

BIENNIAL REPORT



Minnesota Department of Health

Infectious Disease Epidemiology, Prevention and
Control Division (IDEPC)

Letter from the IDEPC Director

It is my pleasure to present the 2013-14 biennial report of the Infectious Disease Epidemiology, Prevention and Control (IDEPC) Division at the Minnesota Department of Health. In our division, we monitor the occurrence of infectious diseases, develop strategies for preventing and controlling disease, and work to put those strategies into action. All Minnesotans are served by the work of IDEPC.

From H5N1 influenza to Ebola, the media has been filled with reports of infectious diseases. This report summarizes our work to control infectious disease in Minnesota and captures high points over the last two years.

Among the IDEPC activities spotlighted in this year's report are:

- Monitoring travelers returning from Ebola-affected areas for Ebola in Minnesota.
- Linking people to health care and needed treatment.
- Protecting Minnesotans from disease through changes in law, collaboration with partners, and strengthening infrastructure.
- Building relationships with community media to provide timely health information to diverse audiences.
- Supporting community efforts to prevent disease.

This report represents only a snapshot of the infectious disease work done in IDEPC.

I would like to congratulate the staff of IDEPC for all their hard work and to commend them for their skill, dedication, and professionalism in service to the people of the state of Minnesota. Special thanks to our communication team for pulling this report together!

I invite you to read more about the important work our division does to help us meet our agency mission to protect, maintain, and improve the health of all Minnesotans.

Kristen R. Ehresmann, RN, MPH

Director

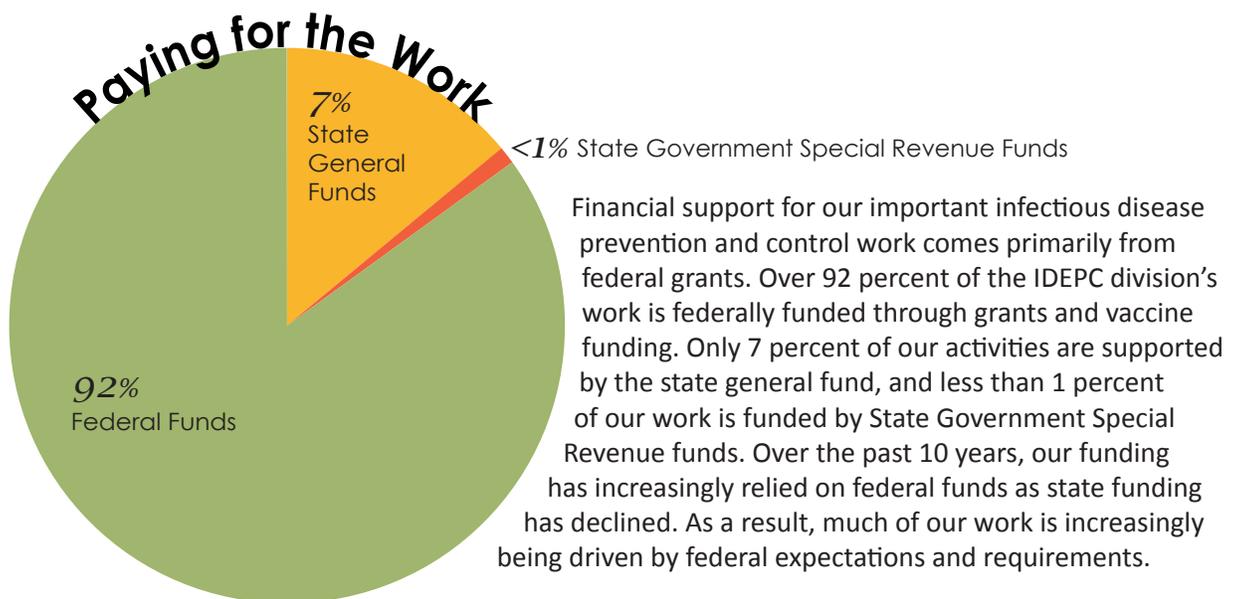
Infectious Disease Epidemiology, Prevention and Control Division

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



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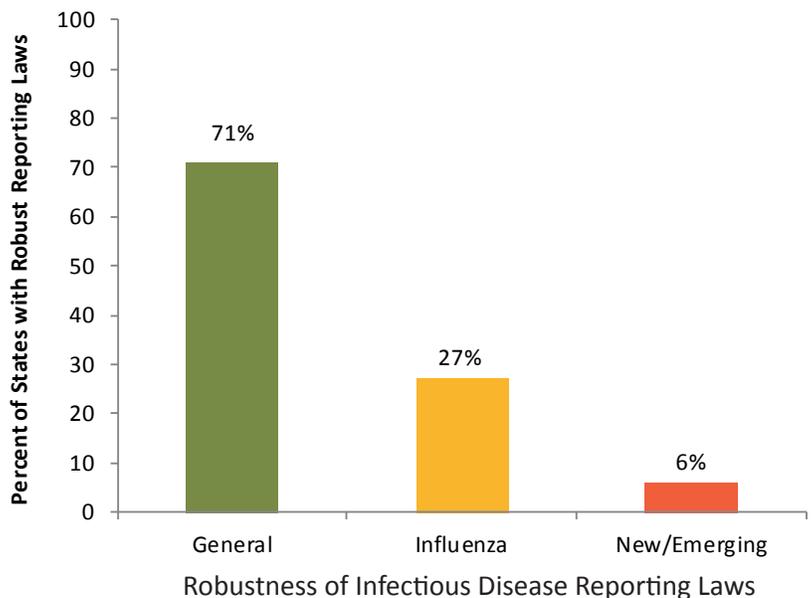
Infectious Disease Reporting Law Review

Infectious diseases don't stop spreading when they reach a state border, but reporting laws vary from state to state meaning different states are collecting different information. This variation may affect the national response to new infectious disease threats.

A research team of investigators from IDEPC and the University of Minnesota were awarded a grant from the Robert Wood Johnson Foundation to assess the robustness of infectious disease reporting laws. In particular, the team looked at influenza and new/emerging disease laws in the 50 states, D.C., and New York City. They also wanted to use the 2009 H1N1 influenza pandemic as a case study to examine the strengths and weaknesses of the laws.

They waded through thousands of state statutes and regulations to identify and code key features of robust reporting laws. Examples of robust legal features include requiring clinical specimen submission to state labs under certain conditions, and having an expedited process to add new diseases to a state's list of reportable diseases.

Although they found general infectious disease reporting laws to be robust in 71 percent of states, only 27 percent of states had robust influenza reporting laws, and only 6 percent had robust new/emerging disease reporting laws. Minnesota had robust reporting laws in all three categories. Robustness of laws did not appear to affect reporting during the 2009 H1N1 influenza pandemic. However, influenza has many well-established reporting mechanisms. Reporting of other types of emerging infections would likely rely more on specific legal mandates. Surveillance and reporting of infectious diseases are essential to prevention and control efforts. It's important to understand and regularly review the strength of these reporting laws to make sure states are able to support this core function of public health.

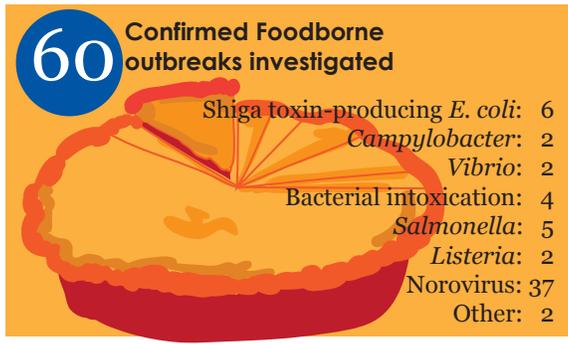
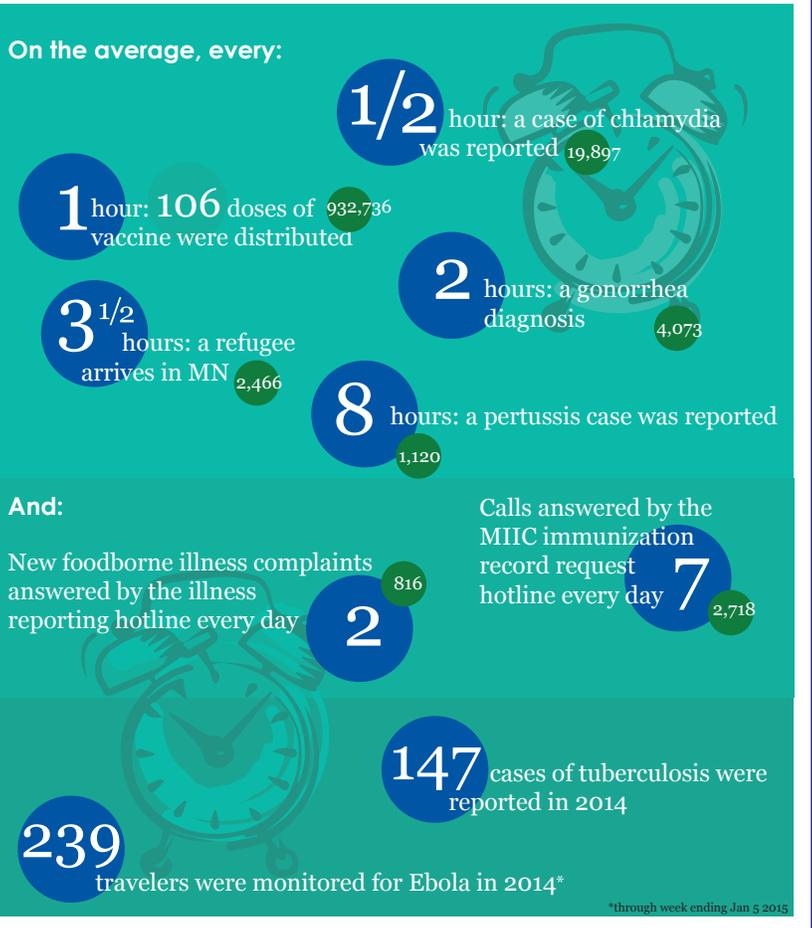
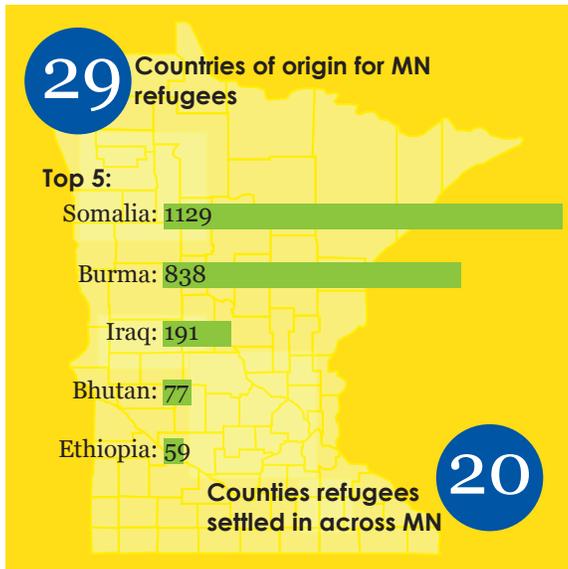


Disease Summary Data, from the *Disease Control Newsletter* Annual Summary

Cases of Selected Communicable Diseases Reported by District of Residence, 2013

Disease	District (population per U.S. Census 2012 estimates)									Total (5,372,030)
	Metropolitan (2,919,177)	Northwestern (157,393)	Northeastern (326,026)	Central (732,492)	West Central (235,563)	South Central (290,521)	Southeastern (498,011)	Southwestern (212,847)	Unknown Residence	
Anaplasmosis	175	95	84	164	52	18	33	6	0	627
Arboviral disease										
La Crosse	3	0	0	0	0	2	0	0	0	5
West Nile	16	9	0	5	18	12	3	17	0	80
Babesiosis	17	12	3	17	6	1	6	2	0	64
Blastomycosis	12	0	13	3	1	0	5	0	0	34
Campylobacteriosis	433	18	24	143	45	46	120	80	0	909
Cryptosporidiosis	60	5	25	54	48	16	85	31	0	324
<i>Escherichia coli</i> O157 infection	65	3	4	18	7	9	19	18	0	143
Hemolytic uremic syndrome	8	0	0	3	2	2	1	1	0	17
Giardiasis	354	3	41	85	16	34	59	28	0	620
<i>Haemophilus influenzae</i> disease	41	7	9	14	3	5	11	1	0	91
HIV (non-AIDS)	185	1	9	10	9	4	6	0	0	224
AIDS (diagnosed in 2013)	124	2	14	6	0	2	3	3	0	154
Legionellosis	23	0	6	4	2	5	9	1	0	50
Listeriosis	6	0	1	0	1	0	2	2	0	12
Lyme disease	748	54	159	239	62	44	117	8	0	1,431
Meningococcal disease	7	0	1	3	1	0	0	0	0	12
Pertussis	496	4	30	100	14	61	137	23	0	865
Salmonellosis	499	12	37	94	19	43	61	45	0	810
Sexually transmitted diseases										
<i>Chlamydia trachomatis</i> - genital infections	11,595	424	992	1,125	443	874	1,455	399	1,417	18,724
Gonorrhea	3,136	56	110	104	57	70	117	25	197	3,872
Syphilis, total										
Primary/secondary	179	1	3	5	0	0	1	4	0	193
Early latent*	129	2	0	3	2	1	2	0	0	139
Late latent**	171	1	4	10	0	5	11	2	1	205
Congenital	0	0	0	0	0	0	0	0	0	0
Other***										
Shigellosis	95	1	3	9	8	10	5	3	0	134
Streptococcal invasive disease - Group A	110	6	22	35	5	8	17	6	0	209
Streptococcal invasive disease - Group B	351	12	44	76	17	39	46	10	0	595
<i>Streptococcus pneumoniae</i> disease	236	23	54	83	32	27	56	30	0	542
Toxic shock syndrome (Staphylococcal)	12	0	1	0	0	0	1	0	0	14
Tuberculosis	110	2	4	10	2	3	14	6	0	151
Viral hepatitis, type A	17	0	3	5	1	4	1	1	0	32
Viral hepatitis, type B (acute infections only, not perinatal)	14	0	2	1	0	0	1	1	0	19
Viral hepatitis, type C (acute infections only)	19	3	18	3	1	0	2	1	0	47
* Duration ≤1 year										
** Duration >1 year										
*** Includes unstaged neurosyphilis, latent syphilis of unknown duration, and latent syphilis with clinical manifestations										
<u>County Distribution within Districts</u>										
Metropolitan - Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, Washington										
Northwestern - Beltrami, Clearwater, Hubbard, Kittson, Lake of the Woods, Marshall, Pennington, Polk, Red Lake, Roseau										
Northeastern - 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										
Southeastern - Dodge, Fillmore, Freeborn, Goodhue, Houston, Mower, Olmsted, Rice, Steele, Wabasha, Winona										
Southwestern - Big Stone, Chippewa, Cottonwood, Jackson, Kandiyohi, Lac Qui Parle, Lincoln, Lyon, Murray, Nobles, Pipestone, Redwood, Renville, Rock, Swift, Yellow Medicine										

2014 By the Numbers: A Year in Review



Stop the spread of germs that make you and others sick!

Cover your Cough

Cover your mouth and nose with a tissue when you cough or sneeze

cough or sneeze into your upper sleeve, not your hands.

Put your used tissue in the waste basket.

You may be asked to put on a surgical mask to protect others.

Clean your Hands

after coughing or sneezing.

Wash with soap and water or clean with alcohol-based hand cleaner.

MDH Minnesota Department of Health
APIC Association for Professionals in Infection Control and Epidemiology

GOT YOUR SHOTS?

DON'T WAIT 'TIL IT HURTS.

CHLAMYDIA GONORRHEA

TESTING AND TREATMENT ARE QUICK AND PAINLESS. PEE IN A CUP. GET IT CLEARED UP. 800.78FACTS VOICE/TTY WrapTestTreat.com

wrap it / test it / treat it

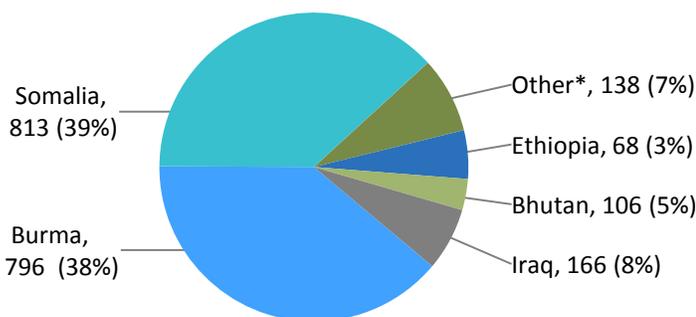
Linking Hepatitis B Positive Refugees to Ongoing Care

When refugees arrive in the United States, it's recommended that they receive a health assessment within 90 days of arrival. During this assessment, they are screened for a number of diseases, including hepatitis B—a viral illness that affects the liver. Chronic hepatitis B can lead to cirrhosis and liver cancer, but the risk of these is minimized with regular treatment.

Refugees who test positive for hepatitis B should be referred for ongoing care; however, screening clinics don't always have the resources to make referrals and follow up with patients. From October 2012 through September 2014, refugees screened in Minnesota were most commonly from Burma and Somalia—two countries where hepatitis B is common. During this time period, 4,738 primary and secondary refugees were screened for hepatitis B. Of those, 263 (6 percent) tested positive for hepatitis B infection, including 9 percent of those tested from Burma and 5 percent of those tested from Somalia.

From October 2012 through September 2014, with funding from the CDC, the Refugee Health Program (RHP) carried out a project to link newly arrived hepatitis B-positive refugees to ongoing medical care. The project involved providing care coordination, patient education, and access to transportation to make it easier for refugees to receive ongoing care. We hired two bilingual student workers, one Karen-speaking (from Burma) and one Somali-speaking, to follow up with hepatitis B-positive refugees in Hennepin and Ramsey counties and provide health education, address logistical concerns, and schedule medical appointments. The student workers used telephone interpreter services for refugees who spoke other languages.

Country of Origin Among Refugee Arrivals Screened in Minnesota, October 2012 – September 2013



*Other includes Afghanistan, Belarus, Cambodia, Cameroon, China, Cuba, DR Congo, Eritrea, Iran, Ivory Coast, Kenya, Laos (Hmong), Liberia, Mexico, Moldova, Sudan, Ukraine, and Vietnam.

Lessons Learned

- Knowledge of and attitudes toward hepatitis B vary widely. Some patients have known about their status for years, whereas the diagnosis is a surprise for others. One patient may feel that hepatitis B is no big deal, while another may be gravely concerned.
- Striking a balance between conveying the seriousness of hepatitis B and reassuring the patient that it's not a death sentence can be a challenge. Patients sometimes equate hepatitis B with liver cancer, so it's important to emphasize that regular monitoring and care can help prevent cancer and severe disease.
- Barriers to hepatitis B testing and care may include stigma surrounding the disease, beliefs or suspicions about having blood drawn, and the idea that those who are diagnosed die sooner, so it's better not to know if you have hepatitis B. (This last idea might arise if people in the community tend to be diagnosed only after having serious complications.)
- Transportation to the clinic is one of the greatest challenges in linking patients to care. A driver who speaks the patient's language, and who is willing to knock on the patient's door and wait a little longer, can make all the difference. An interpreter or patient liaison who can call the driver and the patient to facilitate transportation is also very helpful.

The program was highly successful. One of the refugees in the project, a young man from Burma, tested positive for hepatitis B during his refugee health assessment and was referred to specialty care. Paw Htoo, the RHP's Karen-speaking student worker, followed up to make sure he attended the appointment. The young man said that he didn't feel sick, so he didn't go. Htoo was able to provide education about hepatitis B and the importance of receiving care even if you don't feel sick. She rescheduled his appointment, and the man attended and confirmed that he planned to see his doctor regularly.

That's just one success story. During the project, an impressive 89 percent of refugees who tested positive for hepatitis B were successfully linked to follow-up care. The project demonstrated the importance of bilingual care navigators who can help hepatitis B-positive refugees address barriers that might otherwise prevent them from establishing ongoing care.

Demonstration Projects Reach Out to Prevent Chlamydia

Rates of chlamydia, a sexually transmitted disease, have continued to rise at alarming rates since 2000. In 2010, the HIV and STD Prevention Unit began exploring innovative ways to address the epidemic across the state. The Minnesota Chlamydia Partnership (MCP) is a group of external stakeholders co-facilitated by staff who are dedicated to promoting the Minnesota Chlamydia Strategy. In 2013, the MCP collaborated with Kandiyohi County Public Health (KCPH) and the Coalition for Healthy Adolescent Sexuality (CHAS) in Willmar to develop a plan to impact the high rates of chlamydia in young people under the age of 25 in rural Minnesota.

Parents: It's time to talk!
They really do want to know what you think.

Tip #11

Don't lecture. Ask non-judgemental questions, then listen.

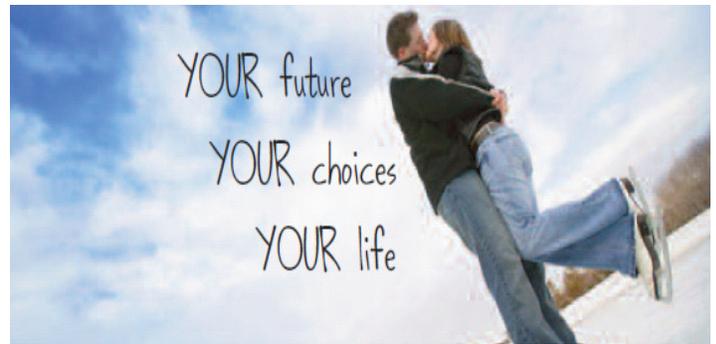
CHAS

COALITION FOR HEALTHY ADOLESCENT SEXUALITY



The Kandiyohi County project reached out to parents of pre-teens, adolescents, and young adults to support them in being sexuality educators for their young people. KCPH/CHAS held five community meetings and helped individuals and groups devise a plan to address chlamydia. A key activity in the plan was a media campaign encouraging parents to talk with their children.

The efforts didn't stop there. In 2013, we also provided seed funding to North Point, Inc., to bring together a coalition and develop a plan to address chlamydia in North Minneapolis, particularly among African American youth. The coalition held six planning meetings and one community forum where a youth panel shared their views on what type of sexuality information they want to receive from adults. This work and the positive feedback energized the community and spurred them to develop a strategic plan for 2014 to continue the work. Organizers plan to summarize their successful strategies, such as having community members as the core group implementing these projects, so others can utilize their chlamydia prevention efforts in urban settings.



Parents: It's time to talk!
They really do want to know what you think.

Tip #61

You don't always have to talk about sex to talk about sex.

CHAS

COALITION FOR HEALTHY ADOLESCENT SEXUALITY

An Organizers' Toolkit, designed to help other communities replicate the strategies within their communities, is under development. This toolkit will provide descriptions of the various phases and activities that were employed by KCPH/CHAS to achieve project goals, as well as samples of the materials that were created. All of these projects highlight the importance of our community partnerships in affecting public health change. As soon as the Toolkit is finalized, it will be available on the MDH website.

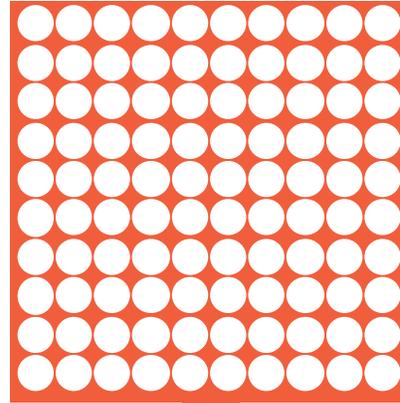
HIV Treatment Cascade Story

For an individual who has been diagnosed with Human Immunodeficiency Virus (HIV), getting them into ongoing care is a top priority. With proper treatment and care, HIV-positive individuals can achieve viral suppression, meaning the amount of virus in the blood is very low. This reduces the risk of spreading the virus to others. However, there are often barriers that prevent some people from getting care that may help them achieve viral suppression.

In HIV treatment, there is a continuum of care. Starting in 2013, the HIV and STD Epidemiology and Surveillance Unit calculated an HIV “treatment cascade” for people living with HIV/AIDS in Minnesota. The treatment cascade is a calculation of how many Minnesotans diagnosed with HIV are initially linked to care, retained in care (i.e., receiving medical care for HIV at least one year after diagnosis), and achieve viral suppression. It is an important tool in measuring the successes of the national HIV/AIDS strategy in Minnesota. The treatment cascade is updated annually, for more information visit: www.health.state.mn.us/divs/idepc/diseases/hiv/hivtreatmentcascade.html.

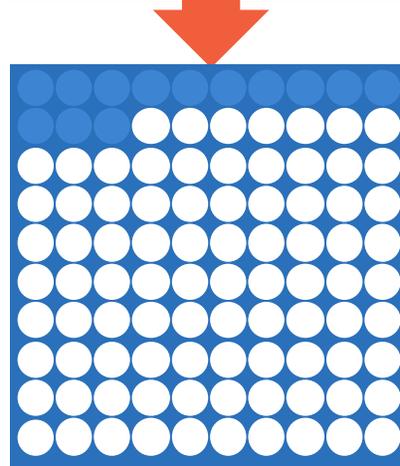
The CDC provided guidance on how to calculate a cascade at the state level, but we modified the calculation based on input from HIV prevention and care providers in Minnesota. It was discovered that health care providers in Minnesota typically only do one lab test per year for patients whose HIV infection is well managed instead of two lab tests that the CDC calculation used. With this modification, we were able to get a better sense of HIV care in Minnesota.

Ultimately, the results of the HIV treatment cascade are quite good in Minnesota. More than 7,000 people over the age of 13 are living with HIV in Minnesota and more than 60 percent have achieved viral suppression. Minnesota has also done well with linking newly diagnosed individuals to care. In 2013, 87 percent of people diagnosed with HIV were linked to care within 90 days of diagnosis. This positions Minnesota well for the future as addressing the continuum of HIV care is a priority in the national HIV/AIDS strategy.

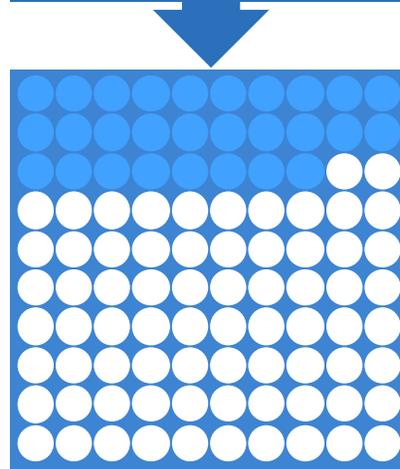


Percentage of Persons Diagnosed with HIV Engaged in Selected Stages of the Continuum of Care, Minnesota

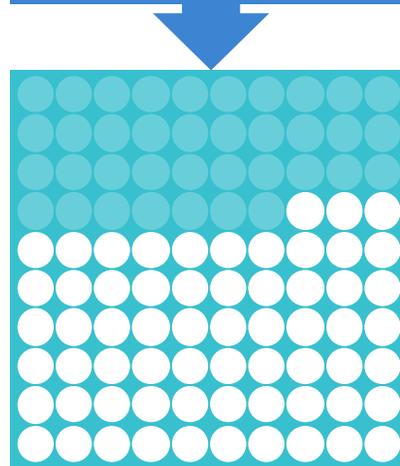
For every **100** persons living with diagnosed HIV...¹



87 get linked to care²



72 are retained in care³



63 will have viral suppression⁴

¹ Persons diagnosed with HIV infection (regardless of stage at diagnosis) through year-end 2013, alive at year-end 2014.

² Percentage of persons diagnosed during 2013, linked to care within 90 days after initial HIV diagnosis during 2013.

³ Percentage of persons diagnosed with HIV through year-end 2013 and alive at year end 2014, who had ≥ 1 CD4 or viral load test results during 2014.

⁴ Percentage of persons diagnosed with HIV through year-end 2013 and alive at year end 2014, who had suppressed viral load (≤ 200 copies/mL) at most recent test during 2014.

Good Samaritan Law Brings Hope for Preventing Overdose Deaths

The weekly news stories pile up.... Parents stating they never thought it would happen to them—sons and daughters taken too soon. They are young with bright futures: star athletes, good students, from quiet suburban homes, and the cause of death is heroin (an opiate).

The CDC has reported that drug overdose death rates in the United States have more than tripled since 1990, surpassing car crash fatalities to become the leading cause of injury death. Minnesota has not been immune to this trend. Minnesota’s Mexican black tar heroin supply is among the most pure and inexpensive in the United States (DEA’s Heroin Domestic Monitoring Program, 2009).

But there is hope in the form of new legislation which encourages people to call 911 when witnessing an overdose. This legislation also puts the overdose antidote, naloxone, out into the community through first responders

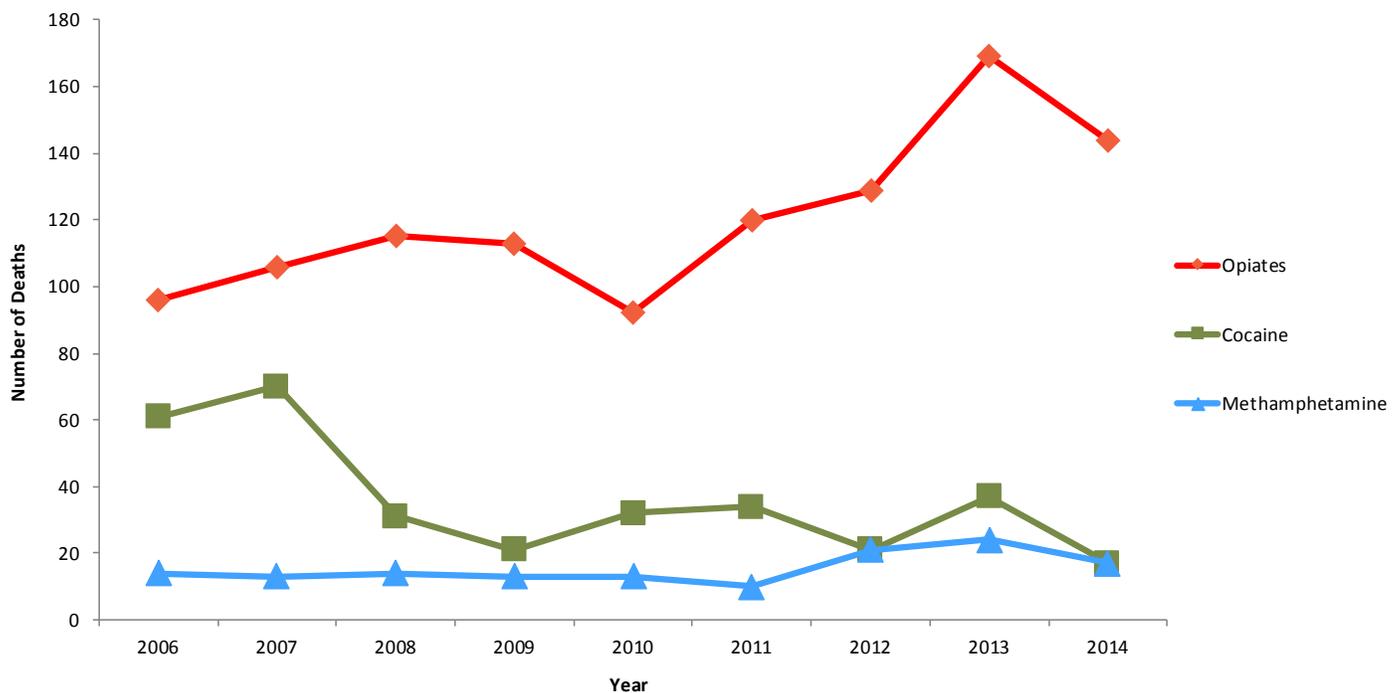
and public health agencies. Many overdose deaths are preventable, but not if the people witnessing the overdose fear arrest and criminal prosecution for minor drug use and paraphernalia.



In February 2014, Senators Eaton and Rosen, and Representative Schoen introduced a 911 Good Samaritan + Naloxone bill that would provide temporary immunity to witnesses of an overdose if they call 911 for help. The bill also allows legal protection for a bystander to administer naloxone in response to an overdose, regardless of prescription or prescriber, so that friends and family members may save the lives of those they love. The bill was passed and became law on May 9, 2014. Because of our work in harm reduction strategies for intravenous drug use, IDEPC was involved in the passage of this bill. Currently, 20 other states and the District of Columbia have passed 911 Good Samaritan immunity laws. Lives have already been saved in several of these states with the legislation, and the passage of the law in Minnesota means more lives can be saved.

For more information on how to get involved:
www.facebook.com/#!/911GoodSamaritanNaloxoneCampaign

Overdose deaths from opioids—medications typically prescribed to relieve pain—have increased in Minnesota. In 2012, there were 129 opioid overdose deaths in Ramsey and Hennepin counties alone. This number increased to 169 in 2013, and CDC estimates rural areas are affected more than metro areas. Hennepin County reported 132 opiate-related accidental deaths in 2013, compared with 84 in all of 2012.



Hennepin County Medical Examiner and Ramsey County Medical Examiner, 2015

Diverse Media Project

Most vaccine-preventable diseases like measles are rarely seen because of the success of immunizations, but they are only a plane ride away. This became apparent in the spring of 2011 when a measles outbreak occurred in Hennepin County after a baby contracted measles while traveling abroad with family. After returning home, the disease invaded the community and spread to 20 other people, including 18 children. Seven of the cases were unvaccinated because the parents refused vaccination. Of the 21 total cases, nine were black African-American, eight were black and of Somali descent, three were American Indian, and one was white. “We were finding that there was a lack of information and even misinformation about immunizations in these communities,” said Margo Roddy, immunization program manager. “We needed a new strategy for educating the community about immunizations.”

Immunization, refugee health, and communications staff teamed up to develop a plan. “To be effective, we knew the messages needed to be culturally appropriate, easy to understand, and able to be translated,” said Sara Chute, international health coordinator. “We also wanted to make sure the messages reached as many people in the community as possible, so a media campaign seemed like the best

**Jeclow iyaga.
Ilaali iyaga.
Tallaal iyaga.**

Tallaallaka ayaa wuxuu carruurta sabiga ah ka ilaaliyaa cudurrada sida daran ay ugu jirroon karaan.

Tallaallo lacag la'aan ama qiime jaban leh ayaa loo heli karaa carruurta u-qalanta Minnesota gudaheeda.

Weydii dhakhtarkaaga ama rugtaada caafimaad haddii ilmahaagu u-qalmo, ama booqo www.health.state.mn.us/divs/idepc/immunize/howpay

**Paub seb koj tus kab mob siab B nyob li cas.
(Know your hepatitis B status.)**

**Get tested.
Protect your baby.**

If you're pregnant and have hepatitis B, it can be passed to your baby during birth.

But, your baby can easily be protected by getting hepatitis B vaccine starting at birth.

Learn more: www.health.state.mn.us/hepatitis

Combata la gripe

¡Tápese al toser!

Lávase las manos.

Quédese en su casa si está enfermo.

Vacúnese.

Encuentre una clínica de vacunas contra la influenza cerca a usted en www.mdhflu.com

MINNESOTA
MDH
DEPARTMENT OF HEALTH

option.” With that, the diverse media project was born.

The first step involved contracting with the right media outlets. The Refugee Health Program had previously worked with several diverse media outlets that are trusted in the community, so they facilitated contracts with 10-14 print/online newspapers and one radio station to run advertisements. Next, immunization staff provided content for the immunization topic being focused on. Topics have included influenza, hepatitis B, infant immunization, measles/international travel, and more. Finally, communications staff helped with editing, translation, and creating eye-catching advertisements. The print/online advertisements are translated into four languages, and the radio advertisements are translated into eight languages.

The initial round of advertisements ran in early 2012, but the project has continued to grow and evolve over the past couple of years. The project enters its fourth year in 2015. It is estimated that each message/topic reaches approximately 160,000 individuals across all of the media partners.

“The success of this project is really due to the collaboration between immunization, refugee health, communications staff, and our media partners,” said Chute. “It takes expertise from each area to create the advertisements, and the positive feedback we’ve received from our media partners tells us we’re doing something right.” [page 10](#)

And the award goes to...

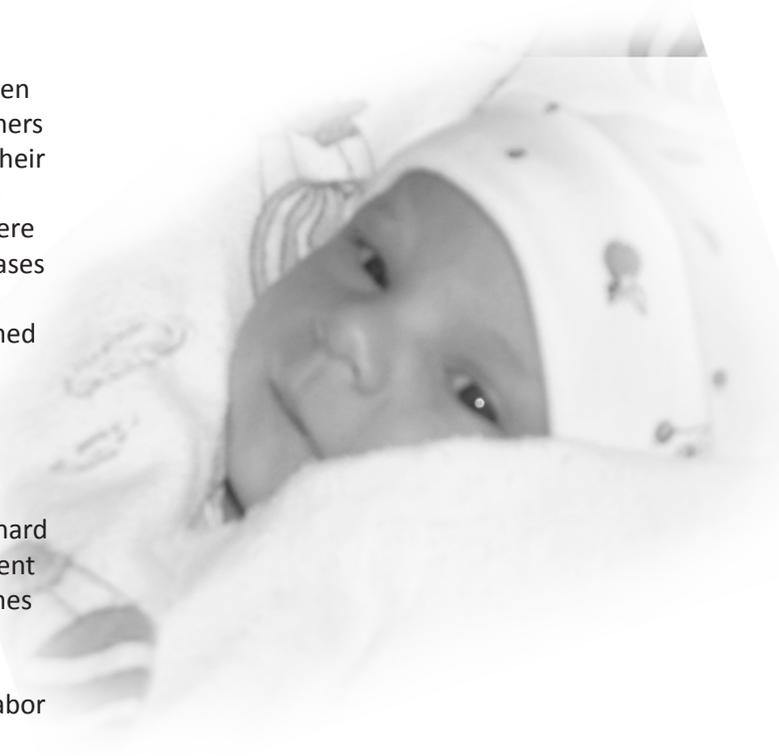
The Diverse Media Project won a 2013 Bull’s-Eye Award for Innovation and Excellence in Immunization from the Association of Immunization Managers. The award recognizes immunization strategies that “hit their mark,” achieving goals and increasing awareness by encouraging replication in other programs.

Group B Streptococcus Infections in Newborns: Protecting Newborns from Disease is Serious Business

Group B Streptococcus, or GBS, is a long name for a bacterium that can lead to serious disease, especially in newborns. Infected newborns typically experience pneumonia, sepsis, or meningitis, and in some cases even death. How do newborns get GBS? Unfortunately, mothers can carry the GBS bacteria and unknowingly pass it to their babies in utero or during delivery. Approximately 10-30 percent of pregnant women carry GBS, and typically there are no symptoms. During 1996-2014, there were 443 cases of neonatal GBS infections and 31 deaths identified in Minnesota. Infant case fatality rates in Minnesota reached as high as 16 percent in 1996.

This wasn't just a problem in Minnesota, but across the country as well. The CDC, American College of Obstetricians and Gynecologists, American Academy of Pediatrics, and state health departments have worked hard over the last two decades to develop strategies to prevent neonatal GBS infection. In 2002, CDC published guidelines for universal screening of pregnant women during 35-37 weeks gestation. If the screening test is positive, the mother is recommended to receive antibiotics during labor to prevent transmission to the newborn; this is called intrapartum antibiotic prophylaxis (IAP). The Emerging Infections Program participated in a CDC study in 2006 to evaluate the screening practices. We found that 87 percent of obstetric providers in the Minneapolis-St. Paul area had successfully adopted the recommended practices outlined in the prevention guidelines.

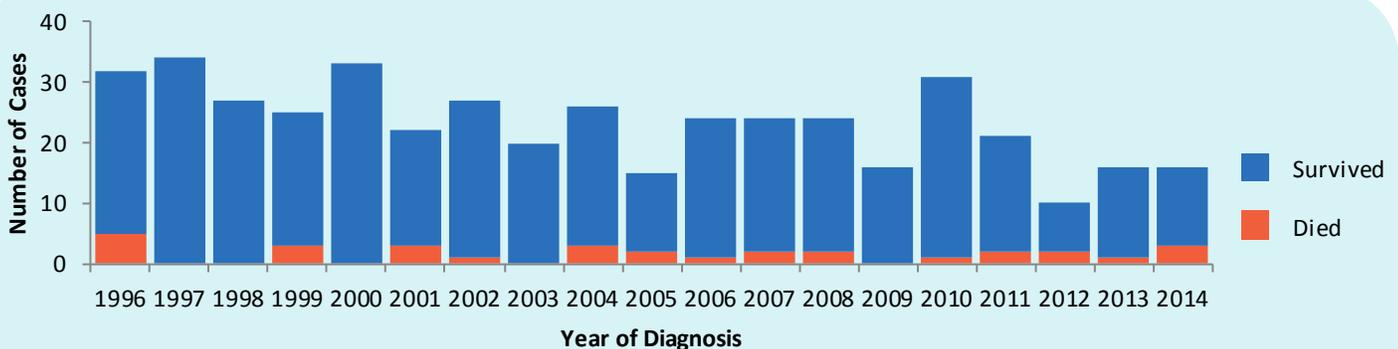
Minnesota has had great success in reducing the number of babies born with GBS infection. Before the GBS screening guidelines, 33 neonatal cases were identified in 2000, but by 2014 there were only 16 cases. That's a 52 percent reduction in cases from 2000 to 2014 with the introduction of IAP.



Recently, we participated in a study focusing on the prenatal care of women who delivered babies with GBS infection to see why cases of neonatal GBS still occur. Among all neonatal GBS cases examined, 54 percent had one or more missed opportunities for prevention during pregnancy. Examples of missed opportunities included:

- IAP was indicated but no antibiotics were given,
- Screening occurred before 35 weeks gestation, and
- Incorrect type of IAP antibiotic was given.

We've made great strides over the last 20 years, but our work isn't done until there are zero neonatal GBS cases.



Cases of Invasive Neonatal Group B Streptococcal Infections by Year of Diagnosis and Outcome, Minnesota, 1996-2014

Working to Keep our Agriculture Community Healthy and Safe

Agriculture has long served as a cornerstone of Minnesota's economy. Today, Minnesota remains one of America's leading agriculture producers; ranking third in crop and eighth in livestock production. Many Minnesotans are connected to agriculture in some way. Working in the agriculture industry has its risks; in fact it is considered one of the most dangerous jobs in the United States.

Why does this matter? Because the mission of MDH is to protect the health of all Minnesotans, and this includes those working in agriculture. To meet this mission, we became a part of the Upper Midwest Agricultural Safety and Health (UMASH) Center. UMASH brings together organizations working to improve the health and safety of agriculture workers and their families. Our UMASH involvement focuses on diseases that can transfer from animals to humans. Livestock may naturally carry germs such as *E. coli* O157:H7 and *Salmonella* in their digestive systems. These types of germs are spread from animals to humans typically through contact with animals, their environment, or through food or water contaminated with animal feces. Human illnesses due to these germs are reported to IDEPC, and we follow up with each person to collect information about food consumption, animal contact, and other possible sources of infection.

In 2012, we began collecting detailed information on agriculture exposures, specifically from those who became ill after visiting an agriculture venue. The purpose was to determine: how common is it for people to acquire these illnesses from farm animals and what types of animals and activities are the riskiest. During 2012-2013, approximately 15 percent of all people with a reportable illness of interest had an agriculture exposure prior to their illness; the distribution of infections are shown here.

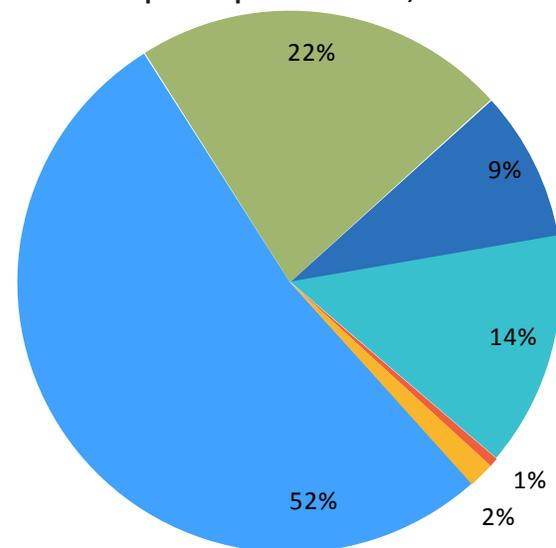


In 2013, IDEPC hosted two "Healthy Fairs" workshops where we discussed human, animal, and environmental health issues related to county fairs. Some of the topics covered were freshwater supply issues, new animal ID requirements, and petting zoo best practices. They were held in St. Cloud and Rochester and attendees came from county fair boards, public health and animal health agencies, 4H, private petting zoos, and veterinary clinics. Feedback from attendees included, "Great idea and glad it finally came together," and "Great thing to start with county fairs." We hosted a second year of Healthy Fairs workshops in April of 2014 in Bemidji and Marshall. A total of 126 people attended these workshops. A third year of workshops are planned for 2015.

These workshops, new partnerships, educational materials, and ongoing surveillance will help us continue to address health and safety issues in the agriculture community.

One important finding from the project is that several young children living on farms have become seriously ill with an *E. coli* O157:H7 infection, likely due to contact with cattle or cattle environments. These children have been hospitalized with kidney failure, leaving their parents feeling frightened, powerless, and guilty. We asked these parents if they would be willing to share their story on the UMASH website, giving these families an opportunity to help others learn from their experience.

Type of infection among those with an agriculture exposure prior to illness, 2012-2013



- Campylobacteriosis
- Cryptosporidiosis
- *E. coli* infection
- Salmonellosis
- Yersiniosis
- ≥ 2 types of infection

School, Child Care, and Early Childhood Immunization Law

Jane Hession's son Brendan was in high school when he died from meningococcal disease, only 16 hours after the onset of his first symptoms. He was just 17. Brendan was a gifted student, funny, loving, creative, and adventurous with a life of endless possibilities in front of him. It was not until after her son passed away that Jane learned about the vaccine that might have saved her son's life. Brendan did not have to die. Meningococcal disease is vaccine preventable.

Each year, meningococcal disease strikes nearly 800 to 1,200 Americans and up to 15 percent of those infected will die. Among those who survive, approximately 20 percent live with permanent disabilities, such as brain damage, hearing loss, loss of kidney function, or limb amputations.

Before 2014, Minnesota's School Immunization Law did not require meningococcal vaccination for students entering seventh grade even though it has been nationally recommended since 2005. Studies have shown that school immunization requirements are good public health policy because they increase vaccination rates and protect students. With this in mind, the Immunization Program began the rulemaking process to require the meningococcal vaccination for students entering seventh grade (unless they take a legal exemption).

The process began in January 2012 and was not completed until August 2013, a year and a half later. The first step was to put together and get input from an Immunization Rulemaking Advisory Committee which included health care providers, parents, schools, and child care and early childhood programs. The committee represents those most impacted by a change in the school immunization rules. After two public meetings (one of which was a video conference held at 12 different sites) and hundreds of written comments, we were ready to present the proposal to an administrative law judge. In April 2013, there was a hearing where those in support of and opposed to the proposed School and Child Care Immunization Law got to be heard by the administrative law judge. Finally, in August 2013, the proposed changes were approved and adopted and took effect on Sept. 1, 2014.

The inclusion of the meningitis vaccination for students entering seventh grade was only one of the many changes made to the School and Child Care Immunization Law. The changes help ensure that Minnesota students can thrive and be protected from deadly diseases.

For more information on the School and Child Care Immunization Law, visit www.health.state.mn.us/divs/idepc/immunize/immrule/index.html.



Photo used with permission of Jane Hession

GOT YOUR SHOTS?

Healthy Markets

Buying meat and poultry at live animal markets is strongly rooted in the cultural and religious traditions of many immigrants living in the United States. These live animal markets play an important part in the life of the ethnic communities they serve.

Live animal markets are establishments that sell and slaughter live animals on the premises for individual customers. The types of animals sold at these markets vary but can include poultry, cattle, sheep, lambs, and pigs. However, live animal markets have been linked to several outbreaks of foodborne illness and several cases of variant influenza or “swine flu.”

Beginning In 2012, the IDEPC Division and the Minnesota Department of Agriculture partnered with the owners of two live animal markets in South St. Paul to launch “Healthy Markets,” an educational campaign to promote healthy behaviors at live animal markets. The purpose of the campaign was to encourage simple things customers can do at the markets and in their homes to protect their health and the health of their families. The campaign was promoted on Hmong, Somali, and Ethiopian radio programs. In addition,



staff distributed flyers and talked to members of the public at several health fairs and flu shot clinics. In summary, the “Healthy Markets” campaign is a great model for doing public health in a dynamic, culturally appropriate way.

The campaign was highlighted in an article about live animal markets on the “CDC Features” website (www.cdc.gov/features/liveanimalbird). For more information about the “Healthy Markets” campaign visit: www.health.state.mn.us/divs/idepc/dtopics/animal/market.

TB Partnership with Local Public Health

In November 2013, a hospital in rural Minnesota contacted the Tuberculosis (TB) Program about an individual with tuberculosis. You may be thinking, “TB? I thought that was long gone!” However, this was one of 151 TB cases reported in Minnesota in 2013.

After getting key information from hospital staff, we immediately notified the Stearns County Public Health Department. State and local public health (LPH) departments work closely with providers, laboratories, and others to make sure that all TB patients are isolated and effectively treated. The good news is that TB is treatable; the bad news is that if the patient doesn’t take a combination of drugs exactly as prescribed for at least six months, they can continue to spread the infection or even develop drug-resistant TB.

Each LPH department designates at least one staff person with primary responsibility for TB cases when they occur. Stearns County public health nurses (PHNs) quickly visited this patient in the hospital to begin the process of identifying, testing, and treating infected contacts, and to plan for continuing treatment. Once the patient returned home, the TB Program supplied the TB medications at no cost to the patient, using funds allocated by the Minnesota Legislature for that purpose. Stearns County PHNs visited the patient daily to administer the medication through

a method called Directly Observed Therapy (DOT). This helped the nurses monitor for any side effects and enforce the need for home isolation. Every two weeks the PHNs collected samples for testing at the MDH Public Health Laboratory to make sure the medication was working and the patient was being cured. The TB Program also partners with LPH to contact health care providers once a month throughout treatment to document how the patient is responding to treatment.

To minimize the further spread of the disease, the PHNs screened persons who had close contact with this patient and arranged for them to be seen by local health care providers, as needed. When active TB was diagnosed in an infant and a young child in the home, Stearns County took over giving medications to all three patients. The youngest child started to spit out his medication, so our staff suggested that the PHNs contact nurses in another county for helpful tips on giving medications to children. The TB Program also provided the PHNs with educational materials in the patient’s primary language. This was used to enhance the teaching they did with a professional interpreter.

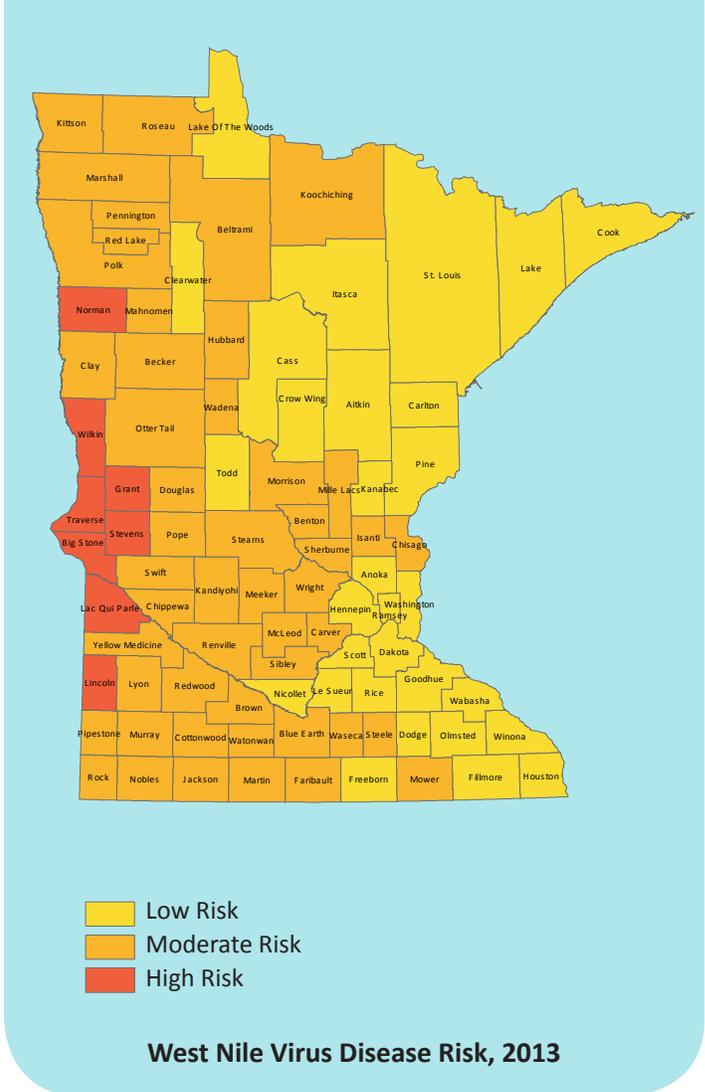
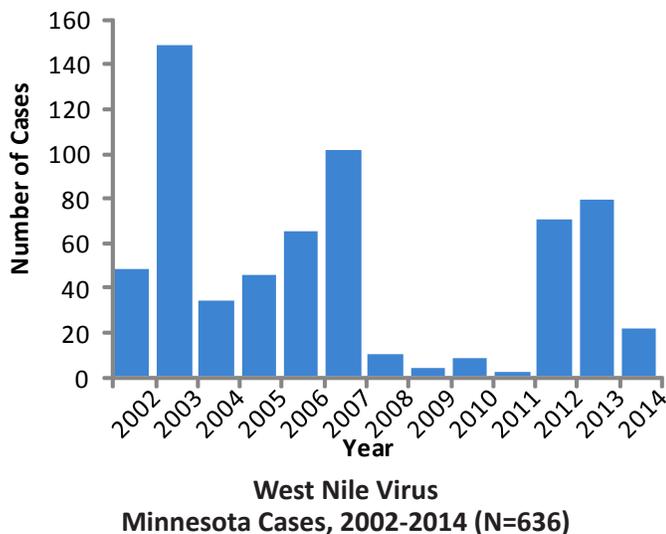
Cases like this highlight the important partnership between the TB Program and LPH to provide comprehensive nurse case management and contact investigation for people with TB.

West Nile Virus: An African Virus Doing Well in Minnesota

West Nile virus (WNV) serves as a good example of how easily diseases can move around the world. When WNV was first found in New York City in 1999, public health officials knew WNV was primarily found in Africa. We will never know exactly how the virus first got to the United States; possible scenarios include infected birds imported into the United States or flying to North America naturally, or even infected mosquitoes accidentally imported in planes or ships.

However it got here, WNV is now established in the lower 48 states and much of Canada. It circulates between birds and mosquitoes that feed on birds. Periodic outbreaks of this virus in humans have been reported in many states, including Minnesota, especially during years with warmer than normal summers. Warm temperatures help speed mosquito development and increase the rate at which the virus reproduces, resulting in more hatches of mosquitoes and more virus transmission. Fortunately, only a few of the 51 Minnesota mosquito species can transmit the virus. The primary carrier of WNV to humans is a mosquito (*Culex tarsalis*) commonly found in the agricultural regions of western and central Minnesota, so the risk of WNV-related illness is highest in these areas.

Fortunately, about 75 percent of people bitten by WNV-infected mosquitoes are able to fight off the virus without becoming ill. Others usually have a less severe form of the disease called West Nile fever. Unfortunately, some people, especially the elderly, can develop potentially life-threatening infections including encephalitis and/or meningitis. From 2002-2014, there have been 636 reported cases of WNV, and at least 19 Minnesotans have died from WNV-related illness since the virus was first found in Minnesota in 2002.



IDEPC staff monitor human WNV cases every year. We also work with the Metropolitan Mosquito Control District to monitor environmental and mosquito conditions and provide timely updates to health care providers and the public. A top priority for IDEPC is to educate the public about protecting themselves from mosquitoes even if they're only seeing a few flying around. WNV risk is typically highest from mid-July through August, and peak virus activity can vary depending on outdoor conditions. WNV risk is highest during dusk and dawn hours when mosquitoes are most active, so individuals should avoid outside activities during these times of day, wear long clothing to cover exposed skin, use insect repellents, and remove any standing water that mosquitoes could use as breeding habitats. With WNV now well established in Minnesota, we are committed to tracking cases and educating the public so they can safely enjoy their favorite summer outdoor activities—before the snow returns!

Vaccination as Cancer Prevention: HPV Vaccine Grant



→ vax4teens ←

Teens and pre-teens need vaccines, too! The HPV (human papillomavirus) vaccine is one of the vaccines they need. But results from the National Immunization Survey continue to show vaccination rates for HPV lag far behind rates for other vaccines adolescents should have.

The news of such low rates for a vaccine that protects against the virus that causes cervical cancer, and is also associated with anal, vaginal, vulvar, oral, and penile cancers, spurred the CDC to award grants to raise HPV vaccination rates. The Immunization Program was one of 11 sites awarded funds to be used during 2014 and early 2015.

One of the first issues to tackle was the public perception of HPV vaccination. The Immunization Program made a strategic decision to promote all of the vaccines recommended for 11-12 year olds—Tdap, meningococcal, and HPV. “We wanted to show parents that HPV is no different than the other vaccines their child needs,” said Stefani Kloiber, manager of the infectious disease’s communications section. “It’s just as important and is safe and effective.”

The communications campaign utilized an array of strategies to reach parents across Minnesota. It included advertisements at high school state tournaments, an information table at the Minnesota State Fair, and electronic messages at some metro-area high school sporting events. MDH also contracted with the Star Tribune, Weather Channel, and Facebook to place ads on their websites that were targeted to specific demographics and geographic areas—particularly Greater Minnesota. Diverse community newspapers ran ads in multiple languages to reach groups who don’t speak English. All of the campaign messages guided people to more information at www.vax4teens.com.

In an effort to specifically reach families with 11-12 year olds, a postcard about the immunizations pre-teens need was mailed to 120,000 Minnesota households. Addresses were gathered from the state’s immunization registry, which was updated before the mailing resulting in a return rate of less than 10 percent.

While public awareness is essential to improving rates, research also shows that a strong health care provider recommendation is vital to achieving higher vaccination rates. Part of the grant funds were dedicated to health care provider education. The Immunization Program contracted with a recently retired family physician to travel around Minnesota giving presentations to fellow physicians and developed an on-demand webcast presentation about adolescent immunization.

Just like parents sometimes see HPV as different from other vaccines, health care providers sometimes talk about HPV vaccine differently than they do other vaccines. To show health care providers that conversations about HPV vaccine don’t have to be difficult, the Immunization Program created a video showing various scenarios of a provider talking to a parent and/or teen about HPV vaccine and giving a strong recommendation. The video and other materials are available on a new provider-specific website about adolescent vaccination: www.wevaxteens.com.

These and other activities over the year-long grant resulted in millions of people having the opportunity to see the communications campaign and hundreds of health care providers benefiting from continuing education on HPV and other adolescent vaccines.

“The grant may be winding down, but our efforts to promote HPV vaccine will continue,” said Denise Dunn, immunization outreach supervisor. “The HPV vaccine does something really novel—it prevents cancer. We want to make sure all Minnesota parents, teens, and providers know about the benefits of this vaccine.”

Minnesota's Center of Excellence

Food should be enjoyed with family and friends. It should nourish us and give us the strength to do the things we love to do. Unfortunately, sometimes food can make us sick. That's when we rely on foodborne illness investigators to track down the source of foodborne disease outbreaks and stop them in their tracks.

MDH is widely recognized for having a world-class foodborne disease outbreak detection and investigation system. For decades we have been at the forefront of multiple successful multistate foodborne outbreak investigations. In recent years, some of these investigations have had a profound impact on food safety policy and regulation in this country.

For example, in 2008 we—along with the Minnesota Department of Agriculture (MDA)—played a key role in solving the national *Salmonella* Saintpaul outbreak associated with hot peppers that led to 1,442 illnesses. Early in 2009, MDH and MDA solved the large national *Salmonella* Typhimurium outbreak associated with peanut butter that resulted in 714 illnesses and nine deaths (including three in Minnesota).

These two outbreaks were key factors in the 2011 enactment of the Food Safety Modernization Act (FSMA), the most sweeping reform in food safety regulations in the United States in many decades. As a result, the CDC had to designate several Integrated Food Safety Centers of Excellence to help improve detection and investigation of foodborne disease outbreaks across the country. On Aug. 31, 2012, Minnesota was named one of five Integrated Food Safety Centers of Excellence and the work continues today.

The Minnesota Center is a collaboration between MDH and the University of Minnesota School of Public Health. The center's mission is to improve training, research, continuing education, and outreach related to food safety and the prevention of foodborne illness. In particular, we are working to identify and implement best practices in foodborne illness surveillance and outbreak investigation, and will serve as a resource for local, state, and federal public health professionals who respond to foodborne illness outbreaks. We have already traveled to several states and consulted with numerous other health departments with the goal of improving foodborne disease outbreak detection and response in the United States.

MINNESOTA INTEGRATED FOOD SAFETY CENTER OF EXCELLENCE
UNIVERSITY OF MINNESOTA • MINNESOTA DEPARTMENT OF HEALTH

<http://mnfoodsafetycoe.umn.edu/>

HOME MN SYSTEM TRAINING RESOURCES CONTACT

KEY POINTS

for Successful Foodborne Outbreak Detection and Investigation

RESOURCES

ABOUT US

TRAINING

KEY POINTS

We have created a series of brief summaries describing the key points for various foodborne outbreak detection and investigation topics. Current summaries include: 1) creating a successful foodborne illness complaint system; 2) investigating establishment sub-clusters; and 3) creating a team of student workers. More topics are being developed. Resources

[READ MORE](#)

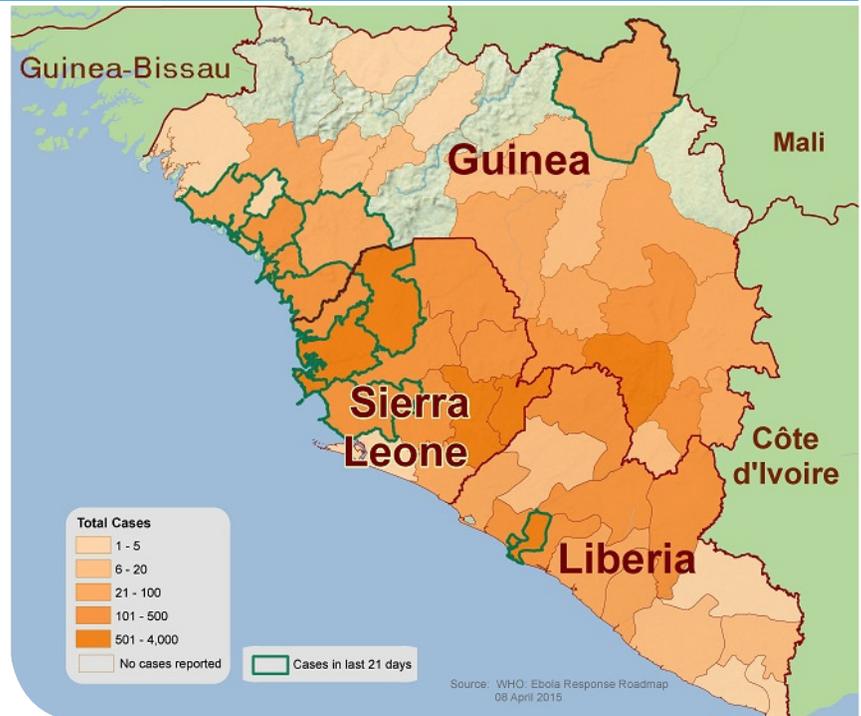
Ebola Preparedness and Response, 2014

In March 2014, the Guinea Ministry of Health notified the World Health Organization of an outbreak characterized by fever, diarrhea, and a high case fatality rate in rural forested areas. Cases quickly spread to the capital city and then to neighboring countries of Sierra Leone and Liberia. This was the beginning of the largest Ebola virus disease (EVD) outbreak in history with cases still continuing to this day. EVD had never been seen before in these countries and it was initially unrecognized. These countries are among the poorest in the world with very little health infrastructure, so the outbreaks spread out of control for a long time before international medical and public health response teams could arrive and assist.

IDEPC responded by advising health care providers to ask patients about recent travel to affected West African countries and exposures that might have occurred there. When two imported cases occurred in the United States, one in a returning traveler and one in a returning physician who had provided care to EVD patients, national and local efforts to protect U.S. citizens were greatly increased.

In October, the U.S. Department of Homeland Security routed air travelers from affected countries to one of five U.S. international airports. There, travelers are interviewed and evaluated for EVD exposures and symptoms, and are provided a kit to record their symptoms and temperature for 21 days (the likely maximum incubation period for EVD). On arrival in Minnesota, these travelers are monitored by telephone or occasionally via Skype for each of the 21 days by IDEPC or local health department staff. The information is sent to the CDC daily. Specific instructions are given to travelers depending on their EVD risk, with most persons falling into the “Low, but not Zero, Risk” category meaning they had no direct contact with EVD in the affected countries from which they came.

We continuously provided updated recommendations to clinics and hospitals on how to safely assess and care for someone who might have EVD or who is confirmed to have EVD. All health care facilities are expected to be able to assess patients for a travel and exposure history. For patients who have symptoms that might indicate EVD is developing, or for those travelers being monitored who develop symptoms, four Minnesota hospitals self-



identified to become Ebola Treatment Centers. Travelers who develop symptoms in the 21 days following their departure from the affected countries are assessed by our staff and directed to a health care facility, possibly including one of the four treatment centers. We assist the clinical teams at these hospitals to safely and accurately assess ill travelers including providing testing at the MDH Public Health Laboratory. Because early symptoms of EVD are non-specific and include fever, diarrhea, and vomiting, we have evaluated approximately 40 patients, some of whom were hospitalized for possible EVD (but to date, no EVD cases have occurred in Minnesota).

Due to the newness of EVD and its high case fatality rate, we provided information to and worked with many new partners including infection preventionists, the Minnesota Hospital Association and its members, medical examiners, clinical laboratories, schools, and aid organizations working in West Africa. Of particular importance was interacting with the Liberian community since Minnesota has one of the largest populations of Liberians outside of Liberia. This work required cultural competence and in some instances the capability of using multiple non-English languages.

EVD represents one more emerging disease in the last 25 years that demonstrates that the health problems in one part of the world can quickly affect the United States and Minnesota and thus there is an ongoing need for preparedness and response.

Creating Awareness About Minnesota's Silent Epidemic



Reportable sexually transmitted diseases (STDs) in Minnesota have reached epidemic levels, yet they remain silent among most persons' consciousness. Reportable STDs in Minnesota include chlamydia, gonorrhea and syphilis that collectively reached 23,133 cases in 2013.

"Untreated STDs can have serious health consequences," said Krissie Guerard, Manager, STD/HIV/TB Section.

Chlamydia and gonorrhea can lead to infertility in women and men and can be passed from an infected woman to her newborn children, causing premature delivery, infant pneumonia and blindness. Untreated gonorrhea can spread to organs and joints leading to life-threatening conditions. Untreated syphilis can cause blindness, mental illness, dementia, and death.

Testing, diagnosing and treating these diseases in their early stages will prevent long term health consequences and prevent their spread. "Since most STDs don't show symptoms, it's important for sexually active persons to get tested each year," said Guerard.

MDH data show higher infection rates for reportable STDs among communities of color and American Indians when compared to whites. "This is primarily due to the social and medical disadvantages they face," said Guerard. "Without access to health care and information, awareness and testing remain very low."

Creating awareness among Minnesota's most affected communities was the first key step in alerting people about the large numbers of STD cases being reported and the importance of getting tested to detect symptomless cases.

The most effective public health awareness campaigns are those that involve and are created with representatives of the affected communities. Through a competitive bidding process, KAT Communications was awarded a contract to develop and broadcast two culturally relevant and reflective 30-second television public service announcements (TV PSAs) on STDs:

- 1) One for exclusively reaching American Indian teens and young adults, primarily in rural settings; and,
- 2) Another that reaches a mixed racial and ethnic group of teens and young adults within urban settings.

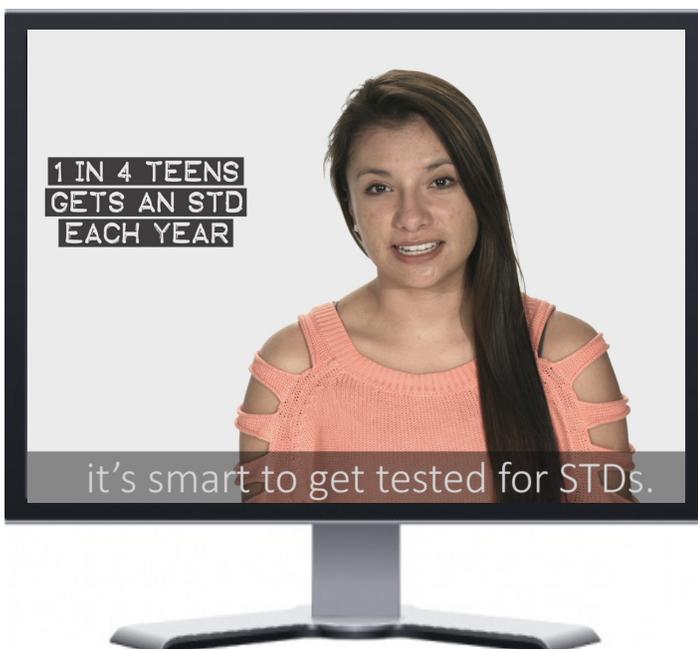
The initial script writing of the PSAs was done jointly by STD/HIV staff and KAT Communications. The final script editing was done by representatives of tribal health staff and metro-based STD clinics.

Recruiting a diverse group of teens and young adults was the biggest challenge to producing the PSAs. Getting all of the various races, ethnicities and genders represented also took some time. All of the recruits were excited about being a part of the PSAs and agreed with the importance of the campaign.

The TV PSAs were specifically formatted for use and placed on KAT Communications' GoodHealthTV™ - the first and only Native American Health Education Network that airs positive and culturally reflective programming in tribal and Indian Health Service (IHS) facilities. GoodHealthTV™ is currently in five Minnesota tribal locations.

Also, KAT Communications set-up two more GoodHealthTV™ locations in selected Twin Cities Metro area clinics that reached teens and young adults from the most affected communities.

The PSAs will be used throughout 2015 and will be evaluated based on the number of persons accessing STD testing services and information sought through the state's STD Hotline.



VISITING ANOTHER COUNTRY? PROTECT YOUR FAMILY.
THINK MEASLES.
 Measles is widespread in places like Europe, Africa, Asia, India, and the Philippines.

BEFORE YOU TRAVEL
 Tell your doctor where you are traveling. Babies and children may need measles vaccination at a younger age than usual.

AFTER YOU TRAVEL
 Call your doctor if anyone gets a fever and rash within 3 weeks of returning from your trip. Describe where you traveled.

Talk with your doctor if you are planning an international trip.
 For more information go to www.cdc.gov/travel.

MDH www.health.state.mn.us/immunize

My chickenpox vaccine protects my friend.

Some people can't get certain immunizations because of medical conditions or treatments that weaken the immune system, and some people just don't respond to a vaccine. Get immunized to help protect these people.

MDH www.health.state.mn.us/immunize

Refugee Health

Working to promote and enhance the health and well-being of refugees.

MDH DEPARTMENT OF HEALTH
health.state.mn.us/refugee

Chlamydia is not a flower

It's the most frequently reported infectious disease in Minnesota

More than 18,000 cases reported in 2012

Find out what you can do:
 Contact the Minnesota Chlamydia Partnership
www.mnchlamydiapartnership.org

Spray before you work or play

Prevent West Nile Virus Disease

- keep bug spray handy.
- Dusk and dawn are when the mosquitoes are out.
- Use mosquito repellents with up to 30% DEET.

MDH www.health.state.mn.us

Be A Germ-Buster
WASH YOUR HANDS

MDH www.health.state.mn.us

UNEXPLAINED Critical Illness or DEATH
 Possible Infectious Etiology REPORTABLE

All deaths and critical illnesses suspected of having infectious etiologies, but for which no cause has been determined after preliminary testing, are reportable to the Minnesota Department of Health.

To report a suspected case:
(651) 201-5414
 or
1-877-676-5414

MDH www.health.state.mn.us

Report title:
 2013-2014 Biennial Report: Infectious Disease Epidemiology, Prevention and Control Division, Minnesota Department of Health

Date: July 2015

For more information contact:
 IDEPC Division
 Minnesota Department of Health
www.health.state.mn.us/divs/idepc
 PO Box 64975
 St. Paul, MN 55164-0975
 Phone: 651-201-5414

