NACCHO
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2017 Model Practices

Applicant Information

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Model Practice Title

Please provide the name or title of your practice: *

Using local health department electronic health record (EHR) data for heart attack & stroke prevention

Practice Categories

Model and Promising Practices are stored in an online searchable database. Applications may align with more than one practice category. Please select all the practice areas that apply.: *

- [x] Access to Care
- [ ] Advocacy and Policy Making
- [ ] Animal Control
- [ ] Coalitions and Partnerships
- [ ] Communications/Public Relations
- [ ] Community Involvement
- [ ] Cultural Competence
- [ ] Emergency Preparedness
- [ ] Environmental Health
- [ ] Food Safety
- [ ] Global Climate Change
- [ ] Health Equity
- [ ] HIV/STI
- [ ] Immunization
- [ ] Infectious Disease
- [x] Informatics
- [x] Information Technology
- [ ] Injury and Violence Prevention
- [ ] Marketing and Promotion
- [ ] Maternal-Child and Adolescent Health
- [ ] Organizational Practices
- [ ] Other Infrastructure and Systems
- [ ] Organizational Practices
- [ ] Primary Care
- [ ] Quality Improvement
- [ ] Research and Evaluation
- [x] Tobacco
- [ ] Vector Control
- [ ] Water Quality
- [ ] Workforce
- [x] Conference Theme: Bridging Clinical Medicine and Population Health

Other::

Is this practice evidence based, if so please explain. :

Winnable Battles

To keep pace with emerging public health challenges and to address the leading causes of death and disability, CDC initiated an effort called Winnable Battles to achieve measurable impact quickly.Winnable Battles are public health priorities with large-scale impact on health and known effective strategies to address them. Does this practice address any CDC's seven Winnable Battles? If so, please choose from the following:: *

- ☐ Food Safety
- ☐ HIV in the U.S.
- ☐ Nutrition, Physical Activity, and Obesity
- ☑ Tobacco
- ☐ Healthcare-associated Infections
- ☐ Motor Vehicle Injuries
- ☐ Teen Pregnancy
- ☐ None

Overview: Provide a brief summary of the practice in this section (750 Word Maximum)

Your summary must address all the questions below:

- Brief description of LHD- location, demographics of population served in your community
- Describe public health issue
- Goals and objectives of the proposed practice
- How was the practice implemented/activities
- Results/Outcomes (list process milestones and intended/actual outcomes and impacts.
  - Were all of the objectives met?
  - What specific factors led to the success of this practice?
- Public Health impact of practice
- Website for your program, or LHD.

750 Word Maximum

Please use this portion to respond to the questions in the overview section. : *

The Lawrence-Douglas County Health Department (LDCHD) serves Douglas County in northeast Kansas. Douglas County has 113,703 residents; 19.4% live below 100% of the Federal Poverty Level and 8.7% are uninsured. It is a young community, with a higher than average proportion (18%) of 20-24 year olds. Racial and ethnic diversity is increasing, but 84.5% of residents are white. LDCHD was founded in the city of Lawrence in 1885, and became the public health authority for the county in 1942. LDCHD employs 45 staff members and has clinical, case management, environmental and community health programs. In 2013, LDCH adopted an electronic health record, Insight. Public health issue Heart disease and stroke account for 1 in 4 deaths in Douglas County. Uncontrolled hypertension is a major risk factor for heart attack and stroke, as is tobacco use. Many people with high blood pressure are unaware of their condition, even those under physician care. In Douglas County 15.1% of adults are current smokers, with disparities based on income and race/ethnicity. Most smokers desire to quit, but less than 25% leave a physician office visit with evidenced-based counseling and medication. Many others lack a medical home. For them, the health department may be their only contact with a health care provider. Therefore, public health departments may be an important setting for identifying people with modifiable risk factors for heart attack and stroke. Goals and objectives Project goals initially were developed during participation in the 16-state Centers for Disease Control and Prevention (CDC) and Association of State and Territorial Health Official (ASTHO) Million Hearts Learning collaborative in 2014-15. Local health departments were involved in many states, but most projects focused primarily on primary care. The Kansas project involved primary care, but also included efforts to enhance the role of public health. The goals for the health department included: Goal # 1 Integrate heart attack and stroke prevention in Title X (Family Planning) Clinic Objective 1.1: Develop guidelines for measuring blood pressure, and protocols for addressing elevated blood pressure and tobacco use. Objective 1.2: Analyze EHR data to document prevalence of elevated blood pressure, tobacco use and prevention activities. Goal #2 Use findings from EHR data to develop performance management metrics. Objective 2.1: Identify cases through EHR where clients were not counseled and/or referred for elevated blood pressure. Review cases to investigate. Objective 2.2: Use the EHR to examine the percent of tobacco users in the clinic who received smoking cessation counseling and were referred to cessation services. Practice/activities implementation LDCHD's Title X clinic was selected for this project, because routine blood pressure measurements are collected from clients receiving Family Planning services. Key activities included: • Revising policies and procedures for blood pressure, tobacco use and preventive interventions, and provision of staff training; • Defining at-risk patients for elevated blood pressure; • Developing patient education materials; • Adding an EHR alert when an elevated blood pressure was charted; • Modifying the EHR to capture referrals to the state tobacco quitline; • Creating an automated report to identify cases where clients with elevated blood pressure were not counseled and/or referred to services; • Analyzing EHR data to develop performance management measures. Results/ Outcomes Blood pressure measurement procedures were revised, including classifying readings as: normal, prehypertensive, Stage 1 or Stage 2. Interventions were codified, including lifestyle counseling and referral for at-risk clients. The development of a blood pressure report enabled the clinic supervisor to document the prevalence of at-risk clients, to evaluate when at-risk clients were not referred, and determine if referral was warranted. This allowed for targeted staff training. Documentation of low rates (3.9%) of referral to smoking cessation resources prompted staff training using the state health department's brief tobacco intervention (BTI). Analyses also provided baseline data for performance monitoring metrics to track lifestyle counseling and referral to services for elevated blood pressure and tobacco use. Factors of Success One focus of the CDC/ASTHO Million Hearts Learning Collaborative was use of technology to identify individuals with high blood pressure. Participation spurred us to create an EHR report that enabled analyses we had never carried out before. We also used insight gained from two participating safety net clinics that used EHR data for performance improvement to develop public health-specific metrics for blood pressure monitoring, counseling, and referral. Public health impact This project demonstrates how EHRs can help public health departments evaluate their effectiveness of linking clients to services for risk factors such as elevated blood pressure and tobacco use. This work ensures vulnerable populations receive necessary access to care. Health department website http://www.ldchealth.org/

Responsiveness and Innovation

A Model Practice must be responsive to a particular local public health problem or concern. An innovative practice must be (1) **new to the field of public health (and not just new to your health department)** OR **(2) a creative use of an existing tool or practice**, including but not limited to use of an Advanced Practice Centers (APC) development tool, The Guide to Community Preventive Services, Healthy People 2020 (HP 2020), Mobilizing for Action through Planning and Partnerships (MAPP), Protocol for Assessing Community Excellence in Environmental Health (PACE EH). Examples of an inventive use of an existing tool or practice are: tailoring to meet the needs of a specific population, adapting from a different discipline, or improving the content.

- Statement of the problem/public health issue
- What target population is affected by problem (please include relevant demographics)
    - What is the target population size?
    - What percentage did you reach?
- What has been done in the past to address the problem?
- Why is the current/proposed practice better?
- Is current practice innovative? How so/explain?
    - Is it new to the field of public health
      OR
    - Is it a creative use of existing tool or practice:
      What tool or practice did you use in an original way to create your practice? (e.g., APC development tool, The Guide to Community Preventive Services, HP 2020, MAPP, PACE EH, a tool from NACCHO's Toolbox etc.)

- Is the current practice evidence-based? If yes, provide references (Examples of evidence-based guidelines include the Guide to Community Preventive Services, MMWR Recommendations and Reports, National Guideline Clearinghouses, and the USPSTF Recommendations.)

2000 Word Maximum

Please state the Responsiveness and Innovation of your practice (2000 Word Maximum) : *

Statement of problem/public health issue Heart disease and stroke are the first and fifth leading cause of death in the U.S. and the second and sixth leading cause of death in Douglas County, Kansas, accounting for 1 in 4 deaths (Lawrence-Douglas County Health Department, http://www.cdc.gov/nchs/data/nvsr/nvsr65/nvsr65_02.pdf). Uncontrolled hypertension is a major risk factor for heart attack and stroke, but many people with this condition are unaware that their blood pressure is elevated. (http://www.astho.org/Programs/Prevention/Chronic-Disease/Million-Hearts/FQHC-Issue-Brief-FINAL-March-2015/) . According to the 2011-2012 National Health and Nutrition Examination Survey (NHANES), 1 in 3 US adults have high blood pressure and almost ½ of these individuals do not have their blood pressure under control. Moreover, 36.2% of the people with uncontrolled hypertension were neither aware that they were hypertensive, nor were they taking antihypertensive medication (Wall, HK, Hannan, JA, Wright, JS. (2014) Patients with undiagnosed hypertension: Hiding in plain sight. JAMA, 312(19): 1973-1974). Given that hypertension often presents without symptoms, and recognizing the risk it presents to people if it goes undetected or untreated, the United States Preventive Services Task Force and the Joint National Committee on Prevention, Detection, Evaluation and Treatment of high blood pressure recommends that clinicians screen adults aged 18 and older for high blood pressure. Million Hearts, a U.S. Department of Health and Human Services initiative, seeks to prevent one million heart attacks and strokes by increasing by 10 million the number of people with controlled hypertension, and by implementing other proven and effective interventions, such as brief interventions for patients who use tobacco so that more tobacco users with hypertension can quit (Merai, R., Siegel, C, Rakotz, M, Basch, P, et.al. (2016) CDC Grand Rounds: A public health approach to detect and control hypertension, MMWR, 65: 45: 1261-1264, https://millionhearts.hhs.gov/files/Tobacco-Cessation-Action-Guide.pdf). Smoking is one of the leading causes of heart disease and stroke, and quitting is the single most important thing that smokers can do to improve their health. Overall, 18.1% of US adults and 15.1% of Douglas County, Kansas adults are current smokers. Although the proportion of tobacco users has decreased over the past 50 years, large disparities still exist for lower socioeconomic statuses, across racial and ethnic groups, and among people with mental illness. At least 70% of cigarette smokers see a clinician annually and most want to quit. However, fewer than 25% leave a health care visit with evidenced-based counseling and medication. Tobacco dependence is a chronic health condition and it may take several attempts to quit. The 5 A's brief tobacco intervention (Ask, Advise, Assess, Assist, and Arrange) is a useful way to understand and address tobacco dependence treatment and to intervene. Other resources such as tobacco cessation quitlines, web-based cessation interventions, and in-clinic and local cessation programs should also be incorporated into the 5 A's approach. To address this issue, some private practices are using health information technology to identify patients who need support to improve hypertension control and to track their progress over time. Typically, local public health departments that do not provide primary care do not use their EHR to monitor blood pressure readings taken in their clinics and link these screenings to heart attack and stroke prevention. Nor are we aware of public health departments where tobacco use and cessation services have been targeted for quality assessment or quality improvement efforts. However, local public health clinics may be important settings for reaching individuals at risk for heart attack and stroke, especially for those who may not otherwise see a health care provider. What target population is affected by the problem? One in three Americans has high blood pressure. Although hypertension is more common in African Americans and older adults, according to the 2013 BRFSS, 7.9% of residents 18-44 years old reported being diagnosed with hypertension in Douglas County, Kansas (BRFSS, American Heart Association). Ninety percent of the population served by the Title X clinic at LDCH are in the 18-44 age group. Each year, we serve approximately 2234 people, so based on national averages we estimated that over 150 clients in this population were likely to have elevated blood pressure. What we found was that 5% of our clients had stage 1 or stage 2 elevated blood pressure (people who could have hypertension or uncontrolled hypertension). What has been done in the past to address the problem? Why is the current/proposed practice better? The Title X clinic at LDCHD has routinely taken blood readings of clients, primarily because it is necessary to know blood pressure in order to assess whether it is safe to prescribe birth control pills. Because it is relatively well-established that rates of tobacco use are high among people who are uninsured or are covered by Medicaid, promoting tobacco cessation has always been considered an important component of Title X services at LDCHD. However, prior to 2013, paper records were used to document care, which made evaluation of activities such as blood pressure monitoring and tobacco cessation counseling and referral a logistical challenge. Implementing an electronic health record provided us with tools through which we can now much more readily analyze patient care in our Title X clinic setting, and to quantitatively describe tobacco cessation efforts in the clinic for the purposes of performance improvement. By focusing on heart attack and stroke prevention, more attention has been given to providing preventive services such as lifestyle counseling and referral to other services such as smoking cessation classes/quitlines or primary care. Is the current practice innovative? How and explain. Is it new to the field of public health or is it a creative use of an existing tool or practice? What tool or practice did you use in an original way to create your practice? It is well established that improved blood pressure control among the U.S. population is among our highest health priorities. However, as a result of our participation in the CDC/ASTHO Million Hearts collaborative, we learned that little attention has been paid to evaluating/improving blood pressure screening efforts outside of the primary care setting. Also, there are no national clinical quality measures for assessing the quality and effectiveness of blood pressure screening or smoking cessation interventions in public health clinic settings. Quality measures including National Quality Forum (NQF) and Prevention Quality Indicators (PQI) are not relevant to the work of public health clinics such as Title X clinics. We consider this model practice innovative in that it identifies unique performance measures that can be used in public health clinics that support the goals of the Million Hearts initiative. In addition, we noted that the role of local public health departments in Million Hearts has primarily been around case management of patients with uncontrolled blood pressure or linkage of patients to community services. No other local public health departments participating in the CDC/ASTHO Million Hearts Learning Collaborative evaluated how well they were supporting the goals of Million Hearts through effective screening, counseling and referral to services. Likewise, there are no model practices in the NACCHO model practice database that address how to use local public health clinic EHR data to evaluate blood pressure screening or smoking cessation efforts. Is the current practice evidenced-based? The approaches used to examine EHR data and to assess the quality of

blood pressure screenings and smoking cessation interventions are not evidenced-based. However, the clinical approaches used to take blood pressure, the messages provided through counseling, and the protocols describing referral to primary care were based on evidence-based practices. Screening for blood pressure for adults aged 18 and above received a high ranking as a preventive service (an 8 on a scale of 1 to 10 with 10 being the highest) by the Partnership for Prevention (http://www.cdc.gov/workplacehealthpromotion/health-strategies/blood-pressure/index.html) Likewise, the Brief Tobacco Intervention (BTI) is an evidence-based practice (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4465757/).

LHD and Community Collaboration

The LHD should have a role in the practice's development and/or implementation. Additionally, the practice should demonstrate broad-based involvement and participation of community partners (e.g., government, local residents, business, healthcare, and academia). If the practice is internal to the LHD, it should demonstrate cooperation and participation within the agency (i.e., other LHD staff) and other outside entities, if relevant. An effective implementation strategy includes outlined, actionable steps that are taken to complete the goals and objectives and put the practice into action within the community.

- Goal(s) and objectives of practice
- What did you do to achieve the goals and objectives?
    - Steps taken to implement the program
- Any criteria for who was selected to receive the practice (if applicable)?
- What was the timeframe for the practice
- Were other stakeholders involved? What was their role in the planning and implementation process?
    - What does the LHD do to foster collaboration with community stakeholders? Describe the relationship(s) and how it furthers the practice goal(s)
- Any start up or in-kind costs and funding services associated with this practice? Please provide actual data, if possible. Otherwise, provide an estimate of start-up costs/ budget breakdown.

5000 words maximum

Enter the LHD and Community Collaboration related to your practice (5000 words maximum): *

Goals and objectives of the practice This model practice shows how to integrate heart disease and stroke prevention into a Title X clinic and illustrates how an electronic health record can be used to identify at-risk individuals and to track interventions such as smoking cessation or referrals to primary care. The goals of this project were: Goal # 1 Integrate heart attack and stroke prevention in Title X clinic Objective 1.1: Develop guidelines for measuring blood pressure, and protocols for addressing elevated blood pressure and tobacco use. Objective 1.2: Analyze EHR data to document prevalence of elevated blood pressure, tobacco use and prevention activities. Goal #2 Use findings from data pulled from EHR to develop performance management metrics. Objective 2.1: To use the EHR to identify cases where counseling was not conducted and/or referrals were not made for elevated blood pressure. Review cases to see to investigate why this occurred. Objective 2.2: To use the EHR to examine the percent of tobacco users who received smoking cessation counseling & referrals to cessation services. What did you do to achieve the goals and objectives? Steps taken to implement the program Lawrence-Douglas County Health Department participated in the CDC/ASTHO Million Hearts Learning Collaborative in 2014 and 2015. In the first year LDCHD: 1) trained all the clinical staff in the correct procedure for taking a blood pressure, 2) calibrated all blood pressure cuffs, 3) developed four levels for categorizing blood pressure readings – normal blood pressure, prehypertension , stage1 and stage 2 (these levels were modeled after the stages of hypertension used by the American Heart Association, with clients with Stage 1 and Stage 2 elevated blood pressure being defined as at risk), 4) created a new report in the EHR using SQL that pulled data from several different tables. This report included the following information for each patient seen during a specific time period: date of service, medical record number, systolic and diastolic blood pressure values, sex, race, date of birth, age, ethnicity, level of blood pressure, counseling code, and referral code, 5) added an alert in the EHR to inform the clinic staff that a blood pressure was elevated, 6) added a check box to the EHR to indicate that a patient was referred to primary care for elevated blood, 7) trained staff to counsel patients on lifestyle modifications (diet, exercise, and smoking cessation) with elevated blood pressure categorized as prehypertension, stage 1 and stage 2 , 8) trained staff in how to use the brief tobacco intervention 9) added a check box that patient was referred to the state tobacco quit line, KanQuit, 10) developed blood pressure cards that patients could use to record blood pressures taken at our clinic or at other sites or home, and 11) pulled and analyzed the blood pressure data and found that in the Title X clinic almost 20% of patients had either prehypertension, stage 1 or stage 2 elevated blood pressure. This was truly not expected, since Title X clients represent a relatively young population with an average age of 27.8 years. In year 2 LDHD: 1) analyzed the data for elevated blood pressure and looked at how many clients were counseled and referred in different blood pressure categories – for this, we learned that the last blood pressure in an encounter was the most relevant blood pressure for this analysis, 2) used the report built in Year 1 and reviewed patients who had stage 1 or stage 2 elevated blood pressure but were not referred. We learned that many of these clients were not referred on account of justifiable reasons, e.g., clients had either used tobacco or ingested caffeine immediately before visit, were experiencing stress, or blood pressure was normal on a previous visit and were asked to come back for a recheck , 3) pulled data on tobacco users , and for this client population, examined how many patients received the brief tobacco intervention (counseling for tobacco), and were referred to either primary care for cessation interventions, or to the tobacco quitline, 4) developed training materials for clinic staff describing our protocol for taking blood pressures, and 5) developed materials that could be used with clients when providing lifestyle counseling (diet, exercise and quitting smoking). Any criteria for who was selected to receive the practice? Clients being served by the Title X clinic were selected to receive the practice, because blood pressures were being routinely taken, and counseling and referrals were documented in the EHR. Likewise, tobacco use and cessation efforts were documented in the EHR for this population. What was the timeframe for the practice? This Million Hearts project was conducted during a two-year time period from 2014-2015 to 2015-2016. Were other stakeholders involved? What was their role in the planning and implementation? Lawrence-Douglas County Health Department collaborated with two safety net primary care clinics. One of these clinics (Heartland Health Center) is an FQHC and the other clinic (Health Care Access) specializes in care exclusively for the uninsured. We worked with these clinics because many of our clients lack health insurance or the resources to pay out of pocket for medical care. Referrals to these clinics were based on their criteria for hypertension diagnosis and on other resources such as providing low cost nicotine replacement therapy or smoking cessation classes. This project also fostered collaboration between the community health program and the clinic staff at the LDCHD. What does the LHD do to foster collaboration with community stakeholders? Describe the relationships and how it furthers the practice goals During the two year project period, we routinely held joint meetings between LDCHD and the two safety net primary care clinics. In these meetings, we discussed our metrics for monitoring screening and undiagnosed hypertension and when referral to primary care was appropriate. We also discussed referral to other services such as nicotine replacement therapy and smoking cessation. Any start up or in-kind costs and funding services associated with the practice? Please provide actual data, if possible. Otherwise provide an estimate of start-up costs/budget breakdown. LDCHD received approximately $50,000 from the Kansas Department of Health and Environment to participate in the CDC/ASTHO Learning Collaborative, but over half of that amount was then distributed to the clinics participating in other aspects of the project. Approximately $20,000 of project funding was used to: (1) pay for a part-time programmer to write SQL code for the blood pressure report in our EHR and to make modifications, such as a the blood pressure alert in our EHR, (2) to provide staff education on tobacco cessation counseling and referral, (3) print patient education materials on managing elevated blood pressure for LDCHD clients, and (4) print blood pressure cards for used by both LDCHD and the primary care clinics for distribution to clients for the purposes of self-monitoring.

Evaluation

Evaluation assesses the value of the practice and the potential worth it has to other LHDs and the populations they serve. It is also an effective means to assess the credibility of the practice. Evaluation helps public health practice maintain standards and improve practice. Two types of evaluation are **process** and **outcome**. Process evaluation assesses the effectiveness of the steps taken to achieve the desired practice outcomes. Outcome evaluation summarizes the results of the practice efforts. Results may be long-term, such as an improvement in health status, or short-term, such as an improvement in knowledge/awareness, a policy change, an increase in numbers reached, etc. Results may be quantitative (empirical data such as percentages or numerical counts) and/or qualitative (e.g., focus group results, in-depth interviews, or anecdotal evidence).

- What did you find out? To what extent were your objectives achieved? Please re-state your objectives.
- Did you evaluate your practice?
    - List any primary data sources, who collected the data, and how (if applicable)
    - List any secondary data sources used (if applicable)
    - List performance measures used. Include process and outcome measures as appropriate.
    - Describe how results were analyzed
    - Were any modifications made to the practice as a result of the data findings?

2000 Words Maximum

Please enter the evaluation results of your practice (2000 Words Maximum): *

What did you find out? To what extent were objectives met? (restate the objectives) The goals of this project were: Goal # 1 Integrate heart attack and stroke prevention in Title X clinic Objective 1.1: Develop guidelines for measuring blood pressure and protocols for addressing elevated blood pressure and tobacco use. For this objective, we trained staff on how to take an accurate blood pressure and developed four categories based on the American Heart Association categories for staging hypertension: Normal <120/<80, Prehypertension (121-139/80-89), Stage 1 (140-159/90-99), and Stage 2 (>=160/>=100). We also trained staff in how to use the brief tobacco intervention to help staff to talk with patients about their tobacco use and for developing plans to quit. Nursing protocols were also updated to reflect these blood pressure categories and to reinforce that clients should be asked about tobacco and readiness to quit every encounter. We also learned that the last blood pressure was the most accurate reading for predicting clinical behavior regarding counseling and referral. Objective 1.2: Analyze EHR data to document prevalence of elevated blood pressure, tobacco use and prevention activities. Overall, 14% of our clinic encounters were found to have the prehypertensive elevated blood pressure, 4% of encounters had Stage 1, and 1% had Stage 2 elevated blood pressure. We found that 91% and 94% of encounters with Stage 1 and Stage 2 elevated blood pressure respectively were counseled for blood pressure. We found that 40% of encounters with Stage 1 elevated blood pressure and 62% of encounters with Stage 2 elevated blood pressure were referred. We used data from the EHR to identify the clients who were not referred and reviewed the documentation in the EHR for these visits to determine reasons why they were not referred. Factors that were commonly documented included: recent caffeine or nicotine ingestion, stress, and blood pressures that were normal on previous visits (these clients were asked to return for a recheck). With regard to tobacco use, we found that 27% of encounters reported using tobacco and that 32% of clients who visited the Title X clinic during the study time period reported being a current tobacco user at least once. The prevalence of tobacco use in our clinic population (32%) is higher than the overall prevalence of tobacco use in our county (15.1%). Because the population in the Title X clinic is relatively young (mean age 27.8 years), we did not find any differences in tobacco use by blood pressure category. Overall, the brief tobacco intervention (BTI) was conducted with 75% of all encounters. Of those who were counseled using the BTI approach, 3.9% were referred to either a primary medical provider or to the state tobacco quit line. Findings were reported to nursing leadership and a presentation after each year was given at an all-staff meeting. At these meetings, findings were used to it to show the value of integrating heart attack and stroke prevention in a Title X clinic setting and to illustrate how these findings could also be used as relevant heart attack and stroke performance management metrics. Goal #2 Use findings from data pulled from EHR to develop performance management metrics. Objective 2.1: To use the EHR to identify cases where counseling and/or referrals were not made for elevated blood pressure. Review cases to see to investigate why this occurred. Since most clients with elevated blood pressure (Stage 1 or Stage 2) received counseling, cases where blood pressure was elevated but no referral was made was chosen to be a performance management metric. These clients are considered to be outliers and their records are reviewed to determine if there are justifiable reasons for not referring. This analysis allows for follow-up with staff regarding decisions not to refer if documentation in the EHR is unclear. This measure was developed from baseline information and will be tracked beginning January, 2017. Objective 2.2: To use the EHR to examine the percent of tobacco users who received smoking cessation counseling & referrals to cessation services. We found that overall, 75% of encounters who were tobacco users were counseled regarding the risks of tobacco use and resources available to quit smoking. Of those counseled, 3.9% were referred to smoking cessation services. The referral metric will be monitored over time starting January, 2017. Did you evaluate your practice? List data sources, performance measures, how results were analyzed As part of our year 1 activities, we evaluated our electronic medical record and found that we needed to make some modifications in the standard data elements to measure all the activities related to blood pressure and smoking cessation interventions and to enhance reporting capabilities to make quality assessment more sustainable. These changes allowed us to alert clinicians to an elevated blood pressure, and to document referral to primary care or to the state tobacco quit line. We also built a blood pressure report that allowed us to monitor counseling and referrals for clients with elevated blood pressures. This report enabled us to examine if a second blood pressure was taken when an initial reading was high, and to easily identify cases of elevated blood pressure where there was no counseling or referral made. The ease of identifying patients with elevated blood pressure who were not referred enabled us to review the EHR medical record to investigate reasons why interventions were not conducted. While we consider smoking cessation data to be largely baseline data, these findings showed us that we needed to do more staff training on how to implement the brief tobacco intervention effectively. We also were able to use the baseline data on elevated blood pressure, tobacco cessation and interventions to develop performance improvement metrics which will allow us to measure changes in clinical outcomes over time. Were modifications made to the practice as a result of the data findings? No modifications were made to existing practices during the study time period, but staff training on methods to promote tobacco cessation was offered to staff after participation in the Million Hearts collaborative because the number of referrals to tobacco cessation services seemed low. We have just begun using an opt-out brief tobacco intervention approach (referring patients unless they say no). The opt-in approach was used during the time we participated in the Million Hearts collaborative. We are also in discussions with the safety net clinics about enhancing referral practices to make sure there is a “warm handoff” to a primary care clinic in those situations where clients are interested in receiving primary care services for their elevated blood pressure or for tobacco cessation. Furthermore, there are discussions underway with the part-time medical director of the health department about the development of standing orders for nicotine replacement therapies, so that the health department could provide additional supports to users of tobacco who are interested in quitting.

Sustainability

Sustainability is determined by the availability of adequate resources. In addition, the practice should be designed so that the stakeholders are invested in its maintenance and to ensure it is sustained after initial development (*NACCHO acknowledges that fiscal challenges may limit the feasibility of a practice's continuation*.)

- Lessons learned in relation to practice
- Lessons learned in relation to partner collaboration (if applicable)
- Did you do a cost/benefit analysis? If so, describe.
- Is there sufficient stakeholder commitment to sustain the practice?
    - Describe sustainability plans

1500 Words Maximum

Please enter the sustainability of your practice (2000 Words Maximum): *

Lessons learned in relation to practice Through our evaluation, we discovered that even though the clientele of the Title X clinic are relatively young, a significant number of clients have elevated blood pressures that require referral to primary care. Additionally, through our collaboration with the primary care safety net clinics, we have developed relationships and agreements for when clients should be referred for elevated blood pressure. The primary care clinics also provide support for tobacco cessation by providing nicotine replacement therapy or face-to-face tobacco cessation classes. We found the customized blood pressure report to be an essential tool for identifying elevated blood pressure outliers (clients with elevated blood pressure who were not referred) so that these cases can be reviewed frequently. By reviewing these cases, we were able to understand reasons why referrals might not take place and to identify cases where follow-up with staff is needed. Our evaluation of our tobacco cessation work has led us to do more training with the staff and to implement an opt-out approach to increase referrals. Findings from our EHR have allowed us to develop metrics regarding referral of clients to primary care for elevated blood pressure and referral of tobacco users to cessation services. Lessons learned in relation to partner collaboration Close collaboration between the clinical staff and the community health program is essential for making changes in clinical practice, for setting up processes for collecting data in EHR, and for interpreting findings. Did you do a cost/benefit analysis? (if so describe) A cost/benefit analysis was not a specific focus of this project. Is there sufficient stakeholder commitment to sustain the practice? LDCHD is committed to continuing this work. The development of performance management metrics for elevated blood pressure referrals and tobacco cessation referrals will ensure that EHR data are reviewed quarterly and reviewed by senior management.

Additional Information

How did you hear about the Model Practices Program:: *

- [x] I am a previous Model Practices applicant
- [ ] At a Conference
- [ ] NACCHO Website
- [ ] Public Health Dispatch
- [x] Colleague in my LHD
- [ ] Model Practices brochure
- [ ] NACCHO Exhibit Booth
- [ ] NACCHO Connect
- [ ] Colleague from another public health agency
- [ ] E-Mail from NACCHO
- [ ] NACCHO Exchange