The Joint Commission

Pioneers in Quality™:
Proven Practices Collection

Recognizing Success 2019

eCQM Success Stories and Quality Improvement Experiences for Joint Commission-accredited Hospitals

The Pioneers in Quality™: Proven Practices Collection debuted in the fall of 2018 to recognize hospitals that have successfully leveraged electronic clinical quality measures (eCQMs) and health information technology (HIT) to drive quality improvement. This program provides an opportunity for organizations to share their eCQM stories, tips, and strategies.

The 2019 Proven Practices Collection recognizes five Expert Contributor hospitals and highlights their work to advance the evolution and utilization of eCQMs. This cadre of Expert Contributors and their work builds on the existing body of knowledge within the published Proven Practices of nine organizations recognized in the 2018 Proven Practices Collection. The successes of these organizations now are available to all hospitals to help inform and guide their efforts to drive quality improvement within their own facilities. Initiatives recognized in the Proven Practices Collection have been determined to have strong replicability and concrete recommendations that are freely available for organizations to tailor in their performance measurement and quality improvement work.

All hospitals recognized as Expert Contributors presented their Proven Practices as part of The Joint Commission's Pioneers in Quality™ webinar series. The webinar replays are available on the Proven Practices Webinar Series webpage. The Joint Commission congratulates the five 2019 Expert Contributor organizations that truly are eCQM pioneers in quality!

PIONEERS IN QUALITY™: 2019 PROVEN PRACTICES COLLECTION EXPERT CONTRIBUTORS

Baptist Health — Jacksonville, Florida

Johns Hopkins Health System — Baltimore, Maryland

Memorial Hermann/QPSIC & ISD Enterprise Analytics — Houston, Texas

Terre Haute Regional Hospital/HCA — Terre Haute, Indiana

University of Pittsburgh Medical Center (UPMC) — Pittsburgh, Pennsylvania

Summary

For the 2019 Proven Practices Collection, 13 applications were submitted from 12 organizations across nine states ranging from large, academic settings to small community hospitals. Several electronic health record (EHR) and quality reporting vendors were represented in the submissions, including hospitals using the Joint Commission's Direct Data Submission Platform to submit data for 2018.

The applications detailed how their organization utilized eCQMs for performance improvement, including their challenges and solutions, the level of engagement needed, and resources that contributed to their success. By sharing their results and providing how their strategies can be replicated by other hospitals, they are helping to pioneer eCQM data utilization.

Trends across submissions

The Joint Commission identified several key themes among the submissions which helped gauge where organizations are across the eCQM landscape. Many of these themes are synergistic and build upon lessons learned, strategic planning, leadership commitment, building effective teams, and maintaining a continuous effort.

Overall, organizations are moving beyond eCQM implementation to eCQM utilization to drive performance improvement.

Data utilization and optimization

In the beginning of eCQM implementation, hospitals were heavily focused on data capture. Ensuring data quality and accuracy also became a growing trend and continues to be a hallmark within the 2019 submissions. However, organizations have begun to improve their data validation methodologies and leverage their eCQM data.

- Data validation between chart-based measures and eCQMs identified discrepancies related to EHR documentation and clinical workflow/process. These efforts facilitated more standardization in process, as well as the development of discrete documentation fields within the EHR, including robust mapping efforts to connect these fields to standard terminologies. Improved mapping simultaneously improved how accurately the EHR reflected staff workflows, leading to better data capture needed to report eCQMs.

- Development of data dashboards provided organizations the ability to drill down into the data to analyze missed opportunities for improvement. In some cases, hospitals have progressed from using a retrospective approach to a concurrent review of data. This facilitates real-time documentation impacting patient care, which not only leads to better measure results but also can improve patient outcomes.

- With improved data accuracy and reliability, hospitals have begun to trust the data as a basis to inform development of more advanced clinical decision support (CDS) functionalities within their EHRs and to benchmark their own performance rates over time.

Engagement and resource utilization

Hospitals are beginning to engage with external stakeholders to gain a better understanding of the eCQM landscape and leverage opportunities to proactively prepare for what lies ahead. Hospitals have shared various levels of engagement that can be utilized regardless of available resources.

- Hospitals are using industry tools and resources such as the Electronic Clinical Quality Improvement (eCQI) Resource Center, and the Value Set Authority Center (VSAC) to seek guidance and ask questions about the measure specifications, implementation, and other eCQM-related issues. These avenues enable hospitals to get feedback to improve their measure performance and implementation efforts.

- Hospitals are participating as pilot sites in eCQM development testing. This type of engagement requires a higher level of resources and commitment but can be more cost-effective. It allows organizations to gain insight on future eCQM implementation, identify gaps in current processes and workflows, use the collected data as a baseline for improvement activities, and help to shape and inform the measure specifications before being finalized.

- Hospitals also are getting more involved in the eCQM landscape by participating in external discussions that impact the various components of eCQMs such as the Quality Data Model (QDM) workgroup, Health Level 7 (HL7) workgroups, and advisory panels.

- For hospitals limited in resources, engagement still is feasible by engaging in written and verbal comments when measure stewards like The Joint Commission or the Centers for Medicare & Medicaid Services (CMS) solicit feedback on new measures in development or for potential changes in program measures.

Governance, structure, leadership

Universally, the organizations described that having an interdisciplinary team structure was critical to their eCQM efforts and improvement projects. This multi-stakeholder approach allows for a better understanding of roles, responsibility, and accountability to meet a shared goal.

- Many teams had a combination of: leadership, quality, quality informatics, clinical informatics, information technology (IT), EHR analysts, and clinical subject matter experts. Engagement of leadership and representation across hospital departments not only improved collaboration between the departments but also led to accessibility and collaboration with external vendors.

- Some organizations invited their quality or EHR vendor to participate as part of the interdisciplinary team.

- Current efforts built upon a larger strategy related to eCQM data collection and use over time. Organizations described their process as a journey that evolved and had multiple phases that focused on specific aspects of data capture/collection, accuracy, use, and clinical workflow optimization.

Optimizing workflow and education

Education is another hallmark noted within all the proven practice submissions. Many focused on the importance of continually assessing staff educational needs through a variety of methods. In addition:

- Staff should understand the "why" behind capturing data in the specific fields. Incorporate the eCQM logic, measure intent, and specifications in education.
- There should be an understanding of the relationships between the Quality Reporting Documentation Architecture (QRDA) files, eCQM logic, and clinical quality language (CQL); these can inform decisions about data flow related to clinical documentation and process. This understanding provides greater insight for analyzing missing or erroneous data and for subsequent design and implementation of documentation to better align workflow and reporting requirements.

- Hospitals need to continually assess and update their educational content for: eCQM updates, EHR updates, and when initiating projects to improve workflow or streamline processes.
- Organizations need to provide real-time and targeted or focused education. This not only improves data capture and accuracy but also can improve the clinical care provided.
- Several organizations indicated the effectiveness of participating in external education and outreach such as: webinars offered by The Joint Commission (i.e., Pioneers in Quality eCQM Expert to Expert series, Proven Practice series, and general sessions), webinars led by CMS, and vendor-offered eCQM education sessions.
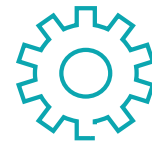
2019 PROVEN PRACTICES CATEGORIES

Demonstrated success in improving clinical performance or outcomes utilizing eCQMs

Innovative use of staffing (e.g., quality, informatics, clinical roles) or governance to support eCQM implementation

Robust and integrated clinical decision support into EHR workflows and quality measurement

Improving or ensuring eCQM data quality and accuracy

**Optimizing clinical workflow and eCQM collection to support quality care**

Educating clinicians on quality improvement and electronic data collection

SUBMISSION CATEGORIES

Reflects applicable categories selected by expert contributors.

Robust and integrated clinical decision support into EHR workflows and quality measurement (3)

Innovative use of staffing (e.g., quality, informatics, clinical roles) or governance to support eCQM implementation (5)

Optimizing clinical workflow and eCQM collection to support quality care (6)

Demonstrated success in improving clinical performance or outcomes utilizing eCQMs (7)

Educating clinicians on quality improvement and electronic data collection (7)

Improving or ensuring eCQM data quality and accuracy (11)

0   2   4   6   8   10   12
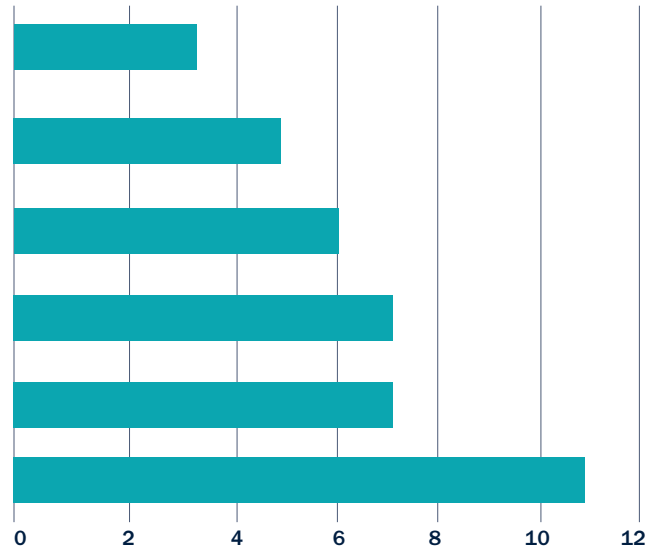
2019 JOINT COMMISSION ELECTRONIC CLINICAL QUALITY MEASURES (eCQMS)

Heart Attack Care

eAMI-8a: Primary PCI Received Within 90 Minutes

Children's Asthma Care

eCAC-3: Home Management Plan of Care

Emergency Department

eED-1: Median Time from ED Arrival to ED Departure for Admitted ED Patients

eED-2: Admit Decision Time to ED Departure Time for Admitted Patients

Newborn Hearing Screening

eEHDI-1a: Hearing Screening Prior to Discharge

Perinatal Care

ePC-01: Elective Delivery

ePC-05: Exclusive Breast Milk Feeding

Stroke Care

eSTK-2: Discharged on Antithrombotic Therapy

eSTK-3: Anticoagulation Therapy for Atrial Fibrillation/Flutter

eSTK-5: Antithrombotic Therapy by End of Hospital Day Two

eSTK-6: Discharged on Statin Medication

Venous Thromboembolism (VTE) Care

eVTE-1: VTE Medicine/Treatment

eVTE-2: VTE Medicine/Treatment in ICU

PIONEERS IN QUALITY™

About Pioneers in Quality™

Pioneers in Quality™ is a Joint Commission program started in 2016 to assist hospitals on their eCQM journey to improve eCQM data use for quality improvement. Hospitals collect eCQM data through electronic health records (EHRs) and transmit the data to The Joint Commission (as part of its ORYX® performance measurement requirements) and to the Centers for Medicare & Medicaid Services (CMS).

The Pioneers in Quality™ program was originally launched to provide resources to aid hospitals in the transition from chart-abstracted measures to eCQMs. The program has since grown to include these key components:

- Educational content, such as webinars for continuing education units (CEUs).
  - o Pioneers in Quality general session/topic webinars.
  - o Expert to Expert webinar series to connect hospitals with technical expertise on eCQMs and CQL/other expression language and logic.
  - o Proven Practices webinar series to share peer-to-peer successes, tips, and guidance.
- A comprehensive online resource portal.
- Recognition for eCQM pioneering practices.
- An advisory panel that provides real-world perspective and program implementation guidance.
- Proven Practices Collection to describe eCQM data collection and use success stories.
- Outreach through the Joint Commission's speaker's bureau.

Pioneers in Quality™ recognizes hospitals in two categories:

- **Expert Contributors:** Hospitals or health care systems that submit eCQM Proven Practices that are determined by the Pioneers in Quality™ Advisory Panel to have exceptionally strong applicability and specific, concrete recommendations for other hospitals and health care systems to improve their own eCQM use. Solutions are featured in the Joint Commission's Proven Practices Collection and are presented during a Pioneers in Quality™ webinar. Hospitals also can achieve Expert recognition by participating in measure development and testing activities.
- **Solution Contributors:** Hospitals that submit a Proven Practice that The Joint Commission uses to inform eCQM Pioneers in Quality™ program activities and determine trends to include within its Proven Practices Collection. These organizations contribute to the body of knowledge about the current eCQM environment, including the barriers and challenges to eCQM data collection and use for quality improvement.

For more information, visit the Pioneers in Quality™ web portal.

Eligibility for Proven Practice Program Recognition

Hospital or health care system must:

- Be accredited by The Joint Commission
- Have submitted eCQM data to either The Joint Commission or the Centers for Medicare & Medicaid Services
- Be willing to share their solution in the Proven Practices Collection and/or present (if invited) on a Pioneers in Quality™ webinar

2019 Proven Practices Collection

EXPERT CONTRIBUTOR

Baptist Health — Jacksonville, Florida
"Improving or ensuring eCQM data quality and accuracy for stroke measures"

Baptist Health, a five-hospital system with four adult hospitals and one pediatric hospital, has a well-established stroke program and selected stroke (STK) measures for improvement. In 2015, 3.1% of the Florida population had a stroke. At that time, the Baptist Health System's discharge medication compliance for eSTK-2 was at 81%, and discharge medication compliance for eSTK-6 was at 68%.

The solutions undertaken to improve stroke were driven by vendor code upgrades, human efficiency intervention, and validation and discussion with the eCQI Resource Center (supported by the Centers for Medicare & Medicaid Services (CMS) and the Office of the National Coordinator for Health Information Technology) using Jira project management software to submit all questions and issues related to CMS program measures. The solutions were leadership-driven, with engaged and focused teams, and leveraged a strong partnership with Baptist Health's electronic health records (EHR) vendor.

By using actual patient data as test data, creating tools for consistency and data accuracy, and ensuring that the electronic specifications outcomes matched the "met" and "not met" algorithms, Baptist Health was able to create a replicable validation process that occurred after every EHR package upload to identify any new or continuing issues.

Solutions:
Baptist Health implemented three solutions:

- The first solution pertained to discharge medications. Several cases from within the test data used for this project should have met the numerator criteria but did not because an order detail was not addressed when the medication was "continued" or "prescribed" at medication reconciliation. The mapping required four fields to be addressed for each medication, including Rx Route, Strength Dose, Strength Dose Unit, and Drug Form. The Drug Form field was missing in some instances. The team identified that the field was not used in prior years, and there was no prompt for physicians to complete the Drug Form field. Baptist Health submitted a question to the eCQI Resource Center (Jira), which led to a code upgrade from the vendor. Additional queries were created to find an RxNorm code if the Drug Form field was blank. The RxNorm code could be used to satisfy the discharge medication in question.

- The second solution was in respect to the stroke population. The team determined that the volume of patients within the stroke population seemed low for a quarter. After running a report from the billing system for stroke patients, the team identified mismatches. Staff also found there were ICD-10 codes for stroke that did not appear in the value sets. This issue was resolved first by upgrading several EHR codes. The eCQI Resource Center via Jira was again utilized to pose a question on the issue. Jira reported that in response to the question, new value sets would be released containing the additional ICD-10 codes. Finally, Baptist Health staff educated its registration personnel to always mark incoming stroke patients as "emergent" and not "elective," because elective patients were being excluded from the initial population.

- The last solution addressed an issue encountered with race code. When Baptist Health staff validated the columns on the eCQM audit report, they noticed that when a patient had more than one race selected in the EHR, the eCQM report populated the Race field as "multiple," which is not an allowable value for this field. Only one race should populate this field on the eCQM report. Again, utilizing the Jira platform, clarification was sought regarding multiple races.

The response received through the eCQI Resource Center (Jira) included a link to Section 5.13.1 of the Electronic Clinical Quality Measure Logic and Implementation Guidance document that was provided to the vendor, and the appropriate changes were made to resolve the issue.

Results:

Baptist Health was able to document an actual change in performance on the following measures:

- **eSTK-2** — Baptist Medical Center Jacksonville/Baptist Medical Center South went from 85% in 2015 to 94% in 2018.
- **eSTK-6** — Baptist Medical Center Jacksonville/Baptist Medical Center South went from 78% in 2015 to 93% in 2018.
- **eSTK-2** — Baptist Medical Center Beaches went from 74% in 2015 to 98% in 2018.
- **eSTK-6** — Baptist Medical Center Beaches went from 78% in 2015 to 98% in 2018.
- **eSTK-2** — Baptist Medical Center Nassau went from 83% in 2015 to 93% in 2018.
- **eSTK-6** — Baptist Medical Center Nassau went from 50% in 2015 to 87% in 2018.
- **eSTK-2** — Baptist Health System (all hospitals) went from 81% in 2015 to 95% in 2018.
- **eSTK-6** — Baptist Health System (all hospitals) went from 68% in 2015 to 93% in 2018.

Replicability:

Baptist Health staff offers recommendations for other organizations to learn from their experience:

- Leverage the Public Health Information Network Vocabulary Access and Distribution System to provide semantic context when associating local terms to the Systematized Nomenclature of Medicine — Clinical Terms (SNOMED CT®) and other coding terminology.
- Audit the eCQM reports from your vendor. You can try to create a local data dictionary to crosswalk local system terms to the National Library of Medicine (NLM) value set vocabularies, which clarifies/documents human processes needed to create data within the local system. Our vendor also provided code release notes for communication and transparency.
- Participate in Joint Commission Pioneers in Quality™, CMS, and vendor eCQM webinars. These sessions provide important information for hospitals to inform their processes.
- Consume vendor code and validate reports early. This is an ongoing process. Hospitals can try to validate using actual patient data within their EHR to identify issues. Validating the eCQM audit report also can be helpful in identifying irregularities with the data. The eCQM specifications along with the algorithms are important in mapping and validating reports.
- Obtain a Unified Medical Language System (UMLS) license to view updated value sets.
- Assemble an interdisciplinary team. Baptist Health's team included the clinical quality measure specialist, clinical quality improvement nurse, clinical information systems analyst, and others. This team was vital in creating an efficient and replicable validation process.

2019 Proven Practices Collection

EXPERT CONTRIBUTOR

Johns Hopkins Health System – Baltimore, Maryland
"Update on the Johns Hopkins Health System's eCQM journey"

Five hospitals within Johns Hopkins Health System (JHHS) reported eSTK-2, -3, -5 and -6 for calendar year (CY) 2017 electronic clinical quality measures (eCQMs). A multidisciplinary team was formed with members from the system's electronic health record (EHR) vendor, the performance measure/eCQM vendor, clinical analytics, Armstrong Institute, neurology clinical care, and quality improvement. The team collectively devised a process to retrospectively retrieve, upload, validate, correct and submit the measures.

In 2018, JHHS elected to submit the same eSTK measures, and the team once again collaborated to map out and subsequently streamline its validation process by driving toward concurrent review. JHHS continued its 2018 eCQM journey, progressing from the foundation set in 2017, by devising a project and timeline that facilitated:

- Early identification of potential clinical, documentation, and mapping issues.
- Collaborative development of successful solutions.
- Design of EHR features.
- Mapping to support ease of documentation in discrete fields.
- Enhanced efficiency and effectiveness of the review and validation process.

The EHR vendor support team developed eCQM reports that could be run within the EHR interface, enabling quality improvement specialists to retrieve, review and validate the reports prior to file upload to the performance measure/eCQM vendor. The specialists audited each case in the submission file to determine potential failures and the issues driving them. This review helped identify several systemic issues and corrections were initiated collaboratively with the EHR support, analytics, coding and neuropsychiatric teams through remapping, coding review and education.

Solutions:

- A duplicate record issue, discovered during the 2017 eCQM file generation, was found to affect more areas within the health system than initially determined. This issue resulted from the way departments and visit types were originally mapped in the EHR. Identification, prioritization and remapping of these areas was implemented and is continuing across the health system with support and input from the EHR vendor and the internal JHHS EHR support team.

- Another issue encountered was the inability to adequately capture the administration of a certain type of antithrombotic agent, resulting in opportunities within the eSTK-5 measure, Antithrombotic Therapy by the End of Hospital Day 2. Mapping was adjusted to capture this antithrombotic administration, resulting in correction of potential case failures prior to file upload.

- JHHS also had instances where clinical "reasons for not" administering medications were documented via free-text provider note, which is not captured within the eCQM because the information is not captured in a discrete field. This did not support eCQM element capture and appeared in the data as compliance failures. The team provided education and feedback to prescribers, and a "hard stop" was built into the stroke order sets to trigger when a stroke diagnosis was included in the provider problem list and the "reason for no" field was incomplete. This hard stop serves as a reminder to prescribers to document measure-related drug administration exceptions and provides support in capturing exception documentation.

Results:

Throughout this journey, the eCQM end goal for JHHS continued not only to be successful with file generation and submission, but with a submission that accurately reflects clinical care and measure performance for Johns Hopkins entities.

Through the project, JHHS achieved the following results:

- Remapping corrected duplicate records.
- Mapping was adjusted to capture antithrombotic administration, resulting in correction of potential case failures prior to file upload.
- The team provided education and feedback to prescribers.
- A "hard stop" was built into the stroke order sets to trigger when a stroke diagnosis was included in the provider problem list and the "reason for no" field was incomplete, serving as a reminder to prescribers to document measure-related drug administration exceptions and providing support in capturing exception documentation.

Replicability:

- The validation process was tested using Johns Hopkins Hospital because of its size and complexity. Hospital systems can start with one organization to pilot the changes or new processes.
- Once the process was deemed successful, teams from the other health system hospitals were trained. With the assistance of the EHR vendor and members of the Johns Hopkins Hospital Quality Improvement team, the validation process was rolled out to Johns Hopkins Bayview Medical Center, Howard County General

Hospital, Suburban Hospital, and Sibley Memorial Hospital. The quality teams at each hospital were able to review and validate their entity-specific measures to ensure accuracy and address any entity-specific issues discovered prior to eCQM submission. After a health system determines the pilot was successful, implementation can later be rolled out to other facilities in a system.

2019 Proven Practices Collection

Memorial Hermann/QPSIC & ISD Enterprise Analytics — Houston, Texas
"A Collaborative Approach to Electronic Clinical Quality Measure Testing"

Electronic clinical quality measure (eCQM) development is a complex process and testing an eCQM often takes a year or more to complete. Testing eCQM feasibility, validity, and reliability requires a representative data sample from an electronic health record (EHR). Memorial Hermann undertook beta testing for two Centers for Medicare & Medicaid Services (CMS) eCQMs, specifically the measures Use of Antipsychotics in Older Adults in the Inpatient Hospital Setting, and Hospital Harm — Opioid-Related Adverse Events.

Memorial Hermann has quality and data analytics resources that work in separate organizational silos, which presented barriers to an efficient and timely eCQM-testing process.

Solutions:

Memorial Hermann implemented a collaborative, interdisciplinary partnership between the quality, internal analytics department resources, and the EHR vendor. The Memorial Hermann Clinical Quality Informatics (CQI) team collaborated with a CMS measure-development contractor to test selected eCQMs. Testing eCQM feasibility, validity, and reliability requires a representative data sample from an EHR. Memorial Hermann determined that the data analytics resources needed were not available to the CQI team due to other projects and commitments. The team explored alternative solutions, and ultimately decided to engage the EHR vendor to streamline the data extract development process.

Key approaches utilized to implement the collaborative eCQM testing model included:

- Early engagement and communication of eCQM measure-testing opportunity upon receipt of request to participate in beta testing.
- eCQM specifications (HQMF) review to define eCQM data requirements for testing.
- Feasibility scorecard completion to identify required EHR data capture for testing.
- Use of basic project management methodology to:
  - o Set project timeline and critical milestones.
  - o Clarify roles and responsibilities between the vendor and Memorial Hermann team members to ensure efficient resolution of data issues.
  - o Schedule regular touch points that included key stakeholders (EHR vendor, clinical partners, developers, quality analysts).
  - o Compile lessons learned for future collaborative efforts to support eCQM testing.

Results:

The Memorial Hermann team reused Cerner Command Language (CCL) and Cerner Millennium Business Objects Structured Query Language (SQL) queries to streamline eCQM data extraction development. This partnership with the EHR vendor, Cerner and Memorial Hermann's Information Systems Division (ISD) Enterprise Analytics report development resources led to a 62% reduction in turnaround time for completion of first eCQM data extract.

By using internal CQI resources instead of contract staff, Memorial Hermann was able to reduce personnel required for data analysis and manual abstraction by 50% (from 4% to 2%). These efforts reduced the number of eCQM testing project resources from 15 to 8 people, a 47% decrease.

Replicability:

The Memorial Hermann team noted that its ongoing participation in eCQM development requires an efficient, repeatable testing process that includes dedicated and knowledgeable personnel. Utilization of a collaborative, interdisciplinary team that includes clinical quality specialists, the EHR vendor, and internal data analytics resources is key to a streamlined cost-effective process that can be a model for future eCQM testing efforts.

The Memorial Hermann team offered the following recommendations to other organizations to learn from its experience:

- Secure commitment from the highest levels of the health care organization.
- Use a collaborative eCQM-testing model.
- Identify key resources from quality, clinical service lines, and the EHR vendor.

- Engage all stakeholders at the beginning or shortly after receipt of a request for eCQM testing.
- Use a formal project management methodology to establish roles, responsibilities, and timelines.
- Allow enough time for eCQM measure-specification review to ensure understanding, measure scope and data extraction requirements.
- Seek information to better understand clinical workflows and solicit clinical stakeholder active participation.
- Use knowledgeable clinical quality staff to streamline the time required to perform manual data abstraction for eCQM validation.
- eCQM testing and validation requires development and data extraction in both nonproduction and production domains. Factor this in when the eCQM testing project timeline is developed.

2019 Proven Practices Collection

EXPERT CONTRIBUTOR

Terre Haute Regional Hospital/HCA – Terre Haute, Indiana
"Concurrent and Retrospective Review of VTE Prophylaxis Initiatives"

As the Terre Haute Regional Hospital migrated to electronic data collection, it noted a need for more real-time review of documentation to ensure that the quality of care was being accurately reflected in its electronic data reports. It determined to implement a concurrent review process for venous thromboembolism (VTE) prophylaxis in conjunction with a retrospective review of all negative numerator cases, which helped staff to understand the data variances, as well as the inclusions and exclusions on a more granular level.

Terre Haute Regional Hospital adopted its concurrent eCQM review process for VTE prophylaxis in third quarter 2014. Four years of data show a vast improvement in Terre Haute Regional Hospital's VTE prophylaxis rate resulting from implementation of its concurrent review process and staff education regarding real-time documentation. Additionally, the development of an eCQM dashboard helped to facilitate an efficient and reliable review process.

By utilizing a similar tool to drive real-time documentation, facilities could easily implement a concurrent review process to ensure that all patients are being guarded against life-threatening venous thromboembolism during their hospital stay.

Solutions:

- Terre Haute Regional Hospital determined that it was essential to develop a concurrent review process to ensure that real-time appropriate eCQM documentation was being obtained to reflect the care provided to patients to prevent venous thromboembolism. Using the Plan, Do, Check, Act model, Terre Haute Regional Hospital devised and implemented its new processes.

- Robust education was provided to nursing staff and physicians regarding eCQM documentation requirements beginning in first quarter 2015. Nursing staff and physicians were educated at unit meetings, during new hire orientation, and using one-on-one interaction.

- Once education was completed with all applicable employees, the concurrent review process was initiated. All patients 18 years or older are assessed for VTE prophylaxis — ensuring it was ordered, applied, documented in the discrete field in the Meditech EHR, scanned in the electronic medication administration record (eMAR), or documented as contraindicated by the end of the day after admission.

- As the eCQM programming and algorithms changed, additional education was provided to staff to meet the measures. By retrospective review of the measure data, the team ascertained that staff had to ensure the VTE prophylaxis occurred after the inpatient order or ICU arrival date and time.

- The development of an eCQM dashboard at Terre Haute Regional Hospital was vital in assisting both abstractors and charge nurses to ensure that the VTE prophylaxis was being addressed and documented in real-time to reflect the care being provided.

Results:

By initiating real-time EHR documentation and eCQM concurrent review, as well as providing real-time feedback to staff regarding documentation, the team was able to decrease the outliers and/or negative numerators in the VTE-1 and VTE-2 eCQM data.

- In third quarter 2014, the VTE-1 compliance rate was 90.1% with 64 outliers and the VTE-2 compliance rate was 95.1% with seven outliers.

Since implementing both concurrent and retrospective review of the eCQMs, Terre Haute Regional Hospital's compliance rate has increased dramatically.

- In fourth quarter 2018, its VTE-1 compliance rate was 99.6% with three outliers and the VTE-2 compliance rate was 99.1% with two outliers.
- Most importantly, in fourth quarter 2018, the incidence of hospital-acquired, potentially-preventable, venous thromboembolism was 0%.

Replicability:

- Development and use of an eCQM dashboard led to a more efficient concurrent review process. For example, a staff member in the quality department, a unit's charge nurse, or a unit's nursing manager can very easily review a unit's VTE-1 or VTE-2 compliance in a matter of minutes. Once a unit is reviewed, verbal or paper communication could be distributed to each unit or admitting provider instructing the staff on which patients are still in need of VTE prophylaxis.
- Developing and implementing a similar eCQM dashboard could easily assist hospitals to implement a concurrent review process to ensure that all patients are being guarded against life-threatening venous thromboembolisms during their hospital stay.

2019 Proven Practices Collection

University of Pittsburgh Medical Center (UPMC) – Pittsburgh, Pennsylvania
"Optimizing Clinical/Operational Workflows to Improve eCQM Accuracy and Support Clinical Quality Improvement"

Since 2011, UPMC's robust experience with eCQM submission has provided myriad opportunities to review eCQM outcomes and identify areas for improvement in data capture and clinical workflows. UPMC submits more than the Joint Commission-required four eCQMs, providing additional opportunity for broader impact in its eCQM improvement efforts. In 2018, UPMC determined a need to optimize clinical and clerical workflows to improve both eCQM accuracy and staff efficiency.

UPMC conducted reviews of both clinician electronic health record (EHR) documentation and registration workflows. UPMC also focused on improving patient outcomes and data capture by initiating implementation of an integrated clinical decision support (CDS) application to address VTE prevention that provides risk assessment and treatment recommendations.

Solutions:

- Validation of data in 2018 confirmed that eCQM results did not reflect expected high clinical performance results, and UPMC's eCQM team attributed these results to flawed data capture.
- In 2018, UPMC's eCQM multidisciplinary team enhanced its continuous in-depth eCQM validation process to identify opportunities to optimize workflow and documentation for eCQM accuracy and quality improvement.
- The eCQM team performed detailed analysis of complex patient examples to identify the causes of inaccurate data capture.

- Using this data, the team met with clinicians and operational teams to review, re-evaluate, and revise EHR documentation fields and operational workflows related to eCQM measures. These efforts yielded improved efficiency and better data accuracy (see the results section below).
- Aiming to achieve even greater accuracy, in 2018, UPMC began education for and implementation of an integrated CDS application to address VTE prevention that provides risk assessment and treatment recommendations with multidisciplinary involvement. The application went live in UPMC's EHR in March 2019.

Results:

- Revising clinician EHR documentation resulted in a 50% reduction in the number of fields used for eSTK documentation.
- Addressing patient registration data entry workflows resulted in a 100% reduction of cases with errors — from 35% of incorrect cases to 0%, and thus, increased eED accuracy. There was a reduction in the percentage of cases where the "transfer from" field was incorrect over the period of nine months. By the end of the third quarter submission period, there were no cases with incorrect "transfer from" documentation.
- The efforts optimized existing processes and improved results for eVTE-1 and eVTE-2. For example, for eVTE-1 from first quarter at 86.6% to fourth quarter at 88.8%, and eVTE-2 from first quarter at 95.9% to fourth quarter at 97.1%.
- UPMC's ongoing eCQM data validation process continues to be successful in providing a forum for identifying issues that impede accurate eCQM data capture, areas needing education, and improvements in clinical/operational workflows.

Replicability:

UPMC offers the following recommendations and tips to organizations to learn from its efforts:

- Engage in year-round eCQM data validation processes.
- Focus eCQM data validation on accuracy and identifying issues and potential areas for improvement.
- Monitor data trends as a surveillance method.
- Ensure eCQM efforts are collaborative, with a multidisciplinary team.

- Include clinical and operational liaisons in eCQM efforts that connect to relevant stakeholders to contribute to positive change.
- Review clinician EHR documentation and end-user workflows related to selected eCQM measures and involve representatives from these areas in improvement processes.
- Ensure subject matter experts are involved in any change-making process for optimal outcomes.
- Ensure all stakeholders are represented when investigating new technology for quality improvement, so they can ask important questions and provide a comprehensive evaluation of the technology benefits, barriers, and feasibility.
- Continuously strive for eCQM accuracy to help improve patient outcomes.

Pioneers in Quality™: Proven Practices Collection

EXPERT CONTRIBUTORS

The following are the Proven Practices Collection Expert Contributors that have been recognized since the program's implementation. The 2019 list includes hospitals and health systems that were featured in this year's Proven Practices Collection, as well as those that participated in measure development and testing activities.

2019

Allegheny Health Network - Allegheny General[1] — Pittsburgh, Pennsylvania

Allegheny Health Network - Allegheny Valley[1] — Natrona Heights, Pennsylvania

Allegheny Health Network - Jefferson Hospital[1] — Jefferson Hills, Pennsylvania

Baptist Health — Jacksonville, Florida

BJC HealthCare[2] — St. Louis, Missouri

Johns Hopkins Health System — Baltimore, Maryland

J.W. Ruby Memorial Hospital, West Virginia University[3] — Morgantown, West Virginia

Memorial Hermann/QPSIC & ISD Enterprise Analytics — Houston, Texas

Memorial Hermann Hospital System[2] — Houston, Texas

Mount Sinai Hospital[4] — New York, New York

Munson Medical Center[3] — Traverse City, Michigan

NYU Langone Health - Tisch Hospital[1] — New York, New York

NYU Langone Health - Kimmel Pavilion[1] — New York, New York

NYU Langone Orthopedic Hospital[1] — New York, New York

NYU Langone Hospital - Brooklyn[1] — Brooklyn, New York

Terre Haute Regional Hospital/HCA — Terre Haute, Indiana

University of Pittsburgh Medical Center (UPMC) — Pittsburgh, Pennsylvania

University of Tennessee Medical Center[4] — Knoxville, Tennessee

[1] Patient Blood Management (PBM) measures
[2] Perinatal Care (PC-06) measure
[3] Total Hip and Knee Replacement (THKR) measures
[4] Comprehensive Cardiac Care (CCC) measures

2018

BJC HealthCare — St. Louis, Missouri

MedStar St. Mary's Hospital — Leonardtown, Maryland

Texas Health Resources — Arlington, Texas

Vail Health Hospital — Vail, Colorado

2017

BayCare Health System, Inc. — Clearwater, Florida

Memorial Hermann Health System — Houston, Texas

St. Luke's Cornwall Hospital — Newburgh, New York

St. Mary Medical Center — Langhorne, Pennsylvania

VCU Health — Richmond, Virginia

Pioneers in Quality™: Proven Practice

The following are the Proven Practice Solution Contributors that have been recognized since the program's implementation.

2019

Alecto Healthcare Services Martin's Ferry, LLC dba East Ohio Regional Hospital — Martins Ferry, Ohio

Baptist Health — Jacksonville, Florida*

Beaumont Health — Southfield, Michigan

Bryan Medical Center — Lincoln, Nebraska

Henry Ford Health System – Allegiance Health — Jackson, Michigan

Johns Hopkins Health System — Baltimore, Maryland*

Memorial Hermann/QPSIC & ISD Enterprise Analytics — Houston, Texas*

NorthBay Healthcare — Fairfield, California

Terre Haute Regional Hospital/HCA — Terre Haute, Indiana*

Texas Health Resources — Arlington, Texas

University of Pittsburgh Medical Center (UPMC) — Pittsburgh, Pennsylvania*

Western Maryland Health System — Cumberland, Maryland

2018

Ashford Presbyterian Community Hospital — San Juan, Puerto Rico

BJC Healthcare — St. Louis, Missouri*

Christiana Care Health System — Newark, Delaware

Dignity Health — San Francisco, California

East Jefferson General Hospital — Metairie, Louisiana

Excela Health Westmoreland Hospital — Greensburg, Pennsylvania

Harborview Medical Center — Seattle, Washington

Henry Ford Allegiance Health — Jackson, Michigan

Johns Hopkins — Baltimore, Maryland

Medical City Plano — Plano, Texas

MedStar St. Mary's Hospital — Leonardtown, Maryland*

MemorialCare — Fountain Valley, California

Mon Health Medical Center — Morgantown, West Virginia

NorthBay Healthcare — Fairfield, California

Onslow Memorial Hospital — Jacksonville, North Carolina

Presence Saints Mary and Elizabeth Medical Center — Chicago, Illinois

Pioneers in Quality™: Proven Practice

SOLUTION CONTRIBUTORS

The following are the Proven Practice Solution Contributors that have been recognized since the program's implementation.

SLHS — Boise, Idaho

Texas Health Resources — Arlington, Texas*

The Ohio State University Wexner Medical Center — Columbus, Ohio

TriStar Health — Brentwood, Tennessee

University Medical Center El Paso — El Paso, Texas

University Medical Center New Orleans — New Orleans, Louisiana

University of Pittsburgh Medical Center (UPMS) — Pittsburgh, Pennsylvania

Vail Health Hospital — Vail, Colorado*

WJB Dorn VA Medical Center — Columbia, South Carolina

2017

BayCare Health System, Inc. — Clearwater, Florida*

Hospital Corporation of America (HCA) — Nashville, Tennessee

MedStar St. Mary's Hospital — Leonardtown, Maryland

Memorial Hermann Healthcare System — Houston, Texas*

OSF Saint Elizabeth Medical Center — Ottawa, Illinois

St. Luke's Cornwall Hospital — Newburch, New York*

St. Mary Medical Center — Langhorne, Pennsylvania*

Trinity Health — Livonia, Michigan

University Medical Center New Orleans — New Orleans, Louisiana

University of Pittsburgh Medical Center (UPMC) — Pittsburgh, Pennsylvania

Virginia Commonwealth University Health System — Richmond, Virginia*

*Hospitals featured within the Proven Practices Collection as Expert Contributors in respective submission years.