NACCHO
National Association of County & City Health Officials

1100 17th Street, NW, Seventh Floor
Washington, DC 20036
Phone: 202-783-5550
www.naccho.org

2017 Model Practices

Applicant Information

Full Name: Angela Cochran

Company: St. Mary

Title: Director, Health Promotion and Community S

Email: angela.cochran@maryland.gov

Phone: (240)925-2650

City: Solomons

State: MD

Zip: 20688

Model Practice Title

Please provide the name or title of your practice: *

St. Mary

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
- [x] 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
- [ ] Informatics
- [ ] 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
- [ ] Tobacco
- [ ] Vector Control
- [ ] Water Quality
- [ ] Workforce
- [ ] Conference Theme: Bridging Clinical Medicine and Population Health

Other::

Chronic Disease

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

The St. Mary's County Asthma Control Program (ACP) is an evidence based practice that includes a home visiting initiative which support children and adolescents ages 2-18 who have a diagnosis of asthma. The St. Mary's County ACP is modeled after the The Community Preventive Services Task Force recommendation for children and adolescents. "The Task Force recommends the use of home-based multi-trigger, multicomponent interventions with an environmental focus for children and adolescents with asthma, based on evidence of effectiveness in improving overall quality of life and productivity, specifically: 1) improving asthma symptoms and, 2) reducing the number of school days missed due to asthma." (https://www.thecommunityguide.org/content/task-force-publishes-findings-on-home-based-asthma-programs)

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 St. Mary's County Health Department is located in Leonardtown, Maryland and is responsible for protecting and promoting the health of the St. Mary's County community. The LHD is directed by a physician Health Officer, and has shared governance (both state health department and local Board of Health/elected officials). The LHD is small (approximately 80 FTE) for a medium-sized county population (over 110,000 residents). St. Mary's County is one of the fastest growing counties in Maryland. From 2000 to 2010, the county was the fastest-growing in the state. This growth is expected to continue. Despite this growth and the county's small metro classification by the National Center for Health Statistics, 50.4% of St. Mary's residents live in rural settings. In 2015, 24.7% of the population was under 18 years and 12.3% aged 65 years and older. County racial/ethnic demographics are 78.9% white, 14.5% black/African American, 2.9% Asian, and 3.2% multiracial. Those identifying as Hispanic/Latino are nearing 5%. Asthma is a chronic lung disease that inflames the airway passages of the person it affects and causes reduced airflow to the lungs, which can cause a myriad of complications. According to the Centers for Disease Control (CDC), asthma is a wide spread problem that affects an estimated 23 million people in this county, 6 million of whom are children (EPA, 2015). In St. Mary's County 1 in 7 children have a diagnosis of asthma (BRFSS 2011-2012) and in 2014 60.8% of emergency department visits were due to asthma related illness (HSCRC). Asthma is a serious and chronic respiratory problem with no known cure and limited treatment options, which makes it a pressing public health concern. The Asthma Control Program (ACP) initiative applies the evidence-based public health practice of home-based multi-trigger, multicomponent interventions with an environmental focus for children and adolescents ages 2-18 with asthma. The project goals of the St. Mary's County Asthma Control Program are to: • Reduce home exposure to multiple indoor asthma triggers (allergens and irritants) for children (ages 2-18) with asthma living in St. Mary's County. • Provide general asthma education within the home setting for families of children with asthma • Promote the utilization of written asthma action plans by children with asthma, their primary care providers, and school nurses • Promote smoking cessation for persons living in a home occupied by a child/adolescent with asthma • Decrease number of emergency department visits, hospitalizations, missed school days, and courses of oral steroids due to asthma The ACP launched in 2014 and utilized a certified asthma educator nurse to make free home visits to referred patients. Outreach was conducted with local pediatricians, family physicians, nurse practitioners, pediatric subspecialists, emergency department staff, and school nurses to announce the initiative. The nurse would call families upon referral for intake including baseline health measures. If families were receptive, an in-home visit was scheduled were asthma medications and the written asthma action plan was reviewed, asthma education provided, an environmental scan of the home completed to identify triggers, and minor or moderate environmental remediation supplies offered. Follow-up phone calls were conducted with the family at 3, 6, and 12 months. The nurse would then provide written follow-up to the primary care clinician, school nurse, and relevant subspecialty clinician. For a period during the program, the ACP had a contract with a regional Medicaid MCO to receive reimbursement from the MCO for the supplies provided in the home; however, this partnership ended with leadership changes at the MCO. All program objectives were met through the home visiting program. As of November 2016 we have made 93 home visits to patient's ages 2-18. The involved children have collectively demonstrated significant reductions in emergency department visits, hospitalizations, missed school days, and courses of oral steroids due to asthma. The success of the practice was due to the following: • Having an asthma certified nurse conduct the initial home visit and having follow-up contact with the families after the visit. • The supplies distributed (helped both in getting families to participate and also in reducing the triggers). • For the time it existed, the agreement with a Medicaid MCO helped identify potential children who would benefit. • School nurse involvement to help encourage families to participate. For those patients who completed the one-year follow-up for our program, we saw emergency department visits related to asthma decrease by 87%, in-patient hospitals stays decrease by 93%, use of oral steroids courses decrease by 69%, and missed school days decrease by 69%. www.smchd.org/asthma

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) : *

Asthma is a chronic lung disease that inflames the airway passages of the person it affects and causes reduced airflow to the lungs, which can cause a myriad of complications. According to the Centers for Disease Control (CDC), asthma is a wide spread problem that affects an estimated 23 million people in this county, 6 million of whom are children (EPA, 2015). In the state of Maryland, an estimated 823,000 people were affected by the disease as of 2009, which represented 14 percent of the population of the state. Asthma causes approximately 2 million emergency room visits per year in the United States and is a leading cause of missed school days in children under 15 years of age (Moorman, 2012). With this problem being as significant as it is, healthcare programs have struggled to keep up with the ever rising number of new cases. Asthma is a serious and chronic respiratory problem with no known cure and limited treatment options, which makes it a pressing public health concern. St. Mary's County is a large county in the southern region of Maryland with a population of approximately 111,413 persons as of 2015, the last year reliable data was available. Approximately 24.7 percent of the population is under 18, which accounts for 27,519 residents. Approximately 6,663 adults in the county have asthma - representative of approximately 7 percent of the population in 2009. Though there is little documented data on the prevalence of the disease in children, conservative estimates based on the adult population suggest that approximately 1 in 7 children in the county are affected by asthma. Of these 111,413 residents, approximately 79 percent of the population is Caucasian and 15 percent of the population is African American. Asthma is non-discriminatory disease that affects all demographics of the population of St. Mary's County Maryland, although admittedly it is more prevalent in certain demographics. According to the 2009 figures of asthma emergency room visit rates, African American and other non-caucasian children in the county were 3-4 times more likely to receive asthma related care than Caucasian children. Asthma also disproportionally affects those from the lowest incomes in society, which affects how these populations receive care. According to the Maryland Alliance for the Poor (2014), 8.6 percent of children in St. Mary's County lived below the poverty line in 2012. For these patients, care is often costly and there are barriers to services such as distance, cost, lack of insurance, and lack of suitable housing situations that all contribute directly to the prevalence of asthma in this county. The target population of the asthma response efforts encompasses the 27,519 residents of the county who were under the age of 18 in 2015, which represented 24.7% of the population at the time. Among St. Mary's county children under 18, the asthma situation is at a critical level with 1 in 7 children estimated to have asthma. This would mean that St. Mary's County has as estimated 3,931 children who have been diagnosed with asthma - 2,366 of whom live in households that earn below the federal poverty limit each year. The ACP was implemented for 93 children as of September 2016, which represents 2.4 percent of the estimated population eligible. There were no past local programs that addressed asthma in youth/adolescents in our community. The St. Mary's County Health Department (SMCHD) utilizes a referral system implemented by the St. Mary's County Primary Care Collaborative (SMCPCC) where primary care practices who utilize a community-clinical linkages referral form can refer patients to our Asthma Control Program (ACP). Any local provider or non-provider can refer the ACP but use of the SMCPCC is an innovative approach to receive referrals. Additionally, the ACP provides feedback and communication to local school nurses and physicians on residents who we have seen for a home visit. This feedback loop is essential to support the continuum of care. Additionally, for a duration of time, the ACP contracted with a regional MCO provider to receive referrals and reimbursement for the environmental supplies provided to their clients. The St. Mary's County Asthma Control Program is an evidence based practice that includes a home visiting initiative which support children and adolescents ages 2-18 who have a diagnosis of asthma. The St. Mary's County Asthma Control Program is modeled after the The Community Preventive Services Task Force recommendation for children and adolescents. "The Task Force recommends the use of home-based multi-trigger, multicomponent interventions with an environmental focus for children and adolescents with asthma, based on evidence of effectiveness in improving overall quality of life and productivity, specifically: 1) improving asthma symptoms and, 2) reducing the number of school days missed due to asthma." (https://www.thecommunityguide.org/content/task-force-publishes-findings-on-home-based-asthma-programs)

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): *

The Asthma Control Program Initiative applies the evidence-based public health practice of home-based multi-trigger, multicomponent interventions with an environmental focus for children and adolescents ages 2-18 with asthma. The project goals of the St. Mary's County Asthma Control Program are to: • Reduce home exposure to multiple indoor asthma triggers (allergens and irritants) for children (ages 2-18) with asthma living in St. Mary's County. • Provide general asthma education within the home setting for families of children with asthma • Promote the utilization of written asthma action plans by children with asthma, their primary care providers, and school nurses • Promote smoking cessation for persons living in a home occupied by a child/adolescent with asthma • Decrease number of emergency department visits, hospitalizations, missed school days, and courses of oral steroids due to asthma The ACP targets children with asthma (ages 2–18) living in St. Mary's County, MD. Referrals are obtained from primary care providers, local EDs, school nurses, family members, and community partners (such as social services). One home visit is made by a nurse/certified asthma educator. At the home visit asthma disease and medication education is provided and there is a review of the written asthma action plan. Instruction is provided on compliance and proper use of inhalers. An environmental assessment of the home is completed and identification of potential environmental asthma triggers is made. Minor remediation supplies are also provided to the participant (mattress/pillow covers, microfiber cloth, HEPA vacuum) and a spacer or mask. The rescue and controller medications are labeled with green or yellow stickers. A packet of health education information is also provided. This educational information packet includes a health history questionnaire (which is filled in by the nurse/asthma educator), program consent forms, asthma home environment checklist with action steps/resources/minor to moderate remediation steps, Guide to a Healthy Home handbook, blank Asthma Action Plan (for review), brochure on avoiding environmental triggers, medication information, spacer use information, and an emergency asthma plan magnet directing when to call 911 or when to call the doctor. Smoking cessation services are communicated and encouraged as needed. During the home visit the family and/or caregiver is reminded that there will be a 3, 6, and 12 month follow-up call to assess asthma control and provide additional education as needed. Follow up reports/letters were provided by the nurse/asthma educator to the primary care provider and school nurse encouraging utilization of a written asthma action plan. The ACP launched in 2014 and utilized a certified asthma educator nurse to make free home visits to referred patients. Outreach was conducted with local pediatricians, family physicians, nurse practitioners, pediatric subspecialists, emergency department staff, and school nurses to announce the initiative. The nurse would call families upon referral for intake including baseline health measures. If families were receptive, an in-home visit was scheduled were asthma medications and the written asthma action plan was reviewed, asthma education provided, an environmental scan of the home completed to identify triggers, and minor or moderate environmental remediation supplies offered. Follow-up phone calls were conducted with the family at 3, 6, and 12 months. The nurse would then provide written follow-up to the primary care clinician, school nurse, and relevant subspecialty clinician. For a period during the program, the ACP had a contract with a regional Medicaid MCO to receive reimbursement from the MCO for the supplies provided in the home; however, this partnership ended with leadership changes at the MCO. Members of the St. Mary's County community ages 2-18 years with a diagnosis of asthma were the only criteria for those selected to participate in the free Asthma Control Program. The program is on-going and the St. Mary's County Health Department continues to take referrals from local physicians, the local acute care hospital, community partners, and schools/nurses. Program participants receive a home visit and are not formally discharged from the program until the 12 month follow-up phone call is completed. The Maryland Department of Health and Mental Hygiene (DHMH) was involved as funding source for salary only during fiscal year 2014. Local grant funds covered costs for minor environmental remediation supplies and other educational supplies. DHMH assisted with an Asthma Program Training in February 2014. The Maryland state level Asthma Control Program provided presentations for this day long training including; Asthma 101, Environmental Assessment Overview, and Environmental Assessment Field Training and Health Educator Messaging Training. The LHD meets regularly with community stakeholders and partners through different collaborative efforts to support ACP implementation. SMCHD meets regularly with local primary care physicians as part of the St. Mary's County Primary Care Collaborative. Partnerships and relationships are created through these initiatives which enable the LHD to not only promote our programming to specific organizations but also to work with different groups to foster referral processes and program marketing. Also, the LHD staff promote the ACP with hospital/ED staff, school nurses, and other community partners. This assists in getting children in need connected with the service available. Startup costs of $16,750 were provided by the Maryland Department of Health and Mental Hygiene for payment of a 0.3 FTE nurse project coordinator. Other costs that were covered initially by local grant funds were costs for minor environmental remediation supplies, in addition to spacers, masks and vacuum cleaners. The local health department budget covered the remainder of the staffing and supplies costs, and now covers the entire budget since state grant funds are no longer available. Funding covers a 0.5 FTE project coordinator/asthma educator, office supplies, and costs of the following environmental remediation supplies: • HEPA vacuum cleaner (Bissell Clean View 9595) $79 • Microfiber cloth (24) $9.98 • Spacer (Breathe Rite collapsible chamber) $5.62 • Medium pediatric masks $5.60 • Twin mattress covers $12.08 • Double mattress covers $13.20 • Queen mattress covers $15.10 • Pillow covers $4.95

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): *

The objectives for the Asthma Control Program are to: • Reduce home exposure to multiple indoor asthma triggers (allergens and irritants) for children (ages 2-18) with asthma living in St. Mary's County. • Provide general asthma education within the home setting for families of children with asthma • Promote the utilization of written asthma action plans by children with asthma, their primary care providers, and school nurses • Promote smoking cessation for persons living in a home occupied by a child/adolescent with asthma • Decrease number of emergency department visits, hospitalizations, missed school days, and courses of oral steroids due to asthma The nurse/asthma educator conducted 93 home visits for children ages 2-18. Of the 93 visits, 56 have thus far completed the 12 month evaluation. Baseline data was collected from participants/caregivers at the home visit or initial phone call, and follow-up data collected on the phone at the 3,6, and 12 month time periods. The data collection was performed by the nurse/asthma educator. She collected the baseline data at the home visit. The participants/caregivers provided self-report data for the number of emergency department visits, in-patient hospital stays, courses of oral steroids, and missed school days over the prior year. Follow-up phone calls were made at 3, 6, and 12 months post the home visit date where the same data was collected. Process Measures: 93 home visits were made as of September 2016 80 clients completed the 3 month assessment 81 patients completed the 6 month assessment 56 patients completed the 12 month assessment Outcomes Measures: Of the patients who completed the 12 month assessment, the following data was collected. 54 ED visits were reduced to 7 14 hospital stays were reduced to 1 65 oral steroid courses were reduced to 29 178 missed days of school were reduced to 56 Results were analyzed using basic proportion/percentage calculations. No modifications were made to the practice as a result of the data findings.

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): *

We feel some community members may not want an in-home visit for a variety of reasons and may be reluctant to let strangers (even community health workers) into their homes. Our asthma control program has proposed meeting potential people interested in participating in the program in neutral third party locations for an educational visit prior to conducting a home visit. Also, the supplies offered (especially the vacuum cleaner) can encourage families to participate in a home visit. Other lessons learned in relation ro partner collaboration is to encourage referrals from non-medical partners (including social services and other community agencies) as they may have frequent contact with eligible children. We found it was tough to get referrals from medical providers unless a formal referral form or EMR-based referral is developed and integrated into the practice protocols. Also, school nurses may cite FERPA as a reason not to refer families directly to the program – work with local school system to implement a method to address this concern. We did not do a cost/benefit analysis. However, per a jurisdiction profile from 2011 (data used from 2009), the average cost per asthma emergency department visit for children in 2009 was $262 in St. Mary's County. The total costs for asthma related emergency department visits in 2009 was $63,271. Using the 2009 cost data and the decrease of emergency department visits from 57 to 7 after one home visit, a savings of $12,314 was made related to ED visits. In 2009 the average cost per asthma hospitalization for children was $4,324 in St. Mary's County. The total costs for asthma related hospitalization for children in 2009 was $276,726. Using the 2009 data and the decrease of in-patient stays from 14 to 1 after one home visit, a savings of $56,212 was made. Our program is currently looking to initiate more referrals to the program though EMR based prompts and direct referrals by primary care physician practices, pediatricians and the local acute care emergency hospital. Additionally, we would like to complete the follow up visits in person rather than over the phone as there could potentially be a change in living conditions over the course of a year that could increase asthma susceptibility. An in-person follow-up visit would provide further time for additional education and review of symptoms and medications. At the state level, work is being done to try to encourage insurers to cover the cost of this service. At the local level, we are working with local health care providers and ED/hospital to make referrals to the program part of their EMR system and describe the importance of fiscal support for the initiative. This would help in sustaining flow of patients referred. State-level hospital reimbursement (global budgets) policy theoretically will also drive hospitals to try to decrease ED volume and improve population health outcomes, which may incentivize use of this service and possible funding to support it.

Additional Information

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

- [ ] 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