Mecklenburg County's Response to the Hepatitis A Outbreak:
An Effective, Action-Driven Collaborative Task Force

The Hepatitis A vaccine became available in 1995, and the number of Hepatitis A cases declined by more than 95 percent. In 2016, the Centers for Disease Control and Prevention (CDC) reported an estimated 4,000 Hepatitis A cases in the US. Since early 2017, CDC has received more than 10,000 reports of Hepatitis A linked to a multi-state outbreak with higher than expected hospitalizations and death rates. North Carolina is one of 16 states experiencing a Hepatitis A outbreak.

Hepatitis A is a contagious and vaccine-preventable liver infection that ranges from a mild illness lasting a few weeks to a more severe illness that can last months with relapses and, in rare cases, result in death[1]. Hepatitis A is usually transmitted from contact with objects, food or drinks contaminated with small, undetectable amounts of feces from an infected person and can be spread from close personal contact with a contagious person. Children under the age of 6 years are often asymptomatic and can shed the virus for prolonged periods. Post-exposure prophylaxis with vaccination and/or immunoglobulin given less than 14 days following exposure is available and effective[2].

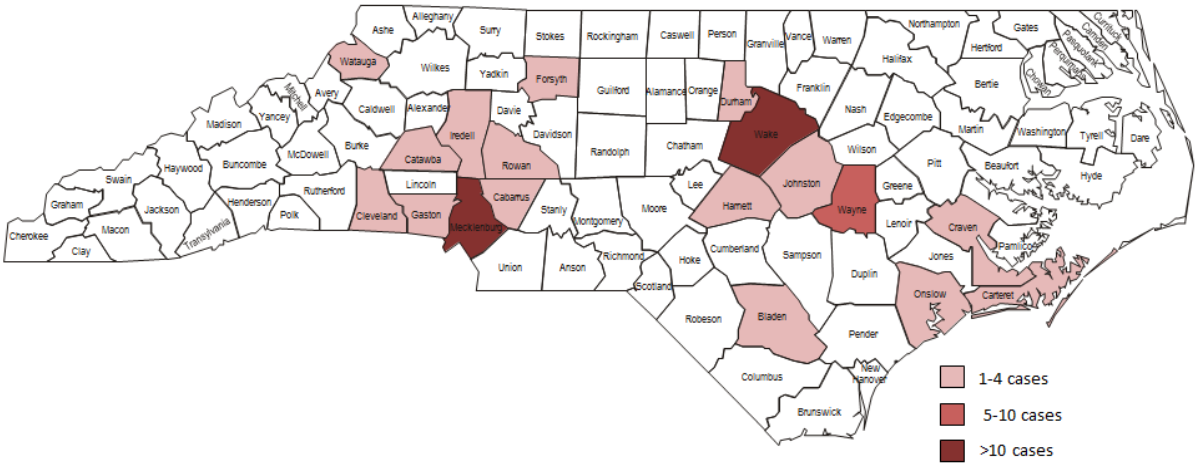
Hepatitis A Outbreak

An increase in the number of Hepatitis A cases was noted first in Mecklenburg County in April 2018. Cases quickly spread to counties surrounding Mecklenburg, and at present have been found in 18 counties across the state. Based on enhanced surveillance, genotyping results and continued increases in HAV cases, the CDC identified North Carolina as experiencing an outbreak of hepatitis A in October 2018. Cases have occurred primarily among three risk groups: persons who use injection or non-injection drugs, individuals experiencing homelessness, and men who have sex with men. Individuals in contact with or who have been exposed to individuals with Hepatitis A are also at risk.

The Mecklenburg County Health Department (MCHD) is the lead agency in the county's prevention efforts. Hepatitis A cases in Mecklenburg County have occurred primarily among men who have sex with men, and not have yet affected homeless or drug-using populations.

NC Hepatitis A Outbreak-associated Cases, January 1, 2018 – January 28, 2019

Cases	Hospitalizations	Deaths
66	47 (71%)	1



Mecklenburg County Health Department Response

MCHD has had a diverse, progressive, and innovative response to Hepatitis A. Response activities have included increased healthcare awareness efforts, public notification and education, and outreach with vaccine clinics for high-risk populations.

MCHD researched approaches taken by other states and communities with Hepatitis A outbreaks and engaged local partners and organizations already working with high risk populations in and around Charlotte. MCHD implemented several strategies to prevent the spread of Hepatitis A, specifically: a social media campaign; educational material development and distribution; placement of informational stickers in condom packets; placing outdoor Hepatitis A prevention banner on Interstate 277 to be viewed daily by over 40,000 vehicles; vaccination clinics in cooperation with the Rescue Mission, Gay Pride Parade, and Black Gay Pride event; and expanded jail outreach by promoting vaccinations as part of health intakes for all shifts.

The Hepatitis A vaccine is the most effective tool to prevent the spread of Hepatitis A especially during an outbreak. Vaccination clinic outreaches were successful in two separate situations when a fast food manager and a restaurant worker were diagnosed with Hepatitis A. A total of 3,449 hepatitis A vaccines given between July 28, 2018. Between July 28 and November 7, 2018 in Mecklenburg; 504 Hepatitis A vaccines were given during outreach clinics (excluding outbreaks associated with restaurants); MCHD community partners provided an additional 415 vaccinations for adults and 125 for pediatric patients. In short, vaccination programs work and can effectively reach large population especially when the discrete exposure is known and people perceive themselves to be at risk (e.g. eating at a specific restaurant during a specific time frame).

Hepatitis A Project Task Force

In response to the increased number of cases, MCHD spearheaded the development of a Hepatitis A Project Task Force. This task force is a local, regional, and state interagency collaboration examining and addressing the outbreak of Hepatitis A in Mecklenburg County. The lead agencies are the Mecklenburg County Health Department , Division of Public Health (DPH), Cardinal Innovations Healthcare Solutions, and Division of Mental Health, Developmental Disabilities and Substance Abuse Services (DMHDDSAS). Since August 2018 regular and well-attended conference calls have been held to discuss updates, outreach activities, and vaccination strategies.

The primary intervention for this outbreak has been vaccination. Vaccines were mostly provided by DPH, but Mecklenburg County funds allowed nontraditional approaches to maximize outreach and community engagement. Priority or high-risk populations include many of the patients and families that Local Management Entity/Managed Care Organizations (LME/MCO) support daily; the staff and providers of LME/MCOs provided an opportunity for linkage and intervention to vaccination and prevention efforts for these individuals.

Recognizing that community led health events provide access to populations that may not access traditional health care, the Task Force collaborated with NC MedAssist at an Over The Counter (OTC) Medication dispensing event. NC MedAssist is a nonprofit pharmacy program that provides access to prescription medications, patient support, advocacy and related services to poor and uninsured North

Carolina residents. The OTC event, held at the Camino Community Center in Charlotte, included partners from MCHD, Cardinal Innovations, and DPH and provided 82 hepatitis A vaccines to event participants on November 30, 2018. Clinic vaccine participants included homeless individuals but many participants were from Spanish-speaking populations. The collaboration involved interagency staff: six MCHD (school health) nurses gave vaccines, Cardinal's Integrated Health Nurse Manager greeted and identified/triaged individuals to vaccine area, and DPH staff included nurses and a program consultant for data entry and Spanish interpretation. Camino Community Center sent out flyers before the event and MedAssist expanded outreach through additional event marketing.

Ongoing Opportunities and Barriers

- Emergency Departments in Mecklenburg County received educational information and vaccines, but the one-time communication is insufficient to sustain ongoing prevention efforts.
- Improved messaging is needed to educate and inform why the Hepatitis A vaccine is important. The biggest challenge is people have no sense of urgency and no sense of fear about Hepatitis A. Expanding outreach remains important.
- The North Carolina Board of Pharmacy could be encouraged to make changes regarding the flexibility and authority for Hepatitis A standing orders, which may require legislative action.
- Nontraditional partners and community stakeholders may open up unique opportunities for broader education and vaccination. These opportunities include using AHECs, InfoSource newsletters and peer support networks for education; and syringe exchange providers, Behavioral Health Crisis Centers, mobile health vans, community program (e.g. Transitions to Community Living Initiative) for vaccination initiatives.
- Storage and handling vaccine may be problematic for some providers and restrict their involvement. Innovative thinking to circumvent these restrictions is needed.

Lessons Learned in Mecklenburg

Lessons learned from the Task Force underscored no single agency can do prevention alone, keep media informed, try every strategy, build trust in the community, and vaccinate high risk populations when providing any clinical care. Informing other health care professionals extended the outreach but must be a sustained effort.

In Mecklenburg, Hepatitis A information was sent to 103 providers affiliated with NC MedAssist. State epidemiologist, Dr. Zack Moore, and other DPH leadership updated LME/MCO chief medical officers, and Dr. Carrie Brown, DMHDDSAS chief medical officer, provided an update at the Division staff meeting.

Cardinal Innovations and other LME/MCOs sent communications on the outbreak to staff, providers, and opioid treatment programs in their network. As stated by Dr. Terri Harpold, MD, Cardinal Innovations Interim Chief Medical Officer, "It takes all our community partnerships to help best serve our population, and support health promotion."

Cardinal Innovations experienced resistance for onsite vaccinations from homeless agencies and organizations serving MSM. Some community partners may prefer only offering Hepatitis A education and information.

Plans

Despite the early response, educational campaigns, and significant collective effort, the Hepatitis A outbreak persists. To end the outbreak, vaccination rates need to be increased among the highest risk individuals. Partnerships are also being developed with county jails for Hepatitis A screening and vaccinations. The concern for outbreaks beyond the Charlotte area is a very real public health concern.

Identification of Hepatitis A cases among high risk persons has accelerated but prevention efforts must be expanded and intensified. Additional counties have been identified for future hepatitis A mass vaccination clinics and will be the next focus for the Hepatitis A Task Force.

[1]Hepatitis symptoms occur abruptly and include jaundice, fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, and light-colored stools. The average incubation period for Hepatitis A is 28 days with a range of 15–50 days. Individuals with Hepatitis A are infectious for two weeks prior to symptom onset.

[2]Hepatitis A vaccine should be administered to all persons aged ≥12 months for post-exposure prophylaxis within 2 weeks of exposure; infants aged < 12 months and any person for whom vaccination is contraindicated should receive immunoglobulin (0.1 mL/kg) within 2 weeks of exposure. Immunocompromised persons or those who have chronic liver disease and have been exposed to HAV within the past 14 days and have not previously completed the 2-dose Hepatitis A vaccination series should receive both immunoglobulin (0.1 mL/kg) and Hepatitis A vaccine simultaneously in a different anatomic site For more details, please see:
https://www.cdc.gov/mmwr/volumes/67/wr/mm6743a5.htm?s_cid=mm6743a5_w