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IN THIS ISSUE

PROGRAM UPDATES

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BCD CASE REPORTING AND INVESTIGATION PROTOCOLS (EPINETS) REVISED

As part of the accreditation process, all of the Bureau of Communicable Diseases (BCD) EpiNets have been reviewed and updated. Some case definitions have also been updated. Please view the BCD website to view updated EpiNets.

ONGOING OUTBREAK INVESTIGATIONS:

Check out the DHS website for up-to-date information: Multidrug-Resistant *Campylobacter* Infections, *Salmonella* Heidelberg, and Zika virus.

NEW EDUCATIONAL MATERIALS:

Please see our new flyers that have recently been developed: Undetectable HIV Infographic and Rotavirus Fact Sheet.

COMMUNICABLE DISEASE UPDATE WEBINAR SERIES:

There has been a schedule change for the Communicable Disease Update Webinar Series. It is now held on the **second Tuesday** of every month from 1-2 p.m. The link to join the webinar is the same every month: https://connect.wisconsin.gov/monthly-webinar-series/**.** No registration is necessary.

Strengthening U.S. Response to Resistant Gonorrhea (SURRG) Program

By: Lori Amsterdam, Epidemiology Coordinator, STD Control Section

The Wisconsin Department of Health Services (DHS) Sexually Transmitted Diseases (STD) Control Section and the City of Milwaukee Health Department (MHD) were one of nine national sites to be funded in 2016 for Strengthening U.S. Response to Resistant Gonorrhea (SURRG) Program activities under the Epidemiology and Laboratory Capacity (ELC) grant. The goal of SURRG is to develop the public health capacity urgently needed at the state and local level to mitigate the spread of resistant *Neisseria gonorrhoeae* (GC) through timely detection of and rapid response to GC and emerging resistant GC threats.

N. gonorrhoeae is the second most commonly reported infection in the U.S. and in Wisconsin, with an annual average of 5,006 cases of GC reported in Wisconsin from 2012-2016. In the second half of 2015, the rate of GC infection in Milwaukee County, from which 68% of all Wisconsin cases were reported, increased by 65%. This places Milwaukee in the top five of the highest reported GC case rates among counties or independent cities in the U.S. The trend continued in 2016, with a 75% increase in reported GC cases in MCTY through the first quarter of 2016.

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Untreated GC can lead to pelvic inflammatory disease (PID), ectopic pregnancy and infertility in women, blindness in neonates, epididymitis in men, serious disseminated infection in both females and males, and can facilitate HIV acquisition and transmission. Timely and effective treatment for GC prevents these severe adverse health outcomes and additional transmission in the community. However, over the course of the past 70, years *N. gonorrhoeae* has progressively acquired resistance to each of the

antimicrobial agents that have been recommended for treatment.

SURRG strategies employed to address increasing antibiotic resistant GC (ARGC) include modernization of antibiotic susceptibility test (AST) methods, including the Etest method. As a SURRG site, the Milwaukee Health Department Laboratory (MHDL) is using the new Etest method. This enables rapid detection and reporting of ARGC to clinicians and field epidemiologists, leading to more effective target treatment, as well as behavioral and social interventions.

As of April 2017, the MHDL has identified six cases of ARGC with reduced susceptibility to azithromycin using this method of detection. Azithromycin is one of two remaining antibiotics currently used to treat GC with the CDC recommended dual treatment regimen. Prior to 2017, the MHDL found only one case of azithromycin ARGC during the five-year period spanning 2012-2016. Additional improvements in 2017 enhanced rapid dissemination of ARGC Etest results to clinicians and field investigators. These improvements included implementation of electronic upgrades to reporting systems in the MHDL laboratory, enhanced methods for streamlining data entry, and reporting of clinical and field investigation results of patients and partners identified to have ARGC.

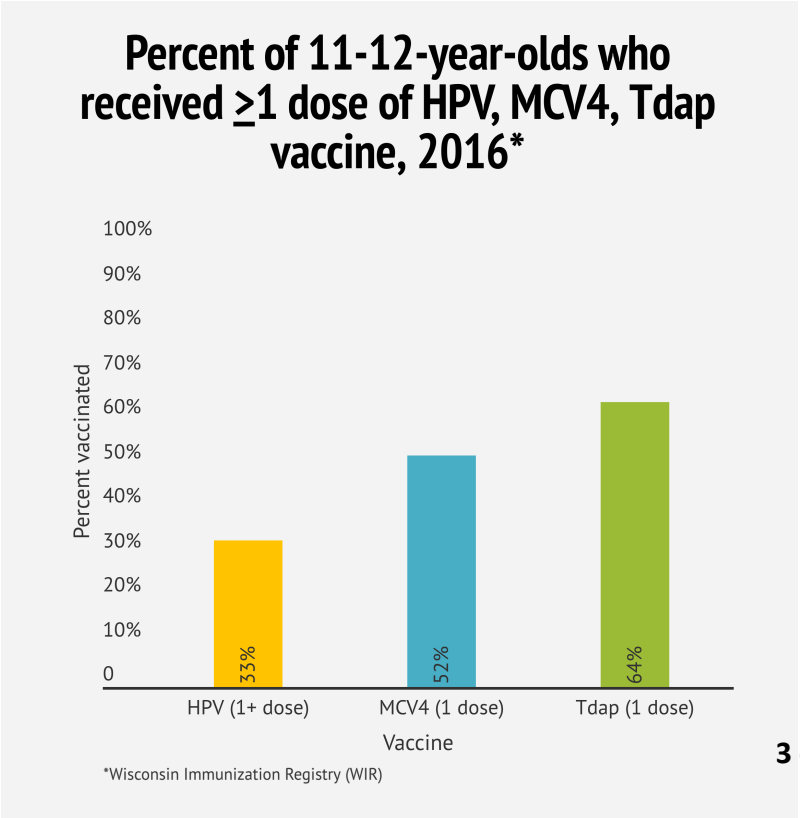
Cervical Health Awareness and the HPV Vaccine

By: Elise Balzer, CDC Public Health Advisor, Immunization Program

One of the best tools to help prevent cancer and pre-cancers is the human papillomavirus (HPV) vaccine. The vaccine not only prevents cancer, but a variety of other negative health outcomes caused by the HPV virus.[1]

The follow-up for abnormal cervical cancer screening test often involves invasive and sometimes painful medical procedures that can have long-term sequelae that may affect a woman's physical or psychological well-being.[2] Often the most devastating consequence of these treatments is infertility or difficulty carrying a pregnancy to term.[3] While these problems don't often become apparent until later in life, many can be prevented by patients receiving the HPV vaccine at 11 to 12 years of age.

In Wisconsin, there is room to improve HPV vaccine coverage. HPV vaccine levels for both boys and girls are much lower (33%) than that of single-dose coverage for other vaccines administered at this age, such as meningococcal conjugate (52%) or the tetanus, diphtheria, and pertussis (Tdap) vaccine (64%) (see chart below).



To increase HPV vaccine series initiation, providers can give a strong recommendation to both boys and girls for the 11 and 12-year-old platform. Providers can try saying, "Today Amy is 11 years old and is due for her Tdap vaccine; to protect against tetanus, diphtheria, and whooping-cough; HPV vaccine to protect against certain cancers; and MCV4 vaccine to protect against meningococcal disease." Additional information about giving a strong recommendation and answers to frequently asked questions can be found on the Centers for Disease Control and Prevention's HPV website.

Health care providers should focus on ensuring that patients are fully protected by completing the vaccine series. Some successful strategies include scheduling the visit prior to leaving the clinic, sending reminders to patients, and offering walk-in or extended-hour clinics for immunization services.[4] If you are looking for office items such as posters, brochures, and other resources, please visit the Wisconsin Academy of Pediatrics website.

Health care providers have the unique opportunity to provide the HPV vaccine series to today's 11 and 12-year-olds, which can help ensure a future without cervical pre-cancers and cancers.

Resources:

1. Food and Drug Administration, 2016. "Prescribing information [Package insert]. Gardasil 9 [Human Papillomavirus 9-valent Vaccine, Recombinant]" Merck & Co., Inc. Silver Spring, MD: U.S. Department of Health and Human Services, Food and Drug Administration, Accessed from: https://www.fda.gov/downloads/%20BiologicsBloodVaccines/Vaccines/ApprovedProducts/UCM426457.pdf

2. Maissie, E., Marteau, M.T., Hankins, M. (2014), Psychological impact of human papillomavirus testing in women with borderline or mildly dyskaryotic cervical smear test results: cross sectional questionnaire study, *International Journal of Obstetrics and Gynecology*, Volume 111, Pages 1437-1443. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC420171/

3. Centers for Disease Control and Prevention, 2015. "Human Papillomavirus (HPV) Infection." Accessed from: https://www.cdc.gov/std/tg2015/hpv.htm

4. The Community Guide, 2016. "Increasing Appropriate Vaccination: A community Guide Systematic Economic Review." Accessed from http://www.thecommunityguide.org/vaccines/universally/index.html

Studies Confirm People Living With HIV Who Have Undetectable Viral Loads Do Not Transmit HIV To Partners Sexually

By: Jacob Dougherty, HIV Prevention Coordinator, AIDS/HIV Program

In 2016, Prevention Access Campaign released a consensus statement based on several groundbreaking studies indicating that people living with HIV who achieve and maintain an undetectable viral load do not transmit HIV to partners sexually. The Centers for Disease Control and Prevention (CDC) and National Institutes of Health (NIH) endorsed the science behind the consensus statement in late 2017. Sexual transmission of HIV is the main mode of transmission from a person living with HIV to a person who is HIV-negative, so this finding has the potential to make a major impact on HIV prevention efforts around the world.

HIV treatment involves taking medicines that greatly lower the amount of virus in a person's body by not allowing the virus to duplicate and keeping the immune system healthier. The combination of antiretroviral medication used to treat HIV is referred to as antiretroviral therapy (ART). ART is recommended for everyone living with HIV, and people living with HIV should start ART as soon as possible after an HIV diagnosis. Viral suppression refers to ART suppressing the HIV viral load, or the amount of HIV virus in a person's body, to 200 copies of the virus/mL or less on standard laboratory tests. Undetectable refers to ART suppressing the amount of HIV in the blood of an HIV-positive person to a level that it is no longer detectable by standard laboratory tests, usually less than 40 copies of the virus/mL. Often "virally suppressed" and "undetectable" are used interchangeably, as they both refer to lowering the amount of virus in a person's blood to levels that improve a person's health and ultimately eliminate the risk of HIV transmission to a partner sexually.

Having an undetectable viral load encourages people living with HIV to start and stay on treatment to help keep them and their partners healthy.

Based on 2016 surveillance data, 64% of people living with HIV in Wisconsin have achieved viral suppression. This includes individuals who we know to be living with HIV whose last viral load test was prior to 2016 or who did not have a viral load test. However, of individuals who had a viral load test during 2016, 91% were suppressed at their last viral load test. This suggests that most individuals receiving some medical care are achieving viral suppression. This also stresses the importance of linking newly diagnosed individuals into care and getting those individuals started on ART as quickly as possible to help them achieve viral suppression.

The message that having an undetectable viral load eliminates the risk of transmitting HIV to partners sexually has special significance for people living with HIV and their partners. It reduces the shame and fear of sexual transmission for people living with HIV and opens up possibilities for conceiving children without alternative means of insemination. It dismantles HIV stigma on the community, clinical, and personal levels. It encourages people living with HIV to start and stay on treatment to help keep them and their partners healthy and it strengthens advocacy efforts for universal access to HIV testing, treatment, and care.

The Wisconsin AIDS/HIV program acknowledges this significant scientific finding and encourages wide dissemination of the message that people living with HIV who have undetectable viral loads do not transmit HIV to their partners sexually. For more information, please see the HIV Program Notes on this topic.

Communicable Disease Case Counts

This report contains a selection of reportable conditions with inclusion based on public health significance and frequency of occurrence. The case counts reflect confirmed and probable cases, for all process statuses. These numbers are not final and are subject to change as confirmatory testing and case follow-up are completed.

***Quarterly and 2017 YTD case counts should not be considered final and are subject to change.**

Disease	2016 Case Counts	2017 Case Counts				
	Total	Q1	Q2	Q3	Q4	2017 YTD
Enteric/ Gastrointestinal (also includes suspect cases)						
Campylobacteriosis	1,730	274	457	560	322	1,613
Cryptosporidiosis	881	90	136	299	140	665
Cyclosporiasis	5	2	8	10	3	23
E. coli, Shiga toxin-producing (STEC)	416	33	70	143	51	297
Giardiasis	824	84	99	324	115	622
Hemolytic uremic syndrome	8	0	4	7	2	13
Listeriosis	16	1	2	3	3	9
Salmonellosis	946	190	250	385	167	992
Shigellosis	770	132	62	53	15	262
Typhoid fever	9	1	1	0	1	3
Vibriosis (non-cholera)	11	10	6	11	4	31
Yersiniosis	42	9	11	11	5	36
Invasive Bacteria						
Group A Streptococcal disease	208	98	91	48	43	280
Group B Streptococcal disease	546	112	130	141	132	515
Mycotic						
Blastomycosis	123	26	22	23	5	76
Coccidioidomycosis	15	2	3	3	2	10
Histoplasmosis	16	4	3	6	4	17
Respiratory						
Please refer to the weekly respiratory virus surveillance report: https://www.dhs.wisconsin.gov/influenza/weekly-influenza-report.pdf						
Influenza-associated hospitalizations	2,017	3,190	488	18	722	4,418
Influenza, novel	1	0	0	0	1	1
Legionellosis	116	23	43	80	27	173
Tuberculosis	40	12	14	12	12	50
Sexually Transmitted						
Chlamydia trachomatis	27,080	7,171	6,619	7,126	6,512	27,428
Gonorrhea	6,548	1,762	1,752	2,029	2,048	7,591
HIV	222	72	52	69	52	245
Syphilis (all stages)	426	138	140	135	72	485
Vaccine Preventable						
Diphtheria	0	0	0	0	0	0
Haemophilus influenzae invasive disease	127	31	27	21	34	113
Hepatitis B, acute (confirmed cases only)	9	6	8	4	1	19
Hepatitis B, perinatal	1	0	0	0	0	0

Communicable Disease Case Counts (cont.)

Disease	2016 Case Counts	2017 Case Counts				
	Total	Q1	Q2	Q3	Q4	2017 YTD
Vaccine Preventable (continued)						
Measles (rubeola)	0	0	0	0	0	0
Meningococcal disease	6	3	0	0	1	4
Mumps	48	30	11	3	3	47
Pertussis (whooping cough)	1,452	166	224	123	161	674
Poliomyelitis	0	0	0	0	0	0
Rubella	0	0	0	0	0	0
Streptococcus pneumoniae invasive disease	422	188	124	59	104	475
Tetanus	0	0	0	0	1	1
Varicella (chickenpox)	392	57	69	58	92	276
Vectorborne						
Babesiosis	68	4	22	55	4	85
Ehrlichiosis/ Anaplasmosis	699	11	405	326	60	802
Jamestown Canyon virus infection	7	1	12	32	0	45
La Crosse virus infection	4	0	0	0	0	0
Lyme disease	2,318	121	967	1,363	207	2,658
Malaria[1]	20	3	1	3	0	7
Powassan virus infection	5	0	1	1	0	2
Rocky Mountain spotted fever	19	0	7	11	1	19
West Nile virus infection	13	0	2	46	0	48
Yellow fever[1]	0	0	0	0	0	0
Zika virus infection[1,2]	62	3	1	5	1	10
Zoonotic						
Brucellosis	3	0	1	1	0	2
Hantavirus infection	0	3	0	0	0	3
Leptospirosis	1	0	0	1	1	2
Psittacosis	0	0	0	0	0	0
Q Fever	7	1	4	1	0	6
Rabies (human)	0	0	0	0	0	0
Toxoplasmosis	2	2	2	2	10	16
Transmissible spongiform encephalopathy (human)	10	3	6	7	0	16
Tularemia	1	0	0	0	0	0
Other						
Hepatitis A	7	2	3	7	3	15
Hepatitis C, acute	104	6	23	9	4	42
Hepatitis E, acute	5	0	0	0	1	1
Kawasaki disease	10	6	3	4	5	18
Lymphocytic choriomeningitis virus infection	1	0	0	0	0	0

[1] Denotes diseases where all cases in Wisconsin residents are travel-associated. No local transmission occurs.
[2] Due to enhanced surveillance, asymptomatic confirmed cases are included.