Promising Practices #7
Change of Scope for Electronic Health Records

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Summary

Health centers in California recently got the state to approve a change of scope for electronic health records (EHR), so that health centers can include the costs of EHRs when calculating their reimbursement rates.

Background

California law currently recognizes change in applicable technology as a change in scope of services as long as the applicable technology directly impacts the type, intensity, duration and/or amount of FQHC services provided by the health center. According to the attached case study, at least three other states (Arkansas, New Jersey, and Texas) include change in applicable technology as a change in scope. As health centers began to implement EHRs, the case needed to be made that implementing EHR should qualify as a triggering event for an adjustment in reimbursement rates.

Strategy

Previously a health center had unsuccessfully sought a similar change for a practice management system, which the state considered an administrative cost. So rather than have one health center go alone to the state, the California Primary Care Association (CPCA) went to the state using Shasta Community Health Center as a case study. An extensive case study was commissioned that outlined the rationale and provided data on the impact of EHR on productivity. This was timed with the Governor's Commission on Health Information Technology (HIT) Financing which identified health centers as needing resources and also likely to benefit the state as a major payor.

In California, the scope of service change process is an administrative process involving the state health department's audit and investigations personnel, whose expertise is in accounting. CPCA

and Shasta took the case study to the state health department's policy personnel in order to advocate that the case study both meets the definition of a scope change and that this acknowledgement should be made for distinct policy reasons including the Governor's interest in facilitating the adoption of EHRs and other HIT. Shasta did not initiate the administrative scope of service change process until after CPCA was told by leadership in the state's policy division that EHR adoption would qualify as a triggering event. Once Shasta received this information, they submitted their scope of service change with EHR as the qualifying event and it was subsequently adopted.

Lessons Learned

Use a case study to make your argument. Choose a strong, well-managed health center for the case study. Timing can be a critical factor. California chose to move this issue forward because of the Governor's strong interest in HIT financing.

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Attachment

Case Study "EHR as Triggering Event"

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NACHC mission statement

To promote the provision of high quality, comprehensive and affordable health care that is coordinated, culturally and linguistically competent, and community directed for all medically underserved populations.

Implementation of Electronic Health Record as a Triggering Event for Increased Reimbursement of Federally Qualified Health Centers

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Introduction

For Federally Qualified Health Centers (FQHCs), California law recognizes a change in applicable technology as a change in scope of services as long as the applicable technology directly impacts the type, intensity, duration and/or amount of FQHC services provided by the health center. This paper argues that the adoption and implementation of health information technology, specifically an Electronic Health Record (E.H.R.) system, should qualify as a triggering event for an adjustment in a clinic's reimbursement rate because it directly impacts the intensity, duration and amount of FQHC services provided by health centers. A detailed case study is provided to describe how implementation of E.H.R. at Shasta Community Health Center impacted FQHC services, thereby warranting an increase in reimbursement.

Background

FQHC Services in Medicaid

FQHC services are a mandatory Medicaid benefit[1] and FQHC services are defined in the state Medi-Cal Act as a covered benefit.[2] The state Medicaid program is required to pay for FQHC services, as defined in Section 1396d(l)(2) of the United States Code and any other ambulatory services offered by an FQHC and which are otherwise included in the state plan for medical assistance.[3] Section 1396d(l)(2) defines FQHC services to include the following services: 1) physician services and covered services and supplies incident to a physician professional services, and pneumococcal vaccines; 2) the services of nurse practitioners, physician assistants, licensed clinic psychologists, licensed clinic social workers and services and supplies furnished incident to the services of these types of providers if the services and supplies furnished incident to would otherwise be covered if furnished incident to a physician's services; and 3) visiting nurses services when furnished to an individual as a patient of the FQHC.[4]

The Prospective Payment System Rate

The Prospective Payment System (PPS) reimburses FQHCs for meeting unique requirements when providing services to Medi-Cal patients. The Medi-Cal PPS rate differs from its fee-for-service rate. The California Department of Health Services establishes each FQHC's PPS rate based on the clinic's reasonable cost for providing services to Medi-Cal beneficiaries. Reasonable cost is calculated upon a historical baseline. Under California law, for those health centers in existence before 1999, a center's PPS rate can be determined in one of two ways. Either it is based on its 1999 and 2000 average costs, or using an alternate PPS calculation, it is based on the 2000 costs only. The PPS rate can be adjusted for changes in an FQHC's services or service delivery. Federal law states that the rate for any fiscal year from 2001 forward can be "*adjusted to take into account any increase or decrease in the scope of such services furnished by the center or clinic during that fiscal year.*"[5]

E.H.R. Expenses as Allowable Costs in Establishing or Adjusting the PPS Rate

The costs associated with the adoption of an E.H.R. are allowable costs that can be included when a health center establishes or revises its PPS rate. In Medicare and Medicaid, an FQHC's allowable costs are determined by the principles for reimbursement as set forth in 42 Code of Fed. Regs. Part 413.[6] The

[1] 42 U.S.C. § 1396a (a)(10).
[2] Cal. Welfare & Institutions Code § 14132.100(a).
[3] 42 U.S.C. § 1396d(a)((2)(C).
[4] 42 U.S.C. § 1396d(*l)*(2)(A) referring to 42 U.S.C. § 1395x(aa)(1).
[5] 42 U.S.C.§ 1396a(bb)(2), (3) (B).
[6] 42 Code Fed. Regs § 405.2468(a); *also see* CMS Pub. 45, *State Medicaid Manual*, §6303.

following types and items of cost are included in allowable costs to the extent that they are covered and reasonable:

1. Compensation for professional services of those core providers who are employed by or furnish services under contract with the FQHC;
2. Compensation for the duties of a supervising physician;
3. The costs of services and supplies furnish incident to;
4. Overhead costs;
5. Cost of services purchased by the health center. [7]

Although Part 413 does not specifically address the adoption of an E.H.R., the cost provided by an FQHC would be allowable under Medicare reasonable cost principles. 42 CFR Section 413.9 (c)(3) states, *"The determination of reasonable cost of services must be based on cost related to the care of Medicare beneficiaries. Reasonable cost includes all necessary and proper expenses incurred in furnishing services, such as administrative costs and maintenance costs."* Because the costs associated with E.H.R. are directly related to providing health care services, and include both administrative and maintenance costs, these costs would be considered reasonable according to Medicare cost principles.

Triggering Events for Change in Scope of Service

Although California law allows for the costs associated with E.H.R. to be included when a health center revises its rate, to date E.H.R. adoption has never been used to *trigger* a rate change. California state law allows for an FQHC to apply for an adjustment in its PPS rate based on a change or "triggering event" in the clinic's scope of services or delivery system. Not all changes qualify. The Welfare & Institutions Code § 14132.100 (2) (A-I) defines what constitutes these triggering events, but includes modifications such as: 1) The addition of a new FQHC service that is not incorporated in the baseline PPS rate; 2) a change in service due to amended regulatory requirements or rules; and 3) a change in service resulting from relocating or remodeling an FQHC.

A total of four states have language included in their state plan amendments approved by the federal Centers for Medicare and Medicaid Services (CMS) saying a **change in technologies** can be considered in a change of scope. California has defined a triggering event to include a change in technologies at an FQHC, or more specifically *"a change in type of services due to a change in applicable technology and medical practice utilized by the center or clinic,"*[8] and this change has been included in California's state plan amendment. The other three states recognizing a change in technologies as a triggering event in their state plan amendments are Arkansas, New Jersey, and Texas. Delaware includes similar language in its Provider Policy Manual for FQHCs. Oregon recently finalized regulations that will allow for E.H.R. to be a qualifying event for a scope of service change as long as other conditions are met,[9] and FQHCs will be able to submit a scope of service change beginning in October of 2008.

In California, the change in technology must result in a **change in the type, intensity, duration or amount of FQHC services**. The Centers for Medicare and Medicaid Services provided the original direction with respect to a change in the scope of service, and California adopted their guidance into law.[10] The Welfare & Institutions Code § 14132.100 (I) (C) states, "*The change in the scope of services is a change in the type, intensity, duration, or amount of services…"* Therefore any qualifying change in an

[7] 42 Code Fed. Regs § 405.2468(b).
[8] Welfare & Institutions Code § 14132.100 (2) (D)
[9] Oregon Department of Human Services, Division of Medical Assistance Programs, Federally Qualified Health Centers and Rural Health Clinics Rulebook, 410-147-0362 Change in Scope of Services, January 1, 2008. Retrieved from http://www.dhs.state.or.us/policy/healthplan/ guides/fqhc-rhc/main.html
[10] CMS (2001, September). BIPA of 2000, Prospective Payment System for FQHCs/RHCs, Question & Answer.

FQHC's scope of service must have a corresponding change in the type, intensity, duration or amount of FQHC services.

Definition and Benefits of E.H.R.

Only about 13 percent of community health centers nationwide have adopted an E.H.R. that meets minimum federal standards of functionality.[11] Minimum standards include electronic patient demographics, computerized orders for prescriptions and tests, electronic lab results, and electronic clinical notes. In comparison, 24 percent of physicians used E.H.R.s in ambulatory settings through 2005, according to the National Ambulatory Medical Care Survey, an annual, government funded nationwide survey of ambulatory care physicians.[12] There are varying degrees of health information technology adoption, such as registries, practice management systems, and databases. E.H.R. is generally defined as *electronic documentation of providers' notes, electronic viewing of laboratory and radiology results, and electronic prescribing* (known as computerized order entry, or CPOE).[13]

E.H.R.s allow FQHC providers to better track their client population, especially for preventive screenings, chronic disease management, and coordination of care. A 2007 study conducted by UCSF analyzed the cost and benefits of electronic health records in six community clinics serving low-income patients. The study found improvements in preventive and chronic care were substantial.[14] All providers electronically viewed data, such as lab results; maintained coded lists of patient problems, services provided, medications, and allergies; and used electronic forms to generate prescriptions and lab orders and to document treatment progress. Clinics were also able to use the electronic health record systems to generate lists of patients needing chronic or preventive services, such as diabetic services, immunizations, and flu vaccinations. Additional benefits include:

> ***Higher Quality Patient Care:*** An E.H.R. system can alert providers at the point of service about treatment or possible risks to avoid costly and potentially harmful medical errors. Providers receive electronic reminders or prompts to take certain preventive measures in caring for patients, such as indicating when a diabetic patient is due for a blood test. Patient reminders are sent when they are due for a visit. Data collected through E.H.R. systems will put health centers in a better position to participate in pay-for-performance incentives since quality improvement data will be more readily available.
>
> ***More Accurate and Efficient Prescription Drug Processing***: Electronic prescribing helps reduce the risk of drug interactions because E.H.R. software modules can flag when a negative drug interaction could occur. These modules can also recommend generics as alternative to brand medications, which can result in cost savings for the patient. Possible confusion resulting from a physician's illegible handwriting, a common administrative hurdle with paper prescriptions, can be avoided. FQHCs can decrease patient wait time for life saving and time-sensitive medicines. When a prescription is issued electronically from a provider to a pharmacy, the pharmacist receives the order immediately and can begin to fill the prescription before the patient arrives.

[11] Shields AE et al. (September/October 2007). Market Watch: Adoption of health information technology in community health centers: Results of a national survey. Health Affairs, 26(5), 1373-1383.
[12] Jha AK et al. (October 11, 2006). How common are electronic health records in the United States? A summary of the evidence. Health Affairs, 25, web exclusive, p. w496-w507.
[13] Jha AK et al. (October 11, 2006). How common are electronic health records in the United States? A summary of the evidence. Health Affairs, 25, web exclusive, p. w496-w507.
[14] Miller RH & West CE. (February 2007). Market Watch: The Value of Electronic Health Records in Community Health Centers: Policy Implications. Health Affairs, 26(1), 206-214.

Provider Efficiency: Providers can quickly retrieve a patient's medical information at the point of care. Once an E.H.R. has been established for a patient, providers can access, update, and maintain the patient's record instead of waiting for records to be released or calling provider offices for information, which are extra steps that can delay care.

Improved Coding: Clinicians have online access to ICD-9 coding information through the E.H.R. In some software packages, an ICD-9 search utility is also incorporated. This assures that each clinician will properly code every diagnosis.

Interoperability & Information Exchange: Interoperability allows an FQHC to adopt clinic-based or shared services that interconnect in a health information exchange system with regional networks, such as all providers in a community, pharmacies, labs, and hospitals. This will allow more access to complete and timely patient information at the point of care, and route data to and from the information exchange system for streamlined quality measurement and reporting.

Improved Disaster Preparedness: Clinics are required to meet their communities' medical needs in the event of a disaster or public health crisis. During and after a disaster, clinics must ensure that continuity of care, including managing patient medications and medical records, is maintained.[15] Currently, many FQHCs do not have the technological infrastructure to play such a vital role in disaster preparedness. An E.H.R. system will aid clinics in better complying with the state's requirements. The adoption and implementation of E.H.R. offers FQHCs new emergency disaster response and recovery capabilities for providers and patients. E.H.R.s can also allow clinics to respond to public health outbreaks, treatment, isolation, vaccination, or prevention in real time.

The numerous benefits of E.H.R., in particular the opportunity to improve quality, show how investment in a system could be to a health center's advantage. Some believe state and federal officials should support scope changes since this would encourage health centers to adopt electronic health records and in doing so move closer to aligning with state and federal policies related to interoperability, quality improvement, and pay-for-performance initiatives.[16] Furthermore, patients seem to appreciate the improved care they feel they receive as a result of E.H.R. Seventy-five percent of patients surveyed by the Wall Street Journal believed they would receive better care if physicians could share information electronically, and thought E.H.R. could reduce medical errors and health care costs.[17]

However a number of challenges also arise in selecting, implementing, training on and operationalizing an E.H.R. In addition to the expense of purchasing E.H.R. hardware and software, additional burden is placed upon medical staff to input the necessary data and manage their patients in the same number of hours they did prior to implementation.

[15] Governor's Office of Emergency Services. (2002, June). Clinic Disaster Plan Guidance.
[16] Dutton M & Epp P. (2007, December 5). Health IT: Supporting health-center IT investments through Medicare and Medicaid. Health Affairs Blog. Retrieved from http://healthaffairs.org/blog/ on January 9, 2008.
[17] The California Healthcare Foundation. (2007, November 29). Poll: Most adults say E.H.R. benefits outweigh privacy risks. iHealthBeat. Retrieved from www.ihealthbeat.org

Case Study: Shasta Community Health Center's Change in Technology -- Adoption of E.H.R.

An in-depth case study of electronic health record implementation was conducted with ***Shasta Community Health Center***, one of the first health centers in California to adopt E.H.R., to determine whether the change in technology met the criteria of changing the type, intensity, duration or amount of services, and therefore would be considered a triggering event for a rate change. Shasta Community Health Center (SCHC) is a nonprofit primary health care system, and has served Shasta and surrounding counties since 1988. The health center is based in Redding, California, about a two-and-a-half hour drive north of Sacramento on Interstate 5, and has additional medical sites in the nearby towns of Anderson, Shasta Lake City, and Happy Valley, as well as a dental site in Redding. Although Redding is considered a fairly large town with a population of about 100,000, one only has to drive about 10 miles to find rural surroundings with minimal services. SCHC's mission is to provide comprehensive, high quality, efficient and effective healthcare services delivered in a holistic, caring and compassionate way, as part of an interdependent health system, to the residents of Shasta County. The health center places a special emphasis on providing preventive, acute, and chronic health care services to economically and otherwise disadvantaged individuals.

SCHC started to seriously assess their organization for E.H.R. readiness in the Summer of 2006. Today SCHC uses NextGen electronic health record and the same company's integrated practice management system. SCHC began to test and revise E.H.R. templates in October 2006, trained on the process and system beginning in January 2007, and began extensive implementation of the system in May of 2007. Today a total of 36 physicians/clinicians (100%) at all four medical sites, plus the mobile unit serving homeless patients, use E.H.R. A lab interface with Quest Diagnostics is being used, and an interface is in development with LabCorp. The health center is using e-prescribing (Surescripts) and Image Control System (ICS) scanning technology for documents needing to be scanned into the system.

The process of seeing a patient has changed noticeably with the implementation of electronic health record. Generally speaking, the clinician first reviews the hard copy medical chart prior to seeing the patient, and in most cases also takes the chart into the room. Each exam room now has a computer on a stand so a clinician can stand at the computer and look at the patient or look down to enter data as they are talking. The patient may sit on the exam table or in the client chair, depending on the room and the patient's reason for the visit. A parent or spouse may also be seated in a client chair.

The physician asks the patient questions and types answers into the computer regarding the patient's reason for the visit, as well as the assessment and plan. Physicians navigate between multiple electronic templates, select from drop down menus, and enter data into multiple discreet fields. Providers are required to type narrative descriptions on the reason for the visit and every aspect of the physical assessment and plan which are more detailed than information handwritten into the medical record in the past. Most labs and almost all prescriptions are now ordered electronically. Diagnostic tests and lab work are ordered on dedicated templates, and medications (new and refills) are managed in the medication module. The provider accesses past lab reports in the system by double clicking on an electronic copy. He or she can show a patient an x-ray on a screen and explain the findings.

Once the patient leaves the room, the physician normally moves to a work station in the hallway, logs on to the system, and finishes completing the electronic record for that patient. He or she will field questions from nursing staff during that time, complete tasks that have been sent electronically, and provide indirect patient care such as reviewing lab results or approving medication refills until the next patient arrives.

E.H.R. Implementation as a Triggering Event for a Scope of Service Change

Implementation of electronic health record should trigger a scope change because it impacts the intensity, amount and duration of FQHC services. Because of the amount of data and information available to the SCHC clinician, the intensity of the visits has increased as the provider now has much more information available at his or her fingertips with which to make clinical decisions. The amount of services has increased as more services are provided in one visit. Finally, the duration of the services has increased as patients spend more time with their physician, and physicians work longer hours. Additional information is provided on each of these areas, and references attached documentation further illustrating the issues.

The Intensity and Amount of Services during the Visits has Increased

Virtually every type of patient visit has become more intensive because of the implementation of E.H.R. More preventive services are provided because reminders are embedded into the patient's electronic health record. More information is available to the physician for all patients. Specialty information is available to primary care physicians, which in some cases can prevent the necessity of a patient referral to a specialist. More services tend to be provided in one visit to complex patients. Patients with multiple chronic diseases now have a documented plan for each listed health problem and physicians address them all rather than each one sequentially. Homeless patients seen in the mobile clinic in the community now have an electronic record which for the first time that allows for continuity of care for a population that in the past only received episodic care in the field without the benefit of a past health history. Mental health services are for the first time integrated with the physical health record, so psychiatrists and other mental health providers have access to all of the patient's health information, as well as better information on medications. Less complicated patient visits, such as for prescription renewals or medication management, occur less frequently since this type of concern can now be addressed more readily over the phone. Providers now have access to a patient's health information when he or she is on call or working in the hospital emergency room. Physicians are functioning at a higher clinical intensity based upon having instant access to all pertinent clinical information.

More preventive services are provided since prompts are built into templates. In the past, physicians would recommend certain preventive measures such as cancer screenings, immunizations and flu shots based upon standard medical practice or health center policies. Now standard preventive services appear within the E.H.R. itself with a description of when and how often the patient should receive the service. Three different templates list required preventive services by age with the recommended frequency: the Health Maintenance, Master Internal Medicine, and Immunizations templates (see **Attachment 1**).

- The *Health Maintenance template* prompts the provider to screen for cardiovascular disease, for prostate, colorectal or breast cancer, and to provide adult flu and pneumonia immunizations. For example, under "cancer screening" it lists prostate cancer PSA (prostate specific antigen) blood test with a note, "annually starting at age 50." The influenza immunization is recommended "annually starting at age 50." The template includes the reference that recommends the frequency, such as the American Urological Association, or the U.S. Preventive Services Task Force (USPSTF).

- The *Master Internal Medicine template,* which is used for more complex adult patients, includes a "Health Monitor" which goes a step further and indicates the date the patient is due for health maintenance or disease management preventive services. Under the "health maintenance" heading it says when the patient is due for their colonoscopy, sigmoidoscopy, mammogram, PAP test and tetanus shot. Under "disease management" for the patient with diabetes it indicates the due date of the eye exam, foot exam, and hemoglobin A1c reading among other requirements.

- The *Immunization template* reminds providers of the pediatric immunizations that need to be given such as polio, measles, mumps and rubella (MMR), and hepatitis, as well as adolescent and adult immunizations.

The reminder prompts built into the E.H.R. has increased the number of preventive services provided, and has created clear documentation as to recommended and completed preventive services. Not only are more preventive services being provided to patients, but the E.H.R. prompts have created greater accountability to complete screenings and diagnostic services.

More medical data and information are available to the physician for all patients. Because of the amount of information now available to clinicians, visits are much more intensive. For example, although clinic providers have always seen a high number of patients with chronic disease, their visits are much more intensive since E.H.R. has been implemented. The format of the E.H.R. requires extensive data collection, including a list of patient problems at the initial visit. Patients with one chronic disease, such as hypertension, tend to be afflicted with other chronic diseases, such as diabetes, asthma, and/or overweight, so the problem list can be very long. Clinicians review a high volume of data during the visit – data they did not have access to prior to E.H.R. In addition, physicians can instantly review lab results and x-rays, and show the results to the patient. Reports from specialists are available with a double click of the mouse. Because of the wealth of information available, physicians are operating at a higher clinical level rather than spending time tracking down information, so visits are much more medically intensive.

Specialty information is available from an online medical expert database. In addition to the more detailed electronic health record, the physician can access an online reference to medical expert opinion through a module called "UpToDate," which offers evidence-based, synthesized medical information. It includes a database of topics written, reviewed, and continually updated by a faculty of physician experts. The resource is available in each exam room, at each work station, and in the home of the on-call clinician. The immediate availability of expert opinion provides further information for the physician to consider in aiding the patient, and allows the physician to make certain decisions during the patient visit rather than referring the patient to a specialist. For example, a Shasta Community Health Center physician recently had a patient with knee pain who was also taking Fosamax, a medication used to prevent or treat osteoporosis, or bone loss. The clinician researched whether Fosamax could also be used to prevent or slow arthritis in the knee. According to the online medical expert database:

> *"Medications to prevent or treat osteoporosis include Fosamax, Evista, and estrogen. They work by altering the cycle of bone formation and breakdown. Taking Fosamax or estrogen for osteoporosis may help protect against knee osteoarthritis, according to a new study.* ***Drugs used to treat osteoporosis may also help prevent the bone abnormalities that can lead to arthritis of the knee, new research suggests.*** *The study appears in the November 2004 issue of Arthritis & Rheumatism (Carbone, L, et al. Arthritis & Rheumatism, November 2004; vol 50: pp 3516-3525)."*

The physician incorporated this new information, which is typically information only a specialist would have, into his medical decision-making, and as a result did not have to refer the patient to a rheumatologist.

In addition, the database can be used to provide a physician with key details to help distinguish between two conditions in order to more accurately diagnose a patient. Again, with the additional medical information available to physicians, the clinical intensity has been increased since the physician needs to incorporate even more information into his or her decision-making.

Complex patients are receiving more intensive services and a greater number of services. Prior to implementation of E.H.R., a problem list was developed for each patient, but a detailed treatment plan was not necessarily developed. **Attachment 2** compares a paper medical chart and electronic health record of the same complex diabetic patient cared for by the same provider. **Attachment 2a** provides a copy of the patient's paper medical chart (4 pages long), and **Attachment 2b** provides of a copy of the same patient's electronic health record (16 pages long). More information is collected in the E.H.R., resulting in a higher intensity and amount of services. For example, the detailed problem list of seven health issues with the corresponding treatment plans (p. 9) resulted in a more intensive approach to caring for the patient. Previously the problems were listed, but a detailed course of action was not developed for each problem (p. 3). The E.H.R. contains detailed social and family histories (p. 8) and other information that the paper chart did not have, which better equips the provider with the information needed to care for the patient.

More services are provided in one visit for complex patients. Once all of the data has been entered into the electronic record and the physician has a clear picture of the patient's medical problems, he or she is more likely to address more of them in one visit. The equivalent of three to four visits in the past may be squeezed into one or two long visits with E.H.R. since the information is available immediately. Providing more services due to implementation of E.H.R. is consistent with a comprehensive British study of Kaiser Permanente's E.H.R. implementation in Colorado and the Northwest regions which found the percentage of members requiring three or more visits decreased by 10 percent once E.H.R. was implemented. Kaiser Permanente physicians attributed this decrease to being able to identify and resolve patients' problems sooner since all of the information was available to them during the first visit.[18]

Homeless patients are receiving more services and more intensive care. Shasta Community Health Center uses their mobile medical unit to go into the community and care for individuals who are homeless. In the past, because the medical record was housed at the clinic and a patient list cannot be developed in advance, the clinician did not have the advantage of historic patient information. With electronic health record, the clinician has access to the same database on a laptop in the mobile unit as he or she would have at the health center. For the first time ever, a homeless patient who visits the mobile unit more than once has an electronic health record and the same continuity of care as a patient who visits the health center multiple times. Now the clinician can share any health changes with the patient, such as an increase in blood pressure or drop in weight, and develop a plan on how to address them. If the patient needs community support or veteran services, health care staff can use the laptop to search for those services and print the information to give to the patient on the spot. Use of the E.H.R. has made a big difference in caring for homeless patients, resulting in additional and more intensive services being provided.

Mental health practitioners are providing more intensive services to patients. The integrated physical and mental health E.H.R. provides more information to the psychiatrist about the patient's physical condition, enabling him or her to provide more intensive and responsive services. Many patients with chronic diseases also have depression or other mental health challenges, so the two are interrelated. The psychiatrist can now look at the whole patient, both the physical and emotional aspects, and better meet the patient's needs. The complete medication list includes medications for both physical and mental health, and possible drug interactions can be more readily identified. Reactions to psychotropic medications as measured by a standard tool called the Global Assessment of Functioning (GAF) can be trended over time. This tool measures the patient's self-reported functioning at work, in relationships, and in day-to-day activities upon initiation of the medication. Medications are then adjusted accordingly.

[18] Garrido T et al. (March 5, 2005). Effect of Electronic Health Records in Ambulatory Care: Retrospective, Serial, Cross Sectional Study. British Medical Journal, 330 (7491), p. 551.

The increased information available to psychiatrists has again resulted in more intensive services to the patient.

Physicians have fewer routine visits, such as those for medication management. In the past, more patient visits were for medication monitoring and renewal. A patient may have called for a renewal of a prescription, but because of the work required to pull a chart, review it and make sure all the relevant lab work and other diagnostic studies were available, it often meant that the patient had to be present to go over this information in order to make any adjustments to their medication or treatment plan. Now that E.H.R. has been implemented, fewer patients require these kinds of appointments because the information is more readily available. Instead, a patient calls the health center to request a renewal, and the nurse sends an electronic message to the physician with the patient's information. The physician then retrieves the electronic health record, and when appropriate, approves the request or alternatively, determines that further studies are necessary, such as additional lab work or other diagnostic studies. These issues can often be handled outside of a patient visit. As a result, fewer patients have to come into the office for routine services. Again, this finding is consistent with the study of Kaiser Permanente's E.H.R. implementation which found a 5-9 percent decrease in office visits since physicians were able to call up the medical record and resolve health issues by phone.[19]

Physicians have access to patient information when they are on-call. When SCHC physicians take call at night and on weekends for SCHC patients, they now have access to the electronic health record from their home computer. Likewise emergency room physicians, under HIPPA and security agreements, have this same kind of access. Because physicians now have access to the patient's medical information through the E.H.R., they can make more informed decisions about triaging the patient, providing an electronic prescription and/or giving comfort measures, or deciding to direct the patient in the emergency room for urgent or emergent care. The clinician can make a much more informed and objective decision if he or she has relevant clinical data including a patient's medication list, clinical notes, diagnostic studies, and other information. Access to a greater amount of information increases the clinical intensity at which the physician is operating and allows for better decision-making.

An SCHC physician recently had the experience of working in the hospital emergency room, and having a patient visit the hospital for back pain. The physician asked if the patient had been prescribed opiates in the past year, and the patient said he had not. The physician accessed the SCHC E.H.R. from the emergency room, and saw the patient had just had 30 Norco, which is a type of opiate pain medication, prescribed to him by another SCHC physician nine days prior. He explained this to the patient at which point the patient promptly left the emergency room on his own accord before potentially having the patient receive another pain prescription or injection that could have compromised his health and safety. This same type of example of ready access to clinical information also applies to an area hospitalist providing inpatient care where 24/7 access to the patient record helps with more efficient patient assessment, medication management and treatment planning and care. All of this serves for better patient care and economic benefit to the payers that in the case of SCHC, is typically a public payer source like Medi-Cal.

[19] Garrido T et al. (March 5, 2005). Effect of Electronic Health Records in Ambulatory Care: Retrospective, Serial, Cross Sectional Study. British Medical Journal, 330 (7491), p. 551.

The <u>Duration</u> of Patient Visits and Provider Work Days has Increased

Since the implementation of E.H.R., physicians spend more time with each patient on average, see fewer patients, and work longer hours than they did prior to its adoption. Because primary care physicians see patients with a variety of problems, completing the E.H.R. is different with every patient, unlike in specialty practices where specialists see patients with similar problems. The diversity of patients in a primary care setting and the higher proportion of patients in a community health center setting with serious chronic diseases, compared to private practice, means the approach of every E.H.R. is different, and providers do not benefit from routine and repetition which lead to time savings. Instead, they complete as much of the electronic health record as they can when the patient is in the room, then finish it after the patient has left. When not entering information into the medical record, they respond to multiple tasks being sent to them electronically throughout the day by nurses and other staff.

<u>Physicians see fewer patients for longer appointments and work longer days</u>. Shasta Community Health Center engaged in a time study to determine the average length of time physicians spend with their patients, the number of patients seen per day, and the number of hours worked. Between October 1 and October 31, 2007, a total of 25 clinicians answered a standard set of questions, and manually tracked the length of each visit and the number of patients seen per day. The study showed the length of the average patient visit increased from 26 to 36 minutes. After implementation of E.H.R., physicians saw an average of 13 patients per day versus an average of 18 patients per day seen prior to implementation.

Figure 1

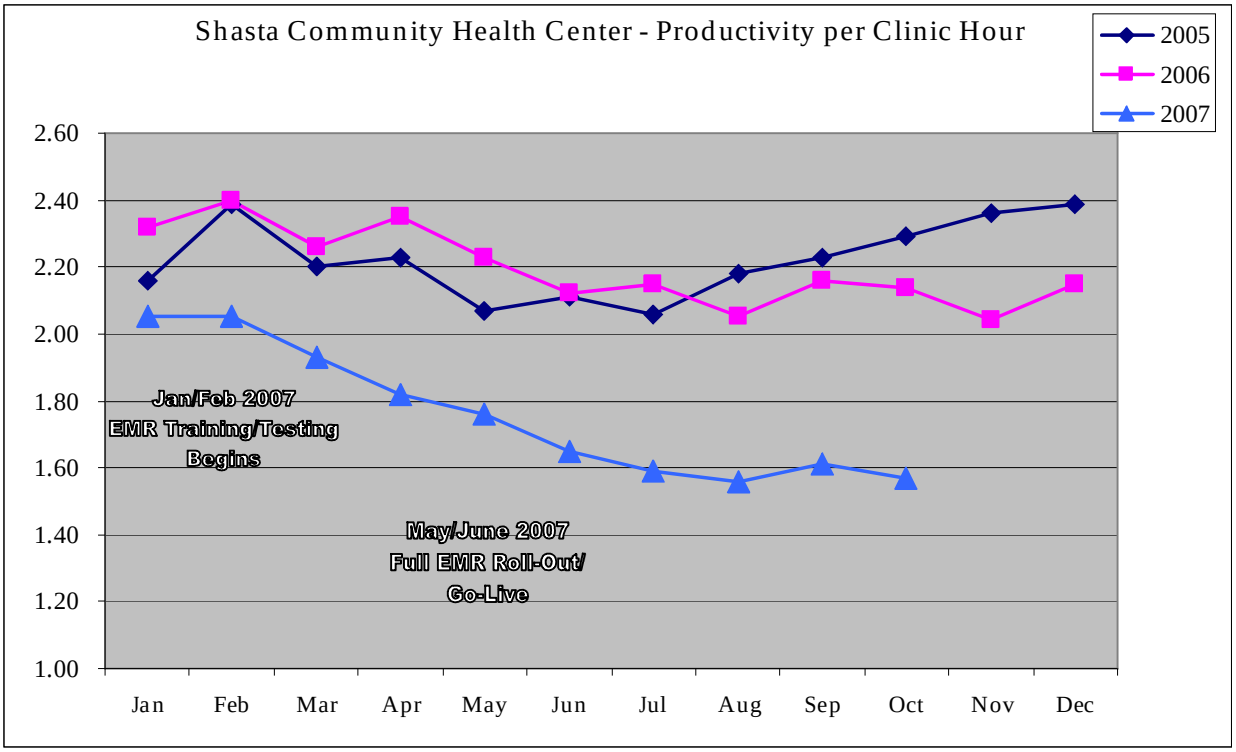

Figure 1 shows physician productivity decreased 27 percent since implementation of E.H.R. In December 2006, prior to E.H.R. training or implementation, physicians saw an average of 2.15 patients per hour. When training was implemented in January 2007, productivity decreased slightly to 2.05 patients per hour. In June 2007, when electronic medical record was implemented, productivity dropped to 1.65 patients per hour, and as of October 2007 was at an all time low of 1.57 patients per hour. This shows a 27 percent decrease in productivity, and physician and administrative leadership fear productivity

will never reach pre-E.H.R. levels. In addition, clinicians are now working an average of 10 hours per day rather than 8 hours as they did previously.

During the extra hours, SCHC physicians complete patient records and provide indirect patient care, such as approving medication refill requests, reviewing lab results and reports, and other activities. This experience is supported in a literature review conducted by Poissant et al. regarding the impact of E.H.R. on time efficiency.[20] The review concluded that physicians using point-of-care computers spent 17.5% more time on documenting the patient encounter than they did prior to E.H.R.

Physicians spend an average of 10 minutes per patient entering data and providing indirect care after the patient has left. Physicians are finding it impossible to enter all of the necessary data while the patient is in the room, so they finish entering data afterward for an average of 10 minutes. They also provide indirect care such as reviewing lab results or managing medication requests. Prior to implementation of E.H.R., more work could be completed by the nurse. For example, a hard copy of the lab order could be filled out by a member of the nursing staff, as could a prescription for a sample medication that was then signed by the clinician. Now it is not possible to capitalize on these efficiencies because the clinician must sign into the system and enter all of the data. Additional burden has been placed onto the provider for data input and indirect patient care.

Physicians respond to e-mailed "tasks" during the work day and after hours from nurses and other staff. In the same way that e-mail has facilitated communication but also seems to have created more work for the people who use it, electronic "tasks" sent through the E.H.R. system have created additional work for physicians. These tasks consist of phone messages from patients, refill requests, patient follow-up activities, and various and sundry other requirements. Although task lists have helped with communication, the ease with which tasks can be entered into the computer by all staff, and the electronic inventory of every request, has created more work and more accountability for clinicians. These tasks, too, are completed before and after normal work hours.

Patients have commented on the longer visits since E.H.R. implementation. In a recent patient satisfaction survey, a question was asked about satisfaction with the electronic health record system. Out of 30 written patient comments, one said, *"It seemed like my appointment was much, much longer."* Another said the E.H.R. "*seemed to slow things down a little bit.*" Anecdotally physicians report similar comments from their patients when asked about their impression of E.H.R. during the visit. Because of the extent of the data required, at least one physician had the experience of a patient saying they did not have the time to continue providing the data requested by the physician for the electronic chart, and asked that the visit be completed. Patients are noticing that visits take longer with E.H.R. In addition, the other impression that patients overwhelmingly commented on was that they felt much more confident that their clinician had the information they needed at the visit and that the quality of care they were receiving was improved as a result.

[20] Poissant L. et al. (September/October 2005). Review Paper: The impact of electronic health records on time efficiency of physicians and nurses: a systematic review. Journal of the American Medical Informatics Association, v. 12(5), p. 505-516.

Conclusion

Shasta Community Health Center's experience with implementing electronic health record illustrates the many ways in which FQHC services have been impacted. California state law specifies a change in technology can be a triggering event if it changes the type, intensity, amount or duration of services. For SCHC, intensity, amount and duration of patient services have been impacted, as has been described here. Additionally, much of SCHC's history with E.H.R. is similar to the experiences of other community health centers or health systems nationwide that have been described in the literature.

Recommendation

The California Department of Health Services should determine the adoption and implementation of E.H.R. systems at FQHCs as a change in scope of services, and therefore a triggering event that qualifies for a PPS rate adjustment.

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