Metro Atlanta Responds to West Nile Virus: A Coordinated Public Health Response

Juanette Willis

Three and a half million people live in metropolitan Atlanta, in multiple counties with varying population bases, resources, issues and separate boards of health. Historically, public health issues have been managed within each county, with very little sharing of information among counties. The 1999 West Nile virus (WNV) outbreak in the Northeast caused public health officials in Atlanta to recognize the potential for the disease to spread to Georgia and the need to develop a coordinated, multi-jurisdictional response plan. This plan would need to address a new disease with little scientific data to predict how it might behave in a new environment and would also require closely coordinated communication among the local / state public health entities and elected officials.

In early 2000, staff from the five health districts in the metro Atlanta area and the state health department voluntarily convened the Metro Atlanta Surveillance Task Force (MASTF) to create the Metro Atlanta West Nile Virus Response Plan. This plan utilizes a coordinated effort encompassing public education, surveillance, and mosquito control. With this plan in place, when the first human case of WNV was detected in Atlanta, the public heard consistent health messages about preventive measures to lower their risk of illness and the metro counties were able to carry out a successful uniform approach to mosquito control. This plan has received recognition by the National Association of County and City Health Officials (NACCHO) as a 2004 Model Practice, demonstrating exemplary and replicable qualities in response to a local public health need.

Since the early days of the emergence of WNV in the metro Atlanta area, MASTF has continued to be a viable, evolving entity, managing and anticipating health issues. The MASTF plan is a successful effort to develop consistent policies and procedures for disease surveillance in a heavily populated area with multiple local health departments. (*Ethn Dis.* 2005;15[suppl 2]:S2-49–S2-51)

Key Words: Atlanta, Coordination, Mosquito Control, Surveillance, West Nile Virus

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Introduction

Following the 1999 West Nile virus (WNV) outbreak in the Northeast and the associated wide media coverage, public health officials in Atlanta recognized the potential for the virus to spread quickly, given the characteristically long mosquito-breeding season in the Atlanta area. Officials recognized a need to develop a coordinated response plan that could be used in the Atlanta area. The fact that there are 3.5 million residents in metropolitan Atlanta, in multiple counties with varying population bases, resources, issues and separate boards of health, made this a challenging task. Historically, health issues were managed within each county, with very little sharing of information among counties. The Metro Atlanta West Nile Virus Response Plan was developed and perhaps even more significantly the organization created to develop this plan allows for communication, coordination, and a unified approach to public health issues throughout the metro Atlanta area.

West Nile Virus Response Plan

In February 2000, staff from metro-Atlanta's five health districts and the Georgia state health department convened the Metro Atlanta Surveillance Task Force (MASTF) to create a regional approach to prevent and manage this emerging infection. The primary focus was to prevent human disease and a secondary focus was to track the advance of the virus into the metro area. The resulting MASTF West Nile Virus Response Plan utilized public education, surveillance, and coordinated mosquito control throughout the metro area to keep human infection at a minimum. The response plan, which is still in operation, focuses on generic functions that can be operationally defined within each jurisdiction. This enables each local health entity to modify the response plan to address those issues that are unique to its jurisdiction.

Educational campaigns in the metro area involve working with the media and community partners such as schools, public safety agencies, and hospitals. Activities include attending health fairs and neighborhood meetings, making presentations to senior facilities, responding to mosquito complaints and, most importantly, delivering preventive messages door-to-door in areas where surveillance indicates a potential for higher risk of virus transmission. Residents are more likely to respond to requests (eg, to eliminate standing water or to wear mosquito repellant) when the message is delivered in their own environment (eg, pointing out a flower pot that is breeding mosquitoes can be a very effective motivational tool).

To determine the areas for this intense educational effort, three types of surveillance are employed: human, bird, and mosquito. Each district contacts the hospitals in its area weekly to inquire about potential human cases of WNV and areas where virus transmission may have occurred. Each district also records locations of all reported dead birds. Some of these birds are collected for WNV testing but all of the locations are mapped and analyzed. Areas surrounding WNV-positive results as well as areas with a higher density of reported dead birds receive intense educational efforts and larviciding (the killing of mosquito larvae) if applicable. Each district also conducts mosquito surveillance. This

increases accuracy in locating WNV activity, helps identify the species of mosquitoes in an area, as well as determines which species are carrying the virus. Identifying the mosquito species helps to determine breeding sources and to define larviciding plans. Mosquito surveillance helps to identify areas for public education, source reduction, and larviciding efforts. It provides improved assessment of potential human disease risk and contributes to effective and cost-efficient control activities.

As mentioned, the plan's major components—public education, surveillance, and mosquito control—all must work in conjunction with each other. The plan calls for a balanced, but targeted, approach to mosquito control to eliminate the vector and to reduce the risk of exposure to West Nile virus in our communities. Mosquito control is very dependent upon the surveillance and educational campaigns and consists of responding to mosquito complaints, eliminating breeding sites, larviciding as appropriate, and conducting detailed environmental assessments. Educational messages include the importance of eliminating mosquito breeding sites, such as saucers under flower pots and gutters that are not draining properly; using personal protection, such as a DEET-based insect repellant or a permethrin-based spray for clothing; assisting in neighborhood clean-up activities and supporting surveillance efforts by reporting dead birds and mosquito breeding sites. Every opportunity is utilized to remind callers, residents, and everyone in the area of their responsibility to assist in reducing the potential for human WNV infection. The MASTF plan has allowed the counties within the metro Atlanta area to constantly reduce the risk of human infection of West Nile virus.

CURRENT MISSION

Although MASTF was organized to prevent and control arboviral diseases such as WNV, it has evolved to face broader challenges, including several emerging infectious disease threats. The MASTF's current mission is to develop and coordinate a unified multi-agency health assessment system that promotes and protects the health of the people in the Atlanta region through surveillance and response, communication and education. While MASTF initially involved the metro districts including the counties of Clayton, Cobb, DeKalb, Douglas, Fulton, Gwinnett, Newton, and Rockdale, it has expanded into other districts. The MASTF also encompasses many additional collaborating agencies such as Georgia Division of Public Health, Georgia Emergency Management Agency, Georgia Environmental Protection Division, Centers for Disease Control and Prevention, public safety agencies, hospitals, public schools, the local All Hazards Council, Georgia Department of Agriculture, Metropolitan Medical Response System, Association for Professionals in Infection Control and Epidemiology—Atlanta Chapter, and Emory University's Center for Emergency Preparedness and Research and Rollins School of Public Health. Members of MASTF are epidemiologists, nurses, physicians, veterinarians, environmental health professionals, emergency preparedness coordinators, public information officers, and others from additional occupations. The MASTF is a successful effort to develop consistent policies and procedures for disease surveillance in a heavily populated area with multiple local health departments.

The MASTF's continuing growth and success can be attributed to several strategies. Officers are elected yearly, including a chair-elect to provide for a transition period for future leadership. Monthly meetings planned along themes encourage ongoing communication. Accountability is encouraged through meeting minutes which also provide information to members unable to attend every meeting. Subcommittees handle specialized or evolving issues. These small working groups deal with issues such as standardization of protocols, coordination of geographic information systems, hospital outreach, environmental concerns, public relations, communication, liaison activities, and even development of a syndromic surveillance plan. Being able to pool individuals from the various participating MASTF agencies allows these subcommittees to coordinate effectively throughout the metro area.

ACCOMPLISHMENTS

These efforts have resulted in many diverse accomplishments. The MASTF now provides improved disease surveillance not only of all notifiable diseases but also for specific emergencies. These may include natural emergencies such as tornadoes, flooding, or ice storms or man-made emergencies such as anthrax-laced letters and packages. The MASTF has been able to create unified protocols for the entire metro area not only for West Nile virus but also for Meningococcal Meningitis, Severe Acute Respiratory Syndrome, Smallpox, and Rubeola (Red Measles). A multi-jurisdictional case management protocol was developed at the request of one of metro Atlanta's District health directors. Communication throughout the districts has dramatically improved as a result of MASTF, not only as a result of the monthly meetings but also through a listserv, a contact list, conference calls, and a website (www.MASTF.net). The MASTF sponsored the creation of a statewide notifiable disease reporting number, 1-866-pubhlth. After 9/11, MASTF assisted in emergency preparedness, serving as the surveillance body for the local All Hazards Council. The MASTF also enhances training through meetings and information/

presentations at hospitals, local organizations, and conferences, as well as by organizing training opportunities (eg, emergency risk communication training and an incident command system training for public health officials from throughout the state). The MASTF's success has been recognized in the metro area and throughout Georgia. The National Association of County and City Health Officials (NACCHO) recognized MASTF's West Nile Virus Plan as a model practice that demonstrates exemplary and replicable qualities in response to a local public health need. NACCHO also describes MASTF as an organization that exemplifies the forward thinking, proactive attitude of our nation's public health system.

ACKNOWLEDGMENTS

The author wishes to thank contributors to this article: Rob Blake, REHS, MPH, MASTF Chair; Katherine Bryant, MPH, MASTF State Liaison; Darren Collins, MASTF member; Heidi Davidson, MPH, MASTF Chair Elect; Ariane Reeves, RN, CIC, ACRN, MASTF Chair of Standardization Subcommittee; Joy Wells, MPH, MASTF Past Chair; and Scott Wetterhall, MD, MPH, MASTF member.