



10SOW: Special Innovation Project Emergency Department Transfer Communication

8/1/2013-7/31/2014

Final Summary Report

Submitted July 24, 2014 by:
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HHSM-500-2011-MN10C
MN0011 TRUE SIP

Stratis Health is a nonprofit organization that leads collaboration and innovation in health care quality and safety, and serves as a trusted expert in facilitating improvement for people and communities.

This material was prepared by Stratis Health, the Quality Improvement Organization for Minnesota, under a contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy. 10SOW-MN-SIP-TRUE-14-31 072414

Special Innovation Project Overview

As part of this one-year special innovation project through the Medicare Quality Improvement Organization Program, just over 100 critical access hospitals (CAH) in eight states worked to improve transitions of care during emergency department (ED) transfers. Participating CAHs collected and submitted the National Quality Forum (NQF) endorsed Emergency Department Transfer Communication Measures, and were encouraged to develop and implement improvement action plans based on their results.

While emergency care is important in all hospitals, the emergency department is particularly important in rural hospitals where the distance to urban tertiary care centers makes the effective triage, stabilization, and transfer of patients with the necessary and appropriate information of life or death importance. ED transfer communication measures allow the acute care safety net facilities to show how well they carry out their important stabilize-and-transfer role for rural residents.

The eight participating states included Iowa, Maine, Missouri, Nebraska, Oklahoma, West Virginia, Wisconsin, and Wyoming. The Medicare Quality Improvement Organization (QIO) in each participating state supported implementation with CAHs locally while Stratis Health provided overall coordination and support for the QIOs and project. The project aligned with the Health Resources and Services Administration (HRSA), Office of Rural Health Policy's (ORHP) Medicare Rural Hospital Flexibility Program (Flex) Medicare Beneficiary Quality Improvement Project (MBQIP), and QIOs worked collaboratively with their State Rural Flex Coordinators to implement the effort.

Stratis Health led support and coordination of the project:

- Worked with the University of Minnesota Rural Research Center, the NQF measure owner, to update the data specifications and develop a detailed data collection manual at the beginning of the project, as well as clarify the measure definitions based on input from the participating QIOs at the end of the project.
- Developed recruitment materials, an Excel-based data collection tool, and a quality improvement toolkit to support hospital action plans related to the measures.
- Provided QIO training on the measure specifications and data collection tool.
- Supported periodic opportunities for QIO networking regarding lessons learned, challenges and best practices to support implementation of the project. Responded to their questions and requests for technical assistance.
- Provided data analysis and quarterly comparison reports with state and project level data for all hospitals participating in the project.
- Completed additional data analysis to understand differences between transfers to acute care settings and other health care facilities, such as skilled nursing facilities.
- Coordinated communication and information with HRSA Office of Rural Health Policy staff to help ensure alignment with rollout of this measure as part of the national MBQIP program.

This final report follows the outline required by the Centers for Medicare & Medicaid Services (CMS):

- All data used during the project
- Trend of the project measures during the project
- All interventions suggested
- All interventions tried
- What worked and did not work
- Possible long-term solutions to the issue
- What the QIO would do differently if they had to do the project over again
- Evidence of the successes and failures of the project
- How the program can be replicated in other communities and states

All Data Used During the Project

This project was focused around use of a set of seven National Quality Forum endorsed Emergency Department Transfer Communication (EDTC) Measures. A summary of the measures is listed in Table 1.

Table 1. EDTC Measures and Equivalent NQF Measures*

Measure ID Number	Measure Short Name	NQF Measure Number
EDTC-1	Administrative communication	0291
EDTC-2	Patient information	0294
EDTC-3	Vital signs	0292
EDTC-4	Medication information	0293
EDTC-5	Physician or practitioner generated information	0295
EDTC-6	Nurse generated information	0296
EDTC-7	Procedures and tests	0297

See Appendix 1 or Appendix 2 for elements listed in each measure.

**Note:* The NQF Endorsed Measure was updated in fall 2014 (after completion of this project) to be listed as a composite measure, including all of the seven measures listed above. Previously each measure had been endorsed separately.

Each QIO participating in the Emergency Department Transfer Communication (EDTC) Special Innovation Project submitted its state’s hospital data for the EDTC measures to Stratis Health via QualityNet, the CMS-approved website for secure communications and health care quality data exchange. Data covered three periods: Q3 2013 (July 1 through September 30), Q4 2013 (October 1 through December 31) and Q1 2014 (January 1 through March 31). Each participating hospital abstracted up to 45 randomly selected emergency department records every quarter and entered these abstractions into an Excel data collection tool. The hospitals created quarterly Excel-based reports out of this tool and submitted the reports to their QIO. The quarterly reports included the details of each abstracted measure element for each abstracted record.

Via the eight QIOs, Stratis Health received reports from between 98 and 103 hospitals each quarter. Stratis Health then created quarterly comparison reports for each hospital that compared their individual hospital performance against the aggregate of participating hospitals in their state and all CAH participating in the project. The data collection tool also allowed hospitals to review a report of their own results immediately upon entering data each quarter. Hospitals did not need to wait for the comparison report to evaluate their performance on the measures.

To help ensure reliability in the data collection process, as part of the training on the measure specification and tools, Stratis Health required each QIO to abstract data from three test records and send the results back to Stratis Health for validation. This process helped clarify some of the data elements and documentation issues. QIOs were strongly encouraged to implement this validation process with their participating hospitals as part of training as well.

Just prior to the implementation of this project, the NQF endorsed measures were updated to expand the eligible population to include transfers to any health care facility, rather than just transfers to acute care hospitals. To understand better if there were differences in the measures based on the transfer setting, Stratis Health completed additional data analysis comparing aggregate data for transfers to acute care hospitals to transfers to other health care facilities, such as skilled nursing facilities or hospice.

Trend of the Project Measures During the Project

For every measure, the percentage of records meeting the measure and measure element increased quarter to quarter. The percentage of records meeting all measures increased notably over the course of the project, from 28.26% at the start to 44.13% at the end (see Appendix 1). The relative improvement rate from Q3 2013 to Q1 2014 for the measures ranged from 7% for EDTC-1 to 34% for EDTC-6 (Table 2). This improvement is apparent in the trend line graphs for the measures (Figures 1 - 4).

Table 2. Relative Improvement Rate from Q3 2013 to Q1 2014 for All EDTC Measures

Measure ID number	Q3 2013	Q1 2014	Relative Improvement Rate
EDTC-1	78%	83%	7%
EDTC-2	66%	84%	27%
EDTC-3	68%	85%	25%
EDTC-4	65%	81%	23%
EDTC-5	65%	78%	19%
EDTC-6	49%	65%	34%
EDTC-7	75%	88%	17%
All EDTC	28%	44%	56%

Figure 1.
 EDTC-1: Administrative Communication
 EDTC-2: Patient Information

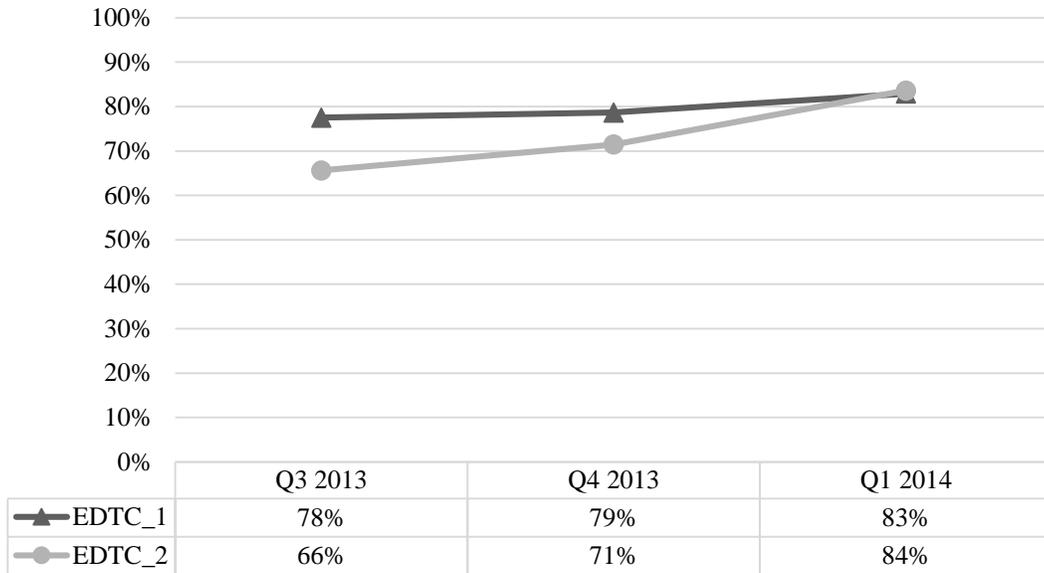


Figure 2.
 EDTC-3: Vital Signs
 EDTC-4: Medication Information

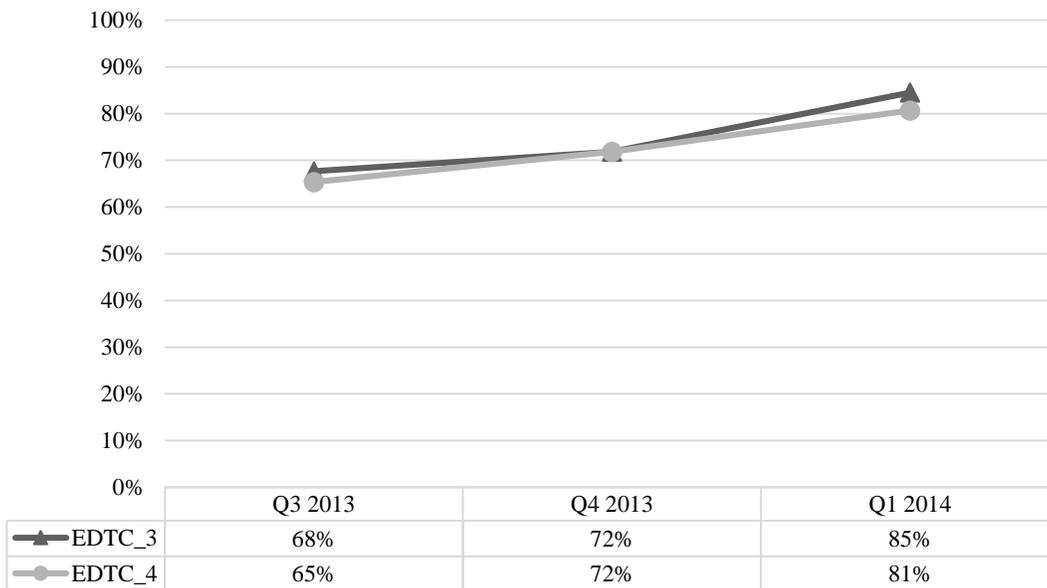


Figure 3.
 EDTC-5: Physician or Practitioner Generated Information
 EDTC-6: Nurse Generated Information
 EDTC-7: Procedures and Tests

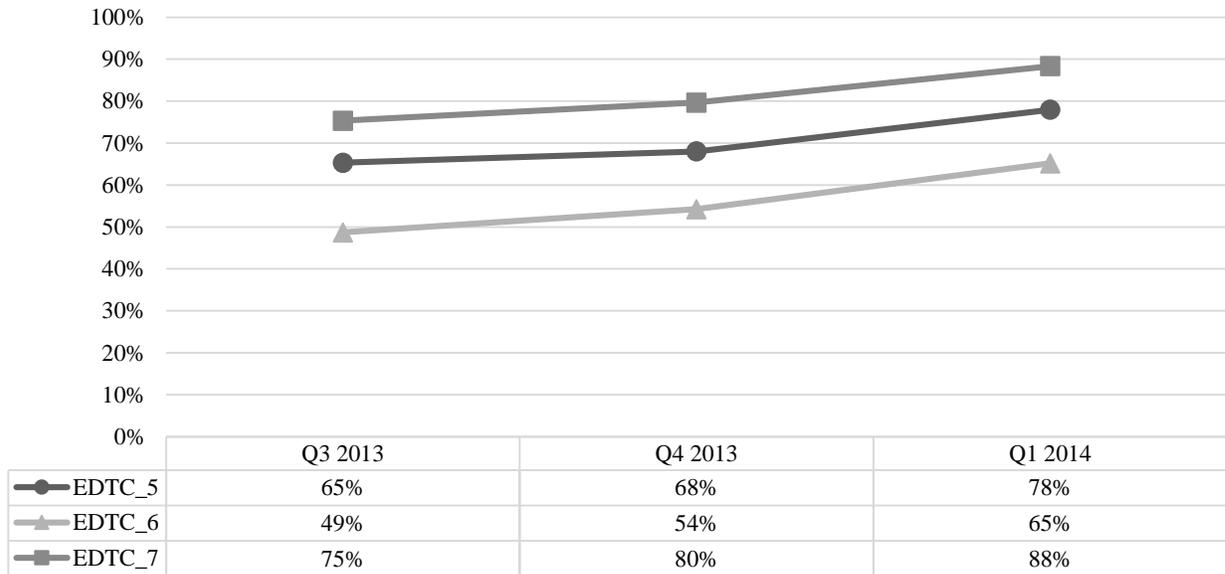
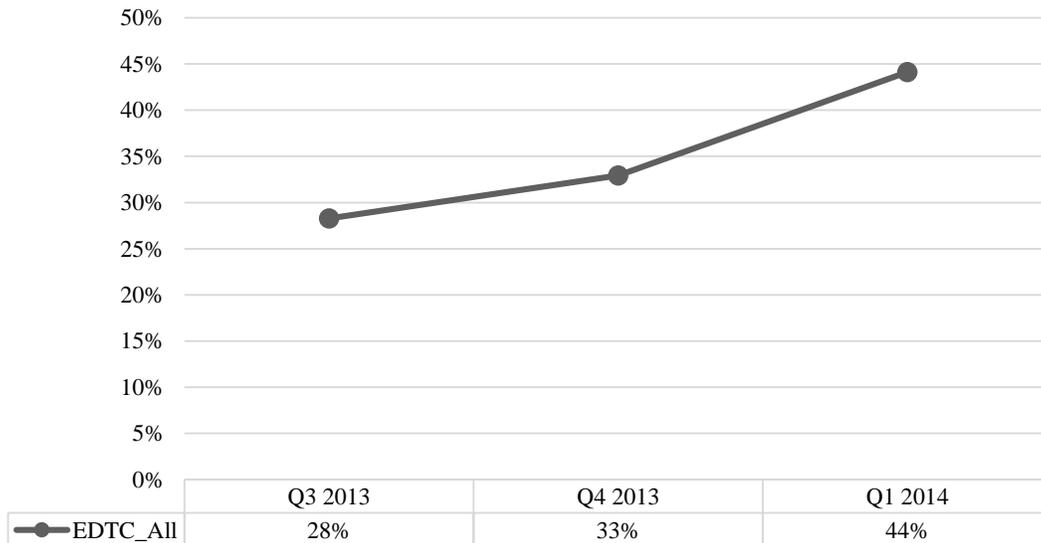


Figure 4.
 All EDTC Measures



The project team also compared the overall difference in measure results between transfers to acute care hospitals to transfers to other health care facilities, such as skilled nursing facilities.

Notably, the measures for transfers to other facilities had consistently poorer performance than those for transfers to acute care facilities (see Appendix 2). When looking at all data elements across the seven measures, the percentage of medical records that indicated all necessary patient data had been transferred in a timely manner was 36.79% for acute care hospital transfers, but only 20.19% for transfers to other health care facilities.

It is important to note that each hospital participating in the EDTC pilot sampled a set of emergency department records for each data submission. We cannot know if this sampling was fully random, so the distribution of the number of emergency department records reviewed that represent transfers to acute care facilities versus to other facilities may not represent the true distribution of transfers for participating hospitals. However, the difference in EDTC measures results between the two facility categories is still notable and worth further exploration.

All Interventions Suggested

Stratis Health developed a quality improvement toolkit for QIOs to use with their participating CAHs with a focus on using a Plan, Do, Study, Act (PDSA) model for testing and implementing interventions. Because improving documentation is a critical component of improvement on these measures, many of the interventions suggested focused on adapting forms and processes to ensure complete and consistent transfer of information in a timely manner. Education and training for staff, discussions with receiving facilities about preferred methods of documentation and communication, and engagement of emergency medical service (EMS) personnel in adapting transfer communication processes were encouraged as opportunities to support improvement.

From a QIO support perspective, Stratis Health strongly encouraged QIOs to actively coordinate with their State Rural Flex Program to coordinate messages and reinforce the alignment with the MBQIP project. QIOs were encouraged to frame the work in terms of improving care transitions for patients rather than only as a quality data collection and reporting effort.

All Interventions Tried

CAH interventions reported by participating QIOs included:

- Updating paper transfer forms to ensure capture of all the required data elements and documentation that the information was communicated to the next setting of care.
- Implementing prompts and documentation in the electronic medical record (EMR) to ensure elements are captured and communicated to the receiving facility, either electronically or via a printed-paper form.
- Developing checklists and processes such as double-sign offs and concurrent review of records within the CAH to ensure adequate documentation and communication.
- Identifying and implementing a standardized process for documentation and transfer of information to the next setting of care.
- Staff education regarding the importance of transfer communication and implementation of new processes and forms.

All interventions that would have been tried if not for some resource or other problem

A few QIOs indicated some CAHs were starting to focus on standardizing information communication on transfers to nursing homes. Some of the CAHs specifically met with local nursing homes to develop smoother communication and transition processes. However this intervention approach was underused, as some QIOs cited a challenge in engaging CAHs to include a focus on

transfer communication from the ED to nursing homes. One reason given is that these transfers are considered sending a patient home rather than to another health care facility. Or, they are thought of as being in the same health care facility, since in small rural communities the nursing home is often down the hallway rather than across town.

What Worked and Did Not Work

From a CAH intervention perspective, QIOs cited that system level interventions such as EMR prompts or changes in transfer forms to standardize information appeared to generate the most initial success. This was challenging to evaluate within the short timeframe of the project, as many CAHs were just starting to implement interventions during the last quarter of data collection.

From a QIO support perspective, QIOs cited existing relationships with CAH staff, as well as coordination with State Flex Programs and alignment with MBQIP as important factors in recruiting participants. Onsite visits, ongoing communication with CAH staff, and regular opportunities for networking were cited as particularly helpful in implementation.

Challenges in implementation from a QIO perspective included staff turnover at the CAHs requiring retraining. Technology barriers included challenges with the Excel-based tool due to unintentional user error and the variety of versions of Excel and operating systems at individual hospitals. QIOs also cited the short timeframe of the project as a challenge, as many hospitals were just getting to the stage of implementing interventions during the third and final quarter of data collection.

Possible Long-term Solutions to the Issue

The short timeline of this project makes it hard to assess long-term impact of improvement efforts since many hospitals were just beginning interventions during the final data collection period. Initial results indicate that successful interventions include updates to forms and processes to ensure complete documentation prior to transfer. Adaptations of forms and documentation processes to ensure essential data elements are captured are likely to see sustained improvement, as long as they are built into regular systems and processes such as an EHR.

In addition to adapting documentation and documentation processes, long-term sustained improvement on these measures is more likely if hospitals take the opportunity to open and improve the lines of communication between the emergency department and the receiving facilities. Additionally, establishing key personnel and inter-facility relationships that are specifically focused on improving the efficiency, effectiveness, and safety of the patient during emergency department transfers would help sustain progress.

As electronic health records become more prevalent in rural hospitals, opportunities increase for timely and complete transfer of information along with patients. Currently, electronic transfer of information generally only happens between facilities that belong to the same health care system. In the longer-term, an interoperable health information exchange process that supports reliable and complete information transfer between all health care facilities would be the most effective way to ensure transfer of the information needed to safely provide care to the receiving facility. In the meantime, collecting and evaluating the EDTC measures on a periodic basis provides an opportunity to evaluate and improve processes to support safer and more efficient care.

What the QIO Would Do Differently if They Had to Do the Project Over Again

If Stratis Health were to implement this project again, we recommend the following changes to the project:

- Have a longer project period for data collection and evaluation of interventions. With only three quarters of data submission, and a lag of three months to allow for data collection to be completed, many hospitals were only just starting to initiate interventions during the final data collection period. At least one more quarter of data collection would have been helpful to see the full impact of interventions.
- Use the CMS CART as a tool for data collection. Many CAHs already use CART for data collection on the inpatient and outpatient measures, so it is a familiar platform and software. Due to the compressed timeline to get data collection tools developed and in the field, the Stratis Health team decided to use a standalone Excel based data collection tool, rather than pursue an option for CART which would have taken additional development time. Use of a CART-based tool may have made the training and data collection process easier, with familiar processes and eliminating challenges related to variations in operating systems and Excel versions experienced by some facilities.
- Build in a formal feedback loop or process for CAHs to get input from receiving facilities regarding changes in the ED transfer communication process. Some CAHs had informal discussions locally. A more formal process to gather information regarding the impact of changes and to identify additional opportunities to improve the transfer process could have reinforced CAH efforts and the value of focusing on inter-facility relationships.

Evidence of the Successes and Failures of the Project

ED transfer communication processes have typically developed organically rather than having been deliberately designed with a focus on patient safety, effectiveness, and efficiency. The innovation in this project was focusing attention on a process that could be redesigned to support adequate information flow to help ensure safe and effective care for patients when transferred to another setting of care.

As mentioned previously, the overall percentage of medical records meeting each EDTC measure and measure element increased across the project. QIOs reported that the majority of CAHs were enthusiastic about the opportunity to participate in this project, as it focused on measures relevant to the care they provide. The majority of CAHs cited development of action plans based on the measures. QIOs also reported that many hospitals identified documentation gaps, and updated their forms and processes accordingly, leading to immediate improvement on some of the data elements and measures. Additional study is needed to know what areas for improvement remain after the initial documentation process improvements are made.

Participating QIOs reported high satisfaction for Stratis Health's support of this project with comments such as the following:

- “Entire team working on this project was always accessible and interactive. Demonstrated excellent communication skills in webinars, team, and individual meetings. Responded quickly to resolve technical issues or other concerns.”
- “Timely responses to our questions; did the troubleshooting with the Excel tool very well; well organized and gave us timelines at beginning of project”

In addition, tools and resources developed for this project now are being promoted nationally to support implementation of the HRSA Office of Rural Health Policy MBQIP Phase 3 measures, which include the EDTC measure set.

How the Program Can Be Replicated in Other Communities and States

Stratis Health worked closely with staff at the HRSA Office of Rural Health Policy to align this project with the national rollout of the EDTC measures as part of Phase 3 of the Medicare Beneficiary Quality Improvement Project. All of the tools developed for implementation of this project such as the data collection tool manual, Excel-based data collection tool, and quality improvement toolkit are available on the Stratis Health website at http://www.stratishealth.org/providers/ED_Transfer.html. The National Rural Health Resource Center, in its role as the Technical Assistance and Services Center (TASC) for the HRSA funded State Rural Flexibility programs also plans to post links to these tools and resources to help support CAH data collection and submission of these measures as part of the MBQIP program.

These National Quality Forum endorsed ED Transfer Communication Measures align with a focus on care transitions. They are highly relevant process measures not only for critical access hospitals, but for all hospitals that transfer ED patients to other care settings. Aggregate measure results were significantly lower for transfers to other health care facilities such as nursing homes, than to acute care hospitals. Inter-facility communication is a known issue, affirmed by Stratis Health's Health Information Technology for Post-Acute Care Providers Special Innovation Project, <http://www.stratishealth.org/documents/project-brief-HITPAC-2014.pdf>, conducted during the same time frame. This indicates potential applicability for larger, urban emergency departments that often transfer to these other health care facilities.

We recommend the EDTC measures become part of the CMS Outpatient Quality or Meaningful Use measure sets to facilitate broad adoption and use of the measures for reporting and improvement. For increased adoption and use of these measures, a standardized data collection and submission process is needed. The lack of infrastructure for national data collection and submission for reporting has been a significant barrier in the roll-out of these measures nationally through the MBQIP program. To avoid issues with transmission of PHI (personal health information), CAHs will only be submitting numerators and denominators for the measures to their Flex programs. The Flex programs then have to aggregate the data for their state and submit it to FORHP so that it can be utilized to create comparison data reports. The provider level versus patient level data submission process will not allow for data be analyzed for patient level disparities such transfers to different facility types or other demographic factors. The primarily manual processes of data entry and submission on multiple levels can also be prone to error and inconsistency

QIO support at the individual CAH level, in coordination with the State Flex programs, was a key factor to the success of this pilot. We believe measure adoption would be accelerated through program replication if QIOs have a role for support across the 45 states where the 1,300 CAHs are located. However, direct technical assistance for most hospital reporting processes via the state level QIOs will not be part of the Quality Innovation Network QIOs (QIN-QIOs) 2015-2019 body of work, rather quality reporting technical assistance will be centralized through a national helpdesk. CAHs have limited staff and technical resources, and generally do not use vendors to support their quality measure data collection. There are concerns that the level of support available through a national helpdesk will not be sufficient for many CAHs to support regular quality reporting and

expansion of rural relevant quality efforts such as this focus on emergency department communication. Because of staff turnover and the multitude of priorities facing CAHs, we are unsure if the EDTC measures will remain a focus among the CAHs that participated in this program, in the absence of organized technical assistance, support, and encouragement from their local QIOs. We are hopeful that the process changes implemented by the CAHs in the pilot will remain in place.

Appendix 1. Quarterly Progress on EDTC Measures

Emergency Department Transfer Communications Measure and Element Progress for All Participating Hospitals (Q3 2013 – Q1 2014)

Measure	Data Elements	All Reporting Hospitals (Q3 2013) (N=4373 medical records reviewed, 103 hospitals reporting)	All Reporting Hospitals (Q4 2013) (N=4292 medical records reviewed, 101 hospitals reporting)	All Reporting Hospitals (Q1 2014) (N=4172 medical records reviewed, 98 hospitals reporting)
EDTC-1 Administrative Communication	Percentage of medical records that indicated the following occurred prior to patient departure from ED:			
	1. Nurse to Nurse Communication	80.17% (n=3506)	83.13% (n=3568)	85.28% (n=3558)
	2. Physician to Physician Communication	88.93% (n=3889)	92.66% (n=3977)	96.43% (n=4023)
	All EDTC-1 Data Elements	77.5% (n=3389)	78.66% (n=3376)	82.91% (n=3459)
EDTC-2 Patient Information	Percentage of medical records that indicated the communication of following patient information within 60 minutes of patient's departure from ED:			
	1. Patient Name	85.18% (n=3725)	90.73% (n=3894)	95.76% (n=3995)
	2. Patient Address	71.94% (n=3146)	79.75% (n=3423)	88.88% (n=3708)
	3. Patient Age	82.55% (n=3610)	89.03% (n=3821)	94.39% (n=3938)
	4. Patient Gender	81.77% (n=3576)	87.91% (n=3773)	93.46% (n=3899)
	5. Patient Contact Information	66.16% (n=2893)	75.75% (n=3251)	85.47% (n=3566)
	6. Patient Insurance Information	65.33% (n=2857)	73.58% (n=3158)	85.4% (n=3563)
All EDTC-2 Data Elements	65.61% (n=2869)	71.44% (n=3066)	83.6% (n=3488)	
EDTC-3 Vital Signs	Percentage of medical records that indicated the communication of following patient's vital signs information within 60 minutes of patient's departure from ED:			
	1. Pulse	76.81% (n=3359)	81.64% (n=3504)	90.2% (n=3763)
	2. Respiratory Rate	75.87% (n=3318)	81.01% (n=3477)	89.93% (n=3752)
	3. Blood Pressure	76.4% (n=3341)	81.5% (n=3498)	90% (n=3755)
	4. Oxygen Saturation	72.6% (n=3175)	77.96% (n=3346)	88.26% (n=3682)
	5. Temperature	75.78% (n=3314)	81.66% (n=3505)	91.13% (n=3802)
	6. Neurological Assessment	78.62% (n=3438)	85.55% (n=3672)	92.74% (n=3869)
All EDTC-3 Data Elements	67.64% (n=2958)	71.83% (n=3083)	84.52% (n=3526)	
EDTC-4 Medication Information	Percentage of medical records that indicated the communication of following patient's medication information within 60 minutes of patient's departure from ED:			
	1. Medication Given in ED	72.22% (n=3158)	79.82% (n=3426)	88.57% (n=3695)
	2. Allergies/Reactions	72.28% (n=3161)	80.06% (n=3436)	88.49% (n=3692)
	3. Medication History	66.54% (n=2910)	75.14% (n=3225)	83.87% (n=3499)

	All EDTC-4 Data Elements	65.33% (n=2857)	71.81% (n=3082)	80.66% (n=3365)
EDTC-5 Physician or Practitioner Generated Information	Percentage of medical records that indicated the communication of following physician generated information within 60 minutes of patient's departure from ED:			
	1. History and Physical	63.71% (n=2786)	68.57% (n=2943)	78.4% (n=3271)
	2. Reason for Transfer/Plan of Care	82.78% (n=3620)	87.65% (n=3762)	93.24% (n=3890)
	All EDTC-5 Data Elements	65.31% (n=2856)	68.01% (n=2919)	77.95% (n=3252)
EDTC-6 Nurse Generated Information	Percentage of medical records that indicated the communication of following nurse generated information within 60 minutes of patient's departure from ED:			
	1. Nursing Notes	69.49% (n=3039)	77.4% (n=3322)	85.81% (n=3580)
	2. Impairments	53.01% (n=2318)	59.93% (n=2572)	72.58% (n=3028)
	3. Catheters	79.97% (n=3497)	86.02% (n=3692)	93.02% (n=3881)
	4. Immobilizations	85.14% (n=3723)	91.43% (n=3924)	96.19% (n=4013)
	5. Respiratory Support	82.57% (n=3611)	88.98% (n=3819)	95.49% (n=3984)
	6. Oral Restrictions	81.16% (n=3549)	87.86% (n=3771)	92.23% (n=3848)
All EDTC-6 Data Elements	48.71% (n=2130)	54.22% (n=2327)	65.15% (n=2718)	
EDTC-7 Procedures and Tests	Percentage of medical records that indicated the communication of following procedures and tests information within 60 minutes of patient's departure from ED:			
	1. Tests/Procedures Performed	77.43% (n=3386)	85.34% (n=3663)	91.16% (n=3803)
	2. Tests/Procedures Results	72.9% (n=3188)	79.75% (n=3423)	88.35% (n=3686)
	All EDTC-6 Data Elements	75.35% (n=3295)	79.64% (n=3418)	88.33% (n=3685)
All EDTC Measures	Percentage of medical records that indicated the communication of all necessary patient's data upon patient's departure from ED:			
	All EDTC Measures	28.26% (n=1236)	32.92% (n=1413)	44.13% (n=1841)

Appendix 2. Comparison of Progress on EDTC Measures Between Facility Types

Emergency Department Transfer Communications Measure and Element Progress for Discharges to All Acute Care Facilities Versus Other Health Care Facilities, for All Participating Hospitals (Aggregate Q3 2013 – Q1 2014)

Measure	Data Elements	All Acute Care Facilities* 11249 medical records reviewed	Other health care facilities or hospices 807 medical records reviewed
EDTC-1 Administrative Communication	Percentage of medical records that indicated the following occurred prior to patient departure from ED:		
	1. Nurse to Nurse Communication	84.25% (n=9478)	71.37% (n=576)
	2. Physician to Physician Communication	92.87% (n=10448)	NA
	All EDTC-1 Data Elements	79.69% (n=8965)	71.12% (n=574)
EDTC-2 Patient Information	Percentage of medical records that indicated the communication of following patient information within 60 minutes of patient's departure from ED:		
	1. Patient Name	92.36% (n=10390)	82.40% (n=665)
	2. Patient Address	82.32% (n=9261)	62.82% (n=507)
	3. Patient Age	90.40% (n=10170)	80.04% (n=646)
	4. Patient Gender	89.73% (n=10094)	74.34% (n=600)
	5. Patient Contact Information	78.41% (n=8821)	53.53% (n=432)
	6. Patient Insurance Information	77.31% (n=8697)	52.04% (n=420)
	All EDTC-2 Data Elements	75.37% (n=8479)	49.93% (n=403)
EDTC-3 Vital Signs	Percentage of medical records that indicated the communication of following patient's vital signs information within 60 minutes of patient's departure from ED:		
	1. Pulse	85.65% (n=9635)	55.26% (n=446)
	2. Respiratory Rate	84.95% (n=9557)	55.26% (n=446)
	3. Blood Pressure	85.34% (n=9601)	56.00% (n=452)
	4. Oxygen Saturation	82.24% (n=9252)	52.41% (n=423)
	5. Temperature	84.46% (n=9502)	70.75% (n=571)
	6. Neurological Assessment	87.59% (n=9853)	77.32% (n=624)
	All EDTC-3 Data Elements	76.35% (n=8589)	48.82% (n=394)
EDTC-4 Medication Information	Percentage of medical records that indicated the communication of following patient's medication information within 60 minutes of patient's departure from ED:		
	1. Medication Given in ED	83.28% (n=9369)	51.67% (n=417)
	2. Allergies/Reactions	82.52% (n=9283)	59.72% (n=482)
	3. Medication History	77.65% (n=8735)	53.53% (n=432)

	All EDTC-4 Data Elements	74.59% (n=8391)	43.74% (n=353)
EDTC-5 Physician or Practitioner Generated Information	Percentage of medical records that indicated the communication of following physician generated information within 60 minutes of patient's departure from ED:		
	1. History and Physical	72.31% (n=8135)	43.49% (n=351)
	2. Reason for Transfer/Plan of Care	90.09% (n=10135)	73.11% (n=590)
	All EDTC-5 Data Elements	71.65% (n=8060)	42.75% (n=345)
EDTC-6 Nurse Generated Information	Percentage of medical records that indicated the communication of following nurse generated information within 60 minutes of patient's departure from ED:		
	1. Nursing Notes	80.55% (n=9062)	50.55% (n=408)
	2. Impairments	64.53% (n=7260)	41.01% (n=331)
	3. Catheters	87.85% (n=9883)	80.79% (n=652)
	4. Immobilizations	92.26% (n=10379)	89.71% (n=724)
	5. Respiratory Support	90.29% (n=10157)	86.98% (n=702)
	6. Oral Restrictions	88.14% (n=9915)	88.22% (n=712)
	All EDTC-6 Data Elements	58.06% (n=6532)	35.31% (n=285)
EDTC-7 Procedures and Tests	Percentage of medical records that indicated the communication of following procedures and tests information within 60 minutes of patient's departure from ED:		
	1. Tests/Procedures Performed	87.14% (n=9803)	65.67% (n=530)
	2. Tests/Procedures Results	82.55% (n=9287)	61.58% (n=497)
	All EDTC-6 Data Elements	82.50% (n=9281)	61.46% (n=496)
All EDTC Measures	Percentage of medical records that indicated the communication of all necessary patient's data upon patient's departure from ED:		
	All EDTC Measures	36.79% (n=4139)	20.19% (n=163)

* Includes Department of Defense or Veteran's Administration, Cancer Hospital or Children's Hospital, Critical Access Hospital, and General Inpatient Care

Note 1: Each hospital participating in the EDTC pilot sampled a set of emergency department records for each data submission. We cannot know if this sampling was fully random. The distribution of the number of emergency department records reviewed that represent transfers to acute care facilities versus to other facilities may not represent the true distribution of transfers for pilot hospitals.

Note 2: 157 emergency department records did not have a discharge disposition for this time period and were excluded.