



Case Studies of Regional Extension Centers Serving Rural Practices: Minnesota & North Dakota

Michelle Casey, MS; Ira Moscovice, PhD; and Alex McEllistrem-Evenson, MA

In 2010 and 2011, the Office of the National Coordinator for Health Information Technology (ONC) awarded funds to 62 Regional Extension Centers (RECs) to assist eligible providers with adopting Electronic Health Records (EHR) and using them to improve patient care. Funding for the nationwide system of RECs was authorized by the Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009, which also authorized the establishment of Medicare and Medicaid incentive payment programs for providers who achieve “meaningful use” of EHRs.

The REC program assists providers who have had historically-low rates of EHR adoption, many of whom practice in rural areas. They include primary care physicians and mid-level providers in small group practices of 10 or fewer providers, clinics connected with public or Critical Access Hospitals, Community Health Centers, Rural Health Clinics, and other ambulatory settings that predominately serve uninsured, underinsured, and medically underserved populations.

This case study focuses specifically on the REC serving Minnesota and North Dakota (the Regional Extension Assistance Center for HIT, or REACH) and its experiences working with rural physician practices in the two states. It is intended to serve as a companion to our recent article in *The Journal of Rural Health*, which examined the national impact of the REC program and the role of the RECs in helping rural physician practices achieve “meaningful use” of EHRs.¹ A second case study focuses on the REC serving North Carolina.²

The two RECs were selected for case studies based on their high ranking among the 62 RECs nationwide on the number of rural providers that had signed-up for REC services, implemented EHRs, and attained

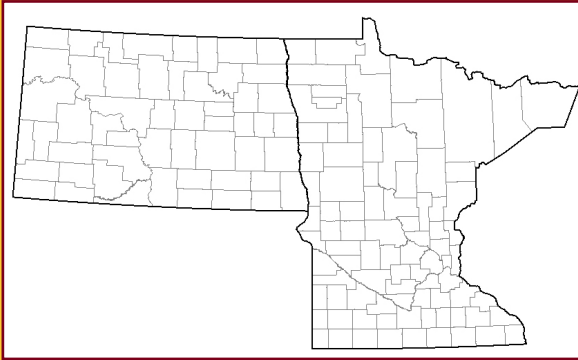
Meaningful Use of Certified EHRs

For purposes of qualifying for Medicare or Medicaid incentive payments, CMS has defined three stages of meaningful use of certified EHRs:

- **Stage 1** focused on electronically capturing health information in a structured format, using it to track key clinical conditions and communicating it for care-coordination purposes, implementing clinical decision support tools to facilitate disease and medication management, using EHRs to engage patients and families, and reporting clinical quality measures and public health information.
- **Stage 2** focuses on more rigorous health information exchange, including increased requirements for e-prescribing and incorporating laboratory results, and the expectation that providers will electronically transmit patient care summaries with each other and with the patient to support transitions in care.
- **Stage 3** criteria are likely to focus on promoting improvements in quality, safety, and efficiency leading to improved health outcomes; focusing on decision support for national high priority conditions; improving patient access to self-management tools; providing access to comprehensive patient data through robust, secure, patient-centered health information exchange; and improving population health.³

The timeline to reach these stages depends on when Stage 1 is achieved. Providers who achieved Stage 1 in 2011 have 3 years before advancing to Stage 2. Subsequently, all other providers will have 2 years meeting Stage 1 criteria before advancing to Stage 2 in their third year.⁴

Background: Minnesota & North Dakota



Minnesota has a rural population of approximately 1.4 million in the state's 64 rural counties.⁵ A total of 1,030 primary care physicians practice in rural areas of the state.⁶ The primary care infrastructure includes solo and group private practices, 83 certified Rural Health Clinics (RHCs), and 15 Federally Qualified Health Centers (FQHCs).⁷

North Dakota has a rural population of approximately 283,000 living in the state's 49 rural counties⁵, served by 220 primary care physicians.⁸ The primary care infrastructure includes solo and group private practices, 57 certified RHCs, and 4 FQHCs.⁷

Both states are strongly committed to supporting HIT. As of 2012, the percentages of office-based physicians having a basic EHR system in Minnesota (66.7 percent) and North Dakota (63.2 percent) were significantly higher than the national average (39.6 percent) of office-based physicians.⁸

meaningful use as of May 2012. A two-person team conducted interviews in 2012 and early 2013 with key individuals at REACH partner and collaborating organizations in Minnesota and North Dakota, and two rural primary care practices in the states that received assistance from the REC: a Minnesota local health care system composed of two Rural Health Clinics and a Critical Access Hospital, and a North Dakota private practice. Interviewees included the REC program director and clinical director; CEOs and program staff at partner organizations; and a physician, clinic manager, and Chief Information Officer at the rural practices.

Interview protocols were developed based on the literature and preliminary discussions with REC staff. The interviews with the RECs and their partner organizations addressed the state context and history of the REC, its organization and staffing, the process

of working with rural practices and helping them to EHRs to improve quality of care, vendor selection, EHR funding, Health Information Exchange, and lessons learned. The interviews with rural practices covered practice characteristics, the process of implementing the EHR system, the role of the REC, usefulness of the EHR system, challenges, and lessons learned.

The Regional Extension Assistance Center for HIT (REACH)

The REC for Minnesota and North Dakota, called the Regional Extension Assistance Center for HIT (REACH), is led by Key Health Alliance, a partnership of Stratis Health, the College of St. Scholastica, and the National Rural Health Resource Center. Prior to applying for the REC funding, the three organizations partnered to work on Health Information Technology (HIT)-related issues in rural and underserved areas in the two states.

Stratis Health has served as Minnesota's Quality Improvement Organization (QIO) under contract with the Centers for Medicare and Medicaid Services (CMS) for 40 years. Since 2006, the National Rural Health Resource Center has coordinated the National Rural HIT Coalition to identify rural HIT challenges and solutions; their REACH activities focus on outreach and education, recruiting CAHs in Minnesota, coordinating workshops and webinars, and producing a website and quarterly newsletter. The College of St. Scholastica has academic Health Information Management programs, and provides content experts in data privacy and security for REACH educational programs.

The joint Minnesota and North Dakota REC was developed because North Dakota had fewer than 1,000 primary care providers, the minimum that ONC specified a REC needed to serve.⁹ REACH

subcontracts with North Dakota Health Care Review (North Dakota's QIO) to provide technical assistance to North Dakota providers. It also subcontracts with the University of North Dakota Center for Rural Health to conduct outreach and education activities with North Dakota providers.

REC Organization and Staffing

The core team for REACH consists of the Program Director, the Clinical Director, three regional coordinators, a field service manager, and several HIT consultants, most of whom are based at Stratis Health headquarters in the Twin Cities. One regional coordinator and two HIT consultants are based at the North Dakota QIO. Part-time REACH staff work at the National Rural Health Resource Center, St. Scholastica, and the North Dakota Center for Rural Health. REACH also uses a number of subject matter experts as needed.

REACH hired several field service staff on a consultant basis, in order to have flexibility to adjust their percentages of time to meet the demand for REC services and funding. It did not have difficulty hiring staff with EHR experience; in fact, several individuals contacted Stratis Health about employment when they heard about the REC opportunity.

The REACH Program Director is the Director of HIT Services at Stratis Health and is responsible for the Stratis Health portfolio of HIT services. She has extensive experience working with practices on EHR implementation and exper-

tise with clinical process improvement in ambulatory and hospital settings. The REACH Clinical Director, who works full time at Stratis Health, is a family physician who previously worked in rural and urban health systems and was a private consultant on HIT. His expertise includes EHR selection, physician engagement, workflow redesign, clinical content management, clinical decision support, and EHR governance.

REACH also established two state-specific advisory councils to help guide its work. Both councils include representatives from provider associations (e.g., the Minnesota Academy of Family Physicians, Minnesota Hospital Association, Minnesota Medical Association, and North Dakota Medical Association), the state Medicaid agencies (e.g., the Minnesota and North Dakota Departments of Human Services), and state HIT Programs. Additionally, the North Dakota Council includes a representative from North Dakota Health Care Review.

REC Funding

In 2010-11, REACH was awarded \$19,289,040 from ONC to work with primary care practices in Minnesota and North Dakota, and an additional \$892,800 in supplemental funding to support Critical Access and other rural hospitals in EHR adoption and meaningful use. Core funding from ONC was used to employ and train the initial REACH team. Subsequent ONC funding is released incrementally as participating primary care providers reach each of three mile-

stones: signing up with the REC, adopting an EHR, and achieving meaningful use.

ONC funding is scheduled to end in 2014. The REACH partners in Key Health Alliance have applied for a no-cost extension that will allow them to help providers and hospitals that have not yet achieved Stage 1 meaningful use until February 2015. They have also been working on several sustainability strategies: supporting current REACH clients on a membership or fee-for-service basis for Stage 2 meaningful use and beyond, providing enhanced ongoing services for CAHs that are struggling with HIT adoption, and more. The Pennsylvania REC, for example, has funded REACH to provide a Meaningful Use boot camp and an EHR user group for Pennsylvania CAHs. REACH is also developing a patient engagement toolkit, and conducting a Primary Care Medical Home (PCMH) pilot for North Dakota clinics with Blue Cross and Blue Shield of North Dakota.

Stratis Health is also engaged in several activities to sustain REACH's mission, including continuing to work with specialists on HIT adoption and meaningful use on a fee-for-service basis, Community Health Centers in North Dakota and South Dakota to implement PCMHs, and health care providers to exchange health information electronically through State of Minnesota connectivity grants. Other activities include a CMS special innovation grant to assist nursing homes and hospitals

in their efforts to exchange health information and improve medication reconciliation, and an ONC contract to assist in the creation of Clinical Decision Support tools and materials which would help RECs better assist their clients.

Working with Primary Care Practices on EHR Adoption and Meaningful Use

Table 1 shows the EHR status of rural and urban providers in Minnesota and North Dakota who received REC services as of November 2013. These providers include physicians (Family Practice, Internal Medicine, OB/GYN, and Pediatrics) and other health care professionals (Nurse Practitioner, Physician Assistant, Nurse Midwife) with prescribing privileges practicing in small group practices of 10 or fewer providers or other priority settings for REC services. A total of 1,456 rural providers (sum of small rural and micropolitan) had signed up with the REC; 1,273 had “gone live” on an EHR system; and 565 had achieved meaningful use.

REACH began recruiting physician practices in April 2010, and enrolled the first clinics that summer, work which comprised much of the first year’s efforts. The Clinical Director presented a number of “boot camps” to help physicians and CAHs understand meaningful use. He spoke to groups such as medical societies, hospital associations, and some of the larger group practices. REACH also worked closely with the State Office of Rural Health, Primary Care Associations, and REACH

Councils in each state on provider recruitment. The field staff in each area focused on individual clinic recruitment, beginning with phone calls and proceeding to on-site visits for the “tough” clinics. Some practices required multiple contacts. The REC found that recruitment was more successful in person, especially with rural physicians. The REC provided practices with services, including readiness or meaningful use assessments; organization and workflow redesign; physician engagement and coaching support; assistance with privacy

Table 1. Status of North Carolina providers who received REC services as of November 2013 by rural/urban location

Status	Small Rural	Large Rural (Micropolitan)	Urban (Metropolitan)	Total
Signed up with the REC	792	664	3,402	4,858
Live on EHR system	638	635	3,262	4,535
Achieved Meaningful Use	216	349	1,932	2,497

Data Source: ONC, Regional Extension Center Program Key Performance Indicator Summary Table, updated 11/7/2013, available at <http://dashboard.healthit.gov/data/>.

and security best practices, project management infrastructure, data reporting services, clinical decision support, and meaningful use; “go live” support; EHR optimization to improve quality metrics; and functional interoperability and Health Information Exchange (HIE) support. REACH provides these services using a combination of individualized on-site assistance, consultations, and group learning collaboratives.

Unlike some RECs that recommend selected vendors, REACH has adopted a vendor-neutral policy, and works closely with multiple

vendors. Some practices are signing on as affiliate members for the EHRs used by the large health care systems. The systems are recruiting affiliate members because they are motivated by the prospect of Accountable Care Organizations on the horizon.

The REACH Program Director assigns each practice to an HIT consultant. The consultants have a specific work plan for practices without EHRs, beginning with a readiness assessment. Many of the larger practices have EHRs already

and have HIT consultants advise

them on how to achieve meaningful use. Some of the larger health care systems use the REC staff to augment their own staff in working with rural providers.

Initially, REACH worked with chief information officers but found it also needed to work with chief medical officers to explain that the purpose was not just to meet meaningful use, but to use HIT to improve care. Now, they are going back to practices with EHRs to discuss how the practice can use the EHR system to improve quality and efficiency. For

example, they are working with clinics that are certified or want to become certified as health care homes, and on the appropriate use of clinical decision support prompts and reminders. Stratis Health and North Dakota Health Care Review are trying to coordinate REACH work on using HIT to improve quality with their current Medicare QIO activities.

Practices with less than 10 primary care physicians, the target group for REC services, have been the hardest to sell on EHRs: for smaller practices, EHR adoption presents a greater burden in terms of financial resources and staff time. However, the first Minnesota physician to reach meaningful use was a solo physician. According to REACH staff, brand-new physicians often want an EHR in place; it's a recruitment issue for them. Although EHR adoption nationally has lagged among physicians 55 and older,¹⁰ REACH reports that they've worked with some older physicians who are fine with learning EHRs.

One of the bigger challenges REACH has been dealing with is the interface between clinics and hospitals. Their HIT consultants have been cross-trained so they can work with both clinics and CAHs. In some rural areas, the hospitals are adopting EHRs first, and the medical practices are not a priority. Rather than adopting an integrated EHR system at once, many hospitals patched a system together, beginning with billing and materials management and then adding pharmacy, lab, nursing

notes, and ambulatory care later on. Physicians working with these patchwork systems have reported poor usability. An additional challenge occurs when specialists are using totally different EHR products than primary care physicians, which makes it difficult for them to exchange patient data. As HIE grows, they will eventually be able to exchange EHR information.

Meaningful use incentives have motivated practices to adopt EHRs, but have also presented challenges. Minnesota and North Dakota have significant numbers of Rural Health Clinics (RHCs). Although RHCs are eligible entities for REC services, most RHC providers cannot currently qualify for Medicare meaningful use financial incentives because they are reimbursed under Part A, while the HITECH law defined eligible providers as those reimbursed under Part B. In the meantime, REACH has been signing up some RHCs and is helping their affiliated Critical Access Hospitals (CAHs). Another issue has been that one EHR vendor with a high penetration in North Dakota was not able to meet the demand for their product's adoption.

Minnesota was one of the last states to establish its Medicaid EHR Incentive Program; enrollment did not open until October 2012. Enrollment in North Dakota's Medicaid EHR incentive program began in November 2011, but the program was understaffed. As a result, the attestation mechanism was not ready to go, and there was frustration with slowdowns in ap-

plication processing and payment delays.

Lessons Learned

The REACH Program Director shared three lessons learned about working with rural physician practices on EHR adoption and meaningful use. First, "although they have lean staffing, small practices can accomplish a lot with EHRs when provided with tools and resources." The second lesson has been the importance of collaboration: "getting people to network together has been very important. They learn from each other, and the relationships will continue to have an impact long after the REC program has stopped working with them." Third, it's been very helpful for the REC to have strong partnerships with multiple vendors.

The REC Clinical Director observed that physicians are trying to do the best thing for their patients. "It's important to really listen to them about their challenges with EHRs and to "walk in their shoes," he states. At the same time, it's important for the REC to limit their "despair time" and to give them a clear vision of the future. He feels that being a physician who has gone through the process of adopting EHRs in two different health care systems helps him a lot in communicating with physicians. He tries to be honest with them about the difficulty of the process, but also says that he "has yet to meet a physician who has used an EHR for several months that would go back to not using it."

Rural Primary Care Practices in Minnesota and North Dakota

To obtain the perspectives of rural primary care practices on EHR adoption and meaningful use, interviews were conducted with two organizations that received REC services: the Glacial Ridge Health System in Minnesota and Midgarden Family Clinic in North Dakota.

Glacial Ridge Health System, Glenwood, Minnesota

Glacial Ridge Health System includes a 19-bed CAH (Glacial Ridge Hospital, in Glenwood, Minnesota) and two clinic sites (in Glenwood and Brooten), which are certified Rural Health Clinics (RHCs). The medical staff includes seven family physicians, three nurse practitioners, an obstetrician/gynecologist, a general surgeon, and a physician and physician assistant who provide ER coverage. The clinics had a total of 29,733 patient visits last year. About 28 percent of clinic patients are Medicare patients.

EHR Adoption and Achievement of Meaningful Use

The process of implementing the EHR system started in 2006 with the hospital and ancillary departments. The clinics went live with the EHR in 2008. This timeline gave the medical staff two years to get used to the system for looking up lab reports, medications, etc. before starting to chart in the system. During that time, the historical paper charts were scanned. All clinicians use EHRs now; there are limited paper charts in the hospital and none in the clinics.

Glacial Ridge Health System uses the same EHR vendor for inpatient, emergency department, and ambulatory care. They chose a single, all-encompassing EHR system to allow providers to get the same patient information whether they are in the hospital or one of the clinics. Their motivation for implementing an EHR system came from their mission of providing high quality services to patients and striving to be the best. The federal EHR incentives were not a factor in their decision, since their EHR implementation began prior to passage of the HITECH Act.

The EHR system was funded internally. Glacial Ridge Hospital was the first hospital in Minnesota to achieve certification for Stage 1 meaningful use in August 2011; however, because they were so far along in implementing their EHR system, much of the cost was already depreciated and they did not actually receive much of a Medicare incentive. The clinic EHR is certified for Stage 1 meaningful use, but the providers at the two RHC sites do not qualify for meaningful use incentives, because the HITECH Act excluded RHC providers.

Glacial Ridge Health System has two HIT staff: a Chief Information Officer and a Clinical Systems Coordinator. Before the EHR went live, the Clinical Systems Coordinator and Clinic Manager met individually with each nurse-provider team about their workflow and the EHR, and created and modified process maps based on each team's input about what

worked and what didn't. The system has about 30 "super users" who work in each inpatient department and the clinics. The HIT staff gives them tools and support, relies on them to make sure process maps and training guides are up-to-date, and works with them on software changes and training when new updates come out.

Glacial Ridge started working with Stratis Health on their EHR implementation back in 2006. The QIO was a key factor in getting them to use process maps; it gave Glacial Ridge training guides and taught them how to bring the medical staff along. REACH staff helped them understand the meaningful use rules and regulations and worked with them on creating policies to address data privacy and security issues.

Because Glacial Ridge Health System was an early site to implement an EHR, their medical staff initially questioned why it was being done and what the benefit was. Moving from paper to electronic records presented a big learning curve; additionally, some nurses were not familiar with the EHR. In response, the hospital implemented competency testing and training of all nurses in the hospital and will be doing it in the clinics as well.

There are no problems sharing data across the hospital and the two clinics in the Glacial Ridge Health System, since they all use the same EHR system. Glacial Ridge has signed up to participate in the Community Health Infor-

mation Collaborative (CHIC), Minnesota's state-certified Health Information Organization, but it is not yet exchanging data with outside providers.

Benefits of Using EHRs

Glacial Ridge Health System reported being "very satisfied" with its EHR. Seeing EHR data on quality measures has been an extra push for providers to do a better job of documentation and to use the results to improve care. For example, providers thought that they were doing better in terms of tracking information on diabetic patients and immunizations until they saw the data on those measures, and realized they had to change what they were doing to improve them.

Feedback from patients on the EHR has been very positive. For example, patients have said how much they appreciate having a complete medication list when leaving the clinic, and how useful the EHR has been when a physician is able to access their clinical information in the Emergency Department.

Lessons Learned

The Glacial Ridge Health System has shared their experiences planning and implementing EHRs with many other rural sites through REACH activities and as a Premier site for their EHR vendor. They have found that many sites do not have sufficient support from their administrators, who just hand off the EHR project to IT staff. The Glacial Ridge Health System CEO and CFO are very

supportive of the EHR, which has been crucial to their success.

The Glacial Ridge CIO emphasized the importance of using the EHR as a tool to help create new and better processes. She stressed the need to train staff repeatedly on a one-on-one basis, and pointed out that setting standards and goals can help the provider teams optimize their workflow. She adds that it is important not to give up and decide something can't be done with the EHR; their persistence has enabled them to find effective ways to work around obstacles.

Communication is key, according to the CIO: during implementation, Glacial Ridge sent out a report every other week letting staff know the current status of the implementation and future goals. Other general advice is to stay positive and celebrate your successes.

Midgarden Family Clinic, Park River, North Dakota

The Midgarden Family Clinic is an independent practice, with a solo family physician and a Nurse Practitioner who works four days/week. The physician previously practiced for seven years in the RHC associated with the local hospital and for two years in a clinic in Grand Forks. In 2009, she bought the clinic. The practice has about 4,000 patients; about 35-37 percent are Medicare patients. Patients are hospitalized locally at First Care in Park River and referred to Altru and Sanford.

EHR Adoption and Achievement of Meaningful Use

The practice has been using an EHR since April 2011. It was motivated to implement an EHR by limited space in the office to deal with paper charts, and a desire to implement technology to better serve their patients. They knew EHRs were coming eventually, and wanted the practice to be more efficient. In the beginning, Dr. Midgarden didn't really understand what meaningful use involved, but the practice manager and REACH helped her to understand it.

The practice wanted a user-friendly EHR. They started out with 11 vendors, narrowed it down to four, and then had two vendors come back for office demonstrations to make the final selection. They have the same vendor for the business side and the EHR; they also utilize a company with a server in Minneapolis that does the backup for the EHR. The vendor did training with two different teams from the practice – the business side and the physician, NP, and nursing staff. They reported being "very satisfied" with both companies, and with the training received from the vendor.

The practice received a low-interest loan from the state of ND to fund the EHR through a fund designated for that purpose. The physician is not certain that the practice could have obtained the EHR otherwise. The loan was for \$101,000; the practice ended up using \$70,000, along with its own funds, and gave back the rest to the loan fund for other provid-

ers to use. The practice is repaying the loan monthly and applying the physician's Medicare EHR incentive payments to the loan.

REACH staff based at the ND Health Care Review gave the practice a lot of help. When they started in 2010, the practice thought they'd implement the EHR in three months. REACH staff told them not to rush so much. REACH shared a workbook which was very beneficial and helped them select the best product for the practice. REACH assisted with vendor selection, providing a checklist to evaluate the first 11 vendors, and a more intensive evaluation form to use once the practice narrowed it down to four vendors. The REACH staff was "always available"; the practice manager worked with one staff person for over a year until the EHR was live and the practice met meaningful use.

They scheduled fewer patients over the course of a three-week transition period in order to give providers and staff a chance to get used to the EHR. Initially, the providers used paper charts in the exam rooms with the patients and then entered notes in the EHR. Starting in 2010, whenever a patient came in to be seen, the providers would flag items in each chart that they wanted to enter into the EHR system. After seeing the patient, the physician and NP would take the time to write a problem list in the front of the chart, update the surgical history, note allergies, etc. When it was time to enter the information in the EHR, no one had

to guess what the provider wanted in the chart. It was important to do that ahead of time, and important to have the physician and NP deciding what should be on the list, so that nurses didn't have to go through the whole chart and try to figure out what should be scanned for the EHR.

Dr. Midgarden uses the local hospital's EHR system for her patients when they are seen in the emergency room and admitted as inpatients. She can also access her patients' EHRs when they are hospitalized at the practice's main referral hospital, but those physicians cannot yet access her patients' records. She can exchange patient information with other physicians via ND Direct Mail, a secure email system provided through the ND HIT Office. When the practice was interviewed for this case study, its two largest referral entities, Sanford Health and Altru, were not yet on the ND Direct Mail system, but had signed agreements to participate; the practice expects to use the system more often once those entities are participating.

The practice met Stage 1 meaningful use requirements for the first year in November 2011 and again for 2012, and received Medicare incentive payments for Dr. Midgarden. The NP, however, has not received incentive payments. Nurse practitioners do not qualify for Medicare incentives, and her Medicaid patient volume is below the minimum 30 percent volume that non-pediatric providers must have to qualify for any Medicaid incentive.

Benefits of Using EHRs

The practice has always tried to provide appropriate preventive care for patients, and now is getting credit for doing it. For a pre-visit, the EHR allows the provider to have documentation done in minutes without having to wait for dictation. Another positive feature of the EHR is that every note can have the patient's entire history if desired, so the physician can use the clinic note to provide the patient's history when sending the patient to a specialist, instead of having to dictate another letter with the history.

The practice reported that patients have been "very positive" about the EHR, and are looking forward to having the patient portal. The practice has a lot of "snowbirds" who go to Arizona or Texas for the winter. If they become ill, it will be important for them to be able to access their records through the patient portal.

Lessons Learned

As a small practice, providers and staff were able to sit around a table and learn the EHR system together. They feel that taking their time and being prepared were invaluable in making the EHR transition as smooth as possible. Making patient problem lists ahead of time and entering them into the chart and then into the EHR system was key for them.

The practice would advise other rural physician practices planning to implement an EHR to get in touch with an organization like REACH. They feel that they

would not have been able to meet meaningful use without the REC's help. They emphasized the importance of not rushing into the decision, because "making a mistake and switching to a different EHR is costly and takes a lot of time."

Conclusions

This case study of the REC serving Minnesota and North Dakota and our second case study on the North Carolina REC demonstrate the importance of the REC program in helping rural providers adopt EHRs and achieve meaningful use. Recent national data on the substantial growth in EHR adoption among rural physicians is further evidence of the importance of the REC program, as well as Medicare and Medicaid financial meaningful use incentives.¹¹

References

1. Casey M, Moscovice I, McCullough J. Rural primary care practices and meaningful use of electronic health records: the role of regional extension centers. *J Rural Health*. 2013, 1-8. doi: 10.1111/jrh.12050
2. Casey M, Moscovice I, McEllistrem-Evenson A. Case studies of regional extension centers serving rural practices: Minnesota & North Dakota. University of Minnesota Rural Health Research Center, Nov 2013. <http://rhrc.umn.edu/publications/>
3. Centers for Medicare & Medicaid Services. Meaningful use. 2012. http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Meaningful_Use.html
4. Centers for Medicare & Medicaid Services. Stage 2 overview tipsheet. 2012. http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/Stage2overview_Tipsheet.pdf
5. US Census Bureau. Statistical Abstract of the United States: 2012. <http://www.census.gov/compendia/statab/2012/tables/12s0029.pdf>.
6. Estimates provided by the Minnesota Office of Rural Health and Primary Care in January 2013, based on 2011 licensure data from the Minnesota Board of Medical Practice.
7. Kaiser Foundation. www.statehealthfacts.org.
8. Estimates provided by the North Dakota Center for Rural Health in January 2013.
9. Office of the National Coordinator for Health Information Technology, Department of Health and Human Services. Health information technology extension program: regional centers cooperative agreement program funding opportunity announcement and grant application instructions, 2009.
10. Decker SL, Jamoom EW, Sisk JE. Physicians in nonprimary care and small practices and those age 55 and older lag in adopting electronic health record systems. *Health Affairs*. 2012;31(5):1108–14. doi: 10.1377/hlthaff.2011.1121
11. Hsiao CJ, Jha AK, King J, Patel V, Furukawa MF, Mostashari F. Office-based physicians are responding to incentives and assistance by adopting and using electronic health records. *Health Affairs* 32:8, Aug 2013. doi: 10.1377/hlthaff.2013.0323

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University of Minnesota Rural Health Research Center
Division of Health Policy and Management, School of Public Health, 2520 University Avenue SE, #201
Minneapolis, Minnesota 55414