines". Am J Prev Med. 2015 Oct;49(4):493-501. doi: 10.1016/j.amepre.2015.03.040. Epub 2015 Jul 3. http://www.ncbi.nlm.nih.gov/pubmed/26143953 Liu, Y., Logan, J., Paulozzi, L., et al. "Potential Misuse and Inappropriate Prescription Practices Involving Opioid Analgesics". Am J Manag Care. 2013 Aug;19(8):648-65. http://www.ajmc.com/journals/issue/2013/2013-1-vol19-n8/Potential-Misuse-and-Inappropriate-Prescription-Practices-Involving-Opioid-Analgesics/ Mack, K., Zhang, K., et al. "Prescription Practices involving Opioid Analgesics among Americans with Medicaid, 2010", J Health Care Poor Underserved. 2015 Feb; 26(1): 182-198. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4365785/ National Institute on Drug Abuse. "Analysis of opioid prescription practices finds areas of concern". April 2011. Retrieved from https://www.drugabuse.gov/news-events/news-releases/2011/04/analysis-opioid-prescription-practices-finds-areas-concern Park, T., et al. "Benzodiazepine Prescribing Patterns and Deaths from Drug Overdose among US Veterans Receiving Opioid Analgesics: Case-cohort Study", BMJ 2015; 350:h2698. http://www.bmj.com/content/350/bmj.h2698 Rudd, R., Aleshire, N., Zibbell, J., et al. "Increases in Drug and Opioid Overdose Deaths - United States, 2000-2014". MMWR, Jan 2016. 64(50);1378-82 http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6450a3.htm

MUC ID	Measure Title	Rationale
		U.S. Food and Drug Administration. "FDA requires strong warnings for opioid analgesics, prescription opioid cough products, and benzodiazepine labeling related to serious risks and death from combined use". Aug 31, 2016. http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm518697.htm
MUC16-178	Alcohol Use Brief Intervention Provided or Offered and Alcohol Use Brief Intervention	Excessive use of alcohol has a substantial harmful impact on health and society in the United States. It is a drain on the economy and a source of enormous personal tragedy. In 2010, excessive alcohol use cost the US economy $249 billion, or $2.05 a drink, and $2 of every $5 of these costs were paid by the public. More than 537,000 persons died as a consequence of alcohol, drug, and tobacco use, making them the cause of more than one out of four deaths in the United States.1 Excessive alcohol use places drinkers, their families, and their communities at risk for many harmful health effects, including: • **Chronic conditions.** Over time, excessive drinking can lead to high blood pressure, various cancers, heart disease, stroke, and liver disease. • **Sexual risk behaviors.** Excessive drinking increases sexual risk behaviors, which can result in unintended pregnancy, HIV infection, and other sexually transmitted diseases. • **Motor vehicle crashes.** Excessive drinking can lead to motor vehicle crashes, resulting in injuries and deaths. Binge drinkers are responsible for most of the alcohol-impaired driving episodes involving US adults. • **Violence and injuries.** Excessive alcohol use can lead to falls, drowning, homicide, suicide, intimate partner violence, and sexual assault. • **Fetal alcohol spectrum disorders.** Any alcohol use by a pregnant woman can harm a developing fetus, resulting in physical, behavioral, and learning problems later in life. Hospitalization provides a prime opportunity to address substance use, and for many patients, controlling their other health problems requires addressing their substance use.2 Approximately 8% of general hospital inpatients and 40 to 60% of traumatically injured inpatients and psychiatric inpatients have substance use disorders. 3 1. Mokdad AH, Marks JS, Stroup DS, Geberding JL. Actual Causes of Death in the United States, 2000. JAMA 2004;291:128-1245.

MUC ID	Measure Title	Rationale
		2. Fleming MF, Mundt MP, French MT, Manwell LB, Stauffacher EA, Barry KL. Brief physician advice for problem drinkers: Long-term efficacy and cost-benefit analysis. Alcohol Clin Exp Res. 2002 Jan;26(1):36-43. 3. Gentilello LM, Villaveces A, Ries RR, Nason KS, Daranciang E, Donovan DM, Copass M, Jurkovick GJ, Rivara FP. Detection of acute intoxication and chronic alcohol dependence by trauma center staff. J Trauma. 1999 Dec;47(6):1131-5; discussion 1135-9.
MUC16-179	Alcohol Use Screening	It was the expert opinion of our advisory panel that implementation of this measure would lead to the provision of brief interventions for patients at risk for excessive alcohol use and alcohol-related harms. Evidence-based screening instruments exist that can detect harmful alcohol use. Brief interventions that can be delivered during a single primary care office visit have been tested in multiple randomized trials, including a multi-center one in the Medicare eligible age group. They demonstrate that screening and intervention significantly reduce health risks, and generate cost savings of approximately $4 dollars for every dollar invested in providing them. (Fleming 1999) Clinical trials have demonstrated that brief interventions, especially prior to the onset of addiction, significantly improve health and reduce costs, and that similar benefits occur in those with addictive disorders who are referred to treatment (SAMHSA 2007, NIAAA 2005, Fleming 2002). Yet, according to a recent study by CDC and SAMHSA, 9 in 10 excessive drinkers are *not* alcohol dependent (Esser MB, Hedden SL, Kanny D, Brewer RD, Gfroerer JC, Naimi TS. Prevalence of Alcohol Dependence Among US Adult Drinkers, 2009–2011. Prev Chronic Dis 2014;11:140329).
MUC16-180	Alcohol & Other Drug Use Disorder Treatment Provided or Offered at Discharge and Alcohol & Other Drug Use Disorder Treatment at Discharge	In a study on the provision of evidence-based care and preventive services provided in hospitals for 30 different medical conditions, quality varied substantially according to diagnosis. Adherence to recommended practices for treatment of substance use ranked last, with only 10% of patients receiving proper care (McGlynn 2003, Gentilello 2005). Currently, less than one in twenty patients with an addiction are referred for treatment (Gentilello 1999). Unfortunately, many physicians mistakenly believe that substance use problems are largely confined to the young. They are significantly less likely to recognize an alcohol problem in an older patient than in a younger one. (Curtis 1989) As a result, these problems usually go undetected, resulting in harmful, expensive, and sometimes even catastrophic consequences. This is demonstrated by the fact that few older adults who need substance use treatment actually receive it. In 2005, persons 65 years and older made up only 11,344 out of 1.8 million substance use treatment episodes recorded.(SAMHSA 2007) • Gentilello LM, Ebel BE, Wickizer TM, Salkever DS Rivera FP. Alcohol interventions for trauma patients treated in emergency departments and hospitals: A cost benefit analysis. Ann Surg. 2005 Apr;241(4):541-50. • Gentilello LM, Villaveces A, Ries RR, Nason KS, Daranciang E, Donovan DM Copass M, Jurkovich GJ Rivara

MUC ID	Measure Title	Rationale
		FP. Detection of acute alcohol intoxication and chronic alcohol dependence by trauma center staff. J Trauma. 1999 Dec;47(6):1131-5; discussion 1135-9. • McGlynn, EA, Asch SM, Adams J, Keesey J, et al. The New England Journal of Medicine. Boston: Jun 26, 2003. Vol. 348, Iss.26; pg. 2635, 11pgs. • Curtis, J.R.; Geller, G.; Stokes, E.J. ; et al. Characteristics, diagnosis, and treatment of alcoholism in elderly patients. J Am Geriatr Soc 37:310-316, 1989. • SAMHSA. Office of Applied Studies. Older adults in substance abuse treatment: 2005. The DASIS Report. Rockville MD, November 8, 2007.
MUC16-260	Hospital-Wide Risk Standardized Mortality Measure	Hospital-wide mortality has been the focus of a number of previous quality reporting initiatives in the U.S. and other countries. Prior efforts have met with some success and a number of challenges. Through our environmental scan and literature review, we identified multiple hospital-wide mortality measures reported at the state-level, and several at the health-system level. There is no HWM measure reported at the national-level in the United States. The vast majority of patients admitted to the hospital have survival as a primary goal, and this outcome is already the focus of existing CMS condition- and procedure-specific mortality quality measures. We know from these existing measures of risk-standardized mortality rates that there is variation across hospitals in risk-adjusted mortality, supporting variation in the quality of care received at these hospitals1. Furthermore, we also know that these existing mortality measures provide specificity for targeted quality improvement work and may have contributed to national declines in hospital mortality rates for measured conditions2. However, these measures do not allow broader statements about a hospital's performance for those admitted, nor do they meaningfully capture performance for small-volume hospitals. By creating a hospital-wide mortality measure, we will be able to capture cross-cutting hospital-wide characteristics that may contribute to quality of care such as a culture of safety, good communication across teams, multidisciplinary care teams, coordination with community services and efforts, and effective care transitions. While avoiding mortality is a primary outcome for most patients, we do recognize that this is not true for all patients, and that there are also some patients for which the quality of care at a hospital may not impact the outcome. In order to create a measure that is meaningful and accurately reflects patient's goals of care, we have worked with a broad range of stakeholders, including patients, family caregivers, and clinicians to best identify those admissions which should not be included in the measure, such as patients that have been enrolled in hospice before or on admission. While limitation of treatment orders (such as DNR, or comfort care only) are important for understanding patient wishes, for this measure we only have data from claims.

MUC ID	Measure Title	Rationale
		The code for DNR is unreliable and not appropriately captured in claims3. In addition, there are no claims for other limitation of treatment orders. Because of this, our stakeholders have agreed that it should not be used in this measure. 1. Render ML, Kim HM, Deddens J, et al. Variation in outcomes in Veterans Affairs intensive care units with a computerized severity measure. Critical care medicine. May 2005;33(5):930-939. 2. Suter LG, Li SX, Grady JN, et al. National patterns of risk-standardized mortality and readmission after hospitalization for acute myocardial infarction, heart failure, and pneumonia: update on publicly reported outcomes measures based on the 2013 release. Journal of general internal medicine. Oct 2014;29(10):1333-1340. 3. Goldman LE, Chu PW, Osmond D, Bindman A. Accuracy of do not re-suscitate (DNR) in administrative data. Med Care Res Rev. 2013;70:98–112. doi: 10.1177/1077558712458455
MUC16-262	Measure of Quality of Informed Consent Documents for Hospital-Performed, Elective Procedures	The goal of this measure of informed consent document quality is to support national strategies to promote patient-centered decision making. In evaluating hospitals' informed consent document quality, CMS seeks to increase the attention and effort that hospitals dedicate to providing high-quality informed consent, thereby supporting patient autonomy. This measure evaluates the quality of informed consent documents using items, developed through a consensus process, that are firmly based in the ethical and legal principles of informed consent, and are supported by patients as being meaningful improvements to the informed consent process. The measure aims to transform the informed consent document from a transactional form used to attain a patients' signature to a meaningful document and resource that supports patients in the decision-making process. This informed consent document measure is a first step towards improving the practice of informed consent through quality measurement, and may compliment or serve as a platform for other measures of high-quality, patient-centered decision making. There are significant gaps in informed consent document quality and highly variable compliance with informed consent guidelines.[1-3] Hospitals often follow legal precedent, which results in perfunctory consent documents that convey the minimum amount of information necessary for compliance without providing patient-centered information that fosters patient autonomy or choice.[4-8] Prior studies, lawsuits and patient testimonies reflect a process that is broken, void of meaningful information for patients to develop informed preferences, and sometimes jeopardizing patient safety.[4,9-10]

MUC ID	Measure Title	Rationale
		The implementation of a new quality measure that establishes a consistent and patient-centered standard based on existing guidelines for informed consent can lead to improved patient autonomy, patient safety, and high-quality decision making. The goal of this measure focuses on supporting the national efforts of CMS and NQF to improve patient-centered care and to fill several quality gaps in both the informed consent document and the measurement of these documents. References: 1. Bottrell MM, Alpert H, Fischbach RL, Emanuel LL. Hospital informed consent for procedure forms: facilitating quality patient-physician interaction. Archives of surgery (Chicago, Ill. : 1960). 2000;135(1):26-33. 2. Falagas ME, Korbila IP, Giannopoulou KP, Kondilis BK, Peppas G. Informed consent: how much and what do patients understand? American journal of surgery. 2009;198(3):420-435. 3. O'Neill O. Some limits of informed consent. Journal of medical ethics. 2003;29(1):4-7. 4. Oster, RR. Questioning Protocol, a Family's Perspective. Available at: http://www.engagingpatients.org/redesigning-the-care-experience/questioning-protocol-familys-perspective/. Accessed: July 5, 2015. 5. Habiba M, Jackson C, Akkad A, Kenyon S, Dixon-Woods M. Women's accounts of consenting to surgery: is consent a quality problem? Quality & safety in health care. 2004;13(6):422-427. 6. Childers R, Lipsett PA, Pawlik TM. Informed consent and the surgeon. Journal of the American College of Surgeons. 2009;208(4):627-634. 7. Mulley A, Trimble C, Elwyn G. Patients' preferences matter: stop the silent misdiagnosis. Bmj. 2012. 8. Krumholz HM, Schwartz J, Eddy E, et al. Surveillance Report: New Measure Probe. Not published: Prepared for: Centers for Medicare & Medicaid Services; Prepared by: Yale New Haven Health Services Corporation/Center for Outcomes Research and Evaluation (YNHHSC/CORE); 2014. 9. Montgomery v Lanarkshire Health Board. In: Court TS, ed. UKSC 11. United Kingdom. 2015. Available at: https://www.supremecourt.uk/decided-cases/docs/UKSC_2013_0136_Judgment.pdf. Accessed: July 5, 2016. 10. Statements on Principles. Relation of the Surgeon to the Patient: Informed Consent: American College of Surgeons; 2008:1-12.
MUC16-263	Communication about Pain During the Hospital Stay	In response to concerns expressed by physicians, hospitals and others about the current Pain Management items on the HCAHPS Survey, CMS is considering new survey items for the HCAHPS Survey that focus on patients' communication about pain with hospital staff. These items would replace the 3 Pain Management

MUC ID	Measure Title	Rationale
		items on the HCAHPS Survey, which comprise the current Pain Management measure. CMS is currently evaluating data on the items as well as focus groups and interviews about the new pain items. - A measure based on these items would be similar to the Pain Management composite measure currently used, which is based on the current HCAHPS Survey items - The new measure, Communication about Pain During the Hospital Stay, focusses on communication about pain during the patient's hospital stay, rather than on how well pain was controlled - Different from the other measures in the HCAHPS Survey, this new measure uniquely focusses on communication about pain during the patient's hospital stay - The Communication about Pain During the Hospital Stay measure would replace the current Pain Management measure in the HCAHPS Survey, which is part of the IQR Program. CMS is testing this new measure in a large-scale HCAHPS mode experiment. CMS is currently collecting data for the Communication about Pain During the Hospital Stay measure from discharged patients at 50 hospitals that participated in the HCAHPS mode experiment, January-March 2016.
MUC16-264	Communication about Treating Pain Post-Discharge	In response to concerns expressed by physicians, hospitals and others about the current Pain Management items on the HCAHPS Survey, CMS is considering new survey items for the HCAHPS Survey that focus on patients' communication about pain with hospital staff. These items would replace the 3 Pain Management items on the HCAHPS Survey, which comprise the current Pain Management measure. CMS is currently evaluating data on the items as well as focus groups and interviews about the news pain items. - A measure based on these items would be similar to the Pain Management composite measure currently used, which is based on the current HCAHPS Survey items - The new measure, Communication about Treating Pain Post-Discharge, focusses on communication about pain that the patient may experience after discharge from the hospital, rather than on how well pain was controlled - Different from the other measures in the HCAHPS Survey, this new measure uniquely focusses on communication about pain that the patient may experience after discharge from the hospital - The Communication about Treating Pain Post-Discharge measure would replace the current Pain Management measure in the HCAHPS Survey, which is part of the IQR Program. CMS is testing this new measure in a large-scale HCAHPS mode experiment. CMS is currently collecting data for the Communication about Treating Pain Post-Discharge measure from discharged patients at 50 hospitals that participated in the HCAHPS mode experiment, January-March 2016.

MUC ID	Measure Title	Rationale
MUC16-268	Otitis Media with Effusion: Systemic Corticosteroids - Avoidance of Inappropriate Use	OME usually resolves spontaneously with indications for therapy only if the condition is persistent and clinically significant benefits can be achieved. Systemic steroids have no proven long-term effectiveness and have potential adverse effects. The purpose of the corresponding guideline statement is to reduce ineffective and potentially harmful medical interventions in OME when there is no long-term benefit to be gained in the vast majority of cases. Medications have long been used to treat OME, with the dual goals of improving QOL and avoiding more invasive surgical interventions. Both the 1994 guidelines and the 2004 guidelines determined that the weight of evidence did not support the routine use of steroids (either oral or intranasal), antimicrobials, antihistamines, or decongestants as therapy for OME. STATEMENT 8a. STEROIDS: Clinicians should recommend against using intranasal steroids or systemic steroids for treating OME. Strong recommendation against based on systematic review of RCTs and preponderance of harm over benefit. Clinical Practice Guideline: Otitis Media with Effusion (Update). Rosenfeld RM et al. Otolaryngol Head Neck Surg. (2016) Data detailing the prescription of systemic corticosteroids for otitis media with effusion in children is limited. However, in a small 2008 study by Patel et al, 10% of physicians in an otolaryngology practice prescribed systemic corticosteroids for pediatric patients presenting with OME [1]. In a 2013 study by Forrest et al evaluating clinical decision support for management of OME, 78%-93% of physicians employed a “watchful waiting” strategy to manage OME [2]. 1. Patel MM, Eisenberg L, Witsell D, Schulz KA. Assessment of acute otitis externa and otitis media with effusion performance measures in otolaryngology practices. Otolaryngol Head Neck Surg. 2008;139:490-494. 2. Forrest CB, Fiks AG, Bailey LC, et al. Improving adherence to otitis media guidelines with clinical decision support and physician feedback. Pediatrics. 2013;131(4):e1071-e1081.
MUC16-269	Otitis Media with Effusion: Systemic Antimicrobials - Avoidance of Inappropriate Use	OME usually resolves spontaneously with indications for therapy only if the condition is persistent and clinically significant benefits can be achieved. Systemic antimicrobials have no proven long-term effectiveness and have potential adverse effects. The purpose of the corresponding guideline statement is to reduce ineffective and potentially harmful

MUC ID	Measure Title	Rationale
		medical interventions in OME when there is no long-term benefit to be gained in the vast majority of cases. Medications have long been used to treat OME, with the dual goals of improving QOL and avoiding more invasive surgical interventions. Both the 1994 guidelines and the 2004 guidelines determined that the weight of evidence did not support the routine use of steroids (either oral or intranasal), antimicrobials, antihistamines, or decongestants as therapy for OME. STATEMENT 8b. ANTIBIOTICS: Clinicians should recommend against using systemic antibiotics for treating OME. Strong recommendation based on systematic review of RCTs and preponderance of harm over benefit. Clinical Practice Guideline: Otitis Media with Effusion (Update). Rosenfeld RM et al. Otolaryngol Head Neck Surg. (2016) Data detailing the prescription of systemic antimicrobials for otitis media with effusion in children is limited. However, in a small 2008 study by Patel et al, 7% of physicians in an otolaryngology practice prescribed systemic antimicrobials for pediatric patients presenting with OME [1]. In a 2014 study involving 5 focus groups of parents, most parents believed that antibiotics were needed to treat otitis media and expressed frustration with a “watchful waiting” approach [2]. In a 2013 study by Forrest et al evaluating clinical decision support for management of OME, 78%-93% of physicians employed a “watchful waiting” strategy to manage OME [3]. 1. Patel MM, Eisenberg L, Witsell D, Schulz KA. Assessment of acute otitis externa and otitis media with effusion performance measures in otolaryngology practices. Otolaryngol Head Neck Surg. 2008;139:490-494. 2. Finkelstein JA, Dutta-Linn M, Meyer R, Goldman R. Childhood infections, antibiotics, and resistance: what are parents saying now? Clin Pediatr (Phila). 2014;53(2):145-150. Doi:10.1177/0009922813505902. 3. Forrest CB, Fiks AG, Bailey LC, et al. Improving adherence to otitis media guidelines with clinical decision support and physician feedback. Pediatrics. 2013;131(4):e1071-e1081.
MUC16-271	Proportion of patients who died from cancer receiving chemotherapy in the last 14 days of life	El-Jawahri, A. R., G. A. Abel, et al. (2015). "Health care utilization and end-of-life care for older patients with acute myeloid leukemia." Cancer 121(16): 2840-2848. Mack, J. W., A. Walling, et al. (2015). "Patient beliefs that chemotherapy may be curative and care received at the end of life among patients with metastatic lung and colorectal cancer." Cancer 121(11): 1891-1897.

MUC ID	Measure Title	Rationale
MUC16-273	Proportion of patients who died from cancer admitted to the ICU in the last 30 days of life	Zhang B, Nilsson ME, Prigerson HG. Factors important to patients´ quality of life at the end of life. Arch Intern Med 2012;172:1133-1142.Available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3806298/ Wright AA, Keating NL, Balboni TA, et al. Place of death: correlations with quality of life of patients with cancer and predictors of bereaved caregivers' mental health. J Clin Oncol 2010; 28:4457–4464. Available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2988637/ Langton JM, Blanch B, Drew AK, et al. Retrospective studies of end of-life resource utilization and costs in cancer care using health administrative data: a systematic review. Palliat Med 2014;28:1167-1196. Available at: http://www.ncbi.nlm.nih.gov/pubmed/24866758. Kao YH, Chiang JK. Effect of hospice care on quality indicators of end-of-life care among patients with liver cancer: a national longitudinal population based study in Taiwan 2000-2011. BMC Palliat Care 2015: 14:39. Available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4545784/#CR5 Barbera L, Seow H, et al. Quality of end-of-life cancer care in Canada: a retrospective four-province study using administrative health care data. Curr Oncol 2015 Oct: 22(5): 341-355. Available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4608400/
MUC16-274	Proportion of patients who died from cancer admitted to hospice for less than 3 days	Langton, J. M., B. Blanch, et al. (2014). "Retrospective studies of end-of-life resource utilization and costs in cancer care using health administrative data: a systematic review." Palliat Med 28(10): 1167-1196. Lee, Y. J., J. H. Yang, et al. (2015). "Association between the duration of palliative care service and survival in terminal cancer patients." Support Care Cancer 23(4): 1057-1062. O´Connor, T. L., N. Ngamphaiboon, et al. (2015). "Hospice utilization and end-of-life care in metastatic breast cancer patients at a comprehensive cancer center." J Palliat Med 18(1): 50-55.
MUC16-275	Proportion of patients who died from cancer not admitted to hospice	Smith, T. J., S. Temin, et al. (2012). "American Society of Clinical Oncology provisional clinical opinion: the integration of palliative care into standard oncology care." J Clin Oncol 30(8): 880-887. O´Connor, T. L., N. Ngamphaiboon, et al. (2015). "Hospice utilization and end-of-life care in metastatic breast cancer patients at a comprehensive cancer center." J Palliat Med 18(1): 50-55. Lee, Y. J., J. H. Yang, et al. (2015). "Association between the duration of palliative care service and survival in terminal cancer patients." Support Care Cancer 23(4): 1057-1062. Langton, J. M., B. Blanch, et al. (2014). "Retrospective studies of end-of-life resource utilization and costs in cancer care using health administrative data: a systematic review." Palliat Med 28(10): 1167-1196. Guadagnolo, B. A., K. P. Liao, et al. (2015). "Variation in Intensity and Costs of Care by Payer and Race for

MUC ID	Measure Title	Rationale
		Patients Dying of Cancer in Texas: An Analysis of Registry-linked Medicaid, Medicare, and Dually Eligible Claims Data." Med Care 53(7): 591-598.
MUC16-276$_1$	Preoperative Key Medications Review for Anticoagulation Medication (Group measure as defined by Am. Coll. of Surgeons)	Douketis JD, Spyropoulos AC, Spencer FA, et al. Perioperative management of antithrombotic therapy: Antithrombotic Therapy and Prevention of Thrombosis, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. Chest 2012; 141:e326S. Perioperative management of patients receiving anticoagulants. Gregory YH LIP and James D Douketis. UpToDate May 2015. Douketis JD. Perioperative management of patients who are receiving warfarin therapy: an evidence-based and practical approach. Blood 2011; 117:5044. Gallego P, Apostolakis S, Lip GY. Bridging evidence-based practice and practice-based evidence in periprocedural anticoagulation. Circulation 2012; 126:1573. Kearon C, Hirsh J. Management of anticoagulation before and after elective surgery. N Engl J Med 1997; 336:1506.
MUC16-277$_1$	Postoperative Plan Communication with Patient and Family (Group measure as defined by Am. Coll. of Surgeons)	Kelly KN, Noyes K, et al. Patient perspective on care transitions after colorectal surgery. Journal of Surgical Research. 2016 Jun 1;203(1):103-12. Schmocker RK, Holden SE, et al. Association of Patient-Reported Readiness for Discharge and Hospital Consumer Assessment of Health Care Providers and Systems Patient Satisfaction Scores: A Retrospective Analysis. Journal of the American College of Surgeons. 2015 Dec;221(6):1073-82. McMurray A, Johnson P, Wallis M, Patterson E, Griffiths S. General surgical patients' perspectives of the adequacy and appropriateness of discharge planning to facilitate health decision-making at home. Journal of Clinical Nursing. 2007 Sep;16(9):1602-9.
MUC16-278$_1$	Patient Frailty Evaluation (Group measure as	Fried LP, Tangen CM, Walston J, Newman AB, Hirsch C, Gottdiener J, Seeman T, Tracy R, Kop WJ, Burke G, McBurnie MA; Cardiovascular Health Study Collaborative Research Group. Frailty in older adults: evidence for a phenotype. J Gerontol A Biol Sci Med Sci. 2001 Mar;56(3):M146-56.

MUC ID	Measure Title	Rationale
	defined by Am. Coll. of Surgeons)	Makary MA, Segev DL, Pronovost PJ, Syin D, Bandeen-Roche K, Patel P, Takenaga R, Devgan L, Holzmueller CG, Tian J, Fried LP. Frailty as a predictor of surgical outcomes in older patients. J Am Coll Surg. 2010 Jun;210(6):901-8.. Theou O, Brothers TD, Peña FG, Mitnitski A, Rockwood K. Identifying common characteristics of frailty across seven scales. J Am Geriatr Soc. 2014 May;62(5):901-6. Malmstrom TK, Miller DK, Morley JE. A comparison of four frailty models. J Am Geriatr Soc. 2014 Apr;62(4):721-6. Hewitt J, Moug SJ, Middleton M, Chakrabarti M, Stechman MJ, McCarthy K; Older Persons Surgical Outcomes Collaboration. Prevalence of frailty and its association with mortality in general surgery. Am J Surg. 2015 Feb;209(2):254-9. Collard RM, Boter H, Schoevers RA, Oude Voshaar RC. Prevalence of frailty in community-dwelling older persons: a systematic review. J Am Geriatr Soc. 2012 Aug;60(8):1487-92. Example of FRAIL scale, from: Morley JE, Malmstrom TK, Miller DK. A simple frailty questionnaire (FRAIL) predicts outcomes in middle aged African Americans. J Nutr Health Aging. 2012 Jul;16(7):601-8.
MUC16-279$_1$	Identification of Major Co-Morbid Medical Conditions (Group measure as defined by Am. Coll. of Surgeons)	ASA class is a reliable independent predictor of medical complications and mortality following surgery. Hackett N; De Oliveira G; Jain U; Kim J. World J Surg. 2015 May 8th A New method of classifying prognostic comorbidity in longitudinal studies: development and validation Charlson, M; Pompei, P; Ales, K; MacKenzie, C. J Chron Dis. 198; 40(5):373-383. Association of comorbidities with postoperative in-hospital mortality: a retrospective cohort study Kork, F; Balzer, F, et al. Medicine 2015; 94(8): 576
MUC16-280$_1$	Intraoperative Timeout Safety Checklist (Group	Van Klei WA, Hoff RG, et al. Effects of the introduction of the WHO "Surgical Safety Checklist" on in-hospital mortality: a cohort study. Annals of Surgery. 2012 Jan;255(1):44-9.

MUC ID	Measure Title	Rationale
	measure as defined by Am. Coll. of Surgeons)	Mayer EK, Sevdais N, et al. Surgical Checklist Implementation Project: The Impact of Variable WHO Checklist Compliance on Risk-adjusted Clinical Outcomes After National Implementation: A Longitudinal Study. Annals of Surgery. 2016 Jan;263(1):58-63. Paull DE, Mazzia LM, et al. Briefing guide study: preoperative briefing and postoperative debriefing checklists in the Veterans Health Administration medical team training program. American Journal of Surgery. 2010 Nov;200(5):620-3.
MUC16-281$_1$	Postoperative Care Coordination and Follow-up with Primary/Referring Provider (Group measure as defined by Am. Coll. of Surgeons)	Care Coordination. May 2015. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/professionals/prevention-chronic-care/improve/coordination/index.html. May 2015.
MUC16-282$_1$	Perioperative Composite (Group measure as defined by Am. Coll. of Surgeons)	WHO guidelines for safe surgery: safe surgery saves lives. World Health Organization. 2009 Hospital Conditions of Participation (CoPs). Centers for Medicare and Medicaid Services. February 2008. The Universal Protocol for Preventing Wrong Site, Wrong Procedure, and Wrong Person Surgery. The Joint Commission. November 26, 21012. Haugen et al. Effect of the World Health Organization Checklist on Patient Outcomes: A Stepped Wedge Cluster Randomized Controlled Trial. Ann Surg; epub May 2014. Askarian M, et al. Effect of surgical safety checklists on postoperative morbidity and mortality rates, Shiraz, Faghihy Hospital, a 1-year study. Qual Manag Health Care 2011; 20: 293–7. de Vries EN, et al. Effect of a comprehensive surgical safety system on patient outcomes. New England Journal of Medicine 2010; 363: 1928–37.

MUC ID	Measure Title	Rationale
MUC16-283$_1$	Postoperative Care Plan (Group measure as defined by Am. Coll. of Surgeons)	Kaufmnan J, et al. A handoff protocol from the cardiovascular operating room to cardiac ICU is associated with improvements in care beyond the immediate postoperative period. Joint Commission Journal on Quality and Patient Safety. 2013 Jul;39(7):306-11. McElroy LM, Collins KM, et al. Operating room to intensive care unit handoffs and the risks of patient harm. Surgery. 2015 Sep;158(3):588-94. Symons NR, Almoudaris AM, Nagpal K, Vincent CA, Moorthy K. An observational study of the frequency, severity, and etiology of failures in postoperative care after major elective general surgery. Annals of Surgery. 2013 Jan;257(1):1-5.
MUC16-284$_1$	Postoperative Review of Patient Goals of Care (Group measure as defined by Am. Coll. of Surgeons)	Steffens NM, Tucholka JL, Nabozny MK, Schmick AE, et al. Engaging patients, health care professionals, and community members to improve preoperative decision making for older adults facing high-risk surgery. JAMA Surg. 2016. doi: 10.1001/jamasurg.2016.1308 Kelly KN, Noyes K, Dolan J, Fleming F, et al. Patient perspective on care transitions after colorectal surgery. J Surg Res. 2016; 203(1):103-12 Gussous Y, Than K, Mummameni P, Smith J, et al. Appropriate use of limited interventions vs extensive surgery in the elderly patient with spinal disorders. Neurosurgery. 2015; 77 suppl 4:S142-63 Kim Y, Winner M, Page A, Tisnado DM, et al. Patient perceptions regarding the likelihood of cure after surgical resection of lung and colorectal cancer. Cancer 2015; 121(20):3564-73 Paul Olson TJ, Brasel JH, Redmann AJ, Alexander GC, et al. Surgeon-reported conflict with intensivist about postoperative goals of care. JAMA Surg. 2013. 148(1):29-35.
MUC16-285	Unplanned Hospital Readmission within 30 Days of Principal Procedure	A modified-Delphi methodology using an expert panel of surgeons who are Directors of the American Board of Surgery identified this to be a critical outcome for this surgical procedure (Surgeon Specific Registry Report on Project for ABS MOC Part IV. Unpublished study by the American College of Surgeons in conjunction with the American Board of Surgery, 2011).

MUC ID	Measure Title	Rationale
MUC16-286$_1$	Participation in a National Risk-adjusted Outcomes Surgical Registry (Group measure as defined by Am. Coll. of Surgeons)	The American college of surgeons national surgical quality improvement program: achieving better and safer surgery. Ko, CY; Hall BL; Hart AJ; Cohen ME; Hoyt, DB. Jt. Comm J Qual Patient Saf. 2015; 41(5) 199 Adverse outcomes in surgical patients: implementation of a nationwide reporting system. Marang-van P; Stadlander M; Kievit J. Qual Saf Health Care 2006 15(5): 320-4. The future of quality measurement in the United States. Yi F. Clin Colon Rectal Surg 2014 27(1) 32-8.
MUC16-287	Bone Density Evaluation for Patients with Prostate Cancer and Receiving Androgen Deprivation Therapy	Androgen suppression as a treatment for prostate cancer can cause osteoporosis. (Gleason et al. General & Epidemiological Trends & Socioeconomics: Practice Patterns, Cost Effectiveness). Men undergoing prolonged androgen deprivation therapy (ADT) incur bone loss at a rate higher than menopausal women. (AUA. Business Cases in Urology: CRPC). In preserving bone health, the goal is to prevent or treat osteopenia /osteoporosis for the patient on ADT and to prevent or delay skeletal related events (SRE). The National Osteoporosis Foundation recommendations including a baseline assessment of bone density with a DEXA scan and daily calcium and Vitamin D supplementation. (Gaylis et al. Compliance with Evidence Based Bone Health Management in Men on chronic ADT: Opportunities for Improvement). The DEXA scan is the gold standard for bone density screening. Men at risk for adverse bone consequences from chronic ADT do not always receive care according to evidence based guidelines. These findings call for improved processes that standardize evidence based practice including baseline and follow up bone density assessment. (Gaylis et al).
MUC16-288$_1$	Surgical Plan and Goals of Care (Preoperative Phase) (Group measure as defined by Am. Coll. of Surgeons)	Fried TR, Bradley EH, Towle VR, Allore H. Understanding the treatment preferences of seriously ill patients. N Engl J Med. 2002 Apr 4;346(14):1061-6. Kaldjian LC, Curtis AE, Shinkunas LA, Cannon KT. Goals of care toward the end of life: a structured literature review. Am J Hosp Palliat Care. 2008 Dec-2009 Jan;25(6):501-11. Reuben DB. Medical care for the final years of life: "When you're 83, it's not going to be 20 years". JAMA. 2009 Dec 23;302(24):2686-94. Oresanya LB, Lyons WL, Finlayson E. Preoperative assessment of the older patient: a narrative review. JAMA. 2014 May;311(20):2110-20.

MUC ID	Measure Title	Rationale
MUC16-289[1]	Preventative Care and Screening: Tobacco Screening and Cessation Intervention (Group measure as defined by Am. Coll. of Surgeons)	Effects of a perioperative smoking cessation intervention on postoperative complications. Lindstrom D; Azodi OS et al. Annals of Surgery 2008; 248(5); 739-45. The effectiveness of a perioperative smoking cessation program: A randomized clinical trial Lee SM; Landry J; Jones PM et al. Anesthesia & Analgesia 2013; 177(3); 605-13. U.S. Department of Health and Human Services. Public Health Service, 2008 Interventions for preoperative smoking cessation Thomsen T, Villebro N, Moller AM. Cochrane Database Systematic Review. 2014 • Strength of Evidence = A o All patients should be asked if they use tobacco and should have their tobacco use status documented on a regular basis. Evidence has shown that clinic screening systems, such as expanding the vital signs to include tobacco use status, significantly increase rates of clinical intervention. o All physicians should strongly advise every patient who smokes to quit because evidence suggests that physicians' advice to quit smoking increases abstinence rates. o The combination of counseling and medication is more effective for smoking cessation than either medication or counseling alone. Therefore, both counseling and medication should be provided to patients trying to quit smoking.
MUC16-291	Patient Experience with Surgical Care Based on the Consumer Assessment of Healthcare Providers and Systems (CAHPS) ® Surgical Care Survey (S-CAHPS)	Surgeries are frequently performed procedures that affect large numbers of patients in the population, have high resource use, and poor quality can have serious consequences for patients, including death. Therefore, improving the quality of surgical care is of paramount importance to patients and the healthcare system alike. In a study based on the HCUP 2007 data, in 28 states that were evaluated, there were nearly 5,600 ambulatory surgery (AS) visits per 100,000 in the population and almost 4,100 inpatient surgical visits per 100,000. The mean charge for ambulatory surgery is about $6,100 and for inpatient surgery is about $39,900. The aggregate charge across the 28 states for ambulatory surgery was about $55.6 billion and the total inpatient charges were about $259 billion. Patient experience measures as indicators of quality for health plans are linked to health plan disenrollment. The mean voluntary disenrollment rate among Medicare managed care enrollees is four times higher for plans in the lowest 10 percent of overall CAHPS Health Plan survey ratings than for those in the highest 10 percent. At the provider level, patients who reported the poorest-quality relationships with their physicians are three times more likely to voluntarily leave the physician's practice than patients with the highest-quality relationships. The quality of the

MUC ID	Measure Title	Rationale
		provider-patient relationship as evident in good patient experience scores correlates with lower medical malpractice risk. Although average patient experience scores can mask variations within a provider's scores, the minimum score a provider receives correlates with the likelihood of being implicated in a medical malpractice suit. Each drop in minimum overall score along a five-step scale of "very good" to "very poor" corresponds to a 21.7 percent increase in the likelihood of being named in a suit. Forty-six percent of malpractice risk is attributed to physician specific characteristics, including patient experience. Efforts to improve patient experience also result in greater employee satisfaction, reducing turnover. Improving patients' experiences requires improving work processes and systems that enable clinicians and staff to provide effective care. A focused endeavor to improve patients' experiences at one hospital also resulted in a 4.7 percent reduction in employee turnover. Similarly, nurse satisfaction is strongly positively correlated with patients' intent to return to or to recommend the hospital.
MUC16-292$_1$	Resumption Protocol (Group measure as defined by Am. Coll. of Surgeons)	Henderson PW, Landford W, Gardenier J, Otterburn DM, et al. A simple, visually oriented communication system to improve postoperative care following microvascular free tissue transfer: development, results and implications. J Reconstr Microsurg. 2016; 32(6): 464-9 Salzwedel C, Mai V, Punke MA, Kluge S, et al. The effect of a checklist on the quality of patient handover from the operating room to the intensive care unit: A randomized controlled trial. J Crit Care. 2016;32:170-4 Streeton A, Bisbey C, O'Neill C, Allen D, et al. Improving nurse-physician teamwork: a multidisciplinary collaboration. Medsurg Nurs. 2016; 25(1):31-4 Agarwal HS, Saville BR, Slayton JM, Donahue DS, et al. Standardized postoperative handover process improves outcomes in the intensive care unit: a model for operational sustainability and improved team performance. Crit Care Med. 2012; 40(7):2109-15 Segall N, Bonifacio AS, Schroeder RA, Barbeito A, et al. Can we make postoperative patient handovers safer? A systematic review of the literature. Anesth Analg. Jul; 115(1):102-15 Joy BF, Elliott E, Hardy C, Sullivan C, et al. Standardized multidisciplinary protocol improves handover of cardiac surgery patients to the intensive care unit. Pediatr Crit Care Med. 2011; 12(3):304-8
MUC16-293$_1$	Patient-Centered Surgical Risk	Preoperative risk assessment and communication between surgeons and patients is critical for effective informed consent and shared decision making in surgical care. Shared decision-making is considered an

MUC ID	Measure Title	Rationale
	Assessment and Communication (Group measure as defined by Am. Coll. of Surgeons)	integral component of patient-centered care, especially for preference-sensitive issues. Evidence suggests that there is room for improving communication and the informed consent/shared decision-making processes between physicians and patients. Use of a risk calculator helps improve the quality of the informed consent/shared decision-making process by providing a personalized, customized, empirically-based estimate of a patient's risk of post-operative complications. Moreover, evidence suggests that sharing numeric estimates of patient-specific risk may enhance patient trust in providers.
MUC16-294	Completion of a Malnutrition Screening within 24 Hours of Admission	The peer reviewed evidence supporting this measure is centered on the concept that malnutrition screening is an important first step in identifying malnutrition risk. Identifying patients at-risk of malnutrition allows clinicians to then complete a nutrition assessment that can confirm malnutrition and initiate a care plan recommending appropriate interventions. The evidence supports rapid recognition and treatment (as well as prevention) of malnutrition which is associated with lower costs of care, lower readmission rates, length of stay and hospital-acquired conditions. Malnutrition risk identified in patients through a malnutrition screening was able to predict certain patient outcomes including length of stay, mortality, and post-operative complications. (Mueller C, Compher C & Druyan ME and the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Board of Directors. A.S.P.E.N. Clinical Guidelines: Nutrition Screening, Assessment, and Intervention in Adults. J Parenter Enteral Nutr. 2011;35: 16-24.) Retrospective analysis of administrative data for years 2013 and 2014 from a university hospital, in which being nutritionally 'at-risk' was defined as a Nutritional risk screening-2002 score ≥ 3, reinforces the association between risk of malnutrition and rates of mortality, as well as cost of care. After multivariate adjustment, 'at-risk' patients had a 3.7-fold (95% confidence interval: 1.91; 7.03) higher in-hospital mortality and higher costs (excess 5642.25 ± 1479.80 CHF in 2013 and 5529.52 ± 847.02 CHF in 2014, $p < 0.001$) than 'not at-risk' patients, while no difference was found for LOS. It also indicates that being nutritionally 'at-risk' affects three in every five patients. (Khalatbari-soltani S, Marques-vidal P. Impact of nutritional risk screening in hospitalized patients on management, outcome and costs: A retrospective study. Clin Nutr. 2016; pii: S0261-5614(16)00069-8.) 543 patients were recruited from consecutive admissions at 2 hyperacute stroke units in London and were screened for risk of malnutrition (low, medium, and high) according to MUST. Six-month outcomes were obtained for each patient through a national database. Results of the study among stroke patients showed a highly significant increase in mortality with increasing risk of malnutrition ($P < .001$). This association

MUC ID	Measure Title	Rationale
		remained significant after adjusting for age, severity of stroke, and a range of stroke risk factors. Increasing risk of malnutrition was also associated with longer length of stay and increased hospitalization costs. (Gomes F, Emery PW, Weekes CE. Risk of Malnutrition Is an Independent Predictor of Mortality, Length of Hospital Stay, and Hospitalization Costs in Stroke Patients. J Stroke Cerebrovasc Dis. 2016;25(4):799-806.) This study found an association between malnutrition risk – undernutrition risk according to NRS-2002 and high undernutrition risk according to 'MUST' – and increased inpatient costs. Those identified with undernutrition risk and high undernutrition risk experienced increased costs by 28.8% and 21.1%, respectively when compared to non-malnourished patients. (Guerra RS, Sousa AS, Fonseca I, et al. Comparative analysis of undernutrition screening and diagnostic tools as predictors of hospitalisation costs. J Hum Nutr Diet. 2016;29(2):165-73.) In a prospective multi-center, hospital-based cohort study, patients with a high nutritional risk were more likely to have longer hospital stays than those without. (Cereda E, Klersy C, Pedrolli C, et al. The Geriatric Nutritional Risk Index predicts hospital length of stay and in-hospital weight loss in elderly patients. Clin Nutr. 2015;34(1):74-8.) A prospective, matched case control study supports statistically significant associations of malnutrition (assessed using the Subjective Global Assessment) with increased lengths of stay, mortality, and hospitalization costs. Malnourished patients were also more likely to be readmitted within 15 days. (Lim SL, Ong KC, Chan YH, Loke WC, Ferguson M, Daniels L. Malnutrition and its impact on cost of hospitalization, length of stay, readmission and 3-year mortality. Clin Nutr. 2012;31(3):345-50.) This systematic review found that malnutrition, as diagnosed by nutrition assessments, was independently associated with increased Intensive Care Unit (ICU) lengths of stay, ICU readmission, incidence of infection, and risk of mortality. (Lew CC, Yandell R, Fraser RJ, Chua AP, Chong MF, Miller M. Association Between Malnutrition and Clinical Outcomes in the Intensive Care Unit: A Systematic Review. JPEN J Parenter Enteral Nutr. 2016;)
MUC16-296	Completion of a Nutrition Assessment for Patients Identified	The peer reviewed evidence supporting this measure supports the assessment of patients at-risk of malnutrition via the completion of a nutrition assessment that can confirm malnutrition and initiate a care plan recommending appropriate interventions. The evidence supports rapid recognition and treatment (as well as prevention) of malnutrition which is associated with lower costs of care, lower readmission rates,

MUC ID	Measure Title	Rationale
	as At-Risk for Malnutrition within 24 Hours of a Malnutrition Screening	length of stay and hospital-acquired conditions. Nutrition assessments conducted for at-risk patients identified by malnutrition screening using a validated screening tool was associated with key patient outcomes including less weight loss, reduced length of stay, improved muscle function, better nutritional intake, and fewer readmissions. (Mueller C, Compher C & Druyan ME and the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Board of Directors. A.S.P.E.N. Clinical Guidelines: Nutrition Screening, Assessment, and Intervention in Adults. J Parenter Enteral Nutr. 2011;35: 16-24.) A systematic review found that patient outcomes associated with malnutrition that was first identified by the use of a nutrition assessment was independently associated with poorer patient outcomes. Malnutrition was identified using two different assessment tools, the Subjective Global Assessment (SGA), this patient cohort was associated with higher hospital mortality, higher incidence of infection, and an increased risk of readmission. Using the Mini Nutritional Assessment (MNA), those identified as malnourished also experienced increased risk of postoperative complications. Additionally, fewer malnourished patients are discharged to their own homes compared to well-nourished patients. (Lew CC, Yandell R, Fraser RJ, Chua AP, Chong MF, Miller M. Association Between Malnutrition and Clinical Outcomes in the Intensive Care Unit: A Systematic Review. JPEN. Journal of parenteral and enteral nutrition. 2016.) A prospective, matched case control study supports statistically significant associations of malnutrition (assessed using the Subjective Global Assessment) with increased lengths of stay, mortality, and hospitalization costs. Malnourished patients were also more likely to be readmitted within 15 days. (Lim SL, Ong KC, Chan YH, Loke WC, Ferguson M, Daniels L. Malnutrition and its impact on cost of hospitalization, length of stay, readmission and 3-year mortality. Clin Nutr. 2012;31(3):345-50.)
MUC16-305	Standardized Transfusion Ratio for Dialysis Facilities	The Medicare ESRD Program requires Medicare certified dialysis facilities to manage the anemia of CKD as one of their responsibilities under the Conditions for Coverage (1). In addition, the Medicare ESRD Program has included payment for ESAs in dialysis facility reimbursement since 1989. It is notable that inclusion of ESAs in dialysis program payment was associated with a dramatic reduction in the use of blood transfusions in the US chronic dialysis population (2-3). Recently, reliance on achieved hemoglobin concentration as an indicator of successful anemia management in this population has been de-emphasized and use of other clinically meaningful outcomes, such as transfusion avoidance, have been recommended as alternate measures of anemia management (4-7).

MUC ID	Measure Title	Rationale
		Best dialysis provider practice should include effective anemia management algorithms that focus on 1) prevention and treatment of iron deficiency, inflammation and other causes of ESA resistance, 2) use of the lowest dose of ESAs that achieves an appropriate target hemoglobin that is consistent with FDA guidelines and current best practices, and 3) education of patients, their families and medical providers to avoid unnecessary blood transfusion so that risk of allosensitization is minimized, eliminating or reducing one preventable barrier to successful kidney transplantation. The decision to transfuse blood is intended to improve or correct the pathophysiologic consequences of severe anemia, defined by achieved hemoglobin or hematocrit%, in a specific clinical context for each patient situation (8). Consensus guidelines in the U.S. and other consensus guidelines defining appropriate use of blood transfusions are based, in large part, on the severity of anemia (9-11). Given the role of hemoglobin as a clinical outcome that defines anemia as well as forms a basis for consensus recommendations regarding use of blood transfusion, it is not surprising that the presence of decreased hemoglobin concentration is a strong predictor of subsequent risk for blood transfusion in multiple settings, including chronic dialysis (12-21). For example, Gilbertson, et al found a nearly four-fold higher risk-adjusted transfusion rate in dialysis patients with achieved hemoglobin <10 gm/dl compared to those with >10 gm/dl hemoglobin. (19) In addition to achieved hemoglobin, other factors related to dialysis facility practices, including the facility's response to their patients achieved hemoglobin, may influence blood transfusion risk in the chronic dialysis population (22, 25). In an observational study recently published by Molony, et al (2016) comparing different facility level titration practices, among patients with hemoglobin <10 and those with hemoglobin>11, they found increased transfusion risk in patients with larger ESA dose reductions and smaller dose escalations, and reduced transfusion risk in patients with larger ESA dose increases and smaller dose reductions (25). The authors reported no clinically meaningful differences in all-cause or cause-specific hospitalization events across groups. The Food and Drug Administration position defining the primary indication of ESA use in the CKD population is for transfusion avoidance, reflecting the assessment of the relative risks and benefits of ESA use versus blood transfusion. Several historical studies, and one recent research study reviewed by Obrador and Macdougall, document the specific risks of allosensitization after blood transfusion and the potential for transfusion-associated allosensitization to interfere with timely kidney transplantation. (23) A recent analysis demonstrated increased odds ratios for allosensitization associated with transfusion, particularly for men and parous women. That study also demonstrated a 28% reduction in likelihood of transplantation in transfused individuals, based on a multivariate risk-adjusted statistical model. (24)

MUC ID	Measure Title	Rationale
MUC16-308	Hemodialysis Vascular Access: Standardized Fistula Rate	The 2006 Clinical Practice Guidelines for Vascular Access is an update to the original vascular access guidelines published in 1997 by the National Kidney Foundation. In the eight years that the literature review included for the update, there have been no randomized controlled trials for type of vascular access. Specifically, for the guideline used to support this measure, a total of 84 peer-reviewed publications are included in the body of evidence presented. While these are all observational studies, some are based on either national data such as the United States Renal Data System (USRDS) that includes all patients with end stage kidney disease in the US, or international data, such as the Dialysis Outcomes Practice Pattern Study (DOPPS) that provides a global perspective for US vascular access outcomes. The overall quality of evidence is moderately strong. All studies are in the target population of hemodialysis patients. Some studies have evaluated health outcomes such as patient mortality, but have limitations due to the observational nature of the design. Other studies have more rigorous design, but use surrogate outcomes such as access thrombosis. The 12 studies listed below highlight the core benefits such as reduced mortality and morbidity associated with using an AV fistula relative to either an AV graft or a tunneled catheter. Specifically, AV fistulae have: • Lowest risk of thrombosis: in a systematic review of 34 studies evaluating access patency, AVF were found to have superior primary patency at 18 months compared to AV grafts (51% vs. 33%).1 • Lowest rate of angioplasty/intervention: Procedure rates have been reported as 0.53 procedures/patient/year for AV fistula compared to 0.92 procedures/patient/year for AV grafts.2 • Longest survival: Case-mix adjusted survival analysis indicated substantially better survival of AV fistula compared with AV grafts in the US [risk ratios (RR) of failure 0.56, $P < 0.0009$]3 • Lowest Cost4-6: Based on 1990 costs to Medicare, graft recipients cost HCFA (CMS) $3,700 more than fistula patients when pro-rating graft reimbursements to the median fistula survival time.5 • Lowest rates of infection: AV fistula have the lowest rates of infection followed by AV grafts and then tunneled dialysis catheters7. Vascular access infections are common, and represent the second most common cause of death for patients receiving hemodialysis.8 • Lowest mortality and hospitalization: Patients using catheters (RR=2.3) and grafts (RR=1.47) have a greater mortality risk than patients dialyzed with fistulae9. Other studies have also found that use of fistulae reduces mortality and morbidity10-12 compared to AV grafts or catheters. References: 1. Huber TS, Carter JW, Carter RL, Seeger JM: Patency of autogenous and polytetrafluoroethylene upper

MUC ID	Measure Title	Rationale
		extremity arteriovenous hemodialysis accesses: A systematic review. J Vasc Surg 38(5):1005-11, 2003 2. Perera GB, Mueller MP, Kubaska SM, Wilson SE, Lawrence PF, Fujitani RM: Superiority of autogenous arteriovenous hemodialysis access: Maintenance of function with fewer secondary interventions. Ann Vasc Surg 18:66-73, 2004 3. Pisoni RL, Young EW, Dykstra DM, et al: Vascular access use in Europe and the United States: Results from the DOPPS. Kidney Int 61:305-316, 2002 4. Mehta S: Statistical summary of clinical results of vascular access procedures for haemodialysis, in Sommer BG, Henry ML (eds): Vascular Access for Hemodialysis-II (ed 2). Chicago, IL, Gore, 1991, pp 145-157 5. The Cost Effectiveness of Alternative Types of Vascular access and the Economic Cost of ESRD. Bethesda, MD, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, 1995, pp 139-157 6. Eggers P, Milam R: Trends in vascular access procedures and expenditures in Medicare's ESRD program, in Henry ML (ed): Vascular Access for Hemodialysis-VII. Chicago, IL, Gore, 2001, pp 133-143 7. Nassar GM, Ayus JC: Infectious complications of the hemodialysis access. Kidney Int 60:1-13, 2001 8. Gulati S, Sahu KM, Avula S, Sharma RK, Ayyagiri A, Pandey CM: Role of vascular access as a risk factor for infections in hemodialysis. Ren Fail 25:967-973, 2003 9. Dhingra RK, Young EW, Hulbert-Shearon TE, Leavey SF, Port FK: Type of vascular access and mortality in U.S. hemodialysis patients. Kidney Int 60:1443-1451, 2001 10. Woods JD, Port FK: The impact of vascular access for haemodialysis on patient morbidity and mortality. Nephrol Dial Transplant 12:657-659, 1997 11. Xue JL, Dahl D, Ebben JP, Collins AJ: The association of initial hemodialysis access type with mortality outcomes in elderly Medicare ESRD patients. Am J Kidney Dis 42:1013-1019, 2003 12. Polkinghorne KR, McDonald SP, Atkins RC, Kerr PG: Vascular access and all-cause mortality: A propensity score analysis. J Am Soc Nephrol 15:477-486, 2004
MUC16-309	Hemodialysis Vascular Access: Long-term Catheter Rate	The 2006 Clinical Practice Guidelines for Vascular Access is an update to the original vascular access guidelines published in 1997 by the National Kidney Foundation. In the eight years that the literature review included for the update, there have been no randomized controlled trials for type of vascular access. Specifically, for the guideline used to support this measure, a total of 84 peer-reviewed publications are included in the body of evidence presented. While these are all observational studies, some are based on either national data such as the United States Renal Data System (USRDS) that includes all patients with end stage kidney disease in the US, or international data, such as the Dialysis Outcomes Practice Pattern Study (DOPPS) that provides a global perspective for US vascular access outcomes.

MUC ID	Measure Title	Rationale
		The overall quality of evidence is moderately strong. All studies are in the target population of hemodialysis patients. Some studies have evaluated health outcomes such as patient mortality, but have limitations due to the observational nature of the design. Other studies have more rigorous design, but use surrogate outcomes such as access thrombosis. The 12 studies listed below highlight the core benefits associated with using an AV fistula or graft such as reduced mortality and morbidity relative to using a tunneled catheter. Specifically, AV fistula have: • Lowest Cost1-3: Compared to catheters, Medicare expenditures for AVF are approximately $17,000 less per person per year. • Lowest rates of infection: AV fistula have the lowest rates of infection followed by AV grafts and then tunneled dialysis catheters4. Vascular access infections are common, and represent the second most common cause of death for patients receiving hemodialysis.5 • Lowest mortality and hospitalization: Patients using catheters (RR=2.3) and grafts (RR=1.47) have a greater mortality risk than patients dialyzed with fistulae6-9. Other studies have also found that use of fistulae reduces mortality and morbidity10-12 compared to AV grafts or catheters. References: 1. Mehta S: Statistical summary of clinical results of vascular access procedures for haemodialysis, in Sommer BG, Henry ML (eds): Vascular Access for Hemodialysis-II (ed 2). Chicago, IL, Gore, 1991, pp 145-157 2. The Cost Effectiveness of Alternative Types of Vascular access and the Economic Cost of ESRD. Bethesda, MD, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, 1995, pp 139-157 3. Eggers P, Milam R: Trends in vascular access procedures and expenditures in Medicare's ESRD program, in Henry ML (ed): Vascular Access for Hemodialysis-VII. Chicago, IL, Gore, 2001, pp 133-143 4. Nassar GM, Ayus JC: Infectious complications of the hemodialysis access. Kidney Int 60:1-13, 2001 5. Gulati S, Sahu KM, Avula S, Sharma RK, Ayyagiri A, Pandey CM: Role of vascular access as a risk factor for infections in hemodialysis. Ren Fail 25:967-973, 2003 6. Dhingra RK, Young EW, Hulbert-Shearon TE, Leavey SF, Port FK: Type of vascular access and mortality in U.S. hemodialysis patients. Kidney Int 60:1443-1451, 2001 7. Woods JD, Port FK: The impact of vascular access for haemodialysis on patient morbidity and mortality. Nephrol Dial Transplant 12:657-659, 1997 8. Xue JL, Dahl D, Ebben JP, Collins AJ: The association of initial hemodialysis access type with mortality

MUC ID	Measure Title	Rationale
		outcomes in elderly Medicare ESRD patients. Am J Kidney Dis 42:1013-1019, 2003 9. Polkinghorne KR, McDonald SP, Atkins RC, Kerr PG: Vascular access and all-cause mortality: A propensity score analysis. J Am Soc Nephrol 15:477-486, 2004 10. Huber TS, Carter JW, Carter RL, Seeger JM: Patency of autogenous and polytetrafluoroethylene upper extremity arteriovenous hemodialysis accesses: A systematic review. J Vasc Surg 38(5):1005-11, 2003 11. Perera GB, Mueller MP, Kubaska SM, Wilson SE, Lawrence PF, Fujitani RM: Superiority of autogenous arteriovenous hemodialysis access: Maintenance of function with fewer secondary interventions. Ann Vasc Surg 18:66-73, 2004 12. Pisoni RL, Young EW, Dykstra DM, et al: Vascular access use in Europe and the United States: Results from the DOPPS. Kidney Int 61:305-316, 2002
MUC16-310	Intravesical Bacillus Calmette-Guerin for NonMuscle Invasive Bladder Cancer	There are no bladder cancer measures, yet it is the 5th common cancer diagnosis in 2016. Failure to treat the bladder cancer in a nonmuscle invasive stage can lead to invasion into the muscle layer of the bladder, requiring bladder removal and further chemotherapy and/or radiation.
MUC16-312	Prevention of Post-Operative Vomiting (POV) - Combination Therapy (Pediatrics)	Postoperative nausea and vomiting (PONV) is an important patient-centered outcome of anesthesia care. PONV is highly dissatisfying to patients, although rarely life-threatening. A large body of scientific literature has defined risk factors for PONV; demonstrated effective prophylactic regimes based on these risk factors; and demonstrated high variability in this outcome across individual centers and providers (Kranke & Eberhart, 2011; Singla et al., 2010). Further, a number of papers have shown that performance can be assessed at the level of individual providers — the outcome is common enough that sufficient power exists to assess variability and improvement at this level (Dzwonczyk et al., 2012). A separate measure is needed for pediatric patients because the risk factors and recommended prophylaxis are different from adults. Dzwonczyk R, Weaver TE, Puente EG, Bergese SD. Postoperative nausea and vomiting prophylaxis from an economic point of view. Am J Ther. 2012 Jan;19(1):11-5. Kranke P, Eberhart LH. Possibilities and limitations in the pharmacological management of postoperative nausea and vomiting. Eur J Anaesthesiol. 2011 Nov;28(11):758-65. Singla NK, Singla SK, Chung F, Kutsogiannis DJ, Blackburn L, Lane SR,

MUC ID	Measure Title	Rationale
		Levin J, Johnson B, Pergolizzi JV Jr. Phase II study to evaluate the safety and efficacy of the oral neurokinin-1 receptor antagonist casopitant (GW679769) administered with ondansetron for the prevention of postoperative and postdischarge nausea and vomiting in high-risk patients. Anesthesiology. 2010;113(1):74-82.
MUC16-314	Transfer of Information at Post-Acute Care Admission, Start or Resumption of Care from Other Providers/Settings	Nationwide, approximately 22 percent of older adults experience a transition annually. Half of those transitions involve going to and from a hospital setting, from either a skilled nursing facility or home, but the other half often involve complicated trajectories across different settings (Callahan, 2012). Almost 8 million inpatient stays were discharged to post-acute care (PAC) settings, accounting for 22.3 percent of all hospital discharges in 2013. The rates of inpatient discharge to PAC were 41.7 percent for Medicare, 11.7 percent for private insurance, 8.1 percent for Medicaid, and only 4.8 percent for uninsured stays. Home health agencies accounted for 50 percent of discharges to PAC. More than 40 percent of discharges to PACs were to SNFs (AHRQ, 2016). Among beneficiaries enrolled in fee-for-service (FFS) Medicare and discharged from an acute care hospital in 2013, 42 percent went on to post-acute care: 20 percent were discharged to a SNF, 17 percent were discharged to an HHA, 4 percent were discharged to an IRF, and 1 percent were discharged to an LTCH (MEDPAC, 2015). Inpatient stays discharged to PAC are much longer and more costly than those with routine discharges (7.0 days vs. 3.6 days; $16,900 vs. $8,300 on average) (AHRQ, 2016). Of the Medicare beneficiaries discharged from PAC to use other services, a little over 40 percent go to SNFs, and 37 percent are sent home with home health services. The rest of post-acute patients are discharged to outpatient therapy services, or they receive continued services at a specialized hospital, like an IRF or LTCH (Gage, Morely, Spain, & Ingber, 2009). Whether these patients use home health services as opposed to other services depends not only on their conditions but also on the organizational relationships of the hospital. (Gage, Morely, Spain, & Ingber, 2009). Medication errors, poor communication, and poor coordination between providers, along with the rising incidence of preventable adverse events and hospital readmissions, have drawn national attention to the importance of the timely transfer of important health information and care preferences at transitions.

MUC ID	Measure Title	Rationale
		Communication has been cited as the third most frequent root cause in sentinel events. Failed or ineffective patient handoffs are estimated to play a role in 20 percent of serious preventable adverse events (The Joint Commission, 2016). Further, shared understanding of patients' care goals, particularly with serious illness, is an important element of high-quality care, allowing clinicians to align the care provided with what is most important to the patient. Early discussions about goals of care have been found to be associated with better quality of life, reduced use of nonbeneficial medical care near death, enhanced goal-consistent care, positive family outcomes, and reduced costs (Bernacki & Block, 2014). According to the Institute of Medicine (2007) and other studies, the lack of coordination and communication across health care settings can lead to significant patient complications, including medication errors, preventable hospital readmissions, and emergency department visits (Kitson et al, 2013; Forster et al, 2003). Care coordination within and across care settings has been shown to provide better quality of care at lower cost. A critical component of care coordination is communication and the exchange of information (McDonald et al, 2007; Pinelli, 2015). When care transitions are enhanced through care coordination activities such as expedited patient information flow, these activities can reduce duplication of care services and costs of care, resolve conflicting care plans (Mor, 2010) and prevent readmissions and medical errors (Institute of Medicine Committee on Identifying and Preventing Medication Errors, 2010; Starmer et al, 2014; Verhaegh et al, 2015). Many care transition models, programs, and best practices emphasize the importance of timely communication and information exchange between transferring and receiving providers. (AHRQ, 2016, Murray & Laditka, 2010; LaMantia et al, 2010; Verhaegh et al, 2015). In a systematic review of interventions to improve transitional care between nursing homes and hospitals, a standardized patient transfer form was found to facilitate communication of advance directives and medication reconciliation (LaMantia et al, 2010). The communication of health information and patient care preferences is critical to ensuring safe and effective patient transitions from one health care setting to another. The IMPACT Act requires standardized patient assessment data that will enable assessment and QM uniformity; quality care and improved outcomes; comparison of quality across PAC settings; improved discharge planning; interoperability; and

MUC ID	Measure Title	Rationale
		facilitate care coordination. Bernacki, R. E. and Block S. D. (2014). "Communication about serious illness care goals: a review and synthesis of best practices." JAMA Intern Med. 2014; 174(12):1994-2003. Callahan, C. M., et al (2012). "Transitions in care for older adults with and without dementia." Journal of the American Geriatrics Society. 2012; 60(5): 813-820. Forster, A. J., et al (2003). "The incidence and severity of adverse events affecting patients after discharge from the hospital." Ann Intern Med. 2003; 138(3):161-167. Gage, B., Morely, M., Spain, P., & Ingber, M. (2009). Examining Post Acute Care Relationships in an Integrated Hospital System: Final Report. RTI International. Washington, D.C.: ASPE. Institute of Medicine. Preventing Medication Errors: Quality Chasm Series. Washington, DC: The National Academies Press, 2007. Kitson, N. A., et al (2013). "Developing a medication communication framework across continuums of care using the circle of care modeling approach." BMC Health Services Research. 2013; 13:418. Available from: http://www.biomedcentral.com/1472-6963/13/418 LaMantia, M. A., et al (2010). "Interventions to improve transitional care between nursing homes and hospitals: A systematic review." Journal of the American Geriatrics Society. 2010; 58 (4): 777-782. McDonald, K.M., et al (2007). "Closing the quality gap: a critical analysis of quality improvement strategies." Stanford, CA: Stanford University. Available at http://www.ncbi.nlm.nih.gov/books/NBK44015/pdf/TOC.pdf Mor, V., et al (2010). "The revolving door of rehospitalization from skilled nursing facilities." Health Affairs, 29(1), 57-64. Murray, L. M. and Laditka, S. B. (2010). "Care transitions by older adults from nursing homes to hospitals: Implications for long-term care practice, geriatrics education, and research." Journal of the American

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		Medical Directors Association 2010: 11(4): 231-238. National Healthcare Quality and Disparities Report chartbook on care coordination. Rockville, MD: Agency for Healthcare Research and Quality; June 2016. AHRQ Pub. No. 16-0015-6-EF. Pinelli, V., et al (2015). "Interprofessional communication patterns during patient discharges: A social network analysis." Journal of General Internal Medicine. 30(9): 1299-1306. Starmer, A. J., et al (2014). "Changes in medical errors after implementation of a handoff program." N Engl J Med 2014; 371:1803-12. Statistical Brief #205. Healthcare Cost and Utilization Project (HCUP). June 2016. Agency for Healthcare Research and Quality, Rockville, MD. The Joint Commission. (2016). Sentinel Event Data Root Causes by Event Type 2004 –2015. Retrieved from https://www.jointcommission.org/assets/1/23/jconline_Mar_2_2016.pdf Verhaegh, K. J., et al (2015) "Transitional care interventions prevent hospital readmissions for adults with chronic illnesses." Health Affairs. 33 (9): 1531-1539.
MUC16-316$_1$	Intraoperative Surgical Debriefing (Group measure as defined by Am. Coll. of Surgeons)	Cumin D, Skilton C, Weller J. Information transfer in multidisciplinary operating room teams: a simulation-based observational study. BMJ Qual Saf. 2016 doi: 10.1136/bmjqs-2015-005130 WHO Guidelines for Safe Surgery 2009: Safe Surgery Saves Lives. World Health Organization (WHO). 2009. http://www.who.int/patientsafety/safesurgery/tools_resources/9789241598552/en/ Wyrick DL, Smith SD, Dassinger MS. Implementation of the World Health Organization checklist and debriefing improves accuracy of surgical wound class documentation. Am J Surg. 2015; 210(6):1051-4 Porta CR, Foster A, Causey MW, Cordier P, et al. Operating room efficiency improvement after implementation of a postoperative team assessment. J Surg Res. 2013; 180(1):15-20 Papaspyros SC, Javangula KC, Alduri RK, O'Regan DJ. Briefing and debriefing in the cardiac operating room:

MUC ID	Measure Title	Rationale
		Analysis of impact on theatre team attitude and patient safety. Interact Cardiovasc Thorac Surg. 2010;10(1)43-7 Berenholtz SM, Schumacher K, Hayanga AJ, Simon M, et al. Implementing standardized operating room briefings and debriefings at a large regional medical center. Jt Comm J Qual Patient Saf 2009; 35(8):391-7 Bethune R, Sasirekha G, Sahu A, Cawthorn S, et al. Use of briefings and debriefings as a tool in improving team work, efficiency, and communication in the operating theatre. Postgrad Med J. 2011; 87(1027):331-4
MUC16-317	Safety Concern Screening and Follow-Up for Patients with Dementia	Recommended assessments include evaluation of suicidality, dangerousness to self and others, and the potential for aggression, as well as evaluation of living conditions, safety of the environment, adequacy of supervision, and evidence of neglect or abuse (Category I). Important safety issues in the management of patients with dementia include interventions to decrease the hazards of wandering and recommendations concerning activities such as cooking, driving, hunting, and the operation of hazardous equipment. Caregivers should be referred to available books [and other materials] that provide advice and guidance about maximizing the safety of the environment for patients with dementia…As patients become more impaired, they are likely to require more supervision to remain safe, and safety issues should be addressed as part of every evaluation. Families should be advised about the possibility of accidents due to forgetfulness (e.g., fires while cooking), of difficulties coping with household emergencies, and of the possibility of wandering. Family members should also be advised to determine whether the patient is handling finances appropriately and to consider taking over the paying of bills and other responsibilities. At this stage of the disease [i.e., moderately impaired patients], nearly all patients should not drive. (1) For mild to moderate Alzheimer's disease Assess for safety risks (e.g., driving, financial management, medication management, home safety risks that could arise from cooking or smoking, potentially dangerous behaviors such as wandering) (2) 1. American Psychiatric Association (APA). Practice guideline for the treatment of patients with Alzheimer's disease and other dementias. Arlington (VA): American Psychiatric Association (APA). October 2007 85 p. 2. Chertkow H. Diagnosis and treatment of dementia: introduction. Introducing a series based on the Third Canadian Consensus Conference on the Diagnosis and Treatment of Dementia. CMAJ. 2008;178:316-321.
MUC16-319	Transfer of Information at	Nationwide, approximately 22 percent of older adults experience a transition annually. Half of those transitions involve going to and from a hospital setting, from either a skilled nursing facility or home, but the

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	Post-Acute Care Admission, Start or Resumption of Care from Other Providers/Settings	other half often involve complicated trajectories across different settings (Callahan, 2012). Almost 8 million inpatient stays were discharged to post-acute care (PAC) settings, accounting for 22.3 percent of all hospital discharges in 2013. The rates of inpatient discharge to PAC were 41.7 percent for Medicare, 11.7 percent for private insurance, 8.1 percent for Medicaid, and only 4.8 percent for uninsured stays. Home health agencies accounted for 50 percent of discharges to PAC. More than 40 percent of discharges to PACs were to SNFs (AHRQ, 2016). Among beneficiaries enrolled in fee-for-service (FFS) Medicare and discharged from an acute care hospital in 2013, 42 percent went on to post-acute care: 20 percent were discharged to a SNF, 17 percent were discharged to an HHA, 4 percent were discharged to an IRF, and 1 percent were discharged to an LTCH (MEDPAC, 2015). Inpatient stays discharged to PAC are much longer and more costly than those with routine discharges (7.0 days vs. 3.6 days; $16,900 vs. $8,300 on average) (AHRQ, 2016). Of the Medicare beneficiaries discharged from PAC to use other services, a little over 40 percent go to SNFs, and 37 percent are sent home with home health services. The rest of post-acute patients are discharged to outpatient therapy services, or they receive continued services at a specialized hospital, like an IRF or LTCH (Gage, Morely, Spain, & Ingber, 2009). Whether these patients use home health services as opposed to other services depends not only on their conditions but also on the organizational relationships of the hospital. (Gage, Morely, Spain, & Ingber, 2009). Medication errors, poor communication, and poor coordination between providers, along with the rising incidence of preventable adverse events and hospital readmissions, have drawn national attention to the importance of the timely transfer of important health information and care preferences at transitions. Communication has been cited as the third most frequent root cause in sentinel events. Failed or ineffective patient handoffs are estimated to play a role in 20 percent of serious preventable adverse events (The Joint Commission, 2016). Further, shared understanding of patients' care goals, particularly with serious illness, is an important element of high-quality care, allowing clinicians to align the care provided with what is most important to

MUC ID	Measure Title	Rationale
		the patient. Early discussions about goals of care have been found to be associated with better quality of life, reduced use of nonbeneficial medical care near death, enhanced goal-consistent care, positive family outcomes, and reduced costs (Bernacki & Block, 2014). According to the Institute of Medicine (2007) and other studies, the lack of coordination and communication across health care settings can lead to significant patient complications, including medication errors, preventable hospital readmissions, and emergency department visits (Kitson et al, 2013; Forster et al, 2003). Care coordination within and across care settings has been shown to provide better quality of care at lower cost. A critical component of care coordination is communication and the exchange of information (McDonald et al, 2007; Pinelli, 2015). When care transitions are enhanced through care coordination activities such as expedited patient information flow, these activities can reduce duplication of care services and costs of care, resolve conflicting care plans (Mor, 2010) and prevent readmissions and medical errors (Institute of Medicine Committee on Identifying and Preventing Medication Errors, 2010; Starmer et al, 2014; Verhaegh et al, 2015). Many care transition models, programs, and best practices emphasize the importance of timely communication and information exchange between transferring and receiving providers. (AHRQ, 2016, Murray & Laditka, 2010; LaMantia et al, 2010; Verhaegh et al, 2015). In a systematic review of interventions to improve transitional care between nursing homes and hospitals, a standardized patient transfer form was found to facilitate communication of advance directives and medication reconciliation (LaMantia et al, 2010). The communication of health information and patient care preferences is critical to ensuring safe and effective patient transitions from one health care setting to another. The IMPACT Act requires standardized patient assessment data that will enable assessment and QM uniformity; quality care and improved outcomes; comparison of quality across PAC settings; improved discharge planning; interoperability; and facilitate care coordination. Bernacki, R. E. and Block S. D. (2014). “Communication about serious illness care goals: a review and synthesis of best practices.” JAMA Intern Med. 2014; 174(12):1994-2003. Callahan, C. M., et al (2012). “Transitions in care for older adults with and without dementia.” Journal of the American Geriatrics Society. 2012; 60(5): 813-820.

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		Forster, A. J., et al (2003). "The incidence and severity of adverse events affecting patients after discharge from the hospital." Ann Intern Med. 2003; 138(3):161-167. Gage, B., Morely, M., Spain, P., & Ingber, M. (2009). Examining Post Acute Care Relationships in an Integrated Hospital System: Final Report. RTI International. Washington, D.C.: ASPE. Institute of Medicine. Preventing Medication Errors: Quality Chasm Series. Washington, DC: The National Academies Press, 2007. Kitson, N. A., et al (2013). "Developing a medication communication framework across continuums of care using the circle of care modeling approach." BMC Health Services Research. 2013; 13:418. Available from: http://www.biomedcentral.com/1472-6963/13/418 LaMantia, M. A., et al (2010). "Interventions to improve transitional care between nursing homes and hospitals: A systematic review." Journal of the American Geriatrics Society. 2010; 58 (4): 777-782. McDonald, K.M., et al (2007). "Closing the quality gap: a critical analysis of quality improvement strategies." Stanford, CA: Stanford University. Available at http://www.ncbi.nlm.nih.gov/books/NBK44015/pdf/TOC.pdf Mor, V., et al (2010). "The revolving door of rehospitalization from skilled nursing facilities." Health Affairs, 29(1), 57-64. Murray, L. M. and Laditka, S. B. (2010). "Care transitions by older adults from nursing homes to hospitals: Implications for long-term care practice, geriatrics education, and research." Journal of the American Medical Directors Association 2010: 11(4): 231-238. National Healthcare Quality and Disparities Report chartbook on care coordination. Rockville, MD: Agency for Healthcare Research and Quality; June 2016. AHRQ Pub. No. 16-0015-6-EF. Pinelli, V., et al (2015). "Interprofessional communication patterns during patient discharges: A social network analysis." Journal of General Internal Medicine. 30(9): 1299-1306.

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		Starmer, A. J., et al (2014). "Changes in medical errors after implementation of a handoff program." N Engl J Med 2014; 371:1803-12. Statistical Brief #205. Healthcare Cost and Utilization Project (HCUP). June 2016. Agency for Healthcare Research and Quality, Rockville, MD. The Joint Commission. (2016). Sentinel Event Data Root Causes by Event Type 2004 –2015. Retrieved from https://www.jointcommission.org/assets/1/23/jconline_Mar_2_2016.pdf Verhaegh, K. J., et al (2015) "Transitional care interventions prevent hospital readmissions for adults with chronic illnesses." Health Affairs. 33 (9): 1531-1539.
MUC16-321	Transfer of Information at Post-Acute Care Admission, Start or Resumption of Care from Other Providers/Settings	Nationwide, approximately 22 percent of older adults experience a transition annually. Half of those transitions involve going to and from a hospital setting, from either a skilled nursing facility or home, but the other half often involve complicated trajectories across different settings (Callahan, 2012). Almost 8 million inpatient stays were discharged to post-acute care (PAC) settings, accounting for 22.3 percent of all hospital discharges in 2013. The rates of inpatient discharge to PAC were 41.7 percent for Medicare, 11.7 percent for private insurance, 8.1 percent for Medicaid, and only 4.8 percent for uninsured stays. Home health agencies accounted for 50 percent of discharges to PAC. More than 40 percent of discharges to PACs were to SNFs (AHRQ, 2016). Among beneficiaries enrolled in fee-for-service (FFS) Medicare and discharged from an acute care hospital in 2013, 42 percent went on to post-acute care: 20 percent were discharged to a SNF, 17 percent were discharged to an HHA, 4 percent were discharged to an IRF, and 1 percent were discharged to an LTCH (MEDPAC, 2015). Inpatient stays discharged to PAC are much longer and more costly than those with routine discharges (7.0 days vs. 3.6 days; $16,900 vs. $8,300 on average) (AHRQ, 2016). Of the Medicare beneficiaries discharged from PAC to use other services, a little over 40 percent go to SNFs, and 37 percent are sent home with home health services. The rest of post-acute patients are discharged to

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		outpatient therapy services, or they receive continued services at a specialized hospital, like an IRF or LTCH (Gage, Morely, Spain, & Ingber, 2009). Whether these patients use home health services as opposed to other services depends not only on their conditions but also on the organizational relationships of the hospital. (Gage, Morely, Spain, & Ingber, 2009). Medication errors, poor communication, and poor coordination between providers, along with the rising incidence of preventable adverse events and hospital readmissions, have drawn national attention to the importance of the timely transfer of important health information and care preferences at transitions. Communication has been cited as the third most frequent root cause in sentinel events. Failed or ineffective patient handoffs are estimated to play a role in 20 percent of serious preventable adverse events (The Joint Commission, 2016). Further, shared understanding of patients' care goals, particularly with serious illness, is an important element of high-quality care, allowing clinicians to align the care provided with what is most important to the patient. Early discussions about goals of care have been found to be associated with better quality of life, reduced use of nonbeneficial medical care near death, enhanced goal-consistent care, positive family outcomes, and reduced costs (Bernacki & Block, 2014). According to the Institute of Medicine (2007) and other studies, the lack of coordination and communication across health care settings can lead to significant patient complications, including medication errors, preventable hospital readmissions, and emergency department visits (Kitson et al, 2013; Forster et al, 2003). Care coordination within and across care settings has been shown to provide better quality of care at lower cost. A critical component of care coordination is communication and the exchange of information (McDonald et al, 2007; Pinelli, 2015). When care transitions are enhanced through care coordination activities such as expedited patient information flow, these activities can reduce duplication of care services and costs of care, resolve conflicting care plans (Mor, 2010) and prevent readmissions and medical errors (Institute of Medicine Committee on Identifying and Preventing Medication Errors, 2010; Starmer et al, 2014; Verhaegh et al, 2015). Many care transition models, programs, and best practices emphasize the importance of timely communication and information exchange between transferring and receiving providers. (AHRQ, 2016, Murray & Laditka, 2010; LaMantia et al, 2010; Verhaegh et al, 2015). In a systematic review of interventions

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		to improve transitional care between nursing homes and hospitals, a standardized patient transfer form was found to facilitate communication of advance directives and medication reconciliation (LaMantia et al, 2010). The communication of health information and patient care preferences is critical to ensuring safe and effective patient transitions from one health care setting to another. The IMPACT Act requires standardized patient assessment data that will enable assessment and QM uniformity; quality care and improved outcomes; comparison of quality across PAC settings; improved discharge planning; interoperability; and facilitate care coordination. Bernacki, R. E. and Block S. D. (2014). "Communication about serious illness care goals: a review and synthesis of best practices." JAMA Intern Med. 2014; 174(12):1994-2003. Callahan, C. M., et al (2012). "Transitions in care for older adults with and without dementia." Journal of the American Geriatrics Society. 2012; 60(5): 813-820. Forster, A. J., et al (2003). "The incidence and severity of adverse events affecting patients after discharge from the hospital." Ann Intern Med. 2003; 138(3):161-167. Gage, B., Morely, M., Spain, P., & Ingber, M. (2009). Examining Post Acute Care Relationships in an Integrated Hospital System: Final Report. RTI International. Washington, D.C.: ASPE. Institute of Medicine. Preventing Medication Errors: Quality Chasm Series. Washington, DC: The National Academies Press, 2007. Kitson, N. A., et al (2013). "Developing a medication communication framework across continuums of care using the circle of care modeling approach." BMC Health Services Research. 2013; 13:418. Available from: http://www.biomedcentral.com/1472-6963/13/418 LaMantia, M. A., et al (2010). "Interventions to improve transitional care between nursing homes and hospitals: A systematic review." Journal of the American Geriatrics Society. 2010; 58 (4): 777-782. McDonald, K.M., et al (2007). "Closing the quality gap: a critical analysis of quality improvement strategies."

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		Stanford, CA: Stanford University. Available at http://www.ncbi.nlm.nih.gov/books/NBK44015/pdf/TOC.pdf Mor, V., et al (2010). "The revolving door of rehospitalization from skilled nursing facilities." Health Affairs, 29(1), 57-64. Murray, L. M. and Laditka, S. B. (2010). "Care transitions by older adults from nursing homes to hospitals: Implications for long-term care practice, geriatrics education, and research." Journal of the American Medical Directors Association 2010: 11(4): 231-238. National Healthcare Quality and Disparities Report chartbook on care coordination. Rockville, MD: Agency for Healthcare Research and Quality; June 2016. AHRQ Pub. No. 16-0015-6-EF. Pinelli, V., et al (2015). "Interprofessional communication patterns during patient discharges: A social network analysis." Journal of General Internal Medicine. 30(9): 1299-1306. Starmer, A. J., et al (2014). "Changes in medical errors after implementation of a handoff program." N Engl J Med 2014; 371:1803-12. Statistical Brief #205. Healthcare Cost and Utilization Project (HCUP). June 2016. Agency for Healthcare Research and Quality, Rockville, MD. The Joint Commission. (2016). Sentinel Event Data Root Causes by Event Type 2004 –2015. Retrieved from https://www.jointcommission.org/assets/1/23/jconline_Mar_2_2016.pdf Verhaegh, K. J., et al (2015) "Transitional care interventions prevent hospital readmissions for adults with chronic illnesses." Health Affairs. 33 (9): 1531-1539.
MUC16-323	Transfer of Information at Post-Acute Care Discharge or End	Nationwide, approximately 22 percent of older adults experience a transition annually. Half of those transitions involve going to and from a hospital setting from either a skilled nursing facility or home, but the other half often involve complicated trajectories across different settings (Callahan, 2012). Almost 8 million inpatient stays were discharged to post-acute care (PAC) settings, accounting for 22.3

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	of Care to Other Providers/Settings	percent of all hospital discharges in 2013. The rates of inpatient discharge to PAC were 41.7 percent for Medicare, 11.7 percent for private insurance, 8.1 percent for Medicaid, and only 4.8 percent for uninsured stays. Home health agencies accounted for 50 percent of discharges to PAC. More than 40 percent of discharges to PACs were to SNFs (AHRQ, 2016). Among beneficiaries enrolled in fee-for-service (FFS) Medicare and discharged from an acute care hospital in 2013, 42 percent went on to post-acute care: 20 percent were discharged to a SNF, 17 percent were discharged to an HHA, 4 percent were discharged to an IRF, and 1 percent were discharged to an LTCH (MEDPAC, 2015). Inpatient stays discharged to PAC are much longer and more costly than those with routine discharges (7.0 days vs. 3.6 days; $16,900 vs. $8,300 on average) (AHRQ, 2016). Of the Medicare beneficiaries discharged from PAC to use other services, a little over 40 percent go to SNFs, and 37 percent are sent home with home health services. The rest of post-acute patients are discharged to outpatient therapy services, or they receive continued services at a specialized hospital, like an IRF or LTCH (Gage, Morely, Spain, & Ingber, 2009). Whether these patients use home health services as opposed to other services depends not only on their conditions but also on the organizational relationships of the hospital. (Gage, Morely, Spain, & Ingber, 2009). The communication of health information and patient care preferences is critical to ensuring safe and effective patient transitions from one health care setting to another. Medication errors, poor communication, and poor coordination between providers, along with the rising incidence of preventable adverse events and hospital readmissions, have drawn national attention to the importance of the timely transfer of important health information and care preferences at transitions. Communication has been cited as the third most frequent root cause in sentinel events. Failed or ineffective patient handoffs are estimated to play a role in 20 percent of serious preventable adverse events (The Joint Commission, 2016). Further, shared understanding of patients' care goals, particularly with serious illness, is an important element of high-quality care, allowing clinicians to align the care provided with what is most important to

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		the patient. Early discussions about goals of care have been found to be associated with better quality of life, reduced use of non-beneficial medical care near death, enhanced goal-consistent care, positive family outcomes, and reduced costs (Bernacki & Block, 2014). According to the Institute of Medicine (2007) and other studies, the lack of coordination and communication across health care settings can lead to significant patient complications, including medication errors, preventable hospital readmissions, and emergency department visits (Kitson et al, 2013; Forster et al, 2003). Care coordination within and across care settings has been shown to provide better quality of care at lower cost. A critical component of care coordination is communication and the exchange of information (McDonald et al, 2007). When care transitions are enhanced through care coordination activities such as expedited patient information flow, these activities can reduce duplication of care services and costs of care, resolve conflicting care plans (Mor, 2010) and prevent medical errors (Institute of Medicine Committee on Identifying and Preventing Medication Errors, 2010; Starmer et al, 2014). Many care transition models, programs, and best practices emphasize the importance of timely communication and information exchange between transferring and receiving providers. (AHRQ, 2016, Murray & Laditka, 2010; LaMantia et al, 2010). In a systematic review of interventions to improve transitional care between nursing homes and hospitals, a standardized patient transfer form was found to facilitate communication of advance directives and medication reconciliation (LaMantia et al, 2010). Bernacki, R. E. and Block S. D. (2014). “Communication about serious illness care goals: a review and synthesis of best practices.” JAMA Intern Med. 2014; 174(12):1994-2003. Callahan, C. M., et al (2012). “Transitions in care for older adults with and without dementia.” Journal of the American Geriatrics Society. 2012; 60(5): 813-820. Forster, A. J., et al (2003). “The incidence and severity of adverse events affecting patients after discharge from the hospital.” Ann Intern Med. 2003; 138(3):161-167. Gage, B., Morely, M., Spain, P., & Ingber, M. (2009). Examining Post Acute Care Relationships in an Integrated Hospital System: Final Report. RTI International. Washington, D.C.: ASPE.

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		Institute of Medicine. Preventing Medication Errors: Quality Chasm Series. Washington, DC: The National Academies Press, 2007. Kitson, N. A., et al (2013). "Developing a medication communication framework across continuums of care using the circle of care modeling approach." BMC Health Services Research. 2013; 13:418. Available from: http://www.biomedcentral.com/1472-6963/13/418 LaMantia, M. A., et al (2010). "Interventions to improve transitional care between nursing homes and hospitals: A systematic review." Journal of the American Geriatrics Society. 2010; 58 (4): 777-782. McDonald, K.M., et al (2007). "Closing the quality gap: a critical analysis of quality improvement strategies." Stanford, CA: Stanford University. Available at http://www.ncbi.nlm.nih.gov/books/NBK44015/pdf/TOC.pdf Mor, V., et al (2010). "The revolving door of rehospitalization from skilled nursing facilities." Health Affairs, 29(1), 57-64. Murray, L. M. and Laditka, S. B. (2010). "Care transitions by older adults from nursing homes to hospitals: Implications for long-term care practice, geriatrics education, and research." Journal of the American Medical Directors Association 2010: 11(4): 231-238. National Healthcare Quality and Disparities Report chartbook on care coordination. Rockville, MD: Agency for Healthcare Research and Quality; June 2016. AHRQ Pub. No. 16-0015-6-EF. Starmer, A. J., et al (2014). "Changes in medical errors after implementation of a handoff program." N Engl J Med 2014; 371:1803-12. Statistical Brief #205. Healthcare Cost and Utilization Project (HCUP). June 2016. Agency for Healthcare Research and Quality, Rockville, MD. The Joint Commission. (2016). Sentinel Event Data Root Causes by Event Type 2004 –2015. Retrieved from https://www.jointcommission.org/assets/1/23/jconline_Mar_2_2016.pdf

MUC ID	Measure Title	Rationale
MUC16-325	Transfer of Information at Post-Acute Care Discharge or End of Care to Other Providers/Settings	Nationwide, approximately 22 percent of older adults experience a transition annually. Half of those transitions involve going to and from a hospital setting from either a skilled nursing facility or home, but the other half often involve complicated trajectories across different settings (Callahan, 2012). Almost 8 million inpatient stays were discharged to post-acute care (PAC) settings, accounting for 22.3 percent of all hospital discharges in 2013. The rates of inpatient discharge to PAC were 41.7 percent for Medicare, 11.7 percent for private insurance, 8.1 percent for Medicaid, and only 4.8 percent for uninsured stays. Home health agencies accounted for 50 percent of discharges to PAC. More than 40 percent of discharges to PACs were to SNFs (AHRQ, 2016). Among beneficiaries enrolled in fee-for-service (FFS) Medicare and discharged from an acute care hospital in 2013, 42 percent went on to post-acute care: 20 percent were discharged to a SNF, 17 percent were discharged to an HHA, 4 percent were discharged to an IRF, and 1 percent were discharged to an LTCH (MEDPAC, 2015). Inpatient stays discharged to PAC are much longer and more costly than those with routine discharges (7.0 days vs. 3.6 days; $16,900 vs. $8,300 on average) (AHRQ, 2016). Of the Medicare beneficiaries discharged from PAC to use other services, a little over 40 percent go to SNFs, and 37 percent are sent home with home health services. The rest of post-acute patients are discharged to outpatient therapy services, or they receive continued services at a specialized hospital, like an IRF or LTCH (Gage, Morely, Spain, & Ingber, 2009). Whether these patients use home health services as opposed to other services depends not only on their conditions but also on the organizational relationships of the hospital. (Gage, Morely, Spain, & Ingber, 2009). The communication of health information and patient care preferences is critical to ensuring safe and effective patient transitions from one health care setting to another. Medication errors, poor communication, and poor coordination between providers, along with the rising incidence of preventable adverse events and hospital readmissions, have drawn national attention to the importance of the timely transfer of important health information and care preferences at transitions.

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		Communication has been cited as the third most frequent root cause in sentinel events. Failed or ineffective patient handoffs are estimated to play a role in 20 percent of serious preventable adverse events (The Joint Commission, 2016). Further, shared understanding of patients' care goals, particularly with serious illness, is an important element of high-quality care, allowing clinicians to align the care provided with what is most important to the patient. Early discussions about goals of care have been found to be associated with better quality of life, reduced use of non-beneficial medical care near death, enhanced goal-consistent care, positive family outcomes, and reduced costs (Bernacki & Block, 2014). According to the Institute of Medicine (2007) and other studies, the lack of coordination and communication across health care settings can lead to significant patient complications, including medication errors, preventable hospital readmissions, and emergency department visits (Kitson et al, 2013; Forster et al, 2003). Care coordination within and across care settings has been shown to provide better quality of care at lower cost. A critical component of care coordination is communication and the exchange of information (McDonald et al, 2007). When care transitions are enhanced through care coordination activities such as expedited patient information flow, these activities can reduce duplication of care services and costs of care, resolve conflicting care plans (Mor, 2010) and prevent medical errors (Institute of Medicine Committee on Identifying and Preventing Medication Errors, 2010; Starmer et al, 2014). Many care transition models, programs, and best practices emphasize the importance of timely communication and information exchange between transferring and receiving providers. (AHRQ, 2016, Murray & Laditka, 2010; LaMantia et al, 2010). In a systematic review of interventions to improve transitional care between nursing homes and hospitals, a standardized patient transfer form was found to facilitate communication of advance directives and medication reconciliation (LaMantia et al, 2010). Bernacki, R. E. and Block S. D. (2014). "Communication about serious illness care goals: a review and synthesis of best practices." JAMA Intern Med. 2014; 174(12):1994-2003. Callahan, C. M., et al (2012). "Transitions in care for older adults with and without dementia." Journal of the

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		American Geriatrics Society. 2012; 60(5): 813-820. Forster, A. J., et al (2003). "The incidence and severity of adverse events affecting patients after discharge from the hospital." Ann Intern Med. 2003; 138(3):161-167. Gage, B., Morely, M., Spain, P., & Ingber, M. (2009). Examining Post Acute Care Relationships in an Integrated Hospital System: Final Report. RTI International. Washington, D.C.: ASPE. Institute of Medicine. Preventing Medication Errors: Quality Chasm Series. Washington, DC: The National Academies Press, 2007. Kitson, N. A., et al (2013). "Developing a medication communication framework across continuums of care using the circle of care modeling approach." BMC Health Services Research. 2013; 13:418. Available from: http://www.biomedcentral.com/1472-6963/13/418 LaMantia, M. A., et al (2010). "Interventions to improve transitional care between nursing homes and hospitals: A systematic review." Journal of the American Geriatrics Society. 2010; 58 (4): 777-782. McDonald, K.M., et al (2007). "Closing the quality gap: a critical analysis of quality improvement strategies." Stanford, CA: Stanford University. Available at http://www.ncbi.nlm.nih.gov/books/NBK44015/pdf/TOC.pdf Mor, V., et al (2010). "The revolving door of rehospitalization from skilled nursing facilities." Health Affairs, 29(1), 57-64. Murray, L. M. and Laditka, S. B. (2010). "Care transitions by older adults from nursing homes to hospitals: Implications for long-term care practice, geriatrics education, and research." Journal of the American Medical Directors Association 2010: 11(4): 231-238. National Healthcare Quality and Disparities Report chartbook on care coordination. Rockville, MD: Agency for Healthcare Research and Quality; June 2016. AHRQ Pub. No. 16-0015-6-EF. Starmer, A. J., et al (2014). "Changes in medical errors after implementation of a handoff program." N Engl J

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		Med 2014; 371:1803-12. Statistical Brief #205. Healthcare Cost and Utilization Project (HCUP). June 2016. Agency for Healthcare Research and Quality, Rockville, MD. The Joint Commission. (2016). Sentinel Event Data Root Causes by Event Type 2004 –2015. Retrieved from https://www.jointcommission.org/assets/1/23/jconline_Mar_2_2016.pdf
MUC16-327	Transfer of Information at Post-Acute Care Discharge or End of Care to Other Providers/Settings	Nationwide, approximately 22 percent of older adults experience a transition annually. Half of those transitions involve going to and from a hospital setting from either a skilled nursing facility or home, but the other half often involve complicated trajectories across different settings (Callahan, 2012). Almost 8 million inpatient stays were discharged to post-acute care (PAC) settings, accounting for 22.3 percent of all hospital discharges in 2013. The rates of inpatient discharge to PAC were 41.7 percent for Medicare, 11.7 percent for private insurance, 8.1 percent for Medicaid, and only 4.8 percent for uninsured stays. Home health agencies accounted for 50 percent of discharges to PAC. More than 40 percent of discharges to PACs were to SNFs (AHRQ, 2016). Among beneficiaries enrolled in fee-for-service (FFS) Medicare and discharged from an acute care hospital in 2013, 42 percent went on to post-acute care: 20 percent were discharged to a SNF, 17 percent were discharged to an HHA, 4 percent were discharged to an IRF, and 1 percent were discharged to an LTCH (MEDPAC, 2015). Inpatient stays discharged to PAC are much longer and more costly than those with routine discharges (7.0 days vs. 3.6 days; $16,900 vs. $8,300 on average) (AHRQ, 2016). Of the Medicare beneficiaries discharged from PAC to use other services, a little over 40 percent go to SNFs, and 37 percent are sent home with home health services. The rest of post-acute patients are discharged to outpatient therapy services, or they receive continued services at a specialized hospital, like an IRF or LTCH (Gage, Morely, Spain, & Ingber, 2009). Whether these patients use home health services as opposed to other services depends not only on their conditions but also on the organizational relationships of the hospital. (Gage, Morely, Spain, & Ingber, 2009).

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		The communication of health information and patient care preferences is critical to ensuring safe and effective patient transitions from one health care setting to another. Medication errors, poor communication, and poor coordination between providers, along with the rising incidence of preventable adverse events and hospital readmissions, have drawn national attention to the importance of the timely transfer of important health information and care preferences at transitions. Communication has been cited as the third most frequent root cause in sentinel events. Failed or ineffective patient handoffs are estimated to play a role in 20 percent of serious preventable adverse events (The Joint Commission, 2016). Further, shared understanding of patients' care goals, particularly with serious illness, is an important element of high-quality care, allowing clinicians to align the care provided with what is most important to the patient. Early discussions about goals of care have been found to be associated with better quality of life, reduced use of non-beneficial medical care near death, enhanced goal-consistent care, positive family outcomes, and reduced costs (Bernacki & Block, 2014). According to the Institute of Medicine (2007) and other studies, the lack of coordination and communication across health care settings can lead to significant patient complications, including medication errors, preventable hospital readmissions, and emergency department visits (Kitson et al, 2013; Forster et al, 2003). Care coordination within and across care settings has been shown to provide better quality of care at lower cost. A critical component of care coordination is communication and the exchange of information (McDonald et al, 2007). When care transitions are enhanced through care coordination activities such as expedited patient information flow, these activities can reduce duplication of care services and costs of care, resolve conflicting care plans (Mor, 2010) and prevent medical errors (Institute of Medicine Committee on Identifying and Preventing Medication Errors, 2010; Starmer et al, 2014). Many care transition models, programs, and best practices emphasize the importance of timely communication and information exchange between transferring and receiving providers. (AHRQ, 2016, Murray & Laditka, 2010; LaMantia et al, 2010). In a systematic review of interventions to improve transitional care between nursing homes and hospitals, a standardized patient transfer form was found to facilitate communication of advance directives and

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		medication reconciliation (LaMantia et al, 2010). Bernacki, R. E. and Block S. D. (2014). "Communication about serious illness care goals: a review and synthesis of best practices." JAMA Intern Med. 2014; 174(12):1994-2003. Callahan, C. M., et al (2012). "Transitions in care for older adults with and without dementia." Journal of the American Geriatrics Society. 2012; 60(5): 813-820. Forster, A. J., et al (2003). "The incidence and severity of adverse events affecting patients after discharge from the hospital." Ann Intern Med. 2003; 138(3):161-167. Gage, B., Morely, M., Spain, P., & Ingber, M. (2009). Examining Post Acute Care Relationships in an Integrated Hospital System: Final Report. RTI International. Washington, D.C.: ASPE. Institute of Medicine. Preventing Medication Errors: Quality Chasm Series. Washington, DC: The National Academies Press, 2007. Kitson, N. A., et al (2013). "Developing a medication communication framework across continuums of care using the circle of care modeling approach." BMC Health Services Research. 2013; 13:418. Available from: http://www.biomedcentral.com/1472-6963/13/418 LaMantia, M. A., et al (2010). "Interventions to improve transitional care between nursing homes and hospitals: A systematic review." Journal of the American Geriatrics Society. 2010; 58 (4): 777-782. McDonald, K.M., et al (2007). "Closing the quality gap: a critical analysis of quality improvement strategies." Stanford, CA: Stanford University. Available at http://www.ncbi.nlm.nih.gov/books/NBK44015/pdf/TOC.pdf Mor, V., et al (2010). "The revolving door of rehospitalization from skilled nursing facilities." Health Affairs, 29(1), 57-64. Murray, L. M. and Laditka, S. B. (2010). "Care transitions by older adults from nursing homes to hospitals: Implications for long-term care practice, geriatrics education, and research." Journal of the American

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		Medical Directors Association 2010: 11(4): 231-238. National Healthcare Quality and Disparities Report chartbook on care coordination. Rockville, MD: Agency for Healthcare Research and Quality; June 2016. AHRQ Pub. No. 16-0015-6-EF. Starmer, A. J., et al (2014). "Changes in medical errors after implementation of a handoff program." N Engl J Med 2014; 371:1803-12. Statistical Brief #205. Healthcare Cost and Utilization Project (HCUP). June 2016. Agency for Healthcare Research and Quality, Rockville, MD. The Joint Commission. (2016). Sentinel Event Data Root Causes by Event Type 2004 –2015. Retrieved from https://www.jointcommission.org/assets/1/23/jconline_Mar_2_2016.pdf
MUC16-343	Uterine artery embolization technique: Documentation of angiographic endpoints and interrogation of ovarian arteries	This measure ensures documentation of two important procedural aspects of uterine artery embolization, which are known to be associated with treatment efficacy: (1) appropriate embolization endpoints achieved and (2) delineation of all uterine arterial supply with embolization where possible. Inadequate embolization alone is a known cause of treatment failure1. The ovarian arteries often provide an alternate route of arterial supply to the uterus when the uterine artery is occluded or absent; however routine aortography is not recommended when conventional uterine artery anatomy is present2. 1. Dariushnia SR et al. Quality Improvement Guidelines for Uterine Artery Embolization for Symptomatic leiomyomata. JVIR 2014; 25:1737-1747. 2. White AM et al. Patient radiation exposure during uterine fibroid embolization and the dose attributable to aortography. JVIR 2007; 18:573-576.
MUC16-344	Appropriate Documentation of a Malnutrition Diagnosis	The diagnosis of malnutrition via the completion of a nutrition assessment in patients at-risk of malnutrition can assist clinicians in identifying the appropriate interventions addressing patients' malnourished state (White, 2011; Mueller, 2011; Kruizenga, 2005). Current estimates of the prevalence of adult malnutrition range from 15%–60% depending on the patient population and criteria used to identify its occurrence (Mueller, 2011). While this reflects a large portion of the population, only around 3 percent of patients are diagnosed with malnutrition; in turn, it is estimated that 4-19 million cases are left undiagnosed and untreated (White, 2012).

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		An analysis of nationally representative, cross-sectional data indicate that hospitalized patients diagnosed with malnutrition tend to be older and sicker and also incur increased healthcare costs compared to non-malnourished patients (Corkins, 2014). A diagnosis of malnutrition has been associated with increased length-of-stay, readmissions, and risk of mortality in the hospital (Lew, 2016). An analysis of the 2010 HealthCare Cost and Utilization Project (HCUP), which provides a broad and nationally-representative dataset describing U.S. hospital discharges, reported that mortality was more than 5 times as common among patients with a malnutrition diagnosis (Corkins, 2014). Furthermore, malnutrition in hospitalized patients is also associated with higher post-operative complications such as infections and pressure ulcers (Fry, 2010; Banks, 2010). Early identification and subsequent intervention in particular can have a positive impact on those same patient outcomes (Somanchi, 2011). Additionally, documentation of malnutrition diagnoses has been associated with significant healthcare cost savings per hospital day per patient (Amaral, 2007). Lew CC, Yandell R, Fraser RJ, Chua AP, Chong MF, Miller M. Association Between Malnutrition and Clinical Outcomes in the Intensive Care Unit: A Systematic Review. JPEN J Parenter Enteral Nutr. 2016. Corkins MR, Guenter P, Dimaria-ghalili RA, et al. Malnutrition diagnoses in hospitalized patients: United States, 2010. JPEN J Parenter Enteral Nutr. 2014;38(2):186-95. White JV, et al. Consensus statement: Academy of Nutrition and Dietetics and American Society for Parenteral and Enteral Nutrition: characteristics recommended for the identification and documentation of adult malnutrition (undernutrition). JPEN. 2012;36(3):275–283. Mueller C, Compher C & Druyan ME and the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Board of Directors. A.S.P.E.N. Clinical Guidelines: Nutrition Screening, Assessment, and Intervention in Adults. J Parenter Enteral Nutr. 2011;35: 16-24. Somanchi et al., The Facilitated Early Enteral and Dietary Management Effectiveness Trial in Hospitalized Patients with Malnutrition. JPEN J Parenteral Enteral Nutr 2011 35:209.

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		Banks M, Bauer J, Graves N, Ash S. Malnutrition and pressure ulcer risk in adults in Australian health care facilities. Nutrition. 2010;26(9):896-901. Fry DE, Pine M, Jones BL, Meimban RJ. Patient characteristics and the occurrence of never events. Arch Surg. 2010;145(2):148-51. Amaral TF, Matos LC, Tavares MM, Subtil A, Martins R, Nazaré M, et al. The economic impact of disease-related malnutrition at hospital admission. Clin Nutr. 2007 Dec;26(6):778–84. Kruizenga HM et al., Effectiveness and cost-effectiveness of early screening and treatment of malnourished patients. AM J Clin Nutrition. 2005 Nov 82(5): 1082-9.
MUC16-345$_1$	Post-Discharge Review of Patient Goals of Care (Group measure as defined by Am. Coll. of Surgeons)	Steffens NM, Tucholka JL, Nabozny MK, Schmick AE, et al. Engaging patients, health care professionals, and community members to improve preoperative decision making for older adults facing high-risk surgery. JAMA Surg. 2016. doi: 10.1001/jamasurg.2016.1308 Kelly KN, Noyes K, Dolan J, Fleming F, et al. Patient perspective on care transitions after colorectal surgery. J Surg Res. 2016; 203(1):103-12 Gussous Y, Than K, Mummameni P, Smith J, et al. Appropriate use of limited interventions vs extensive surgery in the elderly patient with spinal disorders. Neurosurgery. 2015; 77 suppl 4:S142-63 Kim Y, Winner M, Page A, Tisnado DM, et al. Patient perceptions regarding the likelihood of cure after surgical resection of lung and colorectal cancer. Cancer 2015; 121(20):3564-73 Paul Olson TJ, Brasel JH, Redmann AJ, Alexander GC, et al. Surgeon-reported conflict with intensivist about postoperative goals of care. JAMA Surg. 2013. 148(1):29-35.
MUC16-347	Transfer of Information at Post-Acute Care Admission, Start or Resumption of	Nationwide, approximately 22 percent of older adults experience a transition annually. Half of those transitions involve going to and from a hospital setting, from either a skilled nursing facility or home, but the other half often involve complicated trajectories across different settings (Callahan, 2012). Almost 8 million inpatient stays were discharged to post-acute care (PAC) settings, accounting for 22.3 percent of all hospital discharges in 2013. The rates of inpatient discharge to PAC were 41.7 percent for

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	Care from Other Providers/Settings	Medicare, 11.7 percent for private insurance, 8.1 percent for Medicaid, and only 4.8 percent for uninsured stays. Home health agencies accounted for 50 percent of discharges to PAC. More than 40 percent of discharges to PACs were to SNFs (AHRQ, 2016). Among beneficiaries enrolled in fee-for-service (FFS) Medicare and discharged from an acute care hospital in 2013, 42 percent went on to post-acute care: 20 percent were discharged to a SNF, 17 percent were discharged to an HHA, 4 percent were discharged to an IRF, and 1 percent were discharged to an LTCH (MEDPAC, 2015). Inpatient stays discharged to PAC are much longer and more costly than those with routine discharges (7.0 days vs. 3.6 days; $16,900 vs. $8,300 on average) (AHRQ, 2016). Of the Medicare beneficiaries discharged from PAC to use other services, a little over 40 percent go to SNFs, and 37 percent are sent home with home health services. The rest of post-acute patients are discharged to outpatient therapy services, or they receive continued services at a specialized hospital, like an IRF or LTCH (Gage, Morely, Spain, & Ingber, 2009). Whether these patients use home health services as opposed to other services depends not only on their conditions but also on the organizational relationships of the hospital. (Gage, Morely, Spain, & Ingber, 2009). Medication errors, poor communication, and poor coordination between providers, along with the rising incidence of preventable adverse events and hospital readmissions, have drawn national attention to the importance of the timely transfer of important health information and care preferences at transitions. Communication has been cited as the third most frequent root cause in sentinel events. Failed or ineffective patient handoffs are estimated to play a role in 20 percent of serious preventable adverse events (The Joint Commission, 2016). Further, shared understanding of patients' care goals, particularly with serious illness, is an important element of high-quality care, allowing clinicians to align the care provided with what is most important to the patient. Early discussions about goals of care have been found to be associated with better quality of life, reduced use of nonbeneficial medical care near death, enhanced goal-consistent care, positive family outcomes, and reduced costs (Bernacki & Block, 2014).

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		According to the Institute of Medicine (2007) and other studies, the lack of coordination and communication across health care settings can lead to significant patient complications, including medication errors, preventable hospital readmissions, and emergency department visits (Kitson et al, 2013; Forster et al, 2003). Care coordination within and across care settings has been shown to provide better quality of care at lower cost. A critical component of care coordination is communication and the exchange of information (McDonald et al, 2007; Pinelli, 2015). When care transitions are enhanced through care coordination activities such as expedited patient information flow, these activities can reduce duplication of care services and costs of care, resolve conflicting care plans (Mor, 2010) and prevent readmissions and medical errors (Institute of Medicine Committee on Identifying and Preventing Medication Errors, 2010; Starmer et al, 2014; Verhaegh et al, 2015). Many care transition models, programs, and best practices emphasize the importance of timely communication and information exchange between transferring and receiving providers. (AHRQ, 2016, Murray & Laditka, 2010; LaMantia et al, 2010; Verhaegh et al, 2015). In a systematic review of interventions to improve transitional care between nursing homes and hospitals, a standardized patient transfer form was found to facilitate communication of advance directives and medication reconciliation (LaMantia et al, 2010). The communication of health information and patient care preferences is critical to ensuring safe and effective patient transitions from one health care setting to another. The IMPACT Act requires standardized patient assessment data that will enable assessment and QM uniformity; quality care and improved outcomes; comparison of quality across PAC settings; improved discharge planning; interoperability; and facilitate care coordination. Bernacki, R. E. and Block S. D. (2014). “Communication about serious illness care goals: a review and synthesis of best practices.” JAMA Intern Med. 2014; 174(12):1994-2003. Callahan, C. M., et al (2012). “Transitions in care for older adults with and without dementia.” Journal of the American Geriatrics Society. 2012; 60(5): 813-820. Forster, A. J., et al (2003). “The incidence and severity of adverse events affecting patients after discharge from the hospital.” Ann Intern Med. 2003; 138(3):161-167.

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		Gage, B., Morely, M., Spain, P., & Ingber, M. (2009). Examining Post Acute Care Relationships in an Integrated Hospital System: Final Report. RTI International. Washington, D.C.: ASPE. Institute of Medicine. Preventing Medication Errors: Quality Chasm Series. Washington, DC: The National Academies Press, 2007. Kitson, N. A., et al (2013). "Developing a medication communication framework across continuums of care using the circle of care modeling approach." BMC Health Services Research. 2013; 13:418. Available from: http://www.biomedcentral.com/1472-6963/13/418 LaMantia, M. A., et al (2010). "Interventions to improve transitional care between nursing homes and hospitals: A systematic review." Journal of the American Geriatrics Society. 2010; 58 (4): 777-782. McDonald, K.M., et al (2007). "Closing the quality gap: a critical analysis of quality improvement strategies." Stanford, CA: Stanford University. Available at http://www.ncbi.nlm.nih.gov/books/NBK44015/pdf/TOC.pdf Mor, V., et al (2010). "The revolving door of rehospitalization from skilled nursing facilities." Health Affairs, 29(1), 57-64. Murray, L. M. and Laditka, S. B. (2010). "Care transitions by older adults from nursing homes to hospitals: Implications for long-term care practice, geriatrics education, and research." Journal of the American Medical Directors Association 2010: 11(4): 231-238. National Healthcare Quality and Disparities Report chartbook on care coordination. Rockville, MD: Agency for Healthcare Research and Quality; June 2016. AHRQ Pub. No. 16-0015-6-EF. Pinelli, V., et al (2015). "Interprofessional communication patterns during patient discharges: A social network analysis." Journal of General Internal Medicine. 30(9): 1299-1306. Starmer, A. J., et al (2014). "Changes in medical errors after implementation of a handoff program." N Engl J Med 2014; 371:1803-12.

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		Statistical Brief #205. Healthcare Cost and Utilization Project (HCUP). June 2016. Agency for Healthcare Research and Quality, Rockville, MD. The Joint Commission. (2016). Sentinel Event Data Root Causes by Event Type 2004 –2015. Retrieved from https://www.jointcommission.org/assets/1/23/jconline_Mar_2_2016.pdf Verhaegh, K. J., et al (2015) "Transitional care interventions prevent hospital readmissions for adults with chronic illnesses." Health Affairs. 33 (9): 1531-1539.
MUC16-357	Transfer of Information at Post-Acute Care Discharge or End of Care to Other Providers/Settings	Nationwide, approximately 22 percent of older adults experience a transition annually. Half of those transitions involve going to and from a hospital setting from either a skilled nursing facility or home, but the other half often involve complicated trajectories across different settings (Callahan, 2012). Almost 8 million inpatient stays were discharged to post-acute care (PAC) settings, accounting for 22.3 percent of all hospital discharges in 2013. The rates of inpatient discharge to PAC were 41.7 percent for Medicare, 11.7 percent for private insurance, 8.1 percent for Medicaid, and only 4.8 percent for uninsured stays. Home health agencies accounted for 50 percent of discharges to PAC. More than 40 percent of discharges to PACs were to SNFs (AHRQ, 2016). Among beneficiaries enrolled in fee-for-service (FFS) Medicare and discharged from an acute care hospital in 2013, 42 percent went on to post-acute care: 20 percent were discharged to a SNF, 17 percent were discharged to an HHA, 4 percent were discharged to an IRF, and 1 percent were discharged to an LTCH (MEDPAC, 2015). Inpatient stays discharged to PAC are much longer and more costly than those with routine discharges (7.0 days vs. 3.6 days; $16,900 vs. $8,300 on average) (AHRQ, 2016). Of the Medicare beneficiaries discharged from PAC to use other services, a little over 40 percent go to SNFs, and 37 percent are sent home with home health services. The rest of post-acute patients are discharged to outpatient therapy services, or they receive continued services at a specialized hospital, like an IRF or LTCH (Gage, Morely, Spain, & Ingber, 2009). Whether these patients use home health services as opposed to other services depends not only on their conditions but also on the organizational relationships of the hospital. (Gage, Morely, Spain, & Ingber, 2009).

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		The communication of health information and patient care preferences is critical to ensuring safe and effective patient transitions from one health care setting to another. Medication errors, poor communication, and poor coordination between providers, along with the rising incidence of preventable adverse events and hospital readmissions, have drawn national attention to the importance of the timely transfer of important health information and care preferences at transitions. Communication has been cited as the third most frequent root cause in sentinel events. Failed or ineffective patient handoffs are estimated to play a role in 20 percent of serious preventable adverse events (The Joint Commission, 2016). Further, shared understanding of patients' care goals, particularly with serious illness, is an important element of high-quality care, allowing clinicians to align the care provided with what is most important to the patient. Early discussions about goals of care have been found to be associated with better quality of life, reduced use of non-beneficial medical care near death, enhanced goal-consistent care, positive family outcomes, and reduced costs (Bernacki & Block, 2014). According to the Institute of Medicine (2007) and other studies, the lack of coordination and communication across health care settings can lead to significant patient complications, including medication errors, preventable hospital readmissions, and emergency department visits (Kitson et al, 2013; Forster et al, 2003). Care coordination within and across care settings has been shown to provide better quality of care at lower cost. A critical component of care coordination is communication and the exchange of information (McDonald et al, 2007). When care transitions are enhanced through care coordination activities such as expedited patient information flow, these activities can reduce duplication of care services and costs of care, resolve conflicting care plans (Mor, 2010) and prevent medical errors (Institute of Medicine Committee on Identifying and Preventing Medication Errors, 2010; Starmer et al, 2014). Many care transition models, programs, and best practices emphasize the importance of timely communication and information exchange between transferring and receiving providers. (AHRQ, 2016, Murray & Laditka, 2010; LaMantia et al, 2010). In a systematic review of interventions to improve transitional care between nursing homes and hospitals, a

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		Implications for long-term care practice, geriatrics education, and research." Journal of the American Medical Directors Association 2010: 11(4): 231-238. National Healthcare Quality and Disparities Report chartbook on care coordination. Rockville, MD: Agency for Healthcare Research and Quality; June 2016. AHRQ Pub. No. 16-0015-6-EF. Starmer, A. J., et al (2014). "Changes in medical errors after implementation of a handoff program." N Engl J Med 2014; 371:1803-12. Statistical Brief #205. Healthcare Cost and Utilization Project (HCUP). June 2016. Agency for Healthcare Research and Quality, Rockville, MD. The Joint Commission. (2016). Sentinel Event Data Root Causes by Event Type 2004 –2015. Retrieved from https://www.jointcommission.org/assets/1/23/jconline_Mar_2_2016.pdf
MUC16-372	Nutrition Care Plan for Patients Identified as Malnourished after a Completed Nutrition Assessment	Patients who are malnourished while in the hospital have an increased risk of complications, readmissions, and length of stay, which is associated with a significant increase in costs. Malnutrition is also associated with many adverse outcomes including depression of the immune system, impaired wound healing, muscle wasting, and increased mortality. Referral rates for dietetic assessment and treatment of malnourished patients have proven to be suboptimal, thereby increasing the likelihood of developing such aforementioned complications (Corkins, 2014), (Barker et al., 2011), (Amaral, et al., 2007), (Kruizenga et al. 2005). Presence of malnutrition/weight loss in hospitalized older adult patients is associated with higher odds of post-operative complications (including infections such as MRSA, C. diff, surgical site infections, and pneumonia) and decubitus ulcers (Fry, 2011). Nutritional status and progress are often not adequately documented in the medical record. It can be difficult to tell when (or if) patients are consuming food and supplements. In addition, nutritional procedures and EHR-triggered care are often lacking in the hospital. Similarly, nutritional care plans and patient issues are poorly communicated to post-acute facilities and PCPs (Corkins, 2014). Nutrition support intervention in patients identified by screening and assessment as at risk for malnutrition or malnourished may improve clinical outcomes (Mueller, 2011). Two research studies associated early

MUC ID	Measure Title	Rationale
		nutritional care after risk identification with improved outcomes such as reduced length of stay, reduction in risk of readmissions, and cost of care (Lew, 2016), (Meehan, 2016). A systematic review of 62 studies with 10,187 randomized participants reported evidence for the effectiveness of nutritional supplements containing protein and energy. Overall, the review demonstrated that nutrition supplementation provided a significant reduction in mortality (RR 0.79, 95% CI 0.64 – 0.97) when patients were originally identified as "undernourished" (another term for malnourished). The risk of complications was reduced in 24 trials (RR 0.86, 95% CI 0.75-0.99) (Milne, 2009). A randomized controlled trial of 652 hospitalized, malnourished older adults over the age of 65 evaluated the use of a high-protein oral nutrition supplement for its impact on patient outcomes of non-elective readmission and mortality. The study found no effects towards improving 90-day readmission rate compared to placebo, but saw a significant reduction of 90-day mortality (p = 0.018) (Deutz, 2016). Finally, documentation of malnutrition diagnoses has been associated with significant healthcare cost savings per hospital day per patient (Amaral, 2007). Amaral TF, Matos LC, Tavares MM, Subtil A, Martins R, Nazaré M, et al. The economic impact of disease-related malnutrition at hospital admission. Clin Nutr. 2007 Dec;26(6):778–84. Barker LA, Gout BS, Crowe TC. Hospital malnutrition: prevalence, identification and impact on patients and the healthcare system. Int J Environ Res Public Health. 2011;8(2):514-27. Corkins MR, Guenter P, Dimaria-ghalili RA, et al. Malnutrition diagnoses in hospitalized patients: United States, 2010. JPEN J Parenter Enteral Nutr. 2014;38(2):186-95. Fry DE, Pine M, Jones BL, Meimban RJ. Patient characteristics and the occurrence of never events. Arch Surg. 2010;145(2):148-51. Kruizenga HM et al., Effectiveness and cost-effectiveness of early screening and treatment of malnourished patients. AM J Clin Nutrition. 2005 Nov 82(5): 1082-9. Lew CC, Yandell R, Fraser RJ, Chua AP, Chong MF, Miller M. Association Between Malnutrition and Clinical

MUC ID	Measure Title	Rationale
		Outcomes in the Intensive Care Unit: A Systematic Review. JPEN J Parenter Enteral Nutr. 2016. Meehan A, Loose C, Bell J, Partridge J, Nelson J, Goates S. Health System Quality Improvement: Impact of Prompt Nutrition Care on Patient Outcomes and Health Care Costs. J Nurs Care Qual. 2016. Milne AC, Potter J, Vivanti A, Avenell A. Protein and energy supplementation in elderly people at risk from malnutrition. Cochrane Database Syst Rev. 2009;(2):CD003288. Mueller C, Compher C & Druyan ME and the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Board of Directors. A.S.P.E.N. Clinical Guidelines: Nutrition Screening, Assessment, and Intervention in Adults. JPEN J Parenter Enteral Nutr. 2011;35: 16-24. White JV, et al. Consensus statement: Academy of Nutrition and Dietetics and American Society for Parenteral and Enteral Nutrition: characteristics recommended for the identification and documentation of adult malnutrition (undernutrition). JPEN J Parenter Enteral Nutr. 2012;36(3):275–283. Somanchi et al., The Facilitated Early Enteral and Dietary Management Effectiveness Trial in Hospitalized Patients with Malnutrition. JPEN J Parenteral Enteral Nutr 2011 35:209.
MUC16-375	Localized Prostate Cancer: Bowel function	Stover A, Irwin DE, Chen RC, Chera BS, Mayer DK, Muss HB, Rosenstein DL, Shea TC, Wood WA, Lyons JC, Reeve BB; Integrating Patient-Reported Outcome Measures into Routine Cancer Care: Cancer Patients' and Clinicians' Perceptions of Acceptability and Value. eGEMS. 2015 Oct. 3(1): 1169. Available at: http://repository.edm-forum.org/egems/vol3/iss1/17 Skolarus TA, Dunn RL, Sanda MG, Chang P, Greenfield TK, Litwin MS, Wei JT; PROSTQA Consortium. Minimally important difference for the Expanded Prostate Cancer Index Composite Short Form. Urology. 2015 Jan;85(1):101-5. doi: 10.1016/j.urology.2014.08.044. PubMed PMID: 25530370; PubMed Central PMCID: PMC4274392. Martin NE, Massey L, Stowell C, et al. Defining a Standard Set of Patient-centered Outcomes for Men with Localized Prostate Cancer. European Urology. 2015 Mar; 67(3): 460-467. Available at http://europeanurology.com/article/S0302-2838(14)00845-8/fulltext/defining-a-standard-set-of-patient-centered-outcomes-for-men-with-localized-prostate-cancer

MUC ID	Measure Title	Rationale
MUC16-377	Localized Prostate Cancer: Sexual function	Stover A, Irwin DE, Chen RC, Chera BS, Mayer DK, Muss HB, Rosenstein DL, Shea TC, Wood WA, Lyons JC, Reeve BB; Integrating Patient-Reported Outcome Measures into Routine Cancer Care: Cancer Patients' and Clinicians' Perceptions of Acceptability and Value. eGEMS. 2015 Oct. 3(1): 1169. Available at: http://repository.edm-forum.org/egems/vol3/iss1/17 Skolarus TA, Dunn RL, Sanda MG, Chang P, Greenfield TK, Litwin MS, Wei JT; PROSTQA Consortium. Minimally important difference for the Expanded Prostate Cancer Index Composite Short Form. Urology. 2015 Jan;85(1):101-5. doi: 10.1016/j.urology.2014.08.044. PubMed PMID: 25530370; PubMed Central PMCID: PMC4274392. Martin NE, Massey L, Stowell C, et al. Defining a Standard Set of Patient-centered Outcomes for Men with Localized Prostate Cancer. European Urology. 2015 Mar; 67(3): 460-467. Available at http://europeanurology.com/article/S0302-2838(14)00845-8/fulltext/defining-a-standard-set-of-patient-centered-outcomes-for-men-with-localized-prostate-cancer
MUC16-379	Localized Prostate Cancer: Urinary Frequency, Obstruction, and/or Irritation	Stover A, Irwin DE, Chen RC, Chera BS, Mayer DK, Muss HB, Rosenstein DL, Shea TC, Wood WA, Lyons JC, Reeve BB; Integrating Patient-Reported Outcome Measures into Routine Cancer Care: Cancer Patients' and Clinicians' Perceptions of Acceptability and Value. eGEMS. 2015 Oct. 3(1): 1169. Available at: http://repository.edm-forum.org/egems/vol3/iss1/17 Skolarus TA, Dunn RL, Sanda MG, Chang P, Greenfield TK, Litwin MS, Wei JT; PROSTQA Consortium. Minimally important difference for the Expanded Prostate Cancer Index Composite Short Form. Urology. 2015 Jan;85(1):101-5. doi: 10.1016/j.urology.2014.08.044. PubMed PMID: 25530370; PubMed Central PMCID: PMC4274392. Martin NE, Massey L, Stowell C, et al. Defining a Standard Set of Patient-centered Outcomes for Men with Localized Prostate Cancer. European Urology. 2015 Mar; 67(3): 460-467. Available at http://europeanurology.com/article/S0302-2838(14)00845-8/fulltext/defining-a-standard-set-of-patient-centered-outcomes-for-men-with-localized-prostate-cancer

MUC ID	Measure Title	Rationale
MUC16-380	Localized Prostate Cancer: Urinary Incontinence	Stover A, Irwin DE, Chen RC, Chera BS, Mayer DK, Muss HB, Rosenstein DL, Shea TC, Wood WA, Lyons JC, Reeve BB; Integrating Patient-Reported Outcome Measures into Routine Cancer Care: Cancer Patients' and Clinicians' Perceptions of Acceptability and Value. eGEMS. 2015 Oct. 3(1): 1169. Available at: http://repository.edm-forum.org/egems/vol3/iss1/17 Skolarus TA, Dunn RL, Sanda MG, Chang P, Greenfield TK, Litwin MS, Wei JT; PROSTQA Consortium. Minimally important difference for the Expanded Prostate Cancer Index Composite Short Form. Urology. 2015 Jan;85(1):101-5. doi: 10.1016/j.urology.2014.08.044. PubMed PMID: 25530370; PubMed Central PMCID: PMC4274392. Martin NE, Massey L, Stowell C, et al. Defining a Standard Set of Patient-centered Outcomes for Men with Localized Prostate Cancer. European Urology. 2015 Mar; 67(3): 460-467. Available at http://europeanurology.com/article/S0302-2838(14)00845-8/fulltext/defining-a-standard-set-of-patient-centered-outcomes-for-men-with-localized-prostate-cancer
MUC16-381	Localized Prostate Cancer: Vitality	Stover A, Irwin DE, Chen RC, Chera BS, Mayer DK, Muss HB, Rosenstein DL, Shea TC, Wood WA, Lyons JC, Reeve BB; Integrating Patient-Reported Outcome Measures into Routine Cancer Care: Cancer Patients' and Clinicians' Perceptions of Acceptability and Value. eGEMS. 2015 Oct. 3(1): 1169. Available at: http://repository.edm-forum.org/egems/vol3/iss1/17 Skolarus TA, Dunn RL, Sanda MG, Chang P, Greenfield TK, Litwin MS, Wei JT; PROSTQA Consortium. Minimally important difference for the Expanded Prostate Cancer Index Composite Short Form. Urology. 2015 Jan;85(1):101-5. doi: 10.1016/j.urology.2014.08.044. PubMed PMID: 25530370; PubMed Central PMCID: PMC4274392. Martin NE, Massey L, Stowell C, et al. Defining a Standard Set of Patient-centered Outcomes for Men with Localized Prostate Cancer. European Urology. 2015 Mar; 67(3): 460-467. Available at http://europeanurology.com/article/S0302-2838(14)00845-8/fulltext/defining-a-standard-set-of-patient-centered-outcomes-for-men-with-localized-prostate-cancer
MUC16-393	PRO utilization in in non-metastatic	Neil E. Martin, Laura Massey, Caleb Stowell, et al. Defining a Standard Set of Patient-centered Outcomes for Men with Localized Prostate Cancer. Eur Urol 2015;67:460–7

MUC ID	Measure Title	Rationale
	prostate cancer patients	Stover A, Irwin DE, Chen RC, Chera BS, Mayer DK, Muss HB, Rosenstein DL, Shea TC, Wood WA, Lyons JC, Reeve BB; Integrating Patient-Reported Outcome Measures into Routine Cancer Care: Cancer Patients' and Clinicians' Perceptions of Acceptability and Value. eGEMS. 2015 Oct. 3(1): 1169. Available at: http://repository.edm-forum.org/egems/vol3/iss1/17 Wei JT, Dunn RL, Litwin MS, Sandler HM, Sanda MG. "Development and Validation of the Expanded Prostate Cancer Index Composite (EPIC) for Comprehensive Assessment of Health-Related Quality of Life in Men with Prostate Cancer", Urology. 56: 899-905, 2000. Wei JT, Dunn RL, Sandler HM, McLaughlin PW, Montie JE, Litwin MS, Nyquist L, Sanda MG. Comprehensive comparison of health-related quality of life after contemporary therapies for localized prostate cancer ", Journal of Clinical Oncology. 20(2): 557-66, 2002. Hollenbeck BK, Dunn RL, Wei JT, McLaughlin PW, Han M, Sanda MG. Neoadjuvant hormonal therapy and older age are associated with adverse sexual health-related quality-of-life outcome after prostate brachytherapy ", Urology. 59: 480-4, 2002. Hollenbeck BK, Dunn RL, Wei JT, Montie JE, Sanda MG. Determinants of Long-Term Sexual HRQOL After Radical Prostatectomy Measured by a Validated Instrument", Journal of Urology. 169: 1453-7, 2003. Van Andel G, Bottomley A, Fossa SD, Efficace F, Coens C, Guerif S, Kynaston H, Gontero P, Thalmann G, Akdas A, D'Haese S, Aronson NK An international field study of the EORTC QLQ-PR25: a questionnaire for assessing the health-related quality of life of patients with prostate cancer. Eur J Cancer. 2008 Nov;44(16):2418-24. doi: 10.1016/j.ejca.2008.07.030. Epub 2008 Sep 5. Sonn GA, Sadetsky N, Presti JC, Litwin M. Differing perceptions of quality of life in patients with prostate cancer and their doctors. J Urol 2009; 182: 2296–2302. Justice AC, Rabeneck L, Hays RD, Wu AW, Bozzette SA. Sensitivity, specificity, reliability, and clinical validity of provider-reported symptoms: a comparison with self-reported symptoms. J Acquir Immune Defic Syndr 1999; 21: 126–133.

MUC ID	Measure Title	Rationale
MUC16-398	Appropriate Use Criteria - Cardiac Electrophysiology	ACCF/HRS/AHA/ASE/HFSA/SCAI/SCCT/SCMR 2013 – Appropriate Use Criteria for Implantable Cardioverter Defibrillators and Cardiac Resynchronization Therapy: A Report of the American College of Cardiology Foundation Appropriate Use Criteria Task Force, Heart Rhythm Society, American Heart Association, American Society of Echocardiography, Heart Failure Society of America, Society for Cardiovascular Angiography and Interventions, Society of Cardiovascular Computed Tomography and Society for Cardiovascular Magnetic Resonance. Endorsed by the American Geriatrics Society. Russo, A., et al, J Amer Coll Cardiol, 2013; 61(12):1318-1368. content.onlinejacc.org/article.aspx?articleid=1659563 There are many factors affecting patient care and patient management. One of the most critical to patient management is to order the right testing to diagnose the pathology, disease process or condition. There is a plethora of published data outlining the negative impact that inappropriate diagnostic testing has on the patient and the health care system on many levels. There are several components that must be in place to ensure that the imaging tests are performed safely, and ordered appropriately. However, it starts with a baseline measurement of review, evaluation documentation. Once cannot put process improvement plans in place if they are not aware that they are needed. It is only through evaluating metrics at the physician level that provides a mechanism for behavioral change and fosters a culture of quality. IAC provides a QI tool for physicians to use to review, document and benchmark the AUC in their practices. The data is secure and can be queried and benchmarked for their own purpose or against their peers. Physicians/facilities sign a Business agreement with the IAC to use the QI tool. IAC ISO 9001 – 2008 project management and ISO 2700:2013 – Information Security certified, fully compliant with HITECH and HIPAA requirements and the data is confidential. IAC medical imaging accreditation obtains and verifies many metrics of quality to ensure better patient care leading to better patient outcomes.
MUC16-428	Identification of Opioid Use Disorder among Patients Admitted to Inpatient Psychiatric Facilities	Opioid use disorder and opioid overdose are latent risks with the use of opioid medications. These adverse drug events (ADE) are potentially preventable and current policy and literature has made a call to make a continuous effort to reduce morbidity and mortality secondary to opioids, which has achieved epidemic levels.[1-4] Opioid related ADEs including opioid use disorder (OUD) have led to an increase of deaths. Between 1999 to 2014, more than 165,000 persons died from overdose related to opioid use in the United States.[5, 6] Monitoring for any indicators of substance use allows clinicians to prevent or treat OUD and prevent related ADEs. The Diagnostic and Statistical Manual of Mental Disorders noted that “routine urine toxicology test results are often positive for opioid drugs in individuals with opioid use disorder.”[7] Urine drug testing has been consistently recommended by clinical guidelines for monitoring patients on opioid therapy and regarded as a useful marker for evaluating compliance to the therapy and detecting the misuse of prescribed medications or use of illicit agents.[1, 8, 9] Studies have suggested that results from the urine

MUC ID	Measure Title	Rationale
		drug testing are informative in making clinical assessment on aberrant drug-taking behaviors and determining the need for clinical referral to specialists.[10, 11] Monitoring adherence to the plan of care is also recommended by guidelines to ensure the effectiveness and safety of the prescribed treatment.[1, 7] The prescription drug monitoring program (PDMP) is a central data repository that collects statewide data on the controlled substance prescriptions and can be a useful tool to monitor prescription drug utilization.[12] Citations: 1. Dowell D, Haegerich TM, Chou R. CDC guideline for prescribing opioids for chronic pain. MMWR Recomm Rep 2016;65(1):1-49. Available at: https://www.cdc.gov/mmwr/volumes/65/rr/rr6501e1.htm. 2. Liu Y, Logan JE, Paulozzi LJ, Zhang K, Jones CM. Potential misuse and inappropriate prescription practices involving opioid analgesics. Am J Manag Care. 2013;19(8):648-65. 3. Mack KA, Zhang K, Paulozzi L, Jones C. Prescription practices involving opioid analgesics among Americans with Medicaid, 2010. J Health Care Poor Underserved. 2015;26(1):182-98. 4. Bohnert AS, Valenstein M, Bair MJ, et al. Association between opioid prescribing patterns and opioid overdose-related deaths. JAMA. 2011;305(13):1315-21. 5. Centers for Disease Control and Prevention (CDC). Wide-ranging online data for epidemiologic research (WONDER). Atlanta, GA: CDC, National Center for Health Statistics; 2016. Available at: http://wonder.cdc.gov/mcd.html 6. Frenk SM, Porter KS, Paulozzi LJ. Prescription opioid analgesic use among adults: United States, 1999–2012. NCHS data brief, no 189. Hyattsville, MD: National Center for Health Statistics. 2015. 7. American Psychiatric Association. Substance use disorders. In: Diagnostic and Statistical Manual of Mental Disorders, 5th ed. Arlington, VA: American Psychiatric Association; 2013. 8. Chou R, Fanciullo GJ, Fine PG, et al. Clinical guidelines for the use of chronic opioid therapy in chronic noncancer pain. J Pain. Feb 2009;10(2):113-130. 9. Christo PJ, Manchikanti L, Ruan X, et al. Urine drug testing in chronic pain. Pain Physician. 2011;14:123-143. 10. Katz NP, Sherburne S, Beach M, et al. Behavioral monitoring and urine toxicology testing in patients receiving long-term opioid therapy. Anesth Analg. 2003;97:1096-1102. 11. Gilbert JW, Wheeler GR, Mick GE, et al. Urine drug testing in the treatment of chronic noncancer pain in a Kentucky private neuroscience practice: the potential effect of Medicare benefit changes in Kentucky. Pain Physician. 2010;13:187-194. 12. Sehgal N, Manchikanti L, Smith HS. Prescription opioid abuse in chronic pain: a review of opioid abuse predictors and strategies to curb opioid abuse. Pain Physician. 2012;15:eS67-ES92.

APPENDIX C: MEASURES LISTED BY PROGRAM

December 1, 2016

Appendix C Table of Contents

Chronic and Post-Acute Care Measures Programs

End-Stage Renal Disease Quality Incentive Program

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-305	ESRD QIP	Standardized Transfusion Ratio for Dialysis Facilities	Effective Prevention and Treatment
MUC16-308	ESRD QIP	Hemodialysis Vascular Access: Standardized Fistula Rate	Effective Prevention and Treatment
MUC16-309	ESRD QIP	Hemodialysis Vascular Access: Long-term Catheter Rate	Effective Prevention and Treatment

Home Health Quality Reporting Program

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-61	HH QRP	The Percent of Home Health Patients with an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function	Patient and Family Engagement, Communication and Care Coordination
MUC16-63	HH QRP	The Percent of Home Health Residents Experiencing One or More Falls with Major Injury	Making Care Safer
MUC16-145	HH QRP	The Percent of Residents or Home Health Patients with Pressure Ulcers That Are New or Worsened (Short-Stay)	Making Care Safer
MUC16-347	HH QRP	Transfer of Information at Post-Acute Care Admission, Start, or Resumption of Care from Other Providers/Settings	Making Care Safer, Communication and Care Coordination
MUC16-357	HH QRP	Transfer of Information at Post-Acute Care Discharge or End of Care to Other Providers/Settings	Making Care Safer, Communication and Care Coordination

Note:

a. A single unique measure can be associated with more than one CMS Program, and can have more than one NQS Priority. For the 2016 Measures under Consideration List, submitters could select as many NQS Priorities (Domains) as apply. No attempt was made to rank order or identify primary or secondary priorities. Contact the respective CMS Program Lead for more information about NQS Priorities.

Hospice Quality Reporting Program

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-31	HQRP	CAHPS Hospice Survey: Rating of Hospice	Patient and Family Engagement, Communication and Care Coordination
MUC16-32	HQRP	CAHPS Hospice Survey: Hospice Team Communications	Patient and Family Engagement, Communication and Care Coordination
MUC16-33	HQRP	CAHPS Hospice Survey: Willingness to Recommend	Patient and Family Engagement, Communication and Care Coordination
MUC16-35	HQRP	CAHPS Hospice Survey: Getting Hospice Care Training	Patient and Family Engagement, Communication and Care Coordination
MUC16-36	HQRP	CAHPS Hospice Survey: Getting Timely Care	Patient and Family Engagement, Communication and Care Coordination
MUC16-37	HQRP	CAHPS Hospice Survey: Getting Emotional and Spiritual Support	Patient and Family Engagement, Communication and Care Coordination
MUC16-39	HQRP	CAHPS Hospice Survey: Getting Help for Symptoms	Patient and Family Engagement, Communication and Care Coordination
MUC16-40	HQRP	CAHPS Hospice Survey: Treating Family Member with Respect	Patient and Family Engagement, Communication and Care Coordination

Inpatient Rehabilitation Facility Quality Reporting Program

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-143	IRF QRP	Application of Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short-Stay)	Making Care Safer
MUC16-319	IRF QRP	Transfer of Information at Post-Acute Care Admission, Start, or Resumption of Care from Other Providers/Settings	Making Care Safer, Communication and Care Coordination
MUC16-325	IRF QRP	Transfer of Information at Post-Acute Care Discharge or End of Care to Other Providers/Settings	Making Care Safer, Communication and Care Coordination

Long-Term Care Hospital Quality Reporting Program

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-144	LTCH QRP	Application of Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short-Stay)	Making Care Safer
MUC16-321	LTCH QRP	Transfer of Information at Post-Acute Care Admission, Start, or Resumption of Care from Other Providers/Settings	Making Care Safer, Communication and Care Coordination
MUC16-327	LTCH QRP	Transfer of Information at Post-Acute Care Discharge or End of Care to Other Providers/Settings	Making Care Safer, Communication and Care Coordination

Skilled Nursing Facility Quality Reporting Program

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-142	SNF QRP	Application of Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short-Stay)	Making Care Safer
MUC16-314	SNF QRP	Transfer of Information at Post-Acute Care Admission, Start, or Resumption of Care from Other Providers/Settings	Making Care Safer, Communication and Care Coordination
MUC16-323	SNF QRP	Transfer of Information at Post-Acute Care Discharge or End of Care to Other Providers/Settings	Making Care Safer, Communication and Care Coordination

Skilled Nursing Facility Value-Based Purchasing Program

MUC ID	CMS Program	Measure Title	NQS Priority
No candidate measures were approved from this program in the current year.			

Ambulatory Care and Meaningful Use Measures Programs

Medicare Shared Savings Program

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-69	MSSP	Adult Local Current Smoking Prevalence	Effective Prevention and Treatment, Best Practice of Healthy Living

Merit-Based Incentive Payment System (MIPS)

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-69	MIPS	Adult Local Current Smoking Prevalence	Effective Prevention and Treatment, Best Practice of Healthy Living
MUC16-72	MIPS	Prescription of HIV Antiretroviral Therapy	Effective Prevention and Treatment
MUC16-73	MIPS	HIV Medical Visit Frequency	Effective Prevention and Treatment
MUC16-74	MIPS	Fixed-dose Combination of Hydralazine and Isosorbide Dinitrate Therapy for Self-identified Black or African American Patients with Heart Failure and Left Ventricular Ejection Fraction (LVEF) <40% on ACEI or ARB and Beta-blocker Therapy	Effective Prevention and Treatment
MUC16-75	MIPS	HIV Viral Suppression	Effective Prevention and Treatment
MUC16-87	MIPS	Average change in back pain following lumbar discectomy and/or laminotomy	Patient and Family Engagement
MUC16-88	MIPS	Average change in back pain following lumbar fusion.	Patient and Family Engagement
MUC16-89	MIPS	Average change in leg pain following lumbar discectomy and/or laminotomy	Patient and Family Engagement
MUC16-151	MIPS	Febrile Neutropenia Risk Assessment Prior to Chemotherapy	Making Care Safer, Communication and Care Coordination
MUC16-268	MIPS	Otitis Media with Effusion: Systemic Corticosteroids - Avoidance of Inappropriate Use	Making Care Safer, Best Practice of Healthy Living, Effective Prevention and Treatment
MUC16-269	MIPS	Otitis Media with Effusion: Systemic Antimicrobials - Avoidance of Inappropriate Use	Making Care Safer, Best Practice of Healthy Living, Effective Prevention and Treatment
MUC16-276[1]	MIPS	Preoperative Key Medications Review for Anticoagulation Medication (Group measure as defined by Am. Coll. of Surgeons)	Making Care Safer

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-277[1]	MIPS	Postoperative Plan Communication with Patient and Family (Group measure as defined by Am. Coll. of Surgeons)	Patient and Family Engagement, Communication and Care Coordination
MUC16-278[1]	MIPS	Patient Frailty Evaluation (Group measure as defined by Am. Coll. of Surgeons)	Making Care Safer, Communication and Care Coordination
MUC16-279[1]	MIPS	Identification of Major Co-Morbid Medical Conditions (Group measure as defined by Am. Coll. of Surgeons)	Making Care Safer, Effective Prevention and Treatment
MUC16-280[1]	MIPS	Intraoperative Timeout Safety Checklist (Group measure as defined by Am. Coll. of Surgeons)	Making Care Safer, Communication and Care Coordination
MUC16-281[1]	MIPS	Postoperative Care Coordination and Follow-up with Primary/Referring Provider (Group measure as defined by Am. Coll. of Surgeons)	Communication and Care Coordination
MUC16-282[1]	MIPS	Perioperative Composite (Group measure as defined by Am. Coll. of Surgeons)	Making Care Safer, Communication and Care Coordination
MUC16-283[1]	MIPS	Postoperative Care Plan (Group measure as defined by Am. Coll. of Surgeons)	Making Care Safer, Communication and Care Coordination
MUC16-284[1]	MIPS	Postoperative Review of Patient Goals of Care (Group measure as defined by Am. Coll. of Surgeons)	Patient and Family Engagement, Communication and Care Coordination
MUC16-285	MIPS	Unplanned Hospital Readmission within 30 Days of Principal Procedure	Making Care Safer
MUC16-286[1]	MIPS	Participation in a National Risk-adjusted Outcomes Surgical Registry (Group measure as defined by Am. Coll. of Surgeons)	Making Care Safer
MUC16-287	MIPS	Bone Density Evaluation for Patients with Prostate Cancer and Receiving Androgen Deprivation Therapy	Making Care Safer, Effective Prevention and Treatment
MUC16-288[1]	MIPS	Surgical Plan and Goals of Care (Preoperative Phase) (Group measure as defined by Am. Coll. of Surgeons)	Patient and Family Engagement, Communication and Care Coordination
MUC16-289[1]	MIPS	Preventative Care and Screening: Tobacco Screening and Cessation Intervention (Group measure as defined by Am. Coll. of Surgeons)	Making Care Safer, Communication and Care Coordination
MUC16-291	MIPS	Patient Experience with Surgical Care Based on the Consumer Assessment of Healthcare Providers and Systems (CAHPS) ® Surgical Care Survey (S-CAHPS)	Patient and Family Engagement, Communication and Care Coordination
MUC16-292[1]	MIPS	Resumption Protocol (Group measure as defined by Am. Coll. of Surgeons)	Making Care Safer, Communication and Care Coordination

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-293$_1$	MIPS	Patient-Centered Surgical Risk Assessment and Communication (Group measure as defined by Am. Coll. of Surgeons)	Patient and Family Engagement, Communication and Care Coordination
MUC16-310	MIPS	Intravesical Bacillus Calmette-Guerin for NonMuscle Invasive Bladder Cancer	Effective Prevention and Treatment
MUC16-312	MIPS	Prevention of Post-Operative Vomiting (POV) - Combination Therapy (Pediatrics)	Making Care Safer
MUC16-316$_1$	MIPS	Intraoperative Surgical Debriefing (Group measure as defined by Am. Coll. of Surgeons)	Making Care Safer, Communication and Care Coordination
MUC16-317	MIPS	Safety Concern Screening and Follow-Up for Patients with Dementia	Making Care Safer
MUC16-343	MIPS	Uterine artery embolization technique: Documentation of angiographic endpoints and interrogation of ovarian arteries	Making Care Safer
MUC16-345$_1$	MIPS	Post-Discharge Review of Patient Goals of Care (Group measure as defined by Am. Coll. of Surgeons)	Patient and Family Engagement, Communication and Care Coordination
MUC16-398	MIPS	Appropriate Use Criteria - Cardiac Electrophysiology	Making Care Safer, Communication and Care Coordination, Effective Prevention and Treatment

Hospital Measures Programs

Ambulatory Surgical Center Quality Reporting

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-152	ASCQR	Hospital Visits following Orthopedic Ambulatory Surgical Center Procedures	Making Care Safer, Communication and Care Coordination
MUC16-153	ASCQR	Hospital Visits following Urology Ambulatory Surgical Center Procedures	Making Care Safer, Communication and Care Coordination
MUC16-155	ASCQR	Ambulatory Breast Procedure Surgical Site Infection (SSI) Outcome Measure	Making Care Safer

Hospital-Acquired Condition Reduction Program

MUC ID	CMS Program	Measure Title	NQS Priority
No candidate measures were approved from this program in the current year.			

Hospital Inpatient Quality Reporting

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-41	HIQR	Use of Antipsychotics in Older Adults in the Inpatient Hospital Setting	Making Care Safer
MUC16-50	HIQR	Tobacco Use Screening (TOB-1)	Effective Prevention and Treatment
MUC16-51	HIQR	Tobacco Use Treatment Provided or Offered (TOB-2)/Tobacco Use Treatment (TOB-2a)	Effective Prevention and Treatment
MUC16-52	HIQR	Tobacco Use Treatment Provided or Offered at Discharge (TOB-3)/Tobacco Use Treatment at Discharge (TOB-3a)	Effective Prevention and Treatment
MUC16-53	HIQR	Influenza Immunization (IMM-2)	Best Practice of Healthy Living
MUC16-68	HIQR	Patient Panel Smoking Prevalence IQR	Effective Prevention and Treatment, Best Practice of Healthy Living
MUC16-165	HIQR	Follow-Up After Hospitalization for Mental Illness	Communication and Care Coordination
MUC16-167	HIQR	Safe Use of Opioids – Concurrent Prescribing	Making Care Safer, Communication and Care Coordination
MUC16-178	HIQR	Alcohol Use Brief Intervention Provided or Offered and Alcohol Use Brief Intervention	Effective Prevention and Treatment
MUC16-179	HIQR	Alcohol Use Screening	Effective Prevention and Treatment
MUC16-180	HIQR	Alcohol & Other Drug Use Disorder Treatment Provided or Offered at Discharge and Alcohol & Other Drug Use Disorder Treatment at Discharge	Effective Prevention and Treatment
MUC16-260	HIQR	Hospital-Wide Risk Standardized Mortality Measure	Making Care Safer, Patient and Family Engagement, Communication and Care Coordination, Effective Prevention and Treatment
MUC16-262	HIQR	Measure of Quality of Informed Consent Documents for Hospital-Performed, Elective Procedures	Patient and Family Engagement, Communication and Care Coordination, Best Practice of Healthy Living
MUC16-263	HIQR	Communication about Pain During the Hospital Stay	Patient and Family Engagement, Communication and Care Coordination
MUC16-264	HIQR	Communication about Treating Pain Post-Discharge	Patient and Family Engagement, Communication and Care Coordination
MUC16-294	HIQR	Completion of a Malnutrition Screening within 24 Hours of Admission	Making Care Safer, Communication and Care Coordination
MUC16-296	HIQR	Completion of a Nutrition Assessment for Patients Identified as At-Risk for Malnutrition within 24 Hours of a Malnutrition Screening	Making Care Safer, Communication and Care Coordination

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-344	HIQR	Appropriate Documentation of a Malnutrition Diagnosis	Making Care Safer, Communication and Care Coordination
MUC16-372	HIQR	Nutrition Care Plan for Patients Identified as Malnourished after a Completed Nutrition Assessment	Making Care Safer, Communication and Care Coordination

Hospital Outpatient Quality Reporting

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-55	HOQR	Median Time from ED Arrival to ED Departure for Discharged ED Patients	Effective Prevention and Treatment
MUC16-56	HOQR	Median Time to Pain Management for Long Bone Fracture	Making Care Safer, Effective Prevention and Treatment
MUC16-167	HOQR	Safe Use of Opioids – Concurrent Prescribing	Making Care Safer, Communication and Care Coordination

Hospital Readmissions Reduction Program

MUC ID	CMS Program	Measure Title	NQS Priority
No candidate measures were approved from this program in the current year.			

Hospital Value-Based Purchasing

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-263	HVBP	Communication about Pain During the Hospital Stay	Patient and Family Engagement, Communication and Care Coordination
MUC16-264	HVBP	Communication about Treating Pain Post-Discharge	Patient and Family Engagement, Communication and Care Coordination

Inpatient Psychiatric Facility Quality Reporting

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-48	IPFQR	Continuation of Medications Within 30 Days of Inpatient Psychiatric Discharge	Patient and Family Engagement, Communication and Care Coordination
MUC16-49	IPFQR	Medication Reconciliation at Admission	Making Care Safer, Communication and Care Coordination
MUC16-428	IPFQR	Identification of Opioid Use Disorder among Patients Admitted to Inpatient Psychiatric Facilities	Making Care Safer, Communication and Care Coordination

Medicare and Medicaid EHR Incentive Program for Eligible Hospitals and Critical Access Hospitals

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-41	EHR Incentive/EH/CAH	Use of Antipsychotics in Older Adults in the Inpatient Hospital Setting	Making Care Safer
MUC16-50	EHR Incentive/EH/CAH	Tobacco Use Screening (TOB-1)	Effective Prevention and Treatment
MUC16-51	EHR Incentive/EH/CAH	Tobacco Use Treatment Provided or Offered (TOB-2)/Tobacco Use Treatment (TOB-2a)	Effective Prevention and Treatment
MUC16-52	EHR Incentive/EH/CAH	Tobacco Use Treatment Provided or Offered at Discharge (TOB-3)/Tobacco Use Treatment at Discharge (TOB-3a)	Effective Prevention and Treatment
MUC16-53	EHR Incentive/EH/CAH	Influenza Immunization (IMM-2)	Best Practice of Healthy Living
MUC16-167	EHR Incentive/EH/CAH	Safe Use of Opioids – Concurrent Prescribing	Making Care Safer, Communication and Care Coordination

PPS-Exempt Cancer Hospital Quality Reporting

MUC ID	CMS Program	Measure Title	NQS Priority
MUC16-271	PCHQR	Proportion of patients who died from cancer receiving chemotherapy in the last 14 days of life	Communication and Care Coordination
MUC16-273	PCHQR	Proportion of patients who died from cancer admitted to the ICU in the last 30 days of life	Communication and Care Coordination
MUC16-274	PCHQR	Proportion of patients who died from cancer admitted to hospice for less than 3 days	Communication and Care Coordination
MUC16-275	PCHQR	Proportion of patients who died from cancer not admitted to hospice	Communication and Care Coordination
MUC16-375	PCHQR	Localized Prostate Cancer: Bowel function	Making Care Safer, Patient and Family Engagement, Communication and Care Coordination
MUC16-377	PCHQR	Localized Prostate Cancer: Sexual function	Making Care Safer, Patient and Family Engagement, Communication and Care Coordination
MUC16-379	PCHQR	Localized Prostate Cancer: Urinary Frequency, Obstruction, and/or Irritation	Making Care Safer, Patient and Family Engagement, Communication and Care Coordination
MUC16-380	PCHQR	Localized Prostate Cancer: Urinary Incontinence	Making Care Safer, Patient and Family Engagement, Communication and Care Coordination
MUC16-381	PCHQR	Localized Prostate Cancer: Vitality	Making Care Safer, Patient and Family Engagement, Communication and Care Coordination
MUC16-393	PCHQR	PRO utilization in in non-metastatic prostate cancer patients	Patient and Family Engagement, Communication and Care Coordination