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: *

Collaborative and Coordinated Effort in a Rapid Response to ZIKA

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.: *

- [ ] Access to Care
- [ ] Advocacy and Policy Making
- [ ] Animal Control
- [ ] Coalitions and Partnerships
- [ ] Communications/Public Relations
- [ ] Community Involvement
- [ ] Cultural Competence
- [ ] Emergency Preparedness
- [x] 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
- [x] Quality Improvement
- [ ] Research and Evaluation
- [ ] Tobacco
- [x] Vector Control
- [ ] Water Quality
- [ ] Workforce
- [ ] Conference Theme: Bridging Clinical Medicine and Population Health

Other::

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

The practice is evidence-based. DOH-Broward participated in the CDC Vector Control Performance Assessment and Improvement Initiative. Whether it was improving the quality and quantity of partnerships, increasing effectiveness of outreach to the community, or streamlining vector control operations, performance improvement was evident. In the future, PHF looks forward to refining the Vector Control Population Health Driver Diagram and working with CDC to further test its use as a tool to engage community partners in strengthening vector control 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. : *

• Brief description of LHD- location, demographics of population served in your community Broward County is located in the southeastern portion of the State of Florida with Miami-Dade County to the south and Palm Beach County to the north. Broward County is the second most populous county in Florida in 2016, estimated at 1,809,604, and home to 10% of Florida's residents. Broward County is the second largest county in Florida and the eighteenth largest county in the nation. Broward County also hosts an estimated 10 million annual visitors including an estimated 250,000 winter seasonal residents. Broward County has a diverse population with residents originating and/or representing more than 200 different countries and speaking more than 130 different languages. 31.4% of the residents are foreign-born. Broward County is a minority/majority county demonstrated by its 2016 population by race (Black 28.5%, Asian 3.6%, Hispanic 26.9%, other races 4.1%, more than one race .2%, for a total of 59.5% and White 40.8%). The Florida Department

of Health in Broward County (DOH-Broward) is the official Public Health Agency in Broward County and has been operational since 1936. DOH-Broward's mission is "to protect, promote and improve the health of all people in Florida through integrated state, county and community efforts". DOH-Broward is the lead agency providing core public health functions and essential services in the county as part of a complex public health system that includes hospitals, clinics, planning agencies, community-based organizations and others. DOH-Broward provides population/community-based services to the county's 1.8 million residents and over 10 million annual visitors, and is responsible for assessing, maintaining and improving health and safety within the county. • Describe public health issue Outbreaks may occur due to unreported and/or underreported mosquito borne illnesses, such as Chikungunya, Dengue, West Nile and Zika virus. With the emergence of the Zika virus, the ability to identify suspected cases and rapidly respond are crucial in preventing an outbreak. Collaboration and coordination between Florida Department of Health in Broward County's (DOH-Broward) Epidemiology Department and Environmental Health, and Broward County Mosquito Control Section (BCMC), is crucial to the ability to conduct surveillance and treatment of mosquito affected properties, as well as increase the awareness and education for hospitals, urgent care centers, primary care centers, and the community. • Goals and objectives of proposed practice To prevent an outbreak of the Zika virus in Broward County through rapid response and continued collaboration between DOH-Broward's Epidemiology Department and Environmental Health Department, and BCMC. This effort included the improvement of mosquito notification and surveillance efforts of suspected mosquito borne illness through partnerships between the DOH-Broward and local hospital emergency departments, urgent care centers, primary care centers, and the public. • How was practice implemented / activities On February 3, 2016, the Florida Surgeon General Dr. John Armstrong, issued a Declaration of Public Health Emergency regarding the Zika virus as a result of Governor Scott's Executive Order 16-29. On February 14, 2016, when Broward was included in the Governor's declaration, an Incident Command System (ICS) was immediately activated. Since then, DOH- Broward's Epidemiology Department and Environmental Health Department, along with BCMC, have continued to collaborate and coordinate their surveillance and treatment of suspected areas. DOH-Broward assessed the status of its vector control program, (which includes mosquito control), using the CDC's Environmental Public Health Program Self-Assessment Instrument. The vector performance improvement project was selected by DOH-Broward and approved by the Public Health Foundation (PHF). The idea originated from CDC's desire to help vector control programs at local health departments improve their performance using self-assessment and quality improvement (QI) tools. With funding from CDC, PHF assisted 13 local health departments that included DOH-Broward, to increase their vector control programs' efficiency, effectiveness, and capacity. PHF also developed the Vector Control Population Health Driver Diagram which DOH-Broward utilized to identify focus areas for the project. A meeting took place between the BCMC and the DOH-Broward where gaps were identified in communication, treatment and enforcement activities. Communication flowcharts were developed to address the gaps noted. The flowcharts were laminated and distributed to program staff within DOH-Broward and BCMC. An additional communication gap was identified between BCMC, DOH-Broward and the local hospitals, primary care and urgent care centers. This gap involved a lack of notification of potential mosquito borne illness cases presented at these facilities. Having advanced notice of these cases will allow BCMC and DOH-Broward to treat and perform surveillance of the affected area to minimize the potential risks of an outbreak. DOH-Broward developed a mosquito information and reporting poster which was distributed and mounted in every treatment room of the hospital ER's, primary and urgent care centers. This poster advises and lists the notification process if a suspected case presents. Mosquito information door hanger was also developed by DOH-Broward. These door hangers will be distributed to the affected local community to engage the community in the process of reducing the risk of outbreak in their neighborhood. All communication between the partnering agencies will be tracked for quality improvement and reviewed using spreadsheets and statewide databases. Since the Governor's declaration, DOH- Broward Epidemiology staff have interviewed and collected samples from many individuals as part of the epidemiologic investigation and active case finding. For each suspected case of Zika, a disease investigation is conducted and control measures are implemented. Individuals are interviewed to determine whether they are symptomatic and/or pregnant and meet the criteria for testing through the State laboratory. Upon interview, individuals are educated and counseled on Zika. They are educated on prevention measures such as, abstaining from sexual contact or consistently and constantly using barrier protection; to stay indoors and voluntarily self-isolate for 7-10 days or until symptoms resolve; use a DEET containing mosquito repellent, wear long sleeves, pants and socks while outdoors; if symptomatic treatment using Tylenol (not ibuprofen or aspirin). Initial contact to the Health Department is usually made by a health care provider who has a patient that presents with signs and symptoms similar to that of Zika. The Epidemiologist verifies the information provided regarding the suspected case with the health care provider. Based on the information provided, a decision is made whether or not to test the patient for Zika. The decision is based on symptoms, travel history and pregnancy status. If the decision is made to proceed with testing, the Epidemiologist will request the following from the provider; history, physical exam, demographics, vaccine history, lab tests-if any. The patient is then interviewed face-to face by the Epidemiologist to determine differential diagnosis particularly measles, varicella, and flu. The patient is asked onset and duration of symptoms; order of occurrence; travel history outside county of residence and/or state, or country; if there were any additional travelers who accompanied them are sick; past medical history; occupation, location of occupation (indoors/outdoors); hobbies-particular outdoor activities; smoking outdoors; time spent outdoors; blood transfusion; sexual contacts; drug allergies; current medications; use of intact window screens; the draining of standing water; and use of mosquito repellant. They are also asked about contacts- household contacts; children in the household; pregnancy status of contacts; any febrile illness or travel reported for household members or other contacts in the month prior; visitors to the home and if they were ill; other ill contacts or co-workers. For every suspected case, Environmental Health and Mosquito Control are notified by the Epidemiology staff. In an effort to protect the confidentiality of the individual (s), both Mosquito Control and Environmental Health are provided with addresses of the area surrounding the residence and place of employment of the cases. Environmental Health assigns an Environmental Health Specialist who completes a mosquito assessment within 300 yards of the residence and workplace that includes looking for areas of standing water, draining any standing water where possible, and treat larger areas of standing water with larvicide. Door hangers with mosquito protection information are also placed on homes and business within 300 yards of the residence. Mosquito Control assessments are also conducted within 300 yards of the residence or place of business/ employment to determine vector presence, reduce breeding sites, conduct backpack spraying, treat standing water with long lasting larvicide, eliminate larval habitats, and conduct adult mosquito sampling to estimate and evaluate the effectiveness of treatment. Once a suspected case is confirmed, Environmental Health and EH are again notified for additional assessments, evaluations and spraying. During routine testing of suspected cases, a locally acquired case was identified and confirmed. Epidemiology staff notified the individual of the lab results and the importance of

voluntary self-isolation and practicing abstinence/safe sex activities, mosquito protections for 7-10 days or until symptoms subside, as well as refraining from donating blood. Epidemiology staff along with staff from the STD Department, conducted door to door to all residences within a radius of 300 yards of the patient's residence to conduct a sero-prevalence survey, obtaining urine specimens for testing. This was done in an effort to find additional infections through active case findings, to provide mosquito education and to provide Zika preventions kits and information to pregnant women. Active surveillance and response activities continued for six weeks after the case was identified. Epidemiology also utilizes the Electronic Surveillance System for Early Notification of Community Based Epidemics (ESSENCE) which gathers chief complaint data from all emergency rooms in real time. ESSENCE is continuously monitored by DOH-Broward Epi Staff in an effort to monitor Zika trends as well as conduct active surveillance for possible local transmission. DOH-Broward currently offers Zika testing to pregnant women at the Fort Lauderdale Health Center. Since the Governor announced this initiative, DOH-Broward has provided free Zika testing to 745 pregnant women. Testing is available at the clinic for free, 5 days per week, on a walk-in basis. This allows pregnant women to be tested regardless of travel history and/or symptoms. The Epidemiology department contacts all pregnant clients with their results. Women with negative results are educated and counseled on Zika and provided information on how to protect themselves from future exposure. Women who test positive for Zika are further interviewed for travel history, exposure, occupation, sexual partner(s), etc. Mosquito Control and Environmental Health are contacted for assessments, evaluations and spraying of the area surrounding their residence and place of employment. Additionally, pregnant women who test positive and are not in care are referred to the South or North Hospital District for care. For those pregnant women who visit the clinic and indicate symptoms, The Epidemiology staffs conducts an interview immediately and patient is sent to lab for specimen collection. Patients self-reporting exposure and/or signs and symptoms of Zika are asked to visit a provider for an assessment and evaluation to rule out any differential diagnosis. If these individuals do not qualify do not meet the criteria for state lab testing, they can receive testing through LabCorp or Quest Diagnostics. Epidemiology consults with the State and Regional offices on individual cases. Epi staff also participates on Zika related calls conducted by the State Bureau of Epidemiology. Epidemiology continues to surveil, investigate and monitor Zika activities and collaborate with the DOH- Broward Environmental Health Team and BCMC. • Results/ Outcomes (list process milestones and intended/actual outcomes and impacts. o Were all of the objectives met? All objectives were met. To improve mosquito notification and surveillance efforts, mosquito posters were developed and distributed to 140 urgent care centers and 17 hospital emergency departments in Broward County and door hangers were revised and printed and will be distributed to affected local communities to engage the public in the process of reducing the risk of outbreak in their neighborhood. To improve coordination of resources and communication between DOH-Broward and BCMC, "communication" and "actions" flowcharts were laminated and distributed to all of the involved staff for DOH-Broward and BCMC. Epidemiology staff has conducted over 780 interviews, collected over 60 samples during active case finding. Over 6000 mosquito assessments were conducted in conjunction with Broward County Mosquito Control. These assessments were the result of improved communication between the Department of Health in Broward County and the local hospital district, primary care physicians and Mosquito control. With a communication plan in place, all suspected and positive cases for Zika were immediately reported to the DOH-Broward Epidemiology Department. Environmental Health teams were deployed to affected areas and in conjunction with Mosquito Control to assess, abate and treat any condition conducive to mosquito breeding and active mosquito breeding sites. What specific factors led to the success of this practice? Strengthened partnerships between the Florida Department of Health in Broward County, Broward County Mosquito Control section, local hospital district ER departments, primary and urgent care centers was the main factor that contributed to the success of the practice. Existing partnerships between BCMQ and DOH-Broward were further enhanced and strengthened by working together to develop the mosquito-borne illness reporting structure. An agreement to partner on enforcement activities is an additional new factor that contributed to the success of this practice. Additionally, the use of tools provided by PHF, such as Gantt charts, flow charts, and progress report templates assisted DOH-Broward to complete the planning and implementation of the project without the need to create new tools. • Public Health impact of practice Use of the communication and actions flowcharts improved the effectiveness and efficiency of surveillance, treatment of mosquito affected properties and enforcement activities by providing clearly defined roles and responsibilities for DOH-Broward and BCMC. Earlier diagnosis by health care providers and subsequent reporting to DOH-Broward improved surveillance and mosquito control activities. During the recent Zika response over 780 interviews were conducted by Epidemiology staff and over 6000 mosquito assessments were performed with Mosquito control. Over 300 active breeding sites were identified and abated. Over 1000 potential mosquito breeding sites were identified and abated. Distribution of over 6000 mosquito prevention door hangers were distributed to private residences improving communication and education to the community in mosquito bite and breeding prevention thus reducing the risks of outbreak in their community.

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 the problem/public health issue To prevent an outbreak of the Zika virus in Broward County through rapid response and continued collaboration between DOH-Broward's Epidemiology Department and Environmental Health Department, and BCMC. This effort included the improvement of mosquito notification and surveillance efforts of suspected mosquito borne illness through partnerships between the DOH-Broward and local hospital emergency departments, urgent care centers, primary care centers, and the public. Advanced notification of positive and potential positive mosquito borne illness cases is beneficial in providing a rapid response in conducting mosquito surveillance efforts thus decreasing the potential for community outbreaks. • What target population is affected by problem (please include relevant demographics) o What is target population size? Broward County is the second most populous county in Florida in 2016, estimated at 1,809,604, and home to 10% of Florida's residents. Broward County is the second largest county in Florida and the eighteenth largest county in the nation. Broward County also hosts an estimated 10 million annual visitors including an estimated 250,000 winter seasonal residents. Broward County has a diverse population with residents originating and/or representing more than 200 different countries and speaking more than 130 different languages. 31.4% of the residents are foreign-born. Broward County is a minority/majority county demonstrated by its 2016 population by race (Black 28.5%, Asian 3.6%, Hispanic 26.9%, other races 4.1%, more than one race .2%, for a total of 59.5% and White 40.8%) What has been done in the past to address the problem? Communication between DOH-Broward and BCMC was not clearly defined. Signs and symptoms of mosquito borne illness had not specifically been provided to health care providers as an educational and awareness tool. No formal communication methods were in place to coordinate surveillance and treatment of property activities between the DOH-Broward and BCMC. • What percentage did you reach? Mosquito posters were distributed to 140 urgent care centers and 17 emergency room departments. Over 6000 mosquito door hangers were distributed to Broward County residents as potential mosquito borne illnesses occur. • Why is current/proposed practice better? Gaps were identified in communication, treatment and enforcement activities. Communication flowcharts were developed to address the gaps noted. The flowcharts were laminated and distributed to all of the involved staff for DOH-Broward and BCMC. An additional communication gap was identified between BCMC, DOH-Broward and the local hospitals, primary care and urgent care centers. This gap involved a lack of notification of potential mosquito borne illness cases presenting at these facilities. Having advanced notice will allow BCMC and DOH-Broward investigate exposure and to treat and perform surveillance of the affected area to minimize the potential risks of an outbreak. DOH-Broward developed a mosquito poster that was distributed to 17 hospital emergency departments and 140 primary and urgent care centers. This poster advises and lists the notification process if a suspected case presents. Mosquito borne illness information door hanger was also developed by DOH-Broward. These door hangers were distributed to the affected local community to engage the community in the process of reducing the risk of outbreak in their neighborhood. All communication between the partnering agencies was tracked for quality improvement and review using spreadsheets and statewide databases. • Is current practice innovative? How so/explain? o New to the field of public health OR o 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.) DOH-Broward modeled the mosquito borne illness poster after its existing measles poster (based on CDC posters) which was well-received by hospitals and urgent care centers. The Environmental Public Health Program Self-Assessment Instrument helped to identify areas of improvement. The Vector Control Population Health Driver Diagram and working with CDC to further test its use as a tool to engage community partners in strengthening vector control 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): *

he goal was to prevent an outbreak of the Zika virus in Broward County through rapid response and continued collaboration between DOH-Broward's Epidemiology Department and Environmental Health Department, and BCMC. This effort included the improvement of mosquito notification and surveillance efforts of suspected mosquito borne illness through partnerships between the DOH-Broward and local hospital emergency departments, urgent care centers, OB/GYNs, primary care centers, and the public. What did you do to achieve the goals and objectives? o Steps taken to implement the program The steps taken to implement this program include: DOH-Broward assessed the status of its vector control program,(which includes mosquito control), using the CDC's Environmental Public Health Program Self-Assessment Instrument. The vector performance improvement project was selected by DOH-Broward and approved by the Public Health Foundation (PHF). The idea originated from CDC's desire to help vector control programs at local health departments improve their performance using self-assessment and quality improvement (QI) tools. With funding from CDC, PHF assisted 13 local health departments that included DOH-Broward, to increase their vector control programs' efficiency, effectiveness, and capacity. PHF also developed the Vector Control Population Health Driver Diagram which DOH-Broward utilized to identify focus areas for the project. A meeting took place between the BCMC and the DOH-Broward where gaps were identified in communication, treatment and enforcement activities. Communication flowcharts were developed to address the gaps noted. The flowcharts were laminated and distributed to program staff within DOH-Broward and BCMC. An additional communication gap was identified between BCMC, DOH-Broward and the local hospitals, primary care and urgent care centers. This gap involved a lack of notification of potential mosquito borne illness cases presented at these facilities. Having advanced notice of these cases will allow the Epidemiology Department to investigate suspected and confirmed cases and allow BCMC and DOH-Broward to treat and perform surveillance of the affected area to minimize the potential risks of an outbreak. DOH-Broward developed a mosquito information and reporting poster which was distributed and mounted in every treatment room of the hospital ER's, primary and urgent care centers. This poster advises and lists the notification process if a suspected case presents. Mosquito information door hanger was also developed by DOH-Broward. These door hangers were distributed to the affected local community to engage the community in the process of reducing the risk of outbreak in their neighborhood. All communication between the partnering agencies was tracked for quality improvement and reviewed using spreadsheets and statewide databases. Public Health Preparedness On 2/4/16, the Florida Department of Health (DOH) in Broward County (DOH-Broward) activated its Incident Management Team (IMT). The IMT has met daily, twice per week or weekly depending on the needs of the incident. On 7/1/16, DOH-Broward conducted a Zika tabletop exercise with 64 community and response partners. Community Education On 2/9/16, DOH- Broward co-hosted with Emergency Management and Mosquito Control a stakeholder meeting with over 60 partners as well as a follow up meeting with code enforcement officials from municipalities throughout the County on 5/26/16. DOH-Broward distributed more than 1 million mosquito protection flyers and palm cards in 4 languages (English, Spanish, Portuguese and Creole). The first phase was a general distribution throughout Broward County including Broward County Public Schools (236), charter/private schools and universities (103), homeowners associations and housing authorities (25), corner stores (1,100), supermarkets (Publix (83), Winn Dixie (26) and Walmart and Sam's Club (21) and smaller groceries (20)) libraries (40), healthcare providers, tribal nations (2), municipalities, faith based institutions (35), etc. The second phase targeted census tracts that had been identified as high risk for local transmission by DOH Epidemiology, with distribution through over 2,500 beauty parlors, barber shops, corner stores, daycare centers and laundromats. The businesses were GIS mapped by a community partner and languages were determined for each census tract using the http://statisticalatlas.com/county/Florida/Broward-County/Languages. Each business received 100 English flyers and 25-100 in additional languages. This work was conducted by outreach staff from DOH-Broward communicable disease and community health programs. Staff members were given a script for business outreach. Each business received a contact to request more flyers. A business card was collected from each business and lists updated as required. DOH-Broward worked with municipal and community partners to disseminate mosquito protection information via flyers, water bills, their websites and social media, including Next Door. DOH-Broward provided 45 presentations regarding Zika to medical audiences, first responder groups, the Airport, Broward County Legislative Delegation, city and county commissions and other community groups. DOH-Broward provided consultation, educational materials and curricula to Broward County Public Schools including over 205,000 flyers that were sent home with students or given to parents. DOH-Broward updated the Superintendent and met with School Board health services, facilities and risk management staff. DOH-Broward is in the process of making presentations about Zlka to all of the public school Principals at their quarterly meetings, along with Mosquito Control. DOH-Broward trained over 100 of its staff in D2D outreach as well as 47 Medical Reserve Corps volunteers, 137 CERT volunteers, 30 Outreach Planning Group members from partner agencies and 50 Memorial Healthcare Systems maternal and child health outreach and home visiting staff. DOH-Broward conducted D2D outreach at 7214 residences (apts., condos and private homes) to disseminate the Drain and Cover message and to assist residents with draining standing water within 300 yards of any non-travel associated case including home and work addresses if appropriate. This was done by outreach staff from communicable disease and community health programs. Staff members were given a script for D2D outreach. Teams of 3 were assigned quadrants using a computer generated map and Google Earth to determine density and workload. Building management companies and homeowners association of gated communities were notified as required. Each address was recorded on a log sheet and staff noted if they assisted with draining standing water, provided educational materials, provided a Zika prevention kit for pregnant women etc. Any women who were not sure about their pregnancy status were provided with a pregnancy test kit and told to contact Epidemiology regarding Zika testing and also to call and request a Zika Prevention Kit if the results were positive. The contact information for any sanitary nuisances, symptomatic individuals and pregnant women were provided to DOH-Broward Environmental Health and Epidemiology, respectively for follow up. Door hangers were left for residents not at home. Residents were given Epidemiology business cards for concerns or questions. DOH-Broward distributed flyers and palm cards to businesses in the zip code

of any non-travel associated case. This was done by outreach staff from communicable disease and community health programs. Staff members were given a script for business outreach. Teams of 2 were assigned to businesses using Google Earth and divided into quadrants in heavily commercial areas and main thoroughfares. A business card was collected from each business. Each business received a contact to request more flyers. Staff members were given a script for business outreach. On 7/26/16, DOH-Broward welcomed Florida's Governor and community partners to a Zika Roundtable Discussion. DOH-Broward participated in a press conference with Broward County Emergency management and Broward County Mosquito Control about aerial larvicide on September 9, 2016. DOH-Broward distributed 528 cans of repellant to the homeless. Consultation to Hospital Healthcare Providers Immediately following the declaration and the Executive Order, staff members visited every OB-Gyn Office (274) in Broward County to provide flyers for clients and the latest guidance for providers, along with DOH-Broward 24/7 Epi Contact Information. Staff members were given a script for OB-Gyn office outreach. DOH-Broward has personally visited all 16 acute care hospitals to provide Zika guidance, has provided blast emails with updated information to our database containing 4,950 Broward County physicians and more than 200 urgent care centers, clinics in retail pharmacies and volunteer clinics, and has conducted multiple presentation to healthcare providers and first responders and continues to provide 24/7 consultation to physicians and hospitals. Environmental Health and Mosquito Control DOH-Broward continued to closely coordinate with Broward County Mosquito Control about all suspect cases (travel associated and non-travel associated) and they have conducted backpack spraying, larvicide, mosquito abatement and mosquito trapping at the address and within a 300 yard radius. DOH-Broward Environmental Health conducted assessments at 5,974 residences within a three hundred yard radius of each of the addresses of all suspect cases (travel associated and non-travel associated) which includes identifying standing water, treating standing water with larvicide, and distributing information in the form of door hangers and palm cards about mosquito bite prevention. Many of these assessments occurred jointly with Mosquito Control. DOH-Broward responded to and ensured mitigation of multiple sanitary nuisances involving standing water that were identified by DOH-Broward EH Staff or Mosquito Control. Disease Investigation and Control DOH-Broward Epidemiology and STD staff interviewed and collected samples from many individuals as part of epidemiologic investigation and active case finding. DOH- Broward STD staff collected 68 urine samples from close contacts and individuals in the neighborhood and no additional cases were identified. Services for Pregnant Women DOH-Broward distributed 4,146 Zika Prevention Kits for pregnant women through Obstetrician-Gynecologist offices in the zip code and contiguous zip codes (if the address was on the border of zip codes) of any non-travel associated case as well as at the Health Department main campus. Perinatal HIV and STD DIS and Case Management staff called each physician office to ascertain the number of pregnant women currently served by the practice. Log sheets were provide to each practice to document distribution. The components for 250 large kits were received from DOH and the rest of the kits contained information, condoms and repellant (not dunks and permethrin). The kits were assembled by DOH-Broward staff in our auditorium. There were 4 rows of tables and a team of 4 people on each side of each table for a total of 8 teams. One team was solely responsible for packing envelopes with 50 condoms each. The rest of the teams operated in assembly line fashion placing educational materials in multiple languages, repellant and mosquito dunks and permethrin spray (when available) in each plastic bag, along with the envelope of condoms. About 4,000 kits were assembled in one work day. Kits were also distributed through DOH-Broward WIC offices. DOH-Broward offers free Zika risk assessment and testing to pregnant woman at the Fort Lauderdale Health Center. Since the Governor announced this initiative, DOH- Broward has provided free Zika testing to 745 pregnant women. • Any criteria for who was selected to receive the practice (if applicable)? Broward County hospitals, urgent care centers, OB/GYNs and primary care providers were selected as they are the first contact for patients that may have mosquito borne illness. Door hangers are currently utilized for public awareness. • What was the timeframe for the practice The timeframe for implementing this practice is 10/1/14 – Present. The practice is still being utilized effectively. Ideally DOH-Broward and BCMC will continue to partner in surveillance, treatment and enforcement activities. • Were other stakeholders involved? What was their role in the planning and implementation process? o What does the LHD do to foster collaboration with community stakeholders? Describe the relationship(s) and how it furthers the practice goal(s) DOH-Broward led the process to strengthen partnerships between DOH-Broward, BCMC, local hospital emergency departments, OB/GYNs, primary care providers and urgent care centers, by developing clearly defined roles and responsibilities and developing and implementing the “communication” and “actions” flowcharts. • Any start up or in-kind costs and funding services associated with this practice? Please provide actual data, if possible. Else, provide an estimate of start-up costs/ budget breakdown. Startup costs include the printing costs associated with the door hangers used for public awareness public (approximately $1,100 for 5,000 door hangers). The posters were printed internally on the DOH-Broward copier and hand-delivered by DOH-Broward staff to the 17 hospitals. Color copy costs are approximately $.50. per page. Posters were mailed to 140 urgent care centers and primary care providers. Postage costs are estimated at $141.00. Estimated total costs for this practice was $1,309.50.

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 your objectives achieved? Please re-state your objectives from the methodology section. To improve mosquito notification and surveillance efforts, mosquito posters were developed and distributed to 140 urgent care centers and 17 hospital emergency departments in Broward County and door hangers were revised and printed and will be distributed to affected local communities to engage the public in the process of reducing the risk of outbreak in their neighborhood. To improve coordination of resources and communication between DOH-Broward and BCMC, “communication” and “actions” flowcharts were laminated and distributed to all of the involved staff for DOH-Broward and BCMC. Inquiries from external providers have increased as a result of this project with 3 callers specifically mentioning the poster. In 2012, the number of reported cases of Dengue Fever in Broward County residents was 17. In 2013, 14 cases were reported, and in 2014, 8 cases were reported, all of which were contracted outside of the United States, but diagnosed in Broward County. From January 1, 2015 – October 23, 2015, 6 cases of Dengue Fever have been reported. Five cases were contracted outside of the United States and one case is a locally acquired case in a Broward County resident. In 2012, the number of reported cases of West Nile Virus in Broward County residents was 2, both contracted outside of Broward County (New York and Texas). In 2013 and 2014, there were no reported cases. Chikungunya Fever was reported in 82 Broward County residents in 2014 and 22 cases from January 1, 2015 – October 23, 2015, however, all were contracted outside of the United States. There are currently 132 travel related Zika cases in Broward County. Earlier initiation of mosquito control efforts due to increase communication between DOH-Broward and BCMC may assist in continuing to reduce the number of new cases of mosquito borne illnesses reported. This practice has proven to be a success due to the decreased number of cases. While the number of cases of mosquito borne illness has decreased, education and awareness of mosquito borne illness symptoms will continue. • Did you evaluate your practice? Yes o List any primary data sources, who collected the data, and how (if applicable) ESSENCE FLCharts Environmental Health Database o List any secondary data sources used (if applicable) Google Earth Statistical Atlas o List performance measures used. Include process and outcome measures as appropriate. 1. Number of emergency departments targeted; number of urgent centers targeted; number of primary care providers targeted; number of suspected cases of mosquito borne illnesses reported to DOH-Broward by targeted providers; number of door hangers printed and distributed; number of joint enforcement efforts between DOH-Broward and BCMC. All reports of suspected mosquito borne illnesses are referred to the DOH-Broward Communicable Disease Director. DOH-Broward has 24/7/365 reporting capability. To date, 1 non-travel related case of Zika has been diagnosed in Broward County. No additional local transmission has been diagnosed to date. o Describe how results were analyzed ESSENCE was monitored to identify potential suspect cases. Reports of suspect cases were investigated jointly by DOH-Broward Epidemiology, Environmental Health and Broward County Mosquito Control staff. The IMT met daily, twice per week or weekly depending on the needs of the incident. Improved communication established by the communication and action flow charts has improved coordination of enforcement activities between DOH-Broward and BCMC. The number of cases and outcomes are tracked via the Environmental Health Database. DOH-Broward also tracks the number of suspected mosquito borne illnesses reported to epidemiology. Inquiries from external providers have increased as a result of this project with 2 callers specifically mentioning the poster. DOH-Broward also tracks all communication from BCMC including joint enforcement activities, treatment plans and surveillance activities. o Were any modifications made to the practice as a result of the data findings? The vector project control project was successful and no project modifications were necessary.

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 • 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? o Describe sustainability plans This project helped DOH-Broward identify and address gaps in our processes, both internally and in collaboration with other agencies. New communication charts, posters and door hangers were developed to help improve and protect the health and safety of all residents and visitors to Broward County. If any grant opportunities exist the money could be used to purchase mosquito traps for surveillance and kits for testing specific mosquito related illness. Additional funding could also extend the external collaboration this project has put in place. Cost benefit analysis include the printing costs associated with the door hangers used for public awareness public (approximately $1,100 for 5,000 door hangers). The posters were printed internally on the DOH-Broward copier and hand-delivered by DOH-Broward staff to the 17 hospitals. Color copy costs are approximately $.50. per page. Posters were mailed to 140 urgent care centers and primary care providers. Postage costs are estimated at $141.00. Estimated total costs for this practice was $1,309.50.

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