# Prevention First Project Year 1 Report:

## Initial Findings on Provider's Use of Electronic Health Records and Community Health Workers from Monterey County Safety Net Provider 2012 Study


INSTITUTE FOR COMMUNITY COLLABORATIVE STUDIES

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## Overview

This report for the Monterey County Health Department's (MCHD) Prevention First Project[1] draws on data from a 2012 Monterey County Safety Net Provider (SNP) study to create a more detailed profile of the utilization of Electronic Health Records/Electronic Medical Records (EMRs/EHRs) [2] and Community Health Workers (CHWs) [3] by Monterey County safety net clinics and hospitals. The three year Prevention First Project is funded by the US Centers for Disease Control and Prevention (CDC) through the California Department of Public Health (CDPH) and is aligned with the chronic disease state plan[i], California Wellness Plan (CWP-2014)[ii]; and the Governor's Let's Get Healthy CA Task Force Report Priorities (2012)[iii].

Figure 1. CDC's Four Domains of Chronic Disease Prevention

**Domain 1: Epidemiology and surveillance**, *to monitor trends and track progress*

**Domain 2: Environmental approaches**, *to promote health and support healthy behaviors*

**Domain 3: Health care system interventions,** *to improve the effective delivery and use of clinical and other high-value preventive services* (Heart disease)

**Domain 4: Community programs linked to clinical services**, *to improve and sustain management of chronic conditions* (Diabetes)

The Prevention First Project, which began January 1, 2015 and will conclude June 30, 2018, focuses on two of CDC's four domains of chronic disease prevention outlined in Figure 1: Domain 3, implement health systems interventions to improve the effective delivery and use of clinical and other preventive services related to heart disease; and Domain 4, community-clinical service linkages so communities support and clinics refer patients to programs that improve management of chronic conditions in the area of diabetes.[iv]

In year 1 the Prevention First Project has focused on identifying partners, building relationships and creating preliminary information as a basis for the year 2 assessments. Since January 2015 activities have included:

1) Producing this report using 2012 Safety Net Provider survey data focused on providers' use of EHR/EMRs and CHWs.
2) Creating a new survey (or environmental scan) titled *Quality Improvement Processes in Monterey County Health Care System* including updated questions from the 2012 Safety Net Provider survey and new questions related to the Prevention First Project focus areas.
3) Developing an initial list of health care providers and other key stakeholders to be involved in the project.
4) Identifying initial ideas for an action plan – promoting team-based care, involving community health workers, exchanging health related information among providers, and encouraging the adoption of the National Diabetes Prevention Education Program standards.
5) Documenting collaboration activities with identified partners and sharing of Prevention First project goals and objectives.

[1] See Appendix 1: Project Description

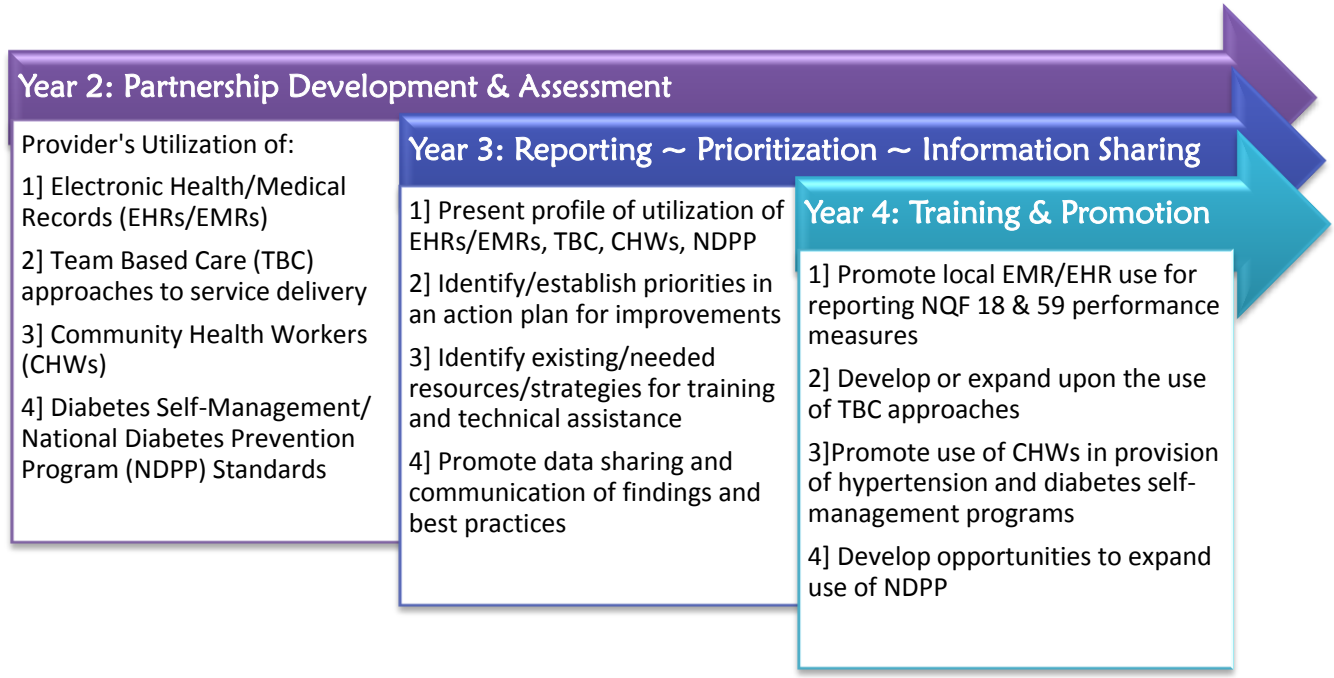
[2] EMRs/EHRs: EMRs are digital versions of a patient's paper medical chart. EHRs are an electronic record of health-related information on an individual that conforms to nationally recognized interoperability standards and that can be created, managed, and consulted by authorized clinicians and staff across more than one health care organization (need citation). Please see Appendix 2 for a more detailed description and comparison of EMRs, EHRs, and Personal Health Records (PHRs).

[3] Please see Appendix 3 for definition

The long term outcomes of this project include improved prevention and control of hypertension and diabetes, with specific strategies focusing on the promotion of better management, communication, tracking and sharing of health data, especially for reporting performance measures, and involving patients in self-management of diabetes and hypertension. As illustrated in Figure 2, over the next three years the Prevention First project will:

1. Further identify and engage a broad range of partners in a collaborative process to develop and conduct surveys (environmental scans) which will focus on providers' uses of:
   a. Electronic Medical/Health Records (EMRs/EHRs)
   b. Team Based Care (TBC)[4] approaches to medical service delivery
   c. Community Health Workers (CHWs)
   d. Diabetes Self-Management/National Diabetes Prevention Program (NDPP) Standards[5]
2. Utilize the survey findings to collaboratively develop and implement information sharing activities including presentations, articles in local health related publications and trainings or local learning area networks, to promote and encourage:
   a. local EMR/EHR implementation and use for reporting on selected performance measures[v],
   b. use of Team Based Care approaches,
   c. engagement of Community Health Workers in the provision of high blood pressure and diabetes self-management programs, and
   d. opportunities to expand the use of the National Diabetes Prevention Program.

**Figure 2. Monterey County Prevention First Project Objectives**




[4]Please see Appendix 3 for definition
[5]Ibid.

## Background to Study

CSUMB faculty researchers, under contract with the Monterey County Health Department (MCHD), completed the 2013 report – *Health Care Reform: An Analysis of Demand for Health Care Services & Safety Net Provider Capacity to Serve Monterey County Residents*. This report included an analysis of the county's safety net provider capacity to expand medical services to meet the anticipated added demand that would result from implementation of the Affordable Care Act (ACA), the California Health Benefit Exchange and expanded MediCal programs.[6] The report included findings related to two areas of importance for the Prevention First project, specifically, safety net providers' utilization of EHRs/EMRs and of CHWs. Some of the findings from that report as well as additional data collected in the 2012 SNP survey appear in this Prevention First Year 1 report.

The 2012 Safety Net Provider[7] survey was administered to the Monterey County Health Department's Clinical Services Bureau, nonprofit clinic organizations, individual clinic sites, hospital emergency departments, and private individual physician and group medical practices enrolled by the Central California Alliance for Health (CCAH) to serve MediCal members in Monterey County[8]. In addition, providers in Watsonville (Santa Cruz County) were also included in the study because cross-border health care has been accessed by Pajaro (Monterey County) residents from health care providers in Watsonville over the years. Table 1 provides a list of primary care clinics and hospitals operating in and serving residents of Monterey County.

**Table 1. Monterey County Safety Net Providers: Primary Care Clinics and Hospitals, 2012**

| Organization Name | Location/Site Name | # sites |
|---|---|---|
| Monterey County Health Dept., Clinic Services Bureau | Alisal, Marina, Salinas (4-Laurel), Seaside | 7 |
| Clinica de Salud del Valle de Salinas (CSVS) | Alvin, Castroville, Chualar, Greenfield, King City, Sanborn, Salinas, Soledad | 8 |
| Planned Parenthood | Seaside, Salinas, Greenfield | 3 |
| Other | • Big Sur Health Center (BSHC)<br>• Blind & Visually Impaired Center of Monterey (BVICM)<br>• Gonzales Medical Group (GMG)<br>• Mee Memorial (Greenfield and King City)<br>• Peninsula Primary Care (PPC)<br>• Salud Para la Gente (SPLG – Oral Mobile Unit 1 & 3)<br>• Soledad Medical Clinic (SMC) | 9 |
| Hospitals | • Community Hospital of the Monterey Peninsula (CHOMP),<br>• George L. Mee Memorial (Mee Memorial)<br>• Natividad Medical Center (NMC);<br>• Salinas Valley Memorial Hospital (SVMH); | 4 |
| **Total** | | **29** |

[6] Judson, Navarro, Kelly, Spellman, Snow, Ramirez, Calderon (2013)
[7] Please see Appendix 3 for definition
[8] Please see Appendix 4 for Monterey County Safety Net Clinics and Hospitals

# Findings: Electronic Health/Medical Record Utilization and Capacity

## Introduction

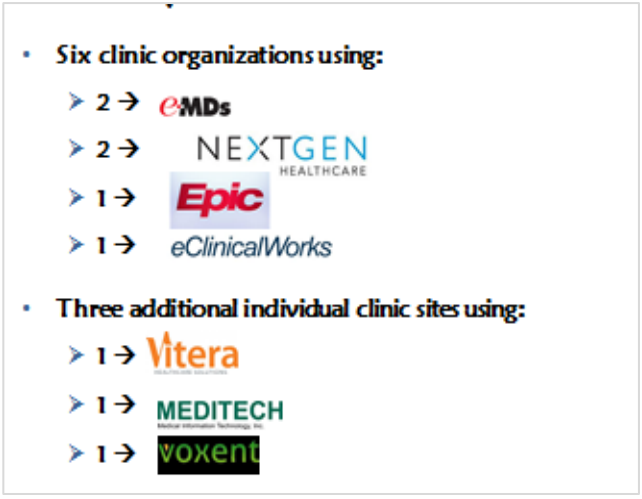
A 2008 national survey of physicians found that only a small minority (17%) had implemented EMRs/ EHRs in their practices.[9] Starting in 2011, the Centers for Medicare & Medicaid Services (CMS) began providing financial incentives for the Meaningful Use[10] of certified EHRs/EMRs by qualified professionals.[vi] By 2011, the percentage of physicians using at least basic EHR systems had grown to 35% and the percentage of hospitals to 27%.[11] In 2014, two studies published in *Health Affairs* indicated significant increases in the usage of EHR/EMR systems. The studies reported that in 2013, 78% of office based physicians utilized some form of basic EHR system, while almost half (48%) were utilizing systems with advanced functionalities. Hospital adoption also showed an increase to 59%. It is clear that the CMS Meaningful Use and other incentives have quickly changed the rates of utilization of EMRs/EHRs by many providers nationwide. This is also true for those in Monterey County.

## Monterey County Safety Net Providers: Primary Care Clinics

### Clinic Utilization of EHRs/EMRs

In 2012, only one clinic organization in the county had not applied for financial incentives under the Meaningful Use program; of the remaining five, four applied under Medicaid and one under both Medicaid and Medicare. Four of the clinic organizations surveyed reported that all of their individual clinic sites were using EHR/EMRs, and the remaining two reported that some of their clinic sites were using EHR/EMRs at the time. Of the six clinic organizations surveyed, one installed an EHR/EMR system in their clinic in 2010, one in 2011, and three in 2012, and the remaining clinic organization was installing a system during the survey period.

Figure 3. EHR Software Companies Used by Safety Net Providers in Monterey County, 2012




Of the individual clinic sites surveyed, nearly 89% reported using EHRs/EMRs, with one having installed their system in *2005 or earlier*, three in *2009*, seven in *2010* and nine in *2012*. Although all clinics that have implemented EMR/EHR systems have done so within the past ten years, there does not appear to be any consistency in selection of computerized health records vendors, as Figure 3 shows, seven different EMR/EHR vendors are in use among the six clinic organizations and three additional individual clinic sites.

At the time of the survey, two clinics reported not utilizing an EHR/EMR system, but indicated that they *had purchased or were planning to purchase a system for implementation by the end of 2012*. Finally, one clinic indicated that they were *planning/exploring vendors and systems for implementation by the end of 2014*, and another clinic indicated that they *would like to implement an EHR system by the end of 2014, but had not yet begun to plan or explore system options*.

[9] DesRoches, Campbell, Rao, Donelan, Ferris, Jha, Kaushal, Levy, Rosenbaum, Shields & Blumenthal (2008)
[10] Please see Appendix 3 for definition
[11] Wilson (2012)

Twenty-seven percent of clinic sites reported that they were *entirely paperless and did not maintain paper charts,* and an equal percentage *primarily relied on their EHRs/EMRs, but maintained paper charts for some patient/clinical information*. Thirty-six percent reported using *both (paper and EHR/EMR systems) and were in the process of transitioning to an entirely paperless system,* and just under 5% reported *primarily using paper charts, while maintaining electronic records for some clinical information.*

Although EHR/EMR systems are expected to result in improved efficiencies over the long-term, over half of clinic sites reported that the transition to use of an EHR/EMR system had resulted in an *increase in staff workloads* and a *decrease in productivity during the implementation period while staff learn how to use the new technology;* some also reported an *ongoing struggle with scanning of non-interfaced documents, i.e., hospital discharge, lab/radiology reports, etc*. The most significant barriers to the implementation of EHR/EMR systems (reported by two out of three clinics responding) included the *cost to acquire a system, vendor availability, staff education and training, security/privacy concerns and internal knowledge/technical resources*. Other issues reported as *somewhat of a barrier* or *significant barriers* included concerns around *return on investment* or *support of physicians, non-physician providers, administrative staff, or overall staff.*

Nineteen percent of clinic organizations reported that their greatest needs included *staff to oversee use of the EHR/EMR system within our clinic/practice, e.g., entering orders, patient information, etc.* Around half reported a need for *staff to lead implementation of the EHR/EMR system, staff to design, customize, and/or plan for use of the EHR system,* and *in-house HIT/EMR trainers.* Clinic site managers reported their greatest needs included *computer/IT personnel*, people to help *design, customize and/or maintain an EHR/EMR system, informatics nurses, clinicians or other staff,* and *(*HIT/EMR*) trainers*.

### Integration, Storage and Tracking of Patient Health Data in EMR/EHR Systems

While nearly all individual clinic site managers reported that their clinic's *pharmacy* (100%) and *lab systems* (96%) were integrated with the clinic's EHR/EMR system, clinic organizations cited difficulty in getting outside vendors (e.g., labs and x-rays) to integrate with the EHR/EMR. About 40% reported clinical/disease registry information electronically integrating with their EHR/EMR system, but less than 20% reported radiology/imaging doing so. Most clinic sites (96%) reported that their clinicians used the EHR/EMR system to *track pending laboratory tests, diagnostic tests, and patient referrals,* and most (nearly 91%) also reported using the EHR/EMR system to *facilitate e-prescribing (e.g., to send prescriptions directly from a provider's system to a pharmacy without an interim step from the clinic staff or patient),* with the most common e-prescribing vendor listed as Surescripts.

When asked if their clinic could *enter lab test results, (e.g., HbA1C or HDL/LDL values) into their EHR/EMR system as structured or reportable data, i.e., in a digital or coded format such as numbers or standard (e.g., "positive" or "negative") text values,* 87% of respondents indicated that 80-100% of their patient's *lab test results were recorded as structured data* into their EHR/EMR systems, while the other 13% of respondents indicated that they did not know.

All of the responding clinics reported that their EHR/EMR systems had the ability to track and record the following*: providers associated with a patient encounter; clinical documentation and notes; ordered and pending labs; ordered and pending diagnostic test results (e.g., mammograms or other screening tests).* Most clinics (91%) could *track and record provider orders (including referrals),* and slightly fewer *(82%) could track external documents (such as advanced directives or history and physicals).* Sixty-eight percent of clinics reported that their providers (clinicians) *regularly* used a *computerized system to*

*retrieve lab and diagnostic test results (e.g., HbA1C and mammogram results)*, and an additional 28% reported that their *providers occasionally used a computer to access some, but not all, lab and diagnostic test results*. Only 4% of clinics responded that their *providers primarily used paper, faxes, or phone calls to* retrieve *lab and diagnostic test results.*

Although the survey showed that utilization of EHR/EMRs to share data was low, there was much more reported use of these systems for tracking purposes. The majority of clinics reported using their EMR/EHR system capabilities and care management functions at the point of care to track selected patients' health care needs: *to identify specific patients by disease, diagnosis, or medication use* (86%); to *present alerts for disease management, preventative services and wellness* (86%); and to *provide support for standard care plans, guidelines, and protocols* (82%). Nearly 10% do not use any of these functions. In addition, 59% reported that their clinicians *used their EMR/EHR system to track clinical results, i.e., pending laboratory tests, diagnostic tests (including common preventative screenings), and patient referrals, between patients visits*. Ninety-five percent used their *EMR/EHR* systems to track all three types of clinical results.

## Patient Consents and Preferences

Sixty-four percent of clinics reported that they *track patient consents* using paper copies that are signed and *scanned into the EHR/EMR;* about a quarter tracked their patient *consents electronically with checked boxes, electronic signatures, etc.*, with the remaining 12% using signed *paper consents* that are *filed as paper* copies. More than half of clinics (56%) reported that patients' advanced directives are *electronically* tracked and *stored in a readily accessible/consistent part of their EHR/EMR* system, while 28% store them *as paper documents*. A very small number (4%) indicated that *advanced directives and patients' preferences are incorporated into the EHR/EMR, but are not kept in a consistent and separate place--more likely to be stored as a progress note or with other documents.*

## Patient Access to Health Information

Health information technology systems can also be utilized to improve patient care through patient notification and reminders. Clinics were asked about the *frequency of alerts, prompts and patient reminders sent by the clinic to patients*. A majority (75%) of clinics reported that *laboratory results were* "usually" (over 75% of the time) or "often" (50-74% of the time) *tracked until results reach the clinician,* and 60% of clinics reported that the *provider receives an alert or prompt to provide patients with test results* "usually*"* or "often." Sixty-seven percent of clinics report that their *provider* "usually*"* or "often" *receives an alert/prompt at the point of care for appropriate services needed by the patient*. Seventy-two percent of clinics responded that patients are "*usually*" or *"often" sent reminder notices when it is time for regular preventive or follow-up care*.

Clinics that reported using EHR/EMR systems were asked if they utilized the system for any of three different types of patient notifications and, if so, how often. Most clinics reported using their EHR/EMR system for at least 50% of their patients to: *identify patient specific education resources when appropriate (75%); routinely send patients reminders for needed follow up care (e.g., follow-up appointments, scheduled procedures, etc. (68%); and routinely identify and remind patients who are due for preventative care, e.g., colorectal cancer screenings, influenza vaccinations, etc. (65%)*
Two-thirds of clinic sites also reported providing a*fter clinical summaries at the end of each office visit* for most encounters (over 80%), with an additional 17% providing them for *50-70% of all encounters*. The remaining 17% reported that they *do not provide clinical summaries* at all. For clinics that did *not*

*provide after visit summaries at the end of each visit*, 65% give most of their patients (over 80%) *electronic access to their health information (including lab results and medication lists) within 5 business days of the patient visit*, and of those that reported they *do not provide after visit summaries at all*, 83% said their *patients were able to access information about their visit in some other form.*

### Online Services

Online services allow patients to access their records and communicate with providers in varying degrees. Twenty-seven percent of the clinic sites surveyed reported offering an *online personal health record (PHR) for patients to view and track health activities*, while 65% *did not* offer an online PHR to their patients, and 8% *did not know* whether or not this was offered to their patients. Most (77%) of the clinics that *did not currently offer an online PHR to their patients to track their health activities* were interested in making this option available. Many of the respondents indicated that they *were in the process of developing or testing this capability*. Fourteen percent of respondents *did not know* if this was something their clinic would be interested in and another 9% indicated that they *would not be* interested in making this available to their patients. One respondent pointed out that "*most of our patients expect personal contact for health information and do not elect to utilize the patient portal; the portal is also in English, further discouraging utilization; many of our patients do not have computer access; some are illiterate."* Another stated that it would take *significant grant money to develop an online PHR.*

Health information technology can be utilized to provide better patient care by sharing health information with the patients themselves. The majority (71%) of clinic sites indicated that they *provide patients with an electronic copy (via patient portal, personal health records (PHR), email, USB drive, CD, or other electronic media) of their health information (including test results and medication lists) on request within 3 business days*. Of these, 46% reported that they *fulfill 80-100% of requests*, while another 25% *fulfill 50-79%* of patients' requests for electronic copies of their health records. A quarter of clinic sites indicated that they *do not provide electronic copies of health information regularly* or that they *do not have the capability to fulfill this type of patient request*. Half of clinic sites indicated that they *always* provide their patients with *electronic copies of their health information using a Personal Health Record (PHR) or patient portal access via the internet*. One clinic indicated that they provide these records by *placing the information on a flash drive, USB, or CD*. None of the clinics reported utilizing *secure email* to provide electronic copies of patient's health information.

The most common online services offered to patients by clinics are *appointment scheduling (46%), patient portal services (46%), and secure email communication between providers and patients (27%).* Almost 10% also report providing *electronic visit reminders* or *blogs or on-line support groups*. Finally, although very uncommon at this point, a small number (5%) also reported providing *e-visits (scheduled time for provider-patient interaction via electronic medium such as email or internet)* or *online bill payment* services.

### Sharing Patient Data with Other Providers' EHR/EMR Systems

One key advantage of using EHRs/EMRs is to have the ability to share patient data among providers. Seventy percent of clinic sites reported that their EHR/EMR system was *capable of sharing clinical and/or administrative data with other (different) systems through a health information exchange*. Only about a quarter were using this capacity, while two-thirds (67%) stated that they were not. One clinic indicated that they *partially share data*, while another site indicated *that other providers in the area are working on linking the systems and that they will have the capacity to share data soon*. Very few (5%) clinics reported that they *share system data with providers outside of the county and/or tri-county area to*

*track selected patient's health care needs*; the rest (73%) responded that they did not, and nearly a quarter (23%) of clinic sites did not know.

### Quality Improvement Functions for Population Health Management

These EHR/EMR systems can also be utilized to improve population health management through report generation. Although less than half (41%) of clinics reported that clinical/disease registry integrated with their clinic's EHR/EMR system, 79% reported that they *were able generate at least one report that lists patients by a specific condition (such as a disease registry) while 13%* did not know if their clinic's system could do this and another 8% indicated that they could not produce this type of report. Those that indicated they could *generate reports by condition* were asked for which diseases they generated reports; those most reported included *diabetes* (77%), *asthma* (73%), *depression* (64%), and *vascular disease* (46%); *cancer, chronic obstructive pulmonary disease (COPD), congestive heart failure, end stage renal disease*, and *stroke* were also indicated by 9% of respondents, and hypertension and obesity were conditions also mentioned. Several also mentioned that they could generate reports by any available ICD9 or CPT code.

Half of the clinic organizations surveyed reported using their EHR/EMR system to *collect and submit quality measures to outside organizations such as Centers for Medicare & Medicaid Services (CMS), Health Resources and Services Administration (HRSA), and Office of Statewide Health Planning and Development* (OSHPD), and about a third (32%) reported being able to *provide data to local health departments that conforms to HL7*. Fewer individual clinic sites (38%) reported that they either *collect and submit quality measures using ONLY* their *EHRs/EMRs* or they *collect and submit quality measures using* their *EHRs/EMRs AND the patient's paper chart*; while 25% reported not knowing whether they do or not.

Most clinic sites (82%) reported that data from their EHR/EMR systems is used for *internal quality improvement efforts* including *to create benchmarks and clinical priorities, share data with providers and set goals around clinical guidelines* (with 14% not knowing if they are used this way). With regards to using the EHR/EMR systems for *quality improvement*, most clinics report that the biggest challenges are *learning to use the reporting tools* and the *limited reporting functionalities* of the EHR/EMR system. Clinic organizations reported additional challenges as *not having enough staff time to input the necessary data, getting outside vendors (i.e., lab and x-ray) to integrate with the EHR/EMR, making sure the data is accurate* and *getting good report writers who are comfortable with EHR/EMRs.* Finally, when asked what strategies their clinic was using *to develop the capacity to track health improvement in your patient population*, over half of clinic sites indicated that they *conduct chart reviews or audits*. However, clinic organizations report using a number of *strategies to develop the capacity to track health improvement in their patient populations* including:

- *Custom reporting out of EMR and Meaningful Use requirements*
- *Developing a Health Score, using outcomes measurements (The Uniform Data System (UDS)[12], Core Beliefs Inventory (CBI)[13], Healthcare Effectiveness Data and Information Set ( HEDIS)[14]*
- *Using CCAH data to identify and track patients with certain medical conditions and implement utilization.*
- *Using Healthy People 2020[15] goals and HEDIS data.*
- *Using reports from report software to track chronic disease and screen patients*

[12] Please see Appendix 3 for definition
[13] Ibid.
[14] Ibid.
[15] Please see Appendix 3 for definition

### Telehealth

Telehealth[16], another form of health information technology, is used to provide health care while the patient is at the originating site and the health care provider is at a distant site. None of the clinic organizations reported providing telehealth services to patients, but many (67%) indicated *an interest in developing this capability*. The most *significant barriers* to using telehealth services reported by half of clinic organizations were *costs associated with implementing a new technology* and *the availability of specialists/practitioners*; a third cited *lack of staff expertise*, *unavailable hardware* or the fact that they have *not identified a need for telehealth services*. Other challenges included *lack of staff to support* the technology and *insufficient bandwidth*.

### Utilization of Community Health Workers

Of the 27 individual clinic sites responding to the 2012 survey only five indicated that they utilized *Community Health Workers/Promotores* (CHWs) in their clinics. Among these clinics, a total of 12 Full Time Equivalent (FTE) CHWs were being used; four FTE CHWs were located in Watsonville, three in Greenfield, three in King City, and two in Salinas. When asked *how many additional FTE's could be added (if demand increased and resources were available) without needing to expand the facility location or hours of operations*, only one clinic site indicated they could bring on additional CHW FTEs[17]. Four additional clinic sites reported that they utilized health educators (about 3 FTEs) and one of these indicated that they could add 2 FTEs more. Other (possibly related) positions that clinic sites indicated they would want to bring on were *health program managers/coordinators and nutritionists.* Most of the clinic sites (22) reported employing 163 FTE medical assistants, and fifteen said they could add about 45 more FTE medical assistants *without needing to expand the facility location or hours of operations*.

Thirty-two percent of respondents indicated that it was "*not difficult*" *to recruit and/or retain Community Health Workers/Promotores*, while 16% indicated that it was "*difficult*" or "*somewhat difficult.*" When asked to *indicate the level of importance of training* in various areas for their clinic's *medical, support and administrative staff*, the majority (85%) felt that it was "*important*" or "*very important.*" The training that respondents considered important or very important included *electronic health record management* (63%), *health information system management* and *patient-centered medical home model* (56%), *health system navigators* and *interdisciplinary/integrated care management* (44%), and *telehealth services* (42%).

## Patient Centered Medical Homes

Clinic organization directors were also asked to *identify how* (selected) *barriers may be impacting* the *clinic organizations' efforts to change the way* their *clinics deliver services to a Patient Centered Medical Home (PCMH) model*. Two thirds *agreed* or *strongly agreed* that *the cost to make the initial transition is too high* or *there is too much uncertainty about long-term implementation costs (after initial incentives);* half *agreed* or *strongly agreed* that *there is too much uncertainty about long-term implementation costs (after initial incentives)* or *there is too much uncertainty about the impacts of a "performance based" reimbursement model;* and a third agreed or strongly agreed that *non-physician providers do not support the PCMH model, there are concerns about patient information security and privacy, or there is a lack of internal knowledge/skills to implement a PCMH model.*

[16] Ibid.
[17] Please see Appendix 5 for Safety Net Clinics Reporting Use of Community Health Workers

## Monterey County Safety Net Providers: Hospital Emergency Departments

### Utilization of EHRs/EMRs by Hospital Emergency Departments (ERs)

Three of the four hospital emergency departments surveyed reported using EHR/EMR systems, namely Meditech and Eclypsis, and in 2011 all four had applied for financial support from both Medicare and Medicaid under Meaningful Use or the EHR/EMR incentive program.

All hospitals reported being able to *track and record ordered and pending labs and diagnostic test results (e.g., mammography or other screening tests)*, and three of four were able to *track providers associated with a patient encounter and clinical documentation and notes*. Two also reported being able to *track provider orders (including referrals) and external documents (e.g., advanced directives or history and physicals).* Three of the four hospitals were also able to *provide patients with after clinical summaries at the end of each visit* for most (over 80%) of their patient encounters. The one hospital that reported not providing *patients with after clinical summaries at the end of each visit* also reported that *patients* were not *able to access information about their visit in any other form*.

Three of four hospitals also reported *tracking patients' advanced directives in a readily accessible/ consistent part of the EHR*, while the fourth hospital reported that *advanced directives and patients' preferences are incorporated into the EHR/EMR but are not kept in a consistent and separate place--more likely to be stored as a progress note or with other documents*. All hospitals reported using *paper-signed consent forms*, with three of four hospitals reporting that they *scan the paper documents and track them through their EHR* and the fourth using *signed consents filed as paper* only.

Two of the four hospitals reported *always providing ER patients with electronic copies of their health information through a patient portal or Personal Health Record (PHR)*[18], with a third hospital reporting they *rarely* do so. One hospital reported utilizing *secure email to provide patients with electronic copies of their health information*, and none reported using *a flash drive, USB drive or CD to share health information with patients*.

All hospitals reported that their *EHR/EMR system was capable of sharing data (clinical and/or administrative) with other (different) systems through a health information exchange*, and three indicated that they are *using this capacity, i.e., sharing data...with other providers that are using different systems*. The fourth hospital reported that they did not know if they were utilizing this capacity. All four hospitals reported they did not know whether or not they *share system data with providers outside of the county and/or the tri-county region to track selected patient's health care needs*. Two of the hospitals reported being able to *provide data to the local health department that conforms to HL7 standards;* three of four hospitals reported having a *public health/emergency preparedness agreement with the county health department*, while the fourth reported that they did not know if an agreement was in place.

## Monterey County Safety Net Physicians and Group Medical Practices

### Utilization of EHRs/EMRs by Safety Net Physicians and Group Medical Practices

In 2012, the Central California Alliance for Health reported that about 80% of MediCal members were served by safety net providers and 20% by private physicians/medical group practices in Monterey County.[19]

[18] Please see Appendix 3 for definition
[19] Judson, Navarro, Kelly, Spellman, Snow, Ramirez, & Calderon (2013)

Over two-thirds of private physicians/group medical practices responding to the 2012 survey reported using EMRs/EHRs, with three vendors represented: five practices reported using e-MDs, one Medisoft and one Practice Partner. One practice reported installing their system in *2005 or earlier,* while two did so in 2010, three in 2011 and one was in the process of installing their system at the time of the survey.

Slightly fewer than half reported that they were *entirely paperless and did not maintain paper charts; about one third* reported that they *primarily used paper charts, while maintaining electronic records for some clinical information* while slightly more than one in ten *primarily relied on their EHRs/EMRs, but maintained paper charts for some patient/clinical information or* reported using *both (paper and EHR/EMR systems) and were in the process of transitioning to an entirely paperless system*. Barriers to implementation of an EMR/EHR system were reported to include *cost to acquire* and *staff support*.

Two thirds of practices reported tracking patient consents via paper consents that are signed and scanned into the EHR/EMR. The remaining third of practices reported only using paper consents that are signed and filed as paper.

### Electronic Storage of Lab and Test Results

While all practices reported that their site's *pharmacy* was integrated with their EHR/EMR system, 88% reported their lab systems being integrated, and about a third reported that both *radiology/ imaging* and *clinical disease/registry* were integrated with their system.

About half of physician practices responding reported that their EHR/EMR system was *capable of sharing clinical and/or administrative data with other (different) systems through a health information exchange,* and an equal number said that their *clinicians were using this capability to share data*.

### Patient Access to Health Information

Out of five practices responding, one reported that they *always provided patients with electronic copies of their health information through a Personal Health Record (PHR) or patient portal* via the internet, and another reported rarely using this method of sharing. One also reported *always* using *secure email*, with two others reporting that they *rarely* used this method. Two practices said they *always placed information on a flash drive, USB drive or CD*, with one reporting they *rarely* used this method. Three practices stated that they *only used paper copies, either provided in person or through traditional mail*.

Practices were also asked if they offered any online services. Two out of eight physician practices responding reported that they provide patients with *electronic visit reminders* and one practice reported that they provided *online appointment scheduling (patients use the internet to contact the clinic for an appointment), e-visits (scheduled time for provider-patient interaction via electronic medium such as email or internet), secure email for communication between providers and patients, and/or patient portal services.*

When asked if clinicians used their *EMR/EHR system capabilities and care management functions at the point of care,* four out of six practices reported utilizing *the ability to identify specific patients by disease, diagnosis, or medication use*. Half the practices reported utilizing their system's *capacity to present alerts for disease management, preventive services and wellness* and *to provide support for standard care plans, guidelines, and protocols*, while two out of six reported not using any of these system capabilities.

Four out of six practices reported that they *used their EHR/EMR system to routinely send patients reminders for needed follow-up care, including follow-up appointments and scheduled procedures*.

However, not all patients received these reminders through the EHR/EMR system: three reported sending reminders to 80-100% of their patients, one reported only doing so for 25-49% of patients and two practices *do not use the EHR/EMR system to send reminders to patients for follow-up care*. None of the practices reported *providing telehealth services to their patients*.

### Utilization of Community Health Workers

None of the responding practices indicated that they utilized Community Health Workers/Promotores at any of their sites, and only one respondent reported that they could add two additional FTEs for Community Health Workers/Promotores at their primary site *if demand increased and (additional) resources were available (without expanding their current physical facility location or hours of operation).*

## Conclusions

These findings provide a foundation upon which to build an understanding of safety net provider's implementation and utilization of electronic health/medical record systems and community health workers over time. In addition, this information will assist the MCHD and safety net provider community in their efforts to collaboratively identify gaps in the utilization of EHRs/EMRs and CHWs, develop goals for improvement and opportunities for training, and measure the system's progress toward reaching these goals over time.

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# Appendices

## Appendix 1: Prevention First 1305 Project Description

Monterey County Health Department's (MCHD) Prevention First Project is a three year project funded by the US Centers for Disease Control and Prevention (CDC) through the California Department of Public Health (CDPH) and is aligned with the chronic disease state plan, California Wellness Plan (CWP-2014); and the Governor's Let's Get Healthy CA Task Force Report Priorities (2012).

The overarching goal of CWP is Equity in Health and Wellbeing with an emphasis on the elimination of disparities in preventable chronic diseases. The CWP has short, intermediate and long-term objectives that align with Prevention First's four key action areas or Chronic Disease Prevention and Health Promotion Domains as follows.

- **Domain 1: Epidemiology and surveillance**, *to monitor trends and track progress*
- **Domain 2: Environmental approaches**, *to promote health and support healthy behaviors*
- **Domain 3: Health care system interventions,** *to improve the effective delivery and use of clinical and other high-value preventive services* (Heart disease)
- **Domain 4: Community programs linked to clinical services**, *to improve and sustain management of chronic conditions* (Diabetes)

The Prevention First Project, which began January 1, 2015 and will conclude June 30, 2018, focuses on Domain 3 & 4 of the CDC's four domains of chronic disease prevention with specific application to heart disease and diabetes. Domain 3, implement health systems interventions to improve the effective delivery and use of clinical and other preventive services related to heart disease; and Domain 4, community-clinical service linkages so communities support and clinics refer patients to programs that improve management of chronic conditions in the area of diabetes.[vii]

The long term outcomes of this project include improved prevention and control of hypertension and diabetes, with specific strategies focusing on the promotion of better management, communication, tracking and sharing of health data, especially for reporting performance measures, and involving patients in self-management of diabetes and hypertension.

A brief summary of each year's activities are as follows:

- **Year 1: January 1, 2015 – June 30, 2015**
  - Focused on identifying partners, building relationships and creating preliminary information as a basis for the year 2 assessments, as well as identify initial ideas for the action plan.
- **Year 2: July 1, 2015 – June 30, 2016**
  - Partnership Development & Assessment
- **Year 3: July 1, 2016 – June 30, 2017**
  - Reporting, Prioritization, & Information Sharing
- **Year 4: July 1, 2017 – June 30, 2018**
  - Training & Promotion

## Appendix 2: Definitions and comparison of EMRs, EHRs, and PHRs

**Electronic Medical Records**
Electronic medical records (EMRs) are ***digital versions of the paper charts*** in clinician offices, clinics, and hospitals. EMRs contain notes and information collected by and for the clinicians in that office, clinic, or hospital and are mostly used by providers for diagnosis and treatment. EMRs are more valuable than paper records because they enable providers to track data over time, identify patients for preventive visits and screenings, monitor patients, and improve health care quality (HealthIT.gov, 2013a).

**Electronic Health Records**
Electronic health records (EHRs) are built to go beyond standard clinical data collected in a provider's office and are inclusive of a broader view of a patient's care. EHRs contain information from ***all the clinicians involved in a patient's care*** and all authorized clinicians involved in a patient's care can access the information to provide care to that patient. EHRs also share information with other health care providers, such as laboratories and specialists. EHRs follow patients – to the specialist, the hospital, the nursing home, or even across the country (HealthIT.gov, 2013a).

**Personal Health Records**
Personal health records (PHRs) contain the same types of information as EHRs—diagnoses, medications, immunizations, family medical histories, and provider contact information—but are designed to be set up, accessed, and ***managed by patients***. Patients can use PHRs to maintain and manage their health information in a private, secure, and confidential environment. PHRs can include information from a variety of sources including clinicians, home monitoring devices, and patients themselves (HealthIT.gov, 2013a).

## Appendix 3: Glossary of Terms

**Community Health Worker (CHW)**
A frontline public health worker who is a trusted member of the community; who is able to serve as an intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery; builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support and advocacy (American Public Health Association, 2015).

**Core Beliefs Inventory (CBI)**
A brief measure of disruption of the assumptive world developed for use in applied research and clinical settings. The CBI may be a useful tool in investigating predictions about the effects of stressful experiences on an individual's assumptive world, post-traumatic growth (PTG), and successful adaptation (Cann, Calhoun, Tedeschi, Kilmer, Gil-Rivas, Vishnevsky, & Danhauer, 2009).

**Healthcare Effectiveness Data and Information Set (HEDIS)**
A widely used tool to measure performance on important dimensions of care and service, developed and maintained by the National Committee for Quality Assurance (National Committee for Quality Assurance, n.d.).

**Healthy People**
A set of goals and objectives with 10-year targets designed to guide national health promotion and disease prevention efforts to improve the health of all people in the United States (US Department of Health and Human Services, 2010).

**Meaningful Use of EHRs:**
Meaningful use is using certified electronic health record (EHR) technology to:

- Improve quality, safety, efficiency, and reduce health disparities.
- Engage patients and family
- Improve care coordination, and population and public health
- Maintain privacy and security of patient health information

(HealthIT.gov, 2015)

**National Diabetes Prevention Program (NDPP)**
This year-long program is an evidence-based lifestyle change intervention for people with pre-diabetes or at risk for type 2diabetes; focused on eating healthier, physical activity, and improving problem-solving and coping skills (CDC, 2015b).

**Personal Health Record (PHR)**
"A personal health record (PHR) is an electronic application used by patients to maintain and manage their health information in a private, secure, and confidential environment" (HealthIT.gov, 2013b).

**Safety Net Providers**
Safety Net Providers include outpatient clinics, hospitals and private physician and group medical practices that primarily serve low-income, uninsured, publicly insured, and underinsured patients (Judson, Navarro, Kelly, Spellman, & Ramirez, 2012).

**Team Based Care (TBC)**
A clinical care team for a given patient consists of the health and social care professionals—MDs, RNS, NPs or PAs, pharmacists, and others (e.g., dieticians, patient navigators, CHWs, etc.) —with the training

and skills needed to provide high-quality, coordinated care specific to the patient's clinical needs and circumstances (Doherty & Crowley, 2013).

**Telehealth**
The use of electronic information and telecommunications technologies (e.g., videoconferencing, internet, store-and-forward imaging, streaming media, and terrestrial and wireless communications) to support long-distance clinical health care, patient and professional health-related education, public health and health administration (Health Resources and Services Administration, 2012).

**The Uniform Data System (UDS)**
A standardized reporting system that provides consistent information about health centers and includes the number and socio-demographic characteristics of people served, types and quantities of services provided, counts of staff who provide these services, information about the quality of care provided to patients, cost and efficiency data relating to the delivery of services, and sources and amounts of income (Bureau of Primary Health Care, 2014).

## Appendix 4: Monterey County Safety Net Clinics and Hospitals, 2012

Provides a list of the six clinic organizations and their twenty-four (24) clinics – seven public and seventeen nonprofit clinic sites, as well as four hospitals that responded to the survey. In addition, eleven private physician/medical groups representing 24 private practice sites responded to a separate survey.

| Organization | Site Name | Location |
|---|---|---|
| **HOSPITALS (4)** | | |
| Community Hospital Of The Monterey Peninsula | CHOMP | Monterey |
| George L. Mee Memorial Hospital | Mee Memorial | King City |
| Natividad Medical Center | NMC | Salinas |
| Salinas Valley Memorial Hospital | SVMH | Salinas |
| **CLINIC ORGANIZATION (25)** | **Site Name** | **Location** |
| Monterey County Health Dept, Clinic Services Bureau (MCHD) | Laurel Family Practice | Salinas |
| MCHD | Laurel Women's Health | Salinas |
| MCHD | Laurel Pediatric | Salinas |
| MCHD | Laurel Internal Medicine | Salinas |
| MCHD | Alisal Health Center | Salinas |
| MCHD | Marina Clinic | Marina |
| MCHD | Seaside Family Health Center | Seaside |
| Gonzales Medical Group | GMG | Gonzales |
| Soledad Medical Clinic | SMC | Soledad |
| Clinica de Salud del Valle de Salinas (CSVS) | CSVS | Salinas?? |
| CSVS | CSVS | Castroville |
| CSVS | CSVS | Greenfield |
| CSVS | CSVS | King City |
| CSVS | CSVS | Salinas |
| CSVS | CSVS | MHC (HOMES) |
| CSVS | CSVS | Salinas (Sanborn) |
| CSVS | CSVS | Soledad |
| Big Sur Health Center | BSHC | Big Sur |
| Planned Parenthood (PP) | PP | Greenfield |
| PP | PP | Salinas |
| PP | PP | Seaside |
| Salud Para la Gente (SPLG) | Community Oral Health Services - Mobile Unit 1 | (mobile) |
| SPLG | Community Oral Health Services - Mobile Unit 3 | (mobile) |
| CHOMP | Peninsula Primary Care | Monterey |
| Blind And Visually Impaired Center Of Monterey | BVIC | Monterey |

# Appendix 5: Safety Net Clinics Reporting Use of Community Health Workers, 2012

| | | Total FTEs as of 9/1/2012 | | | | Additional FTEs that could be added without expanding & w/new resources | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Clinic Organization** | **Clinic Site Location** | **CHWs** | **MAs** | **Nutritionists** | **HEs** | **CHWs** | **MAs** | **Nutritionists** | **HEs** |
| Big Sur Health Center | Big Sur Health Center | | | | | | | | |
| Clinica de Salud del Valle de Salinas (CSVS) | Alvin Clinic | | | | | | | | |
| CSVS | Homes | | 3 | | | | | | |
| CSVS | Sanborn Clinic | | 14.3 | | | | | | |
| CSVS | King City Clinic | | | | | | | | |
| CSVS | Castroville Clinic | | 4.6 | | | | | | |
| CSVS | Circle Clinic | | 11.6 | | | | | | |
| CSVS | Greenfield Clinic | | 3.6 | | | | | | |
| CSVS | Soledad | | 3 | | | | | | |
| George L. Mee Memorial | Greenfield Clinic | 2 | 9 | | | | 1 | | |
| Mee Memorial | King City Clinic | 3 | 18 | | | | | 1 | |
| Monterey County Health Dept. (MCHD) | Seaside Health Center | | 11 | | | | 6 | | |
| MCHD | Laurel Pediatrics | | 6 | | 1 | | 2 | | |
| MCHD | Laurel Internal Medicine | | 5 | | | | | | |
| MCHD | Alisal Health Center | | 15 | | 1* | | 3 | | |
| MCHD | Marina Health Center | | 3 | | | | 3 | | |
| MCHD | Laurel Women's Health | 2 | 7 | 1 | | | 2 | | |
| MCHD | Laurel Family Practice | | 9 | | | | 5 | | |
| Natividad Medical Center | D'Arrigo Family Specailty Services | | | | | | 2 | | |
| Natividad Medical Group | Natividad Medical Group | | | | | | | | |
| Planned Parenthood (PP) | San Benito | | 2.5 | | 0.2 | | 1 | | |
| PP | Salinas Health Center | | 5 | | | | 2 | | |
| PP | Greenfield | | 2 | | | | 1 | | |
| PP | Seaside | | 13 | | | | 3 | | |
| Salud Para La Gente (SPLG) | Community Oral Health Services Greenfield Elementary | 1 | | | | 1 | 2 | | |
| SPLG | Seaside Community Health Center | | 2 | | | | 1.5 | | |
| SPLG | Salud Para La Gente | 4 | 8 | 0.5 | | 4 | 10 | 0.5 | 2 |
| Soledad Community Health Care District | Soledad Medical Clinic | | 7 | | 1 | | | | |
| Total | | 12 | | | | | | | |

** Two medical assistants who offer CPSP.*

[i] Chronic disease state plan (TBD) references: (California Department of Public Health, 2013) (California Conference of Local Health Officers-County Health Executives Association of California, 2013)

[ii] The California Wellness Plan (CWP) was developed through a statewide process facilitated by the California Department of Public Health (CDPH) to "develop a roadmap with partners to create communities in which people can be healthy, improve the quality of clinical and community care, increase access to usable health information, assure continued public health capacity to achieve health equity, and empower communities to create healthier environments" (CDPH, 2014).

[iii] Governor Jerry Brown established the Let's Get Healthy CA Task Force to "develop a 10-year plan for improving the health of Californians, controlling health care costs, promoting personal responsibility for individual health, and advancing health equity" with two strategic directions. The first "*Health Across the Lifespan*" establishes three goals for health across the lifespan including "Goal 1. Healthy Beginnings: Laying the Foundation for a Healthy Life, Goal 2. Living Well: Preventing and Managing Chronic Disease, and Goal 3. End of Life: Maintaining Dignity and Independence. The second "*Pathways to Health*, covers the practice and policy changes needed to improve the quality and efficiency of the health care system and to make community environments more conducive to being healthy" which includes three additional goals: "Goal 4. Redesigning the Health System: Efficient, Safe, and Patient-Centered Care, Goal 5. Creating Healthy Communities: Enabling Healthy Living, and Goal 6. Lowering the Cost of Care: Making Coverage Affordable and Aligning Financing to Health Outcomes." Additionally, the Task Force identified 30 priorities and created a Dashboard with 39 measurable indicators (at the population and system levels); nine additional indicators were identified without a data source. This Framework also makes clear that health equity should be fully integrated across the entire effort." (CDPH, 2012).

[iv] The CDC recommends that the public health community utilize coordinating chronic disease prevention efforts in four domains including:: Domain 1) Epidemiology and surveillance—to monitor trends and track progress, Domain 2) Environmental approaches—to promote health and support healthy behaviors, Domain 3) Health care system interventions—to improve the effective delivery and use of clinical and other high-value preventive services, and Domain 4) Community programs linked to clinical services—to improve and sustain management of chronic conditions (CDC, 2015a).

[v] Prevention First 1305 performance measures include 1) National Quality Forum (NQF) Measure 59: The percentage of members 18-75 years of age with diabetes (type 1 and type 2) whose most recent HbA1c level during the measurement year was greater than 9.0% (poor control) or was missing a result, or if an HbA1c test was not done during the measurement year (NACDD, 2015a) and 2) NQF Measure 18: The percentage of patients 18 to 85 years of age who had a diagnosis of hypertension (HTN) and whose blood pressure (BP) was adequately controlled (NACDD, 2015b).

[vi] The Health Information Technology for Economic and Clinical Health (HITECH Act), enacted under the American Recovery and Reinvestment Act of 2009, incentive payments are available to eligible professionals and hospitals that successfully demonstrate meaningful use of EHRs. The three main components of meaningful use include use of a certified EHR: 1) in a meaningful manner; 2) for electronic exchange of health information to improve quality of health care; and 3) to submit clinical quality and other measures (Centers for Medicare & Medicaid, 2011).