

**Monthly Highlight: Disseminated Gonococcal Infections (DGI) – Increase in Cases**

On February 18, 2020, the Ohio Department of Health (ODH) issued a Health Alert (HAN) identifying an observed increase in cases of disseminated gonococcal infection (DGI) in Ohio. Specifically in 2019, 34 confirmed cases of DGI were reported from 14 counties in Ohio, compared to a total of 74 confirmed cases during the previous 5 years. Although this represents less than 1.0% of all *N. gonorrhoeae* infections reported in Ohio in 2019, it does reflect the largest single year of DGI cases reported. DGI occurs when the sexually transmitted pathogen *N. gonorrhoeae* invades the bloodstream and spreads to distant sites in the body, leading to clinical findings such as septic arthritis, polyarthralgia, tenosynovitis, petechial/pustular skin lesions, bacteremia, or, on rare occasions, endocarditis or meningitis. Cultures from disseminated sites of infection are often negative and mucosal sites of infection (e.g. urogenital, rectal, or pharyngeal) are often asymptomatic and not tested before empiric antimicrobial treatment is started despite having a higher diagnostic yield. As a result, DGI is usually a clinical diagnosis without microbiologic confirmation, which likely contributes to underdiagnosis and treatment delays. CDC is currently working with public health officials in Michigan to investigate a cluster of DGI cases where most individuals have reported drug use, including amphetamines and/or injection of opioids.



ODH and local public health are asking health care providers to consider DGI in their differential diagnosis of patient/client populations presenting with the previously mentioned clinical sequelae, and to take the following action steps to assist in the identification and treatment of DGI:

- If there is clinical suspicion for DGI, NAAT and culture specimens from urogenital and extragenital site(s), as applicable, should be collected and processed, in addition to NAAT and culture specimens from disseminated sites of infection.
- If DGI cultured isolates are available, CDC recommends antimicrobial susceptibility testing (AST) be performed. ODH will work with health care providers who do not have access to AST for *N. gonorrhoeae* to coordinate shipment of cultured DGI isolates to the ODH Public Health Laboratory for testing at CDC.
- Management of DGI should be guided by the [CDC STD Treatment Guidelines](#). Hospitalization and consultation with an infectious disease specialist are recommended for initial therapy. Clinical consultation for DGI management is available through the [STD Clinical Consultation Network](#). Appropriately treating patients and their sex partners is necessary to interrupt disease transmission.
- Health care providers should instruct patients to refer individuals with whom they have had sex or shared needles in the past 60 days for evaluation, testing, and presumptive treatment for *N. gonorrhoeae*.

For reporting detail, please reference the ODH HAN from 2/18/2020 or the Stark County Health Alert from 2/20/2020. The [DGI Case Report Form](#) is used to report all laboratory confirmed and clinically suspected cases of DGI.

**Table 1 Summary of Air Quality Index, Pollen, and Mold Counts for Stark County, Ohio, including historical data.**

	Jan 2020				Feb 2019			
	Monthly High	Monthly Low	Monthly Median	Counts in highest reported health risk category	Monthly High	Monthly Low	Monthly Median	Counts in highest reported health risk category
Pollen Count	Data collected seasonally and currently not available				Data collected seasonally and currently not available			
Mold Count	Data collected seasonally and currently not available				Data collected seasonally and currently not available			
Air Quality Index	65	14	35	(5) Moderate	64	17	38	(7) Moderate

\*\*See the following websites for updated Air Quality Index and mold index terminology and color coding: <http://www.airnow.gov/index.cfm?action=aqibasics.aqi> [https://pollen.aaaai.org/nab/index.cfm?p=reading\\_charts](https://pollen.aaaai.org/nab/index.cfm?p=reading_charts). Data source for this table is the Air Quality Division of Canton City Public Health

**Table 2 Select Vital Statistics for Stark County**

	Jan 2020	YTD 2020	2019
Live Births	313	313	4094
Births to Teens	22	22	266
Deaths	382	382	4482

**Table 3 Stark County Crude Birth Rate and Death Rates**

	2015	2016	2017	2018	2019
Birth	11.2	11.3	10.7	10.9	10.8
Death	11.6	11.7	11.9	11.9	11.8

\*Source: Ohio Department of Health Data Warehouse. Rates are per 1,000 population.

Table 4: Jurisdictional Summary of Reportable Diseases in Stark County, OH (Provisional Data)	Alliance City		Canton City		Massillon City		Stark County		All Departments	
	Jan	YTD	Jan	YTD	Jan	YTD	Jan	YTD	Jan	YTD
Campylobacteriosis	0	0	1	1	0	0	2	2	3	3
Chlamydia infection	9	9	87	87	17	17	71	71	184	184
CP-CRE	0	0	2	2	0	0	1	1	3	3
Cryptosporidiosis	0	0	0	0	0	0	2	2	2	2
E. coli, Shiga Toxin-Producing	0	0	0	0	1	1	0	0	1	1
Giardiasis	1	1	0	0	0	0	0	0	1	1
Gonococcal infection	1	1	41	41	3	3	11	11	56	56
Hepatitis B - Perinatal Infection	0	0	0	0	0	0	1	1	1	1
Hepatitis B (including delta) - acute	0	0	0	0	1	1	1	1	2	2
Hepatitis B (including delta) - chronic	3	3	4	4	0	0	1	1	8	8
Hepatitis C - acute	1	1	0	0	0	0	2	2	3	3
Hepatitis C - chronic	4	4	11	11	1	1	12	12	28	28
Influenza - ODH Lab Results	0	0	0	0	1	1	0	0	1	1
Influenza-associated hospitalization	6	6	33	33	11	11	55	55	105	105
Legionellosis	0	0	1	1	0	0	1	1	2	2
Lyme Disease	0	0	0	0	0	0	1	1	1	1
Measles - indigenous to Ohio	0	0	0	0	0	0	0	0	0	0
Meningitis - aseptic/viral	0	0	1	1	0	0	1	1	2	2
Pertussis	0	0	0	0	0	0	1	1	1	1
Shigellosis	0	0	0	0	0	0	1	1	1	1
Streptococcus pneumoniae - invasive antibiotic resistance unknown or non-resistant	0	0	4	4	0	0	2	2	6	6
Streptococcus pneumoniae - invasive antibiotic resistant/intermediate	0	0	1	1	0	0	0	0	1	1
Syphilis, Total	0	0	2	2	2	2	1	1	5	5
➤ Syphilis, Primary, Secondary and Early Latent	0	0	2	2	0	0	0	0	2	2
Varicella	1	1	0	0	0	0	0	0	1	1
Yersiniosis	0	0	0	0	0	0	1	1	1	1
<b>Total</b>	<b>26</b>	<b>26</b>	<b>190</b>	<b>190</b>	<b>37</b>	<b>37</b>	<b>169</b>	<b>169</b>	<b>422</b>	<b>422</b>

Source: Ohio Disease Reporting System, downloaded 02/13/2020



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<b>Table 5 – Summary Table of Diseases Reported in the Previous 5 years within Stark County (Provisional Data)</b>	Jan-20	Jan-19	YTD 2020	YTD 2019	All of 2019	5 Yr Annual Average	Rate
Amebiasis	0	0	0	0	0	0.4	0.107
Anaplasmosis	0	0	0	0	0	0.6	0.161
Babesiosis	0	0	0	0	1	1.0	0.268
Brucellosis	0	0	0	0	0	0.2	0.054
Campylobacteriosis	3	5	3	5	90	80.8	21.663
Chlamydia	184	159	184	159	1840	1782.0	477.772
CP-CRE	3	0	3	0	22	23.0	6.167
Coccidioidomycosis	0	0	0	0	0	0.2	0.054
Creutzfeldt-Jakob Disease	0	2	0	2	2	1.6	0.429
Cryptosporidiosis	2	4	2	4	43	36.6	9.813
Cyclosporiasis	0	0	0	0	4	3.8	1.019
E. coli, Shiga Toxin-Producing	1	1	1	1	14	15.2	4.075
Giardiasis	1	4	1	4	23	23.4	6.274
Gonorrhea	56	42	56	42	552	585.2	156.898
Haemophilus influenzae , Invasive	0	1	0	1	6	6.4	1.716
Hemolytic Uremic Syndrome (HUS)	0	0	0	0	1	0.2	0.054
Hepatitis A	0	0	0	0	22	10.2	2.735
Hepatitis B, Perinatal	1	0	1	0	1	1.8	0.483
Hepatitis B, Acute	2	0	2	0	8	7.2	1.930
Hepatitis B, Chronic	8	4	8	4	69	63.4	16.998
Hepatitis C, Acute	3	0	3	0	3	6.2	1.662
Hepatitis C, Chronic	28	33	28	33	322	325.2	87.189
Hepatitis C - Perinatal Infection	0	0	0	0	2	3.0	0.804
Hepatitis E	0	0	0	0	2	0.6	0.161
Influenza-associated hospitalization	105	43	105	43	442	386.0	103.491
LaCrosse virus disease	0	0	0	0	0	1.0	0.268
Legionellosis	2	0	2	0	23	21.4	5.738
Listeriosis	0	0	0	0	2	1.2	0.322
Lyme Disease	1	2	1	2	51	32.4	8.687
Malaria	0	0	0	0	0	0.2	0.054
Measles - imported from outside Ohio	0	0	0	0	1	0.2	0.054
Measles (indigenous to Ohio)	0	0	0	0	0	0.2	0.054
Meningitis, Aseptic	2	0	2	0	18	33.4	8.955
Meningitis, Other Bacterial	0	0	0	0	1	3.2	0.858
Meningococcal Disease	0	0	0	0	0	0.6	0.161
Mumps	0	0	0	0	3	2.8	0.751
Psittacosis	0	0	0	0	1	*1.0	*0.268
Pertussis	1	18	1	18	42	42.6	11.421
Q fever, chronic	0	0	0	0	0	0.2	0.054
Salmonellosis	0	3	0	3	45	49.2	13.191
Shigellosis	1	3	1	3	24	17.2	4.611
Spotted Fever Rickettsiosis	0	0	0	0	1	2.4	0.643
Staphylococcal aureus - intermediate resistance to vancomycin (VISA)	0	0	0	0	0	0.2	0.054
Streptococcal Dis, Group A, Invasive	0	2	0	2	15	16.2	4.343
Streptococcal Dis, Group B, in Newborn	0	0	0	0	1	1.6	0.429
Streptococcal Toxic Shock Syndrome	0	0	0	0	0	0.4	0.107
Streptococcus pneumoniae - inv antibiotic resistance unknown or non-resistant	6	1	6	1	24	30.0	8.043
Streptococcus pneumo - inv antibiotic resistant/intermediate	1	2	1	2	11	13.8	3.700
Syphilis, Total	5	1	5	1	36	25.2	6.756
Syphilis, Primary, Secondary and Early Latent	2	1	2	1	27	15.8	4.236
Toxic Shock Syndrome (TSS)	0	0	0	0	0	0.2	0.054
Tuberculosis	0	1	0	1	2	2.6	0.697
Varicella	1	3	1	3	26	24.6	6.596
Vibriosis - other (not cholera)	0	1	0	1	3	2.6	0.697
West Nile Virus	0	0	0	0	0	2.0	0.536
Yersiniosis	1	1	1	1	6	7.0	1.877
Zika virus infection	0	0	0	0	0	1.0	0.268

Source: Ohio Disease Reporting System, downloaded 02/13/2020. Rates are per 100K population and based on 5 yr average incidence '15 – '19. \*Due to Psittacosis being reportable in 2019, rate and 5 year annual average are based on 1 year.