

# Biennial Report 2015-2016

MINNESOTA DEPARTMENT OF HEALTH

Infectious Disease Epidemiology,  
Prevention and Control Division

# Infectious Disease Epidemiology, Prevention and Control Division at the Minnesota Department of Health

## Letter from the IDEPC Director

I am pleased to introduce the 2015-2016 biennial report of the Infectious Disease Epidemiology, Prevention and Control (IDEPC) Division at the Minnesota Department of Health. The IDEPC Division is responsible for responding to approximately 90 infectious diseases that are reportable to us by law, Minnesota Rules 4605.7000 (see page 2). This report highlights several activities of the Division but is only a snapshot of the breadth of infectious disease work happening across the Division.

Responding to, monitoring the occurrence of, and developing strategies for preventing and controlling infectious diseases is both demanding and exciting work. Every year brings new challenges and lessons. Over the last two years we responded to diseases new to us (Zika, MERS) and to well-known diseases that are re-emerging (mumps, syphilis).

Our ability to respond is directly related to our existing infrastructure. Much of our work is driven by federal expectations and requirements; over 92 percent of the Division's work is federally funded through grants. About 7 percent of our activities are supported by the State General Fund, and less than 1 percent of our work is funded by State Government Special Revenue (SGSR) funds.

It was another successful biennium for IDEPC. I would like to thank the staff of IDEPC for their excellent work as well as our partners in local public health, health care, and community groups who make our success possible.

Kristen R. Ehresmann, RN, MPH  
Director  
Infectious Disease Epidemiology, Prevention and Control Division



An outbreak or new infectious disease can emerge at any time. Staff in our Infectious Disease Division work to safeguard the health of all Minnesotans by monitoring diseases locally and around the world so we can take action to prevent or control potential outbreaks.

### Contents:

Syphilis Makes a Comeback.....	1
Reportable Disease Rules .....	2
Identifying Mental Health Needs in Refugees.....	3
Immunization Information Systems Protect the Public from Vaccine-Preventable Disease .....	4-5
Combatting Foodborne Illness.....	5
Monitoring Middle East Respiratory Syndrome .....	6
Mumps in Minnesota.....	7
Using Data to Advance Health Equity.....	8
New Center of Excellence in Refugee Health.....	9
Helping Providers with Bloodborne Infections Stay on the Job.....	10
Antibiotic Resistance.....	11
Addressing Vaccine Hesitancy in Minnesota's Somali Community .....	12-13
The Effects of Zika Virus on Minnesotans.....	13

# Syphilis Makes a Comeback

Nearly eradicated a decade ago, syphilis has made a comeback across the United States including Minnesota. In 2015, Minnesota had the highest number of reported syphilis cases in the last decade. This included the highest number of female early syphilis cases, the most infectious stage of syphilis, reported since 1993. Untreated syphilis can cause serious long-term health problems, including blindness, damage to the heart and other internal organs, mental illness, and even death.

*In 2015, Minnesota had the highest number of reported syphilis cases in the last decade.*

There were also two cases of congenital syphilis reported in 2015. The last reported case of congenital syphilis prior to mid-2015, was in early 2012. Congenital syphilis can lead to death, or a life of major health problems to babies born with the disease. This alarming rise in syphilis cases among babies and females, many of child-bearing age, prompted us to take action to prevent more cases of congenital syphilis.

Congenital syphilis is preventable. The resurgence of congenital syphilis points to missed opportunities for prevention. In early 2016, MDH issued a health advisory recommending that health care providers of pregnant women test all pregnant women, regardless of risk, at three points during their pregnancy: first prenatal visit, 28 weeks' gestation, and delivery. These recommendations were developed in collaboration with the Minnesota Chapter of the American Academy of Pediatrics, Minnesota Academy of Family Physicians, Minnesota Affiliate of the American College of Nurse Midwives, and the Minnesota American Congress of Obstetricians and Gynecologists.

Data for 2016 shows six reported cases of congenital syphilis, with many of the pregnant females diagnosed upon delivery. These cases may have been missed if the new screening recommendations for pregnant females had not been put into place. "The implementation of the screening guidelines

has prevented cases of congenital syphilis and helped identify cases at delivery which facilitates expedited treatment of the mother and baby," said Dawn Ginzl, STD epidemiologist. Staff in the MDH Partner Services Program provide outreach to

*"The implementation of the screening guidelines has prevented cases of congenital syphilis and helped identify cases at delivery which facilitates expedited treatment of the mother and baby."*

persons across the state affected by syphilis and other reportable sexually transmitted diseases to help prevent serious health consequences and the spread of disease. Partner Services along with the Surveillance and Epidemiology Unit and Prevention Unit have provided training and education for providers in order to raise their capacity to screen, treat, and report in a timely fashion. In addition, education has been provided to the public to increase their awareness of syphilis and other STDs.



Minnesota women, syphilis is on the rise

## GET TESTED

If you are pregnant, see a doctor and get tested for syphilis.

You need to be tested three times during your pregnancy:

First visit    28 weeks    Delivery

If you are sexually active, even if you are not pregnant, get tested for syphilis.

**MDH** Minnesota Department of Health  
PO Box 64975 St. Paul, MN 55164-0975  
651-201-5434 | 1-877-678-5434  
www.health.state.mn.us

# Reportable Disease Rules

Reporting of communicable diseases to the state health department has a long history in Minnesota. We can trace it back to January 1873 when the *First Annual Report of the State Board of Health of Minnesota* included a report on the *Causes of Disease, Especially Epidemics*. The report was largely based on the professional opinion of its author, Dr. A.B. Stuart, president of the Board of Health. By 1878, specific data on smallpox were given in *Smallpox Reports and Notes of Its Occurrence in the State in 1877*, based on disease reports submitted from local health board physicians, following a request for reports from the Board Secretary, Dr. Charles N. Hewitt.

We continue this practice today but for a greater number of infectious diseases. “MDH has the unique role of assessing the health status of the citizens of Minnesota,” said Rich Danila, deputy state epidemiologist. “We do that primarily through collection of data from disease reporting.”

Disease reporting is centralized at MDH and is mandated by law (Minnesota Rules 4605.7000). The disease reporting rules are updated and revised periodically to accommodate new test technologies and adapt to changing and emerging diseases. Most recently, the rules were changed in 2016 to include new diseases such as Middle East Respiratory Syndrome, chikungunya virus, and carbapenem-resistant *Enterobacteriaceae*, and add additional laboratory tests for existing reportable conditions. Physicians, health care facilities, laboratories, veterinarians, other licensed health care professionals, and others are required to report diseases included on a list of approximately 90 diseases, syndromes, and conditions. Reports are received by telephone, mail, fax machine, and electronically.

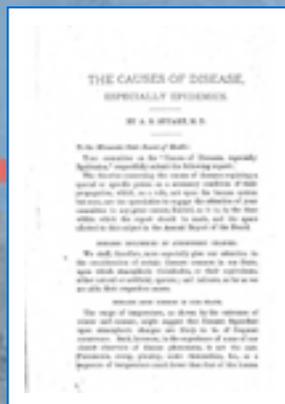
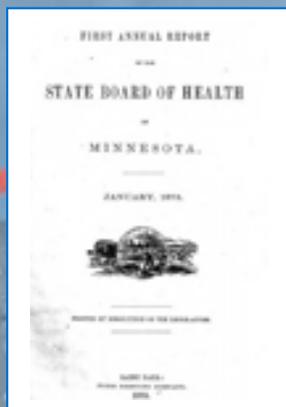
We rely on these reports to examine trends in the data, measure prevention program effectiveness, and identify emergent clusters or outbreaks. In some instances, a single case might lead to an immediate public health action.

“It is through the continuous activity of analyzing and scrutinizing the data that disease burden is determined which helps direct resources for treatment and prevention,” said Danila.

Sexually transmitted diseases and vector-borne diseases are the most common reported infectious diseases in Minnesota. Other diseases have emerged in the last 25 years such as foodborne diseases and antibiotic-resistant organisms which have highlighted the need for improved prevention methods. On occasion, new or rare diseases such as severe acute respiratory syndrome (SARS), Ebola virus disease, and Zika virus disease have emerged and the importance of a robust disease reporting system is evident.

MDH is one of a few state health departments that has additional federal resources that has enabled active surveillance for reportable diseases. This active surveillance has resulted in 97 to 100 percent reporting for selected pathogens. In addition, laboratory submission of the selected pathogens is mandated so tests of public health importance can be conducted.

For more information, see our [Infectious Disease Reporting](http://www.health.state.mn.us/divs/idepc/dtopics/reportable/index.html) website ([www.health.state.mn.us/divs/idepc/dtopics/reportable/index.html](http://www.health.state.mn.us/divs/idepc/dtopics/reportable/index.html)).



# Identifying Mental Health Needs in Refugees

The story of refugees is one of resilience. By definition, refugees are admitted to the United States because of a well-founded fear of persecution, and they have faced traumatic circumstances. Nevertheless, refugees move forward to grow and contribute to their new communities here in Minnesota.

Upon arriving to Minnesota, refugees are offered a comprehensive medical screening within the first 90 days of resettlement in the United States. The screening, also called the Refugee Health Assessment, is essentially a primary care preventative appointment with the addition of a few screening tests for conditions refugees may be at increased risk for, such as hepatitis B. The goal is to identify illnesses, encourage well-being, and address potential health barriers to successful resettlement. “Thanks to excellent partners and collaboration, the screening rate for primary refugees in Minnesota is 99 percent,” said Ellen Frerich, refugee health nurse consultant. “However, the screening did not spend much time on mental health—a key aspect of overall health, especially for refugees.”

As part of the Minnesota Refugee Health Assessment, providers indicated if a mental health concern was present and if a mental health referral was made, but the assessment did not include a systematic mental health screening. While the majority of refugees do not have mental health needs upon resettlement, they often face multiple stressors.

In January 2016, the MDH Refugee and International Health Program (RIHP) partnered with four screening clinics in three counties to pilot an additional mental health component of the Refugee Health Assessment for adult refugees. This pilot screening builds on national recommendations from the CDC as well as the findings of a Minnesota expert workgroup. The goal of the screening is to identify the small portion of refugees experiencing mental health symptoms and proactively connect them to care. For more information on the the workgroup’s findings, see [Mental Health Screening Recommendations for Newly Arrived Refugees in Minnesota](http://www.health.state.mn.us/divs/idepc/refugee/guide/10mentalhealth.html) ([www.health.state.mn.us/divs/idepc/refugee/guide/10mentalhealth.html](http://www.health.state.mn.us/divs/idepc/refugee/guide/10mentalhealth.html)).

The screening tool has been tailored for use with the diverse communities of refugees coming to Minnesota. It is based on concrete symptoms and is practical for use by providers in a busy clinic setting. Leading up to the pilot, the MDH RIHP worked closely with screening clinics, health care plans, and other partners on the development of the tool, the training to use it, and referral options for those identified with needs.

Evaluation of the screening is on-going. There are plans to have additional clinics participate in a second pilot phase in 2017. Partners at the University of Minnesota Twin Cities School of Social Work and the Center for Victims of Torture are also conducting evaluations.

“Not taking the time to identify mental health needs can lead to poor health outcomes down the road,” said Frerich. “By creating a framework for effectively addressing mental health during Refugee Health Assessments, we can better equip providers and refugees with the tools and resources they need to achieve overall health and well-being.”

*The story of refugees is one of resilience. By definition, refugees are admitted to the United States because of a well-founded fear of persecution, and they have faced traumatic circumstances.*

# Immunization Information Systems Protect the Public from Vaccine-Preventable Disease

The Minnesota Immunization Information Connection (MIIC) is Minnesota’s immunization information system. MIIC combines an individual’s vaccinations into a single record, even if they were given by different health care providers or at different locations. Health care providers use MIIC to look up immunization histories and view recommended vaccinations. This information helps providers make sure Minnesotans get the right vaccines at the right time. MIIC also offers tools for monitoring and improving immunization rates.

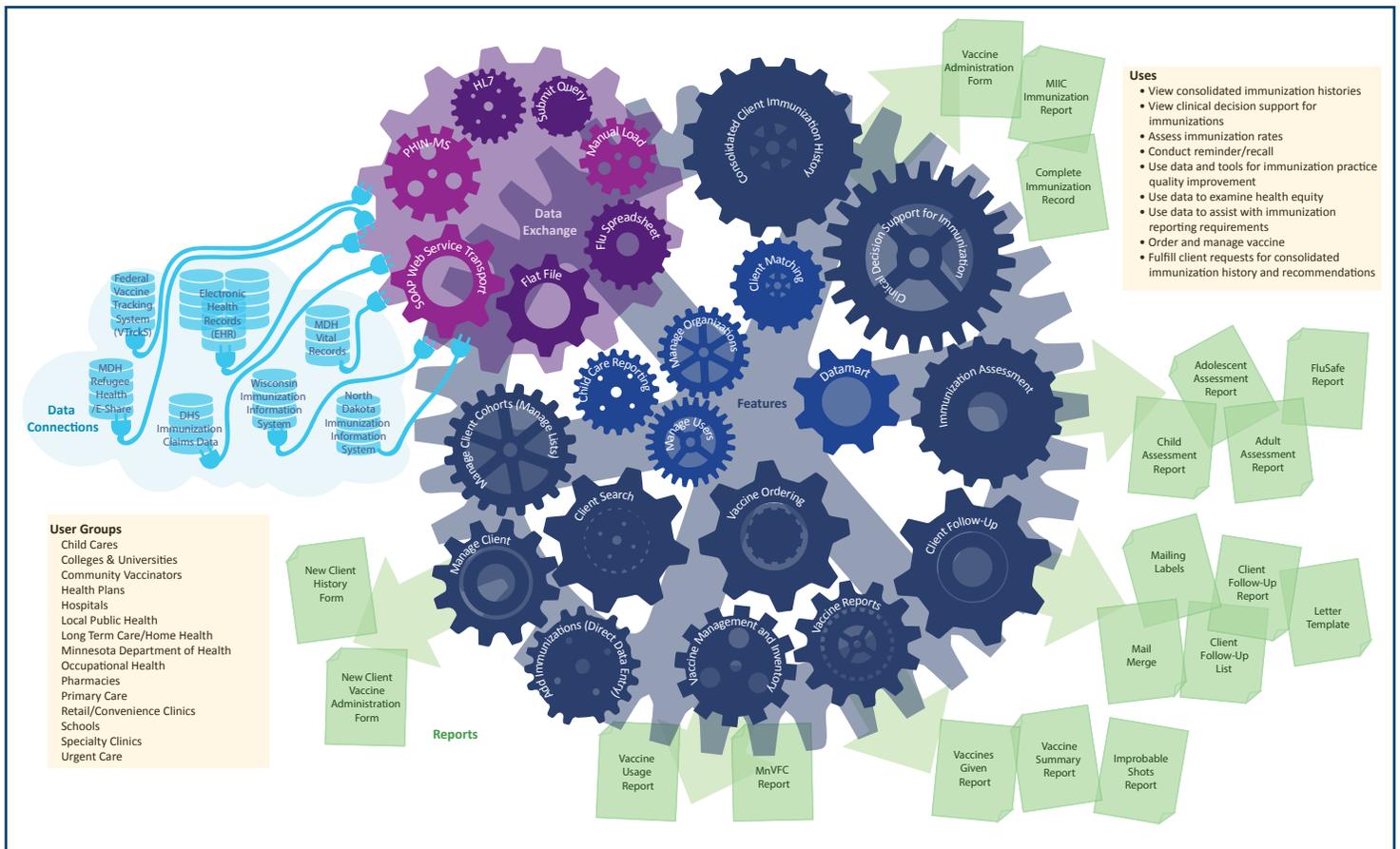
Health care providers, public health agencies, certain child care centers, and schools are authorized to use MIIC to help protect Minnesotans from vaccine-preventable diseases. As of December 2016, MIIC held over 7.9

million immunization records with over 83 million total immunizations.

Registered pharmacist Laura Schwartzwald regularly uses MIIC as part of her pharmacy practice. “One of the biggest benefits of MIIC for me as a pharmacist is the accessibility and reliability it gives me in providing medication and disease-management services for my patients,” said Schwartzwald. “With access to MIIC, I can instantly evaluate the immunization needs of my patients and provide their necessary vaccinations, which has greatly improved my patients’ health care services.”

In addition to supporting patient care, MIIC is used to monitor and improve immunization rates at the

This graphic of MIIC shows how its many complex parts work together to support immunization practice, monitoring, and improvement in Minnesota.



population level. In 2016, MIIC was used to identify Minnesota residents in need of immunizations and create over 110,000 targeted reminder notices. These critical public health activities help us maintain high immunization rates and limit the spread of disease in our communities.

*“With access to MIIC, I can instantly evaluate the immunization needs of my patients and provide their necessary vaccinations, which has greatly improved my patients’ health care services.”*

Though members of the public cannot access MIIC directly, they can request their MIIC immunization records from MDH. Many people use their MIIC record as their immunization history for school, child care, work, and other purposes. Throughout 2016, MDH responded to well over 4,000 public MIIC record requests.

LoAn Vu requested her record in August 2016. “How great it is to have my [immunization record] at my fingertips,” said Vu. “I hope everyone knows about this.”

MIIC is a critical part of Minnesota’s health care delivery and public health systems. Between providing immunization records directly to individuals, supporting immunization practice, and helping to improve immunization rates, MIIC is crucial to keeping the public protected from vaccine-preventable diseases.

## Combatting Foodborne Illness

“The primary focus of the Foodborne Diseases Unit (FDU) is to help identify and prevent foodborne diseases in Minnesota,” said Amy Saupe, FDU epidemiologist. The FDU is the clearing house for all foodborne disease reporting in Minnesota. The FDU works hard to monitor for outbreaks of foodborne illness, takes steps to determine the cause, and works to help prevent recurrence.

<b>Minnesota</b> Foodborne and Waterborne Illness Hotline

Feeling sick? Give us a call! <b>651-201-5655</b> 1-877-FOOD ILL 1-877-366-3455 health.foodill@state.mn.us

MDH participates in the FoodNet national surveillance network, gathers data, and reports nationally to help analyze trends and risk factors for foodborne disease on a national scale. By prioritizing and interviewing cases of foodborne illness as quickly as possible with a detailed and standardized questionnaire, FDU can better ascertain where the illness might have arisen and communicate that information to colleagues both within the state and counterparts at other state health departments as well as the CDC.

“Collaboration is a huge part of foodborne illness detection,” Saupe said. “Working closely with local public health, CDC, and the public means we can find and help stop the spread of illness faster.”

As part of the investigatory process, epidemiologists work closely with the Public Health Laboratory to identify and confirm foodborne illness outbreaks. This involves testing using real-time pulsed-field gel electrophoresis (PFGE) methodology as well as others.

Further, said Saupe, the FDU does not work in a vacuum. Close collaboration with the MDH Environmental Health Division, local public health departments, as well as the Minnesota Department of Agriculture helps to ensure all bases are covered when it comes to investigating outbreaks.

*“Working closely with local public health, CDC, and the public means we can find and help stop the spread of illness faster.”*

FDU staffers also participate in national projects and studies to further food safety initiatives. This includes FoodNet working groups, Food Safety Centers of Excellence workshops and trainings, and case-control studies.

# Monitoring Middle East Respiratory Syndrome

Middle East Respiratory Syndrome (MERS) is a respiratory illness caused by the Middle East Respiratory Syndrome Coronavirus (MERS-CoV). Although this virus is different from other previously identified coronaviruses, it is related to the virus that caused outbreaks of severe acute respiratory syndrome, or SARS, in China and Toronto in 2002-2003. MERS was first identified by a physician in Saudi Arabia in September 2012.

Most patients infected with MERS-CoV develop pneumonia and severe acute respiratory distress (meaning the lungs are not functioning properly). Patients may also develop a fever, cough, and shortness of breath. About 30 to 40 percent of patients with MERS die of the disease. Most people who died had an underlying medical condition. MERS affects people of all ages. Cases have ranged from less than 1 year old to 99 years old.

MERS-CoV is spread by close contact with an infected person. This can include living with or caring for an infected person. Many MERS cases have occurred among health care workers who have cared for patients with MERS.

Since September 2012, there have been more than 2,100 confirmed cases and 720 deaths reported to the World Health Organization. The majority of cases have been in Saudi Arabia. So far, all cases have been linked to the Arabian Peninsula. Countries considered in the Arabian Peninsula include: Bahrain, Gaza and the West Bank, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, the United Arab Emirates, and Yemen. The largest outbreak outside the Arabian Peninsula occurred in South Korea in 2015. This outbreak was linked to a traveler returning from the Arabian Peninsula.

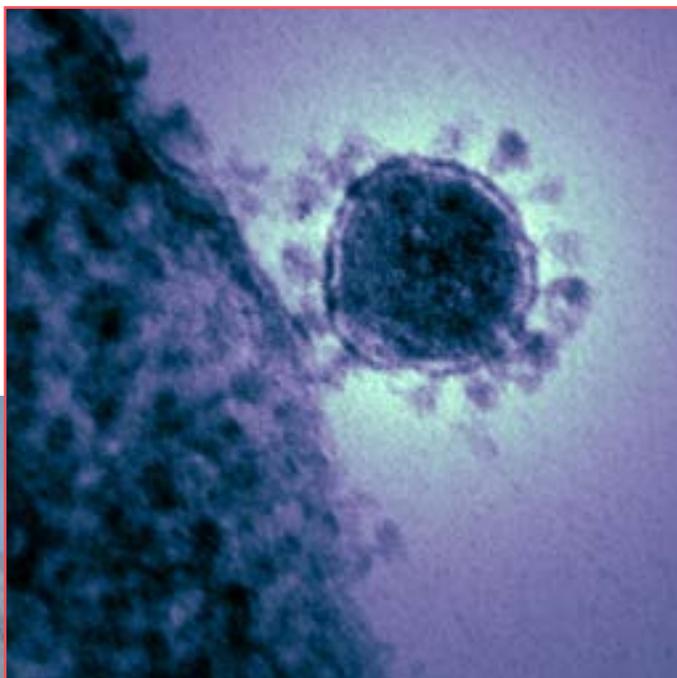
*Since September 2012, there have been more than 2,100 confirmed cases and 720 deaths reported to the World Health Organization.*

In May 2014, the Centers for Disease Control and Prevention (CDC) reported two cases of MERS in the United States. One case was hospitalized in Indiana and the other in Florida. Both cases were health care providers who had recently traveled to Saudi Arabia

where they were believed to be infected. Both cases were discharged from the hospital after fully recovering.

Since 2012, the Emerging Infections Unit at MDH has provided guidance and consultation to Minnesota health care providers regarding ill travelers that may have been exposed to MERS. MDH continues to test people who may have MERS. So far, more than 750 people in the United States, including 59 people in Minnesota, have tested negative for MERS-CoV.

CDC recognizes the potential for MERS to spread beyond the Arabian Peninsula and cause more cases both globally and within the United States. CDC continues to monitor the global MERS situation and work with partners to better understand this virus.



MERS-CoV | by NIAID

# Mumps in Minnesota

In the fall of 2015, MDH alerted Minnesota providers to a large mumps outbreak occurring at the University of Iowa. Iowa had seen more than 100 cases since July 2015. With holidays approaching, and college students travelling home, MDH wanted providers to be on the lookout for mumps.

“An increase in mumps cases anywhere in the Midwest means Minnesota will likely see cases,” said Emily Banerjee, epidemiologist in the Vaccine-Preventable Disease Surveillance Unit. “Mumps can spread while someone isn’t showing symptoms, so once an outbreak starts it can be hard to extinguish.”

Mumps is a viral infection that primarily affects the salivary glands located between the ear and the jaw. While it’s not usually severe, it can make people feel ill and keep them out of school or work for about 10 days.

Mumps targets individuals with lessened immunity and those that live in close contact. That makes college dorms the perfect environment for mumps to spread because of the close proximity of students and the fact that mumps vaccine protection decreases by that age.

Minnesota made it through the end of 2015 with six confirmed and probable cases of mumps, but outbreaks on college campuses continued in Iowa and Illinois into early 2016. This prompted the Vaccine-Preventable

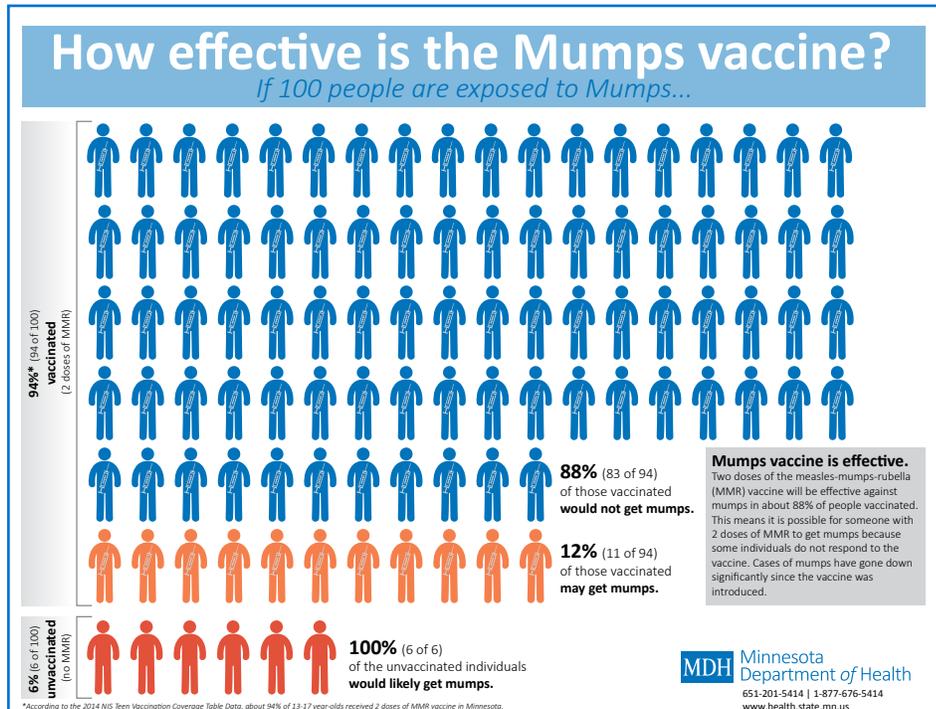
Disease Surveillance Unit to do some direct outreach to college campuses in Minnesota to make sure they were prepared for handling a possible case since the student would need to be isolated for 5 days.

Unit staff also reached out to providers to educate them on how to report and test suspect mumps cases. “We wanted to make sure providers requested the correct lab test because without that we can’t confirm the case,” said Banerjee.

While outbreaks of mumps still happen, one thing we know is that the mumps vaccine does provide protection. “We would see a lot more mumps if the vaccine wasn’t working,” Banerjee noted. In fact, mumps incidence has gone down 99 percent since the pre-vaccine era.

Two doses of the measles, mumps and rubella (MMR) vaccine is about 88 percent effective against mumps. This means it is possible for a vaccinated individual to get mumps, but someone who was not vaccinated would be far more likely to get the disease. An infographic was developed to help providers and the public better understand the effectiveness of mumps vaccine.

Minnesota had 24 mumps cases in 2016. These cases weren’t related to the other outbreaks. “A few cases occurred at the University of Minnesota, but luckily they didn’t ignite a fire and spread,” Banerjee said. “This speaks to our high vaccination rates and the importance of continued vaccination and surveillance of mumps in Minnesota.”



# Using Data to Advance Health Equity

The way we collect and use data can greatly advance our mission for health equity. In 2015, the IDEPC data workgroup was formed to look at and improve the ways we collect data. The group reviewed how our staff collect and store data on race and ethnicity, how they report on it, and how complete and accurate the data are.

“Improving the way we gather data not only fills gaps in our knowledge about specific populations, but it also allows us to create targeted interventions to reduce the barriers they may face,” said Richard Danila, deputy state epidemiologist and IDEPC data workgroup chair.

The workgroup has been brainstorming ideas for division actions to improve the completeness and validity of the data. Many units in the division have started implementing some changes, such as:

- **Collecting specific types of data.** The Foodborne Diseases and Waterborne Illness Units updated their disease interview forms to capture the language spoken at home, the language the interview was conducted in, and the specific types of Asian and Black races (see below).

- **Using data to identify disparities.** The Minnesota Immunization Information Connection (MIIC) used data from the Office of Vital Records to look at immunization rates during pregnancy. They found some disparities when looking at immunization rates by race, mother’s country of origin, mother’s educational attainment, insurance coverage at delivery, and adequacy of prenatal care. Further studies are needed to better understand why women in different demographic groups are vaccinated at lower rates, but this use of data illuminated some areas of need.
- **Manipulating data to look at specific trends.** The Emerging Infections Unit has geocoded their Active Bacterial Core surveillance (ABCs) data through 2016 to look at differences in invasive bacterial disease by location.

“In order to promote health equity, we need to identify and address the disparities happening in Minnesota,” said Danila. “Collecting quality data is the foundation for making that happen.”

The image shows a screenshot of a data entry form. The form has several fields, including 'Language in which interview was conducted' (set to English), 'Languages spoken in the home', 'Race', 'Ethnicity', 'Language in which interview was conducted', 'Languages spoken in the home', 'Age at time of episode', 'Age Override', 'Medical record number', 'Clinical lab result date', 'Specimen collection date', 'Submitting lab name and submitter code', 'Hospital name', 'Address (line 1)', 'City', 'State', 'Phone number (facility main)', 'Treating physician name', and 'Clinic'. The 'Race' field is highlighted with a blue border, and a dropdown menu is open, showing a list of Asian and Pacific Islander ethnicities. The 'Asian' option is selected and highlighted in blue. The list includes: Asian, Asian Indian, Bangladeshi, Bhutanese, Burmese, Cambodian, Chinese, Filipino, Hmong, Indonesian, Iwo Jima, Japanese, Korean, Laotian, Madagascan, Malaysian, Maldivian, Nepalese, Okinawan, Other Race, Pakistani, Singaporean, Sri Lankan, Taiwanese, Thai, and Vietnamese. A red arrow points from the right side of the page towards the dropdown menu.

# New Center of Excellence in Refugee Health

In the fall of 2015, the MDH Refugee and International Health Program (RIHP) was awarded a grant from the CDC to establish a Center of Excellence in Refugee Health. The result was the CENTER: Center of Excellence, a Network for Training and Epidemiology in Refugee Health. The CENTER is a 5-year, collaborative endeavor to identify and monitor refugee health issues and needs, contribute to evidence-based policies and guidelines, and improve care and health outcomes for refugees nationwide.

The CENTER is just one of two CDC-funded Centers of Excellence in Refugee Health. The two centers work together on projects, along with refugee health professionals in several other states. The CENTER's core partners include the University of Minnesota, HealthPartners, and the Philadelphia Refugee Health Collaborative.

"We are honored to partner with a strong team of clinicians and public health experts across the United States. to advance refugee health through best practices and innovative approaches," said Blain Mamo, CENTER director and refugee health coordinator at MDH.

In 2015-16, the CENTER initiated three evaluation and quality improvement projects. The first evaluation focused on treatment adherence and long-term health outcomes among refugees in Minnesota with latent tuberculosis infection (LTBI). The second project aimed to develop and implement quality improvement processes in long-term care for refugees with chronic hepatitis B in the CENTER's partner clinics in Minnesota, Colorado, and Pennsylvania. The CENTER's third evaluation reviewed data on the prevalence of pediatric complex conditions among refugee children in Philadelphia—overall and soon after arriving in the United States.

The CENTER also surveyed over 400 health care providers who serve refugees in the United States to assess their needs related to refugee health clinical guidance. "The feedback we received will inform our ongoing work to expand, update, and revise the CDC domestic refugee screening guidelines," said Mamo. The surveyed providers weighed in on the most effective means of delivering clinical guidance, such as through electronic medical record smart sets (tools that support clinicians' decision-making in real time), and will contribute to the CENTER's development of a standardized refugee health smart set.

CENTER workgroups researched and wrote three new refugee screening guidelines for the CDC on preventive care, pediatrics and women's health. Clinicians across the United States rely on these guidelines to ensure that their refugee patients receive the appropriate comprehensive screenings. The CENTER also reviewed and recommended updates to all of the existing CDC refugee screening guidelines.

Projects from the first year of the grant will continue in 2017. Additionally, the CENTER will collaborate with the state of Maryland and multilingual community stakeholders to translate Vaccine Information Statements, which provide essential information to vaccine recipients, into languages not currently available. The CENTER also continues to collaborate with local public health to improve surveillance, screening, and access to care for secondary refugees (those coming from other states) in Minnesota.

"We are excited for the opportunity to continue this work to improve refugee health in Minnesota and across the country," said Mamo. "This collaboration shows the importance of sharing knowledge and expertise to reach a common goal and improve public health."

*"This collaboration shows the importance of sharing knowledge and expertise to reach a common goal and improve public health."*

# Helping Providers with Bloodborne Infections Stay on the Job

Following proper infection prevention techniques is important for every health care professional, but it is particularly important for those infected with a bloodborne pathogen, such as HIV, hepatitis B, or hepatitis C. These health care professionals can continue working in their field, but need to follow careful and consistent infection prevention practices to avoid potentially transmitting their infection or being exposed to another bloodborne infection.

After an incident where a dentist passed HIV to five patients in Florida in 1990, legislation was passed in Minnesota that led to the creation of the HIV, Hepatitis B, and Hepatitis C Prevention Program for health care professionals with bloodborne infections.

“This program is all about protecting the public and the health care professional,” said Joan Hanson, nurse specialist and program manager. “We want to make sure they have the most current infection prevention information they need to continue to safely and effectively do their job.”

HIV, hepatitis B, and hepatitis C are required to be reported in Minnesota, and MDH is supposed to be notified if the person is a health care professional. When MDH gets notified of a health care professional who is infected with a bloodborne pathogen, Hanson contacts the person to explain the program.

She knows it can be intimidating to hear from the health department. “My first priority when I contact the health care professional is to make it clear that I’m here as their advocate to protect them and the public,” said Hanson. “We want to keep them practicing to the fullest extent of their training.”

The program is unique in the United States because of its monitoring component. Hanson goes through an evaluation process with the health care professional that looks at their professional duties and their health status related to the bloodborne infection. Then they work together to develop a professional practice monitoring agreement. The agreement addresses the risks of certain procedures or duties and makes recommendations for possible restrictions or procedural changes, such as wearing two pairs of gloves, that will help protect the provider and patients from a potential exposure. The agreement is reviewed annually in case the person’s professional role changes.

The entire process is conducted with privacy and confidentiality in mind. The health care worker is not required to share their status or monitoring plan with their employer or anyone else.

At the end of 2016, 99 health care workers had monitoring agreements in place with MDH, with two under active evaluation.

By law, health care professionals with HIV, hepatitis B, or hepatitis C are supposed to notify either their licensing board or MDH within 30 days of diagnosis or of being licensed. “Many people don’t know about the program, so this doesn’t always happen,” said Hanson. She is actively working on finding new ways to make health care professionals aware of this requirement through educational institution’s health sciences programs, licensing boards, and more.

“I feel privileged to do this work,” Hanson said. “My aim is to develop a trusting relationship with the health care professional, and work together in a spirit of respect, honesty, and cooperation.”

*“This program is all about protecting the public and the health care professional. We want to make sure they have the most current infection prevention information they need to continue to safely and effectively do their job.”*

# Antibiotic Resistance

Widespread use of antibiotics has resulted in the spread of antibiotic-resistant infections that are increasingly difficult, if not impossible, to treat. The CDC estimates that each year in the United States over 2 million people get antibiotic-resistant infections, with at least 23,000 deaths as a result. This is why antibiotic resistance is an urgent public health crisis.

Monitoring antibiotic resistance trends is vital for targeting efforts to control resistance and guiding treatment strategies. IDEPC staff work with the public health laboratory, clinical laboratories, infection preventionists, and health care providers across Minnesota to conduct antibiotic resistance surveillance. Our work has shown that Minnesota is no exception to the global problem of antibiotic resistance. Two pathogens that MDH conducts surveillance for are included among the CDC's list of most urgent antibiotic resistance threats: carbapenem-resistant Enterobacteriaceae (CRE), and *Neisseria gonorrhoeae*.

CRE are a group of extremely resistant bacteria that have spread widely and rapidly in the United States. Often referred to as "superbugs" in the press, CRE infections tend to be acquired in hospitals and other health care settings, cause more deaths than non-resistant infections, and have the ability to become resistant to all treatment options. MDH initiated voluntary surveillance for CRE in 2009. In 2012, CRE became reportable in Hennepin and Ramsey Counties, and in 2016 CRE became reportable statewide. Epidemiologists in the Health Care-Associated Infections and Antimicrobial Resistance Unit at MDH use CRE surveillance data to help health care facilities prevent patient-to-patient transmission of CRE infections, detect outbreaks, and learn more about how CRE infections are spread.

*Neisseria gonorrhoeae* causes the sexually transmitted disease (STD) known as gonorrhea. Gonorrhea is reportable in Minnesota, and over 4,000 cases were reported in 2015. *N. gonorrhoeae* commonly causes infections of the genital and urinary tracts, but can result in a more serious disseminated gonococcal infection (DGI) involving skin lesions, blood, joints, and other body sites. Over time, *N. gonorrhoeae* has developed resistance to almost every antibiotic used for treatment.

In 1986, the Gonococcal Isolate Surveillance Project (GISP) was established in the United States to monitor trends in antibiotic resistance. Minnesota participates in GISP, and epidemiologists use these data to understand resistance. A 2014 GISP report showed emerging resistance to one of the drugs in the dual therapy that is currently the only recommended gonorrhea treatment. Continued surveillance in the coming years will be crucial for informing treatment recommendations.

MDH conducts antibiotic resistance surveillance for a wide variety of pathogens of great clinical concern. This information is published annually in the [Antimicrobial Susceptibilities of Selected Pathogens](http://www.health.state.mn.us/divs/idepc/dtopics/antibioticresistance/abx/index.html) report ([www.health.state.mn.us/divs/idepc/dtopics/antibioticresistance/abx/index.html](http://www.health.state.mn.us/divs/idepc/dtopics/antibioticresistance/abx/index.html)).

Antibiotic resistance monitoring is a vital component of infectious disease surveillance. MDH is committed to conducting the surveillance essential for detecting new and changing resistance threats.

*Monitoring antibiotic resistance trends is vital for targeting efforts to control resistance and guiding treatment strategies.*

Antimicrobial Susceptibilities  
of Selected Pathogens,  
2016

 DEPARTMENT  
OF HEALTH

625 North Robert Street  
PO Box 64975  
St. Paul, MN 55164-0975  
[www.health.state.mn.us](http://www.health.state.mn.us)

To Report a Case:  
Fill out a Minnesota Department of Health case report form and mail to the above address. For diseases that require immediate reporting, or for questions about reporting, call the Acute Disease Investigation and Control Section at: 651-201-5414 or 1-877-676-5414 or fax form to 651-201-5743.

To Send an Isolate to MDH:  
If you are using a courier, use transport packaging appropriate for the specific courier and send to: 601 North Robert Street, St. Paul, MN 55155. To request packaging, or for other assistance, call the Public Health Laboratory Specimen Handling Unit at: 651-201-4953.

The MDH Antibiogram is available on the MDH web site (<http://www.health.state.mn.us>).  
Laminated copies can be ordered from: Antibiogram, Minnesota Department of Health, Acute Disease Investigation and Control Section, 625 North Robert Street, PO Box 64975, St. Paul, MN 55164-0975.

# Addressing Vaccine Hesitancy in Minnesota's Somali Community

For many years, parents in Minnesota's Somali community have voiced concerns that their children are disproportionately affected by autism compared to children of other ethnicities. Conversations with parents and health care providers revealed that many Somali parents believed the measles, mumps, and rubella (MMR) vaccine caused autism and were refusing to give MMR to their children. The fear of autism outweighed the fear of the diseases the vaccine prevented.

After a measles outbreak in 2011 where children of Somali descent were disproportionately affected, MDH Immunization Program staff looked more closely at immunization rates for Somali Minnesotan children. What they found was a significant disparity. Only 63 percent of children of Somali descent had received the MMR vaccine by 24 months of age compared to 88 percent of non-Somali children.

"This was shocking data. We did not realize how significantly this misinformation had impacted our Somali Minnesotan community," said Lynn Bahta, clinical consultant for the MDH Immunization Program. "We knew action was needed, and involving members of the Somali community was critical for this to be effective."

MDH convened an interdepartmental workgroup with staff from the Immunization Program, Children and Youth with Special Health Needs, Refugee and International Health, and Communications. Two Somali staff were also

hired—a nurse consultant to focus on autism and an outreach worker to focus on immunization.

"The issues were so intertwined that we needed a team that could address misinformation about both immunizations and autism," said Bahta.

A number of activities were launched including reaching out to Somali-owned child care centers and charter schools to help them determine the immunization status

of children in their facility. MDH also invited influential Somali Minnesotan community members to participate in a MDH advisory group.

"Parents and staff had so many questions," said Hinda Omar,

Immunization Program Somali outreach worker. "They wanted information, and many changed their mind and asked if it was too late for their child to get the MMR."

The Somali community has a rich tradition of oral communication. Many heard incorrect information from others in the community, but information from other credible communication channels was not reaching them. "In this situation, traditional messaging doesn't necessarily work," said Asli Ashkir, nurse consultant in the MDH Children and Youth with Special Health Needs program. "In-person trainings provided opportunities for conversations to happen, and were much more effective because parents who understand the information will share it with others."

*"We did not realize how significantly this misinformation had impacted our Somali Minnesotan community."*



After one training with six women, staff were able to track that they shared the information with 82 other community members over 12 weeks.

In April 2016, at the recommendation of the MDH advisory group, MDH held three educational forums about autism, child growth and development, and vaccine-preventable diseases in St. Cloud, Rochester, and St. Paul. The St. Paul forum was for health professionals and the other two forums were for community members.

“The messages were very well received,” said Michelle Dittrich, public health advisor, Centers for Disease Control and Prevention, who coordinated the forums. “The

communities wanted to know when we were coming back.”

Looking forward, MDH staff plan to continue these trainings among parents and community leaders, intensify outreach to child care centers, and collaborate with health professionals to raise cultural efficacy in addressing vaccine hesitancy and increasing early identification and intervention referral for autism. The partnerships built through this work have led to more trusting relationships that play a vital role in increasing immunization rates and connecting more Somali families to services for children with autism.

## The Effects of Zika Virus on Minnesotans

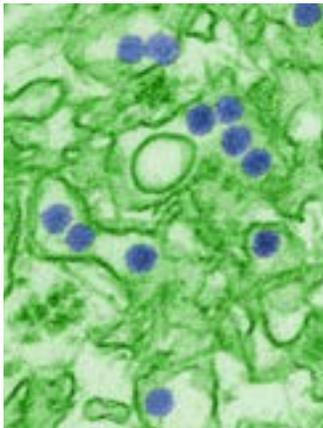
“The worldwide spread of Zika virus made the headlines often in 2015-2016 and continues to be a cause for concern,” said Elizabeth Schiffman, Vectorborne Diseases Unit epidemiologist.

“The outbreak is still going on,” said Schiffman. Primarily spread through the bite of *Aedes aegypti* and *Aedes albopictus* mosquitoes, Zika virus has not managed to gain a foothold in Minnesota due to a climate that isn’t hospitable to those two species. The virus can be spread from a mother to the fetus and can also be spread sexually as well.

Zika virus causes mild to no symptoms in many who become infected. However, there are serious concerns for the virus’ effect on the development of the fetus of an infected mother.

In 2016, 73 cases of Zika virus infection have been reported in Minnesota residents. There has been no local transmission by mosquitoes (all cases have been associated with travel to other countries). Among those 73 cases, there have been six pregnant women, with five live births of apparently healthy infants with no evidence of birth defects. MDH epidemiologists are partnering with birth defects experts to follow up on those births to check for any related health issues as the infants develop.

Schiffman noted that the Vectorborne Diseases Unit still receives many calls from health care professionals and the public with questions on the outbreak and on testing requirements.



“This still remains a disease of travelers for Minnesota,” Schiffman said. Minnesotans traveling to countries known to have active outbreaks of Zika virus should be aware of the risks involved with that travel. Pregnant women should avoid traveling anywhere with an active outbreak. Women who plan to become pregnant should speak with their health care provider prior to traveling or before their partners travel to any areas with an active outbreak.

The worldwide picture of Zika virus remains unclear. The rates of infection in some areas are steady or increasing, said Schiffman, while in others the numbers are decreasing.

“The best course of action for Minnesotans is to be aware of the risks involved with travel to Zika-affected areas,” said Schiffman. “Take steps to protect yourself.”

# 2016

# Diseases by the Numbers: A Year in Review

## Cases of Selected Communicable Diseases Reported to the Minnesota Department of Health

District (population per United States Census 2015 estimates)

Disease	Metro (3,012,117)	Northwest (158,477)	Northeast (325,803)	Central (743,891)	West Central (239,173)	South Central (290,032)	Southeast (501,850)	Southwest (218,251)	Unknown Residence	Total (5,489,594)
Anaplasmosis	165	119	119	196	73	10	48	3	0	733
Babesiosis	10	12	6	11	6	1	4	0	0	50
Blastomycosis	11	2	20	3	0	0	2	1	0	39
Campylobacteriosis	462	23	33	158	36	68	131	131	0	1,042
Cryptosporidiosis	92	9	14	76	37	61	103	73	0	465
<i>Escherichia coli</i> O157 infection	44	5	2	27	4	3	21	16	0	122
Hemolytic uremic syndrome	5	0	0	3	0	0	4	2	0	14
Giardiasis	352	16	49	91	31	25	60	31	0	655
<i>Haemophilus influenzae</i> disease	53	6	11	21	4	11	11	9	0	126
HIV (non-AIDS)	193	5	4	11	4	0	10	2	0	229
AIDS (diagnosed in 2016)	103	3	0	10	2	3	5	5	0	131
Legionnaires' disease	72	1	8	8	0	7	15	4	0	115
Listeriosis	4	0	1	0	2	1	0	0	0	8
Lyme disease	547	71	165	336	50	20	101	15	0	1,305
Measles (rubeola)	2	0	0	0	0	0	0	0	0	2
Meningococcal disease	3	0	1	0	0	0	1	0	0	5
Mumps	19	0	0	3	0	0	2	0	0	24
Pertussis	520	33	38	69	42	59	232	22	0	1,015
Salmonellosis	478	24	50	105	28	42	75	59	0	861
Sexually transmitted diseases	19,990	486	1,302	2,378	896	978	1,912	583	1,048	29,483
<i>Chlamydia trachomatis</i> (genital)	14,470	407	1,129	1,987	734	865	1,657	524	902	22,675
Gonorrhea	3,996	69	117	299	148	73	217	39	146	5,104
Syphilis, total	717	5	28	46	7	20	19	10	0	852
Shigellosis	292	33	4	87	83	8	9	38	0	554
Streptococcal invasive disease - Group A	138	15	23	33	12	10	34	12	0	277
Streptococcal invasive disease - Group B	285	16	37	73	21	34	59	19	0	544
<i>Streptococcus pneumoniae</i> disease	224	13	43	92	29	17	36	31	0	485
Tuberculosis	129	3	1	10	2	4	12	7	0	168
Varicella	174	4	16	50	13	24	24	31	0	336
West Nile virus	14	4	2	11	22	6	5	19	0	83
Zika virus	52	0	2	4	2	5	3	5	0	73

### County Distribution within Districts

Metro - Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, Washington  
 Northwest - Beltrami, Clearwater, Hubbard, Kittson, Lake of the Woods, Marshall, Pennington, Polk, Red Lake, Roseau  
 Northeast - Aitkin, Carlton, Cook, Itasca, Koochiching, Lake, St. Louis  
 Central - Benton, Cass, Chisago, Crow Wing, Isanti, Kanabec, Mille Lacs, Morrison, Pine, Sherburne, Stearns, Todd, Wadena, Wright  
 West Central - Becker, Clay, Douglas, Grant, Mahnomon, Norman, Otter Tail, Pope, Stevens, Traverse, Wilkin  
 South Central - Blue Earth, Brown, Faribault, LeSueur, McLeod, Martin, Meeker, Nicollet, Sibley, Waseca, Watonwan  
 Southeast - Dodge, Fillmore, Freeborn, Goodhue, Houston, Mower, Olmsted, Rice, Steele, Wabasha, Winona  
 Southwest - Big Stone, Chippewa, Cottonwood, Jackson, Kandiyohi, Lac Qui Parle, Lincoln, Lyon, Murray, Nobles, Pipestone, Redwood, Renville, Rock, Swift, Yellow Medicine

For more 2016 disease statistics, visit the [Disease Control Newsletter 2016 Annual Summary \(www.health.state.mn.us/divs/idepc/newsletters/dcn/sum16/\)](http://www.health.state.mn.us/divs/idepc/newsletters/dcn/sum16/)

### Acronyms used in this report:

MDH: Minnesota Department of Health  
 IDEPC: Infectious Disease Epidemiology, Prevention and Control Division  
 CDC: Centers for Disease Control and Prevention



For more information contact:  
 IDEPC Division, Minnesota Department of Health  
[www.health.state.mn.us/divs/idepc](http://www.health.state.mn.us/divs/idepc)  
 PO Box 64975, St. Paul, MN 55164-0975  
 Phone: 651-201-5414 | 1-877-676-5414