Chlamydia Diagnoses among Adolescents in New York State School Districts, excluding New York City, 2018-2020

Office of Sexual Health and Epidemiology
AIDS Institute
New York State Department of Health (NYSDOH)

Chlamydia Diagnoses in New York State* School Districts

Introduction

Chlamydia is a sexually transmitted infection (STI) caused by the bacterium Chlamydia trachomatis. It is the most common notifiable infection in the United States. Transmission occurs through condomless vaginal, oral, and anal sex. Chlamydia is known as a "silent infection" because most people who are infected have no outward symptoms. Untreated chlamydial infections may lead to pelvic inflammatory disease (PID) in females. PID can cause scar tissue and abscesses to form, increasing the risk of infertility, miscarriage, and ectopic pregnancy. Chlamydia can also increase the likelihood of contracting other STIs, including HIV.

Chlamydia rates are highest among sexually active young people, with nearly two-thirds of new chlamydia infections occurring among youth aged 15-24 years. This is due to a variety of factors including condom use patterns, increased susceptibility to cervical infection in young women, and low rates of screening in this age group.

The following maps provide a comparative view of chlamydia diagnoses in school districts, among adolescents aged 10-19 years, relative to reported chlamydia diagnoses in New York State, excluding New York City, during 2018 to 2020.

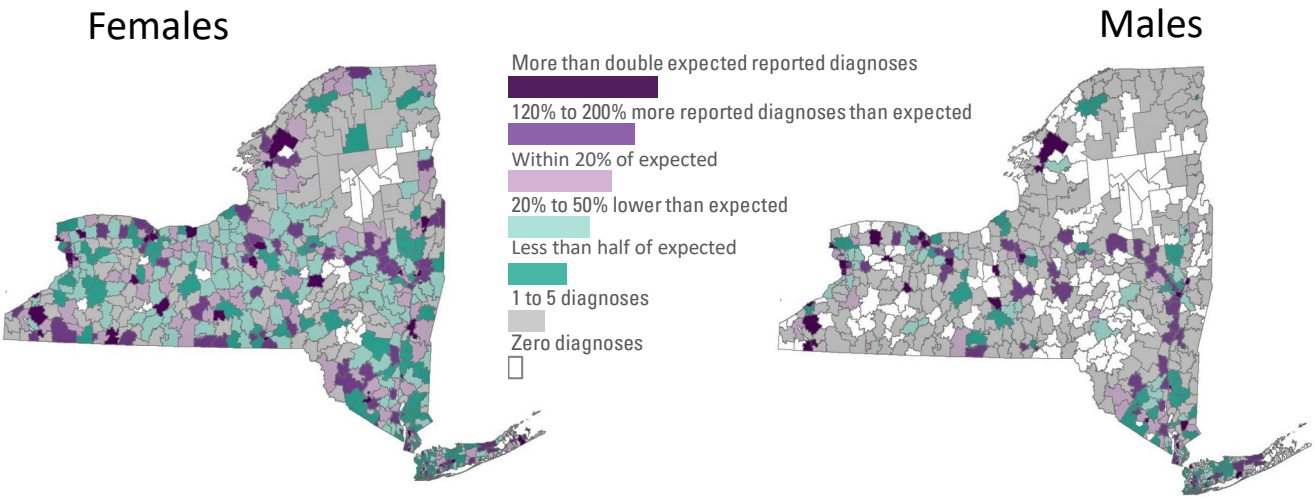
Summary of Findings

Chlamydia diagnoses among adolescents aged 10-19 from 2018 to 2020 vary by school district across New York State. School districts with higher-than-expected diagnoses may reflect better screening, rather than higher morbidity. As chlamydia infections are often asymptomatic, detection frequently relies on screening. Data on screening are not readily available, and thus are not included in this report. Therefore, while this methodology provides one mechanism to examine the burden of chlamydia among adolescents, other measures should be incorporated when determining the most appropriate public health response (for example, the New York State Community Health Indicators Reports, and the New York State Prevention Agenda).

This report combines diagnoses among males and females. The CDC recommends screening sexually active females under the age of 25; however, no similar screening recommendation exists for males though screening should be considered among sexually active young males (including men who have sex with men) in high prevalence clinical settings adolescent clinics, correctional facilities, and STI/sexual health clinics. The methodology utilized in this report was applied to sex-specific data to develop the maps below. The sex-specific maps differ from each other, and from the overall map highlighted on page 4. As interventions *may* differ by sex, these maps can additionally be utilized to inform public health programming, intervention(s), and policy.

The COVID-19 pandemic wave first began in 2020, causing disruption to sexual health services in New York State (Joshi et al., 2021) resulting in a 14.8% decline in chlamydia diagnoses in New York counties outside of New York City (13% decline in females and 18% among males). While that decline in 2020 might have impacted some of the data presented here, in aggregate, there was little change from the prior version of this report i.e., regions that have traditionally reported high disease burden continue to show that burden in this report. The true impact of the pandemic on chlamydia diagnoses will be known in the subsequent years. Future reports outlining the impact will reflect as such.

Ratio of observed to expected chlamydia diagnoses in New York State school districts, excluding New York City, aged 10 to 19 years, 2018-2020, by sex:



*Excludes New York City

Methods

All new chlamydia diagnoses between 2018 and 2020 in persons aged 10 to 19 who lived in New York State* were included in this report. New chlamydia diagnoses were reported by laboratories and health care providers to the New York State Department of Health (NYSDOH), as required by public health law. The street address of the individual was used to determine the school district to which each individual was assigned, by comparing the geographic coordinates of the street address to the maps of the specific school districts. **As a result, the school district was determined based on the residence of the individual, not actual school attendance**. The geographic boundaries of all Unified School Districts and Secondary School Districts for the 2019-2020 school year were obtained from the National Center for Education Statistics and US Census Bureau. These geographic areas are updated annually based on information provided by the State Education Department. Individuals for whom the geographic coordinates were unknown were assigned to school districts based on other factors, such as zip code.

The number of residents aged 10 to 19 years living within the boundaries of each school district between 2015 and 2019 were collected from the National Center for Education Statistics and US Census Bureau. These population data relate to the residents of the geographic area, regardless of actual school attendance. For example, individuals who are 19 years of age are included even if they have already graduated from high school.

The number of expected chlamydia diagnoses in each school district was calculated based on the number of individuals aged 10 to 19 years that live in the school district, and the proportion of all individuals aged 10 to 19 in New York who are diagnosed with chlamydia per year. The proportion of all individuals aged 10 to 19 in New York State* who were diagnosed with chlamydia per year was the incidence rate. The incidence rate multiplied by the relevant population of the school district provided the number of expected chlamydia diagnoses. Since the incidence rate of chlamydia varies by age, this calculation was done separately for the age groups 10-14, 15-17, and 18-19 years, then the expected number in each of these age groups was combined to determine the total expected number of cases.

The maps and chart compare the actual number of individuals aged 10 to 19 years who were diagnosed with chlamydia in the school district (observed) relative to the number expected. The observed number is divided by the expected number, then multiplied by 100, to develop a percentage ratio of the observed to expected chlamydia diagnoses. A ratio with a value under 100% indicates there were fewer individuals diagnosed with chlamydia than expected when compared to the state rate. A ratio greater than 100% indicates more diagnoses.

The number of observed and expected diagnoses is not provided for geographic areas with fewer than six reported chlamydia diagnoses from 2018-2020.

Limitations

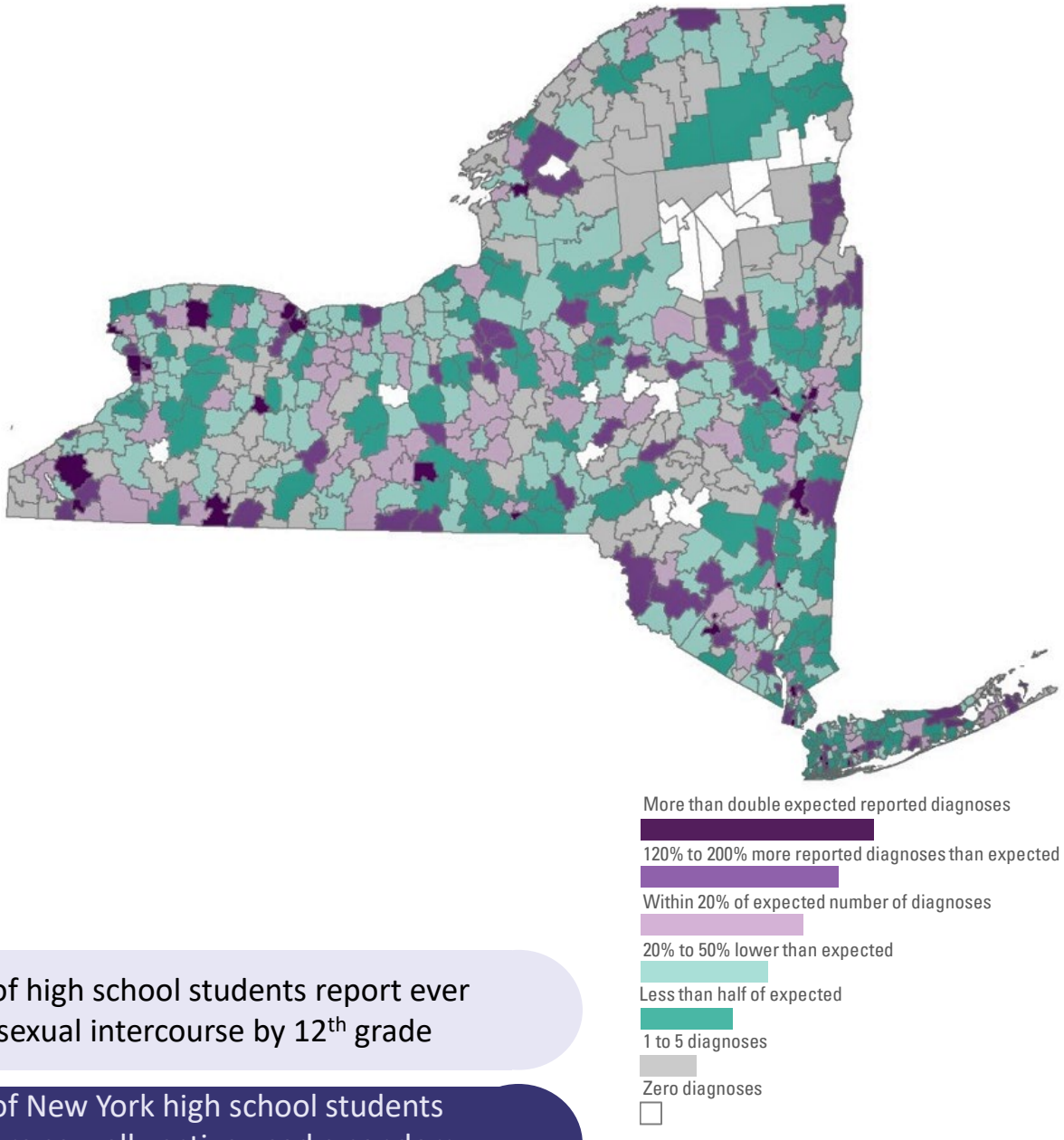
These analyses rely on diagnoses reported to NYSDOH, primarily via mandated the electronic laboratory reporting system. Data on persons by sex assigned at birth is displayed in this report because the data reported to surveillance is always complete for this variable as versus current gender identity which is not always consistently reported (and hence likely to be missing) either by the provider or the affected individual. It is believed that many people may have a chlamydia infection without experiencing symptoms, and therefore remain undiagnosed and unreported. Geographic areas with poor screening may appear to have lower rates of chlamydia diagnoses, but in fact this would be due to more individuals having undiagnosed infection.

Another limitation of the reported data on chlamydia is related to the geographic location to which individuals are ascribed. As stated above, living within the school district geographic boundaries does not mean an individual necessarily attends school in that district.

*Excludes New York City

Chlamydia Diagnoses in New York State* School Districts

Ratio of observed to expected chlamydia diagnoses in New York State school districts, excluding New York City, aged 10 to 19 years, 2018-2020



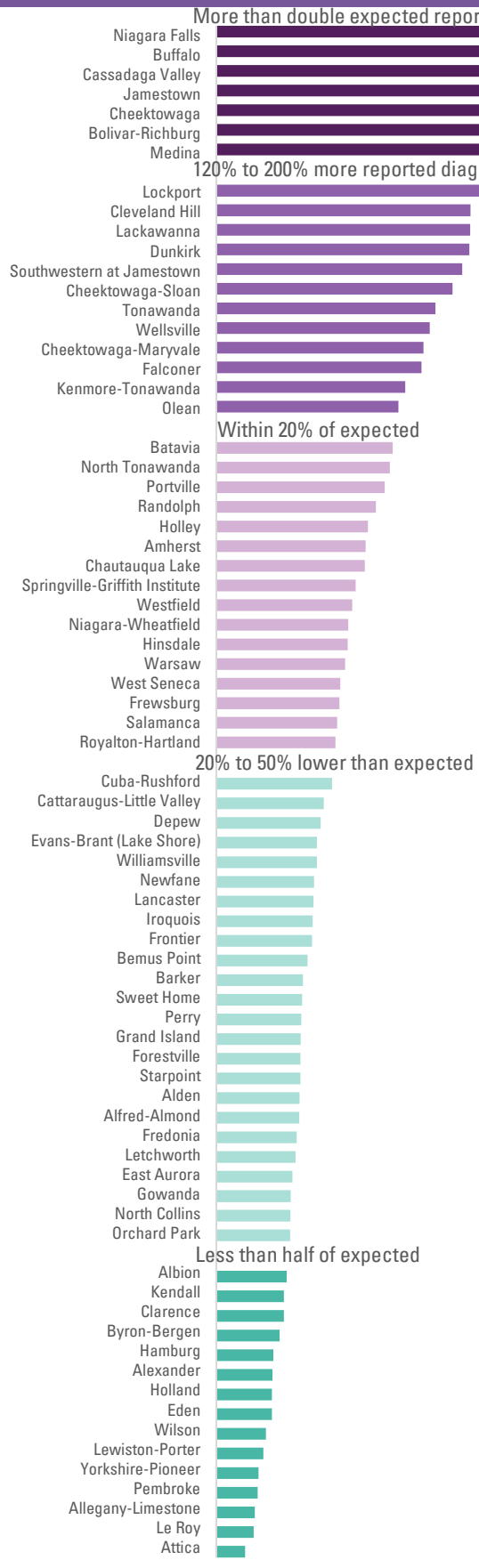
44.9% of high school students report ever having sexual intercourse by 12th grade

57.8% of New York high school students who were sexually active used a condom during last sexual intercourse

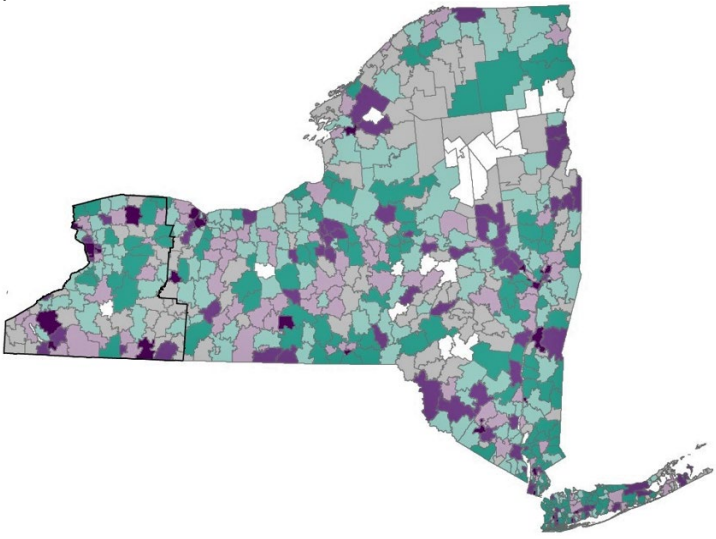
Approximately, 28,099 New York teens aged 15 to 19 are diagnosed with chlamydia each year

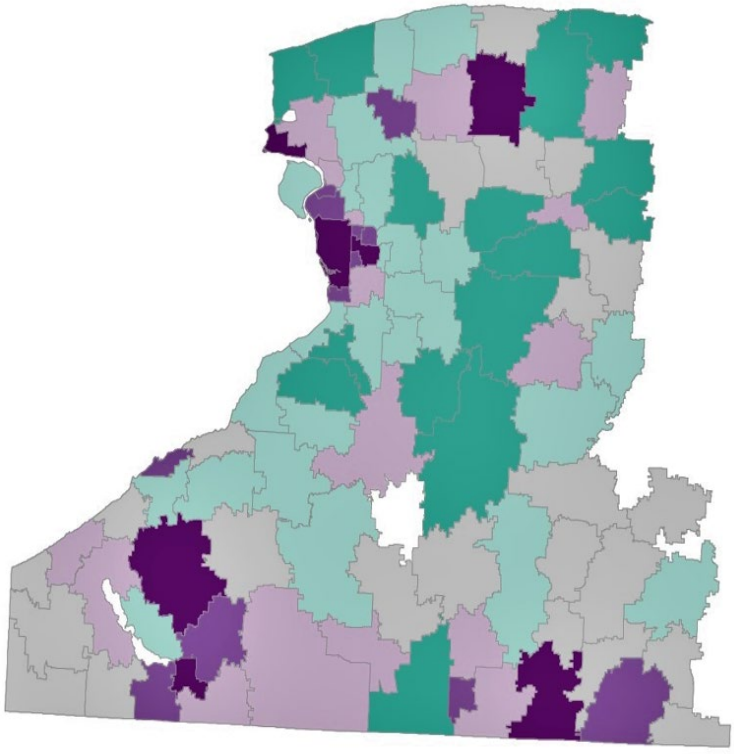
Sources: NYSDOH Office of Sexual Health and Epidemiology
2019 Youth Risk Behavior Surveillance Report

Chlamydia Diagnoses in Buffalo Region* School Districts



Ratio of observed to expected chlamydia diagnoses in New York State school districts, excluding New York City, aged 10 to 19 years, 2018-2020

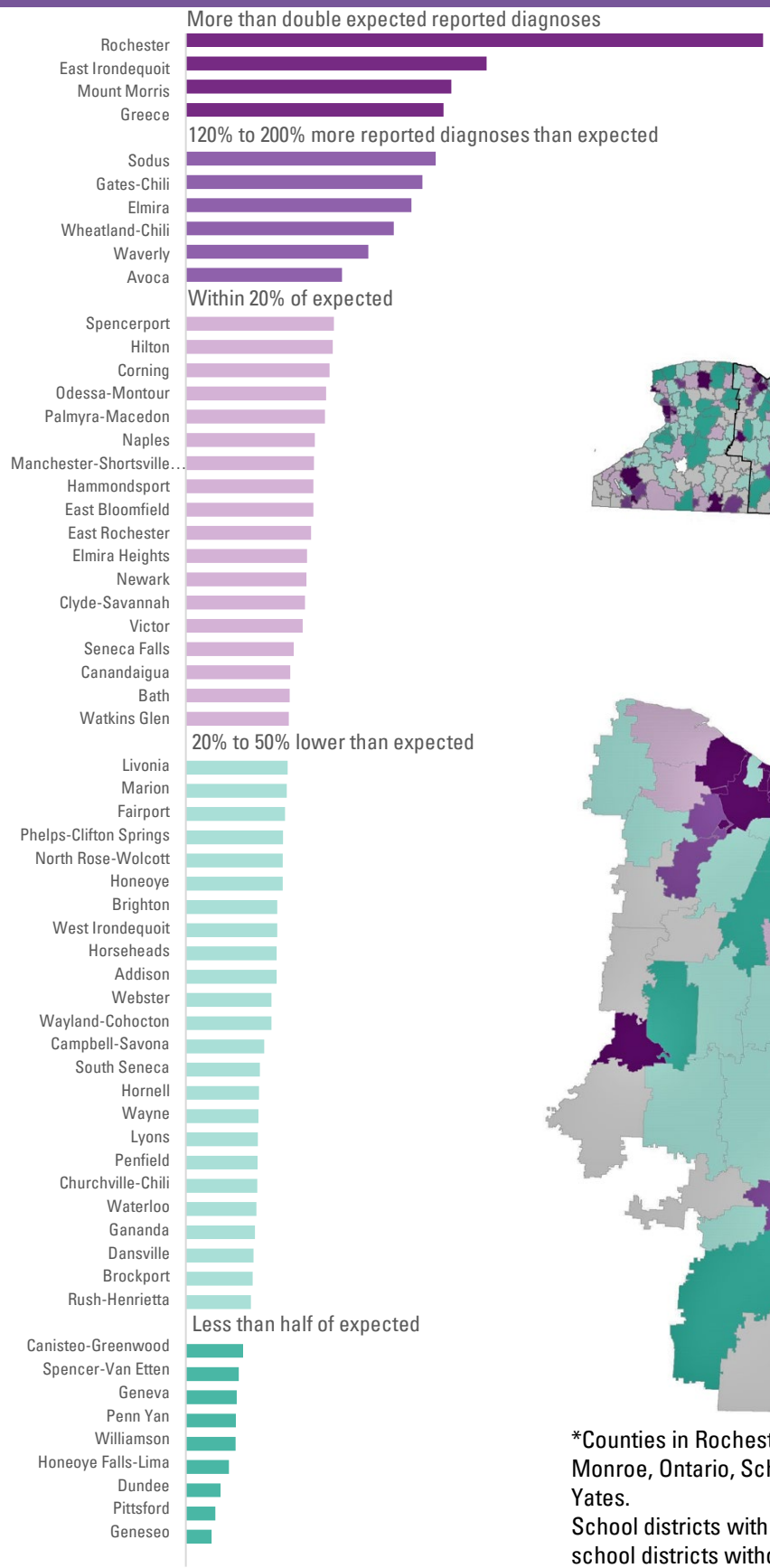




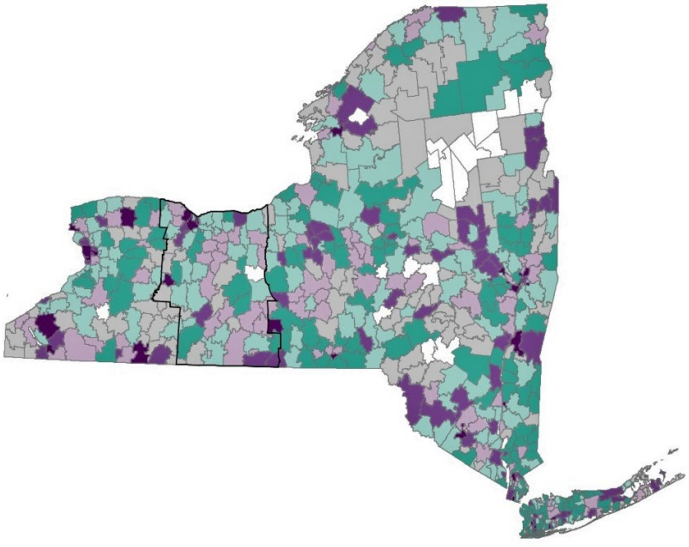
*Counties in Buffalo Region: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.
School districts with 1 to 5 diagnoses are shaded gray; school districts without any diagnoses are unshaded.

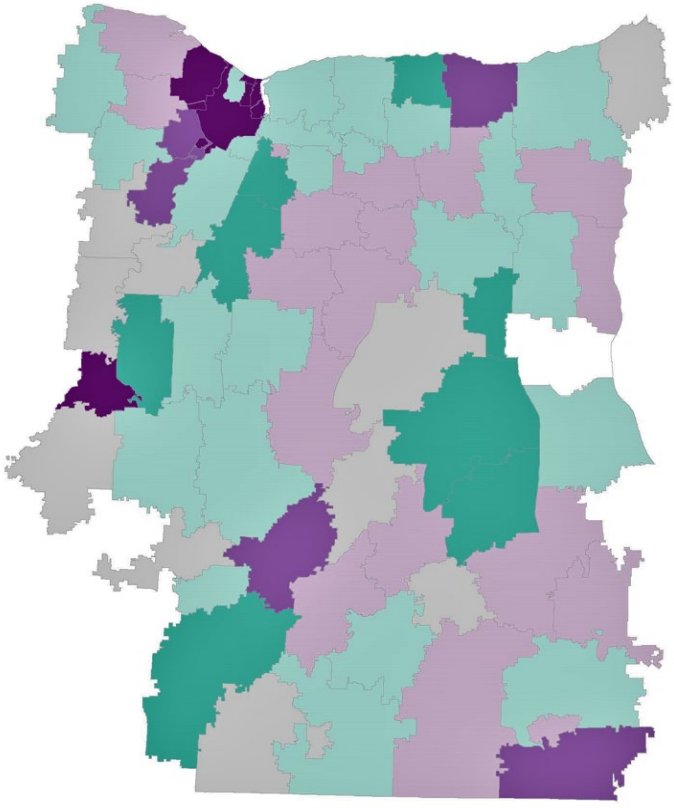
Sources: NYSDOH office of Sexual Health and Epidemiology

Chlamydia Diagnoses in Rochester Region* School Districts



Ratio of observed to expected chlamydia diagnoses in New York State school districts, excluding New York City, aged 10 to 19 years, 2018-2020



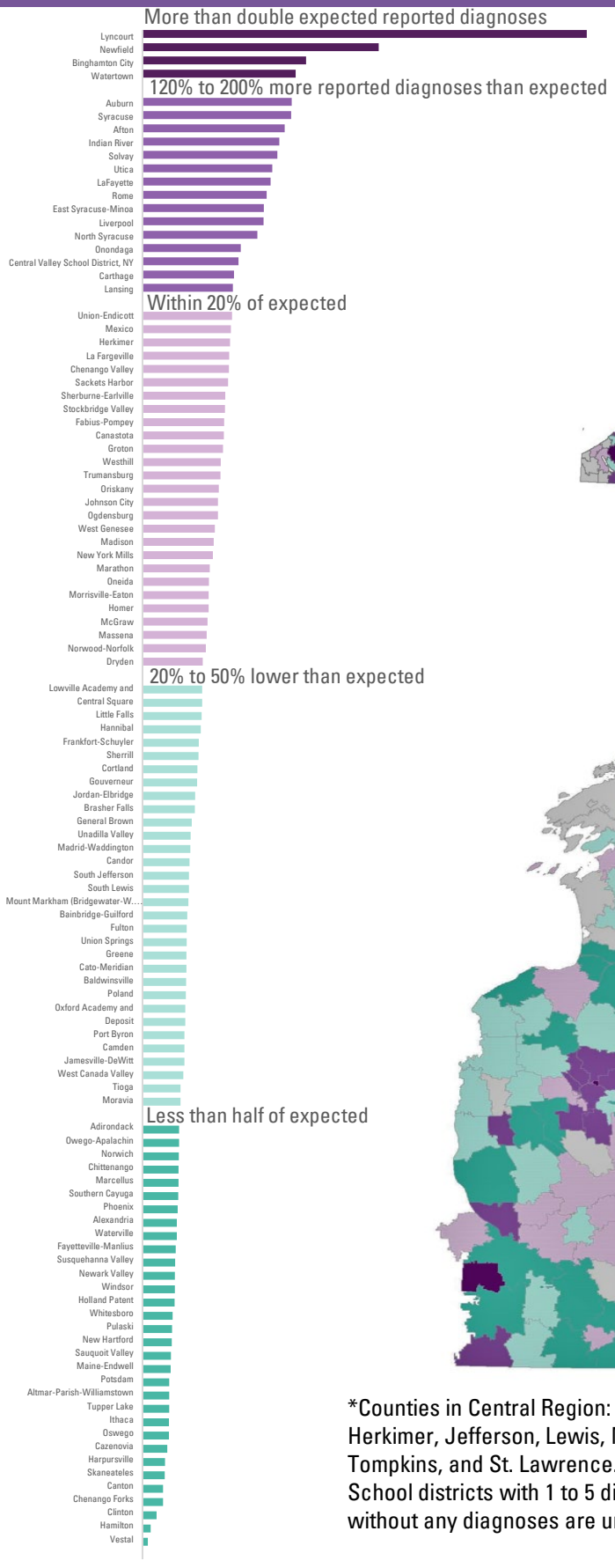


*Counties in Rochester Region: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, and Yates.

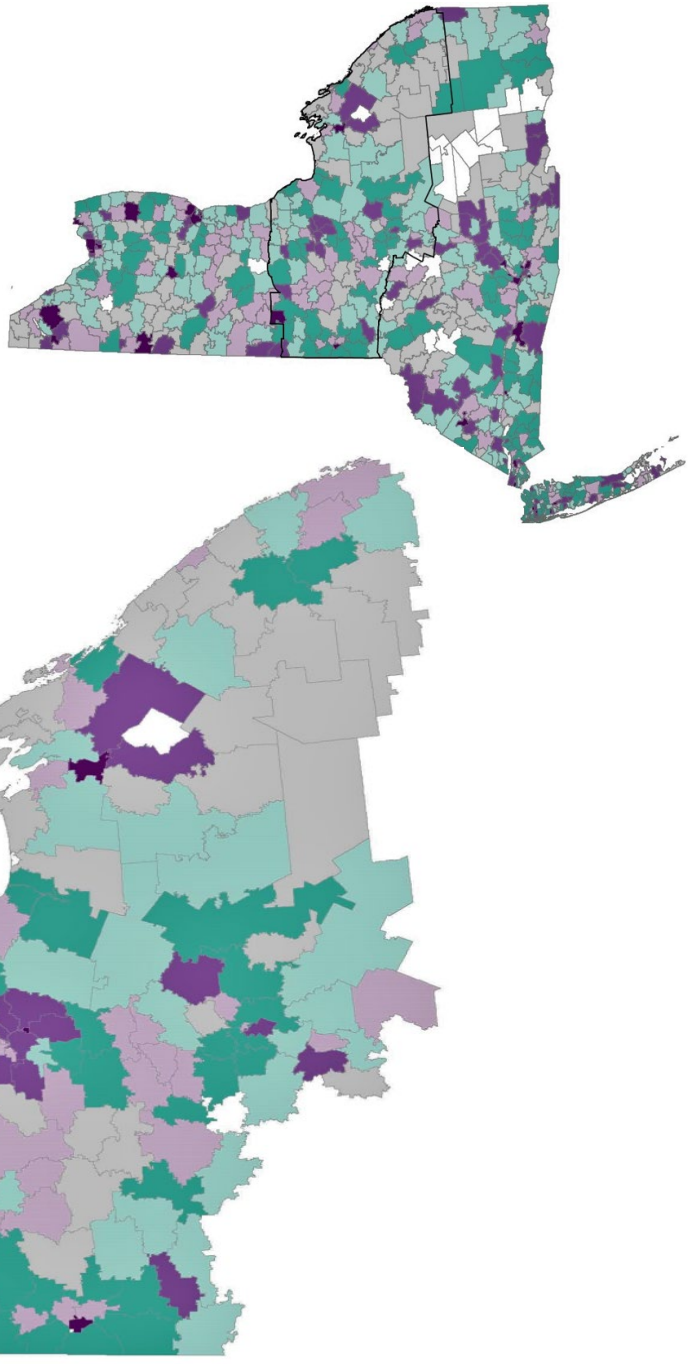
School districts with 1 to 5 diagnoses are shaded gray; school districts without any diagnoses are unshaded.

Sources: NYSDOH office of Sexual Health and Epidemiology

Chlamydia Diagnoses in Central Region* School Districts



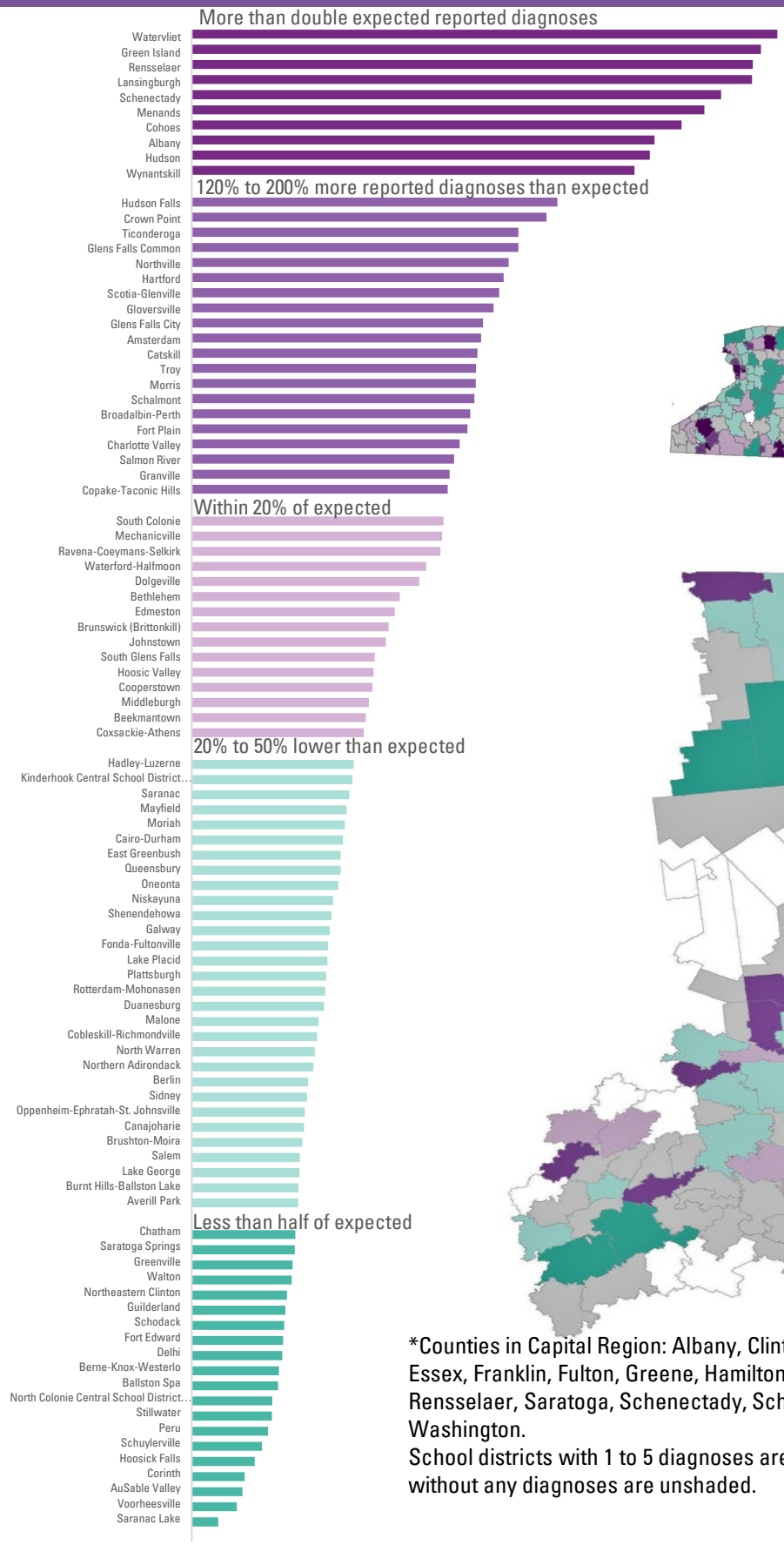
Ratio of observed to expected chlamydia diagnoses in New York State school districts, excluding New York City, aged 10 to 19 years, 2018-2020



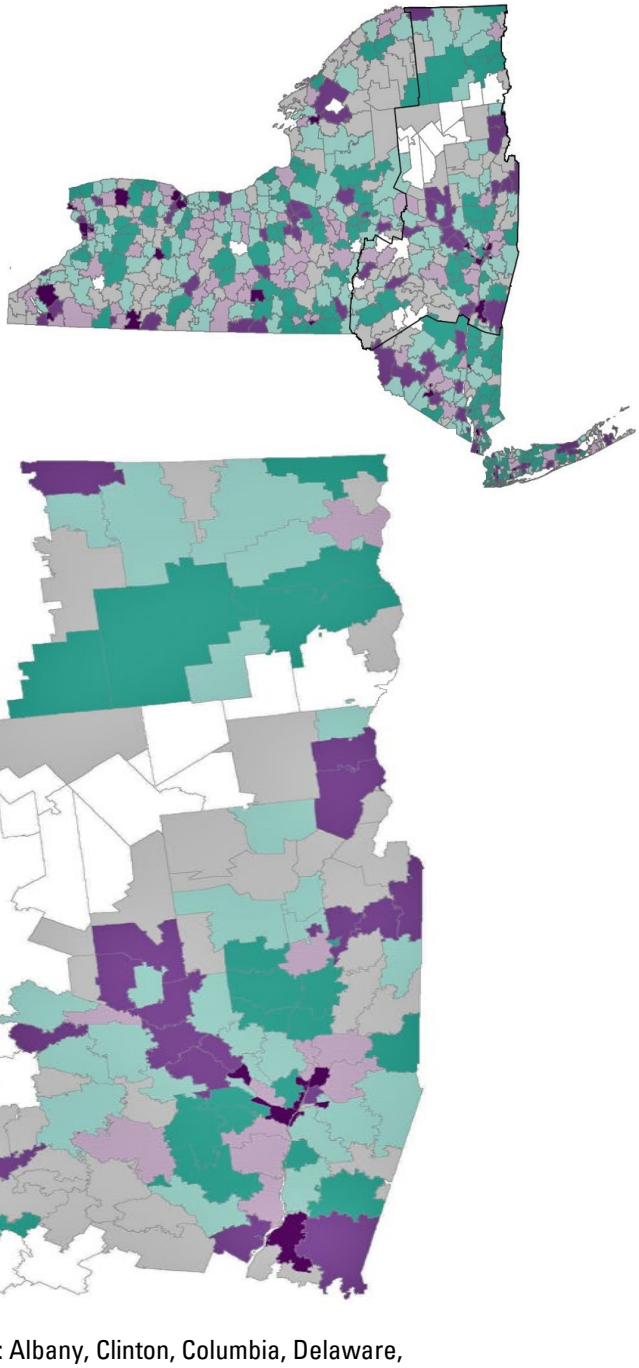
*Counties in Central Region: Broome, Cayuga, Chenango, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, Tioga, Tompkins, and St. Lawrence.
School districts with 1 to 5 diagnoses are shaded gray; school districts without any diagnoses are unshaded.

Sources: NYSDOH office of Sexual Health and Epidemiology

Chlamydia Diagnoses in Capital Region* School Districts



Ratio of observed to expected chlamydia diagnoses in New York State school districts, excluding New York City, aged 10 to 19 years, 2018-2020

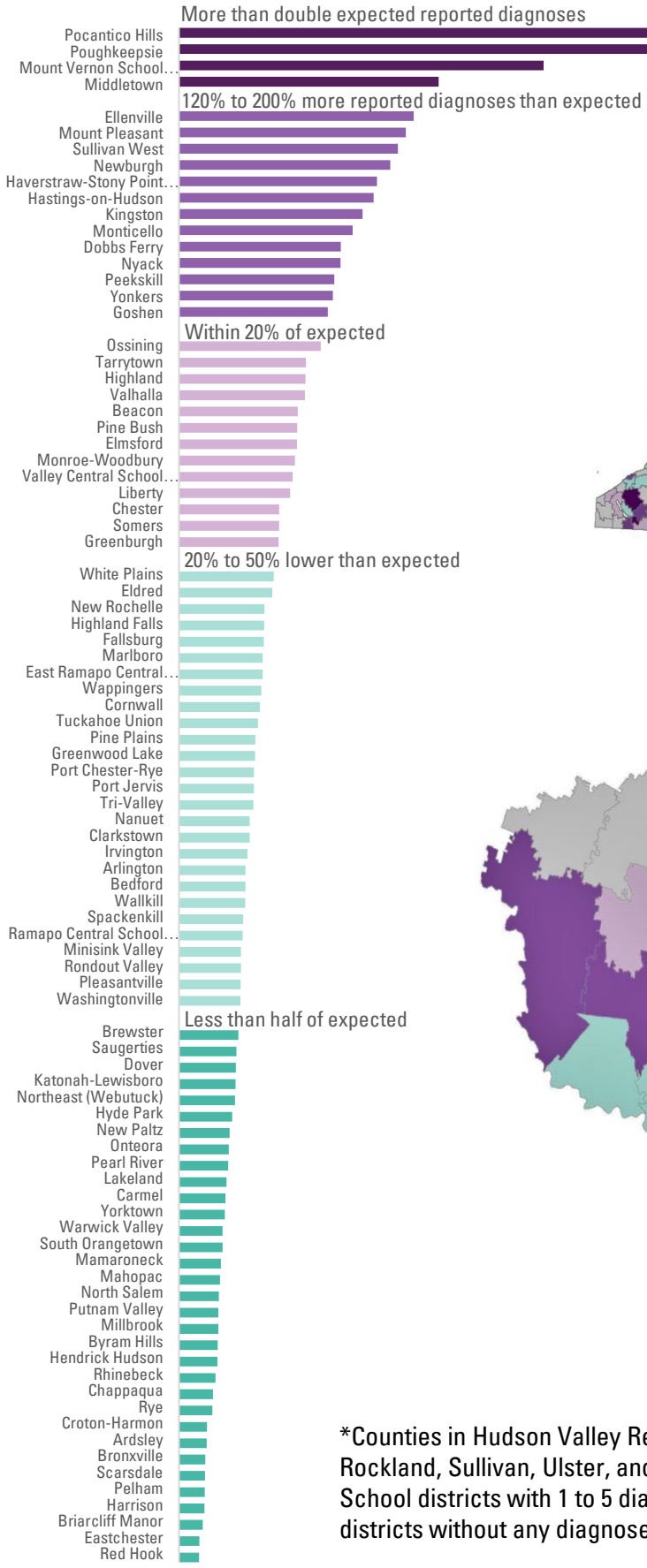


*Counties in Capital Region: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington.

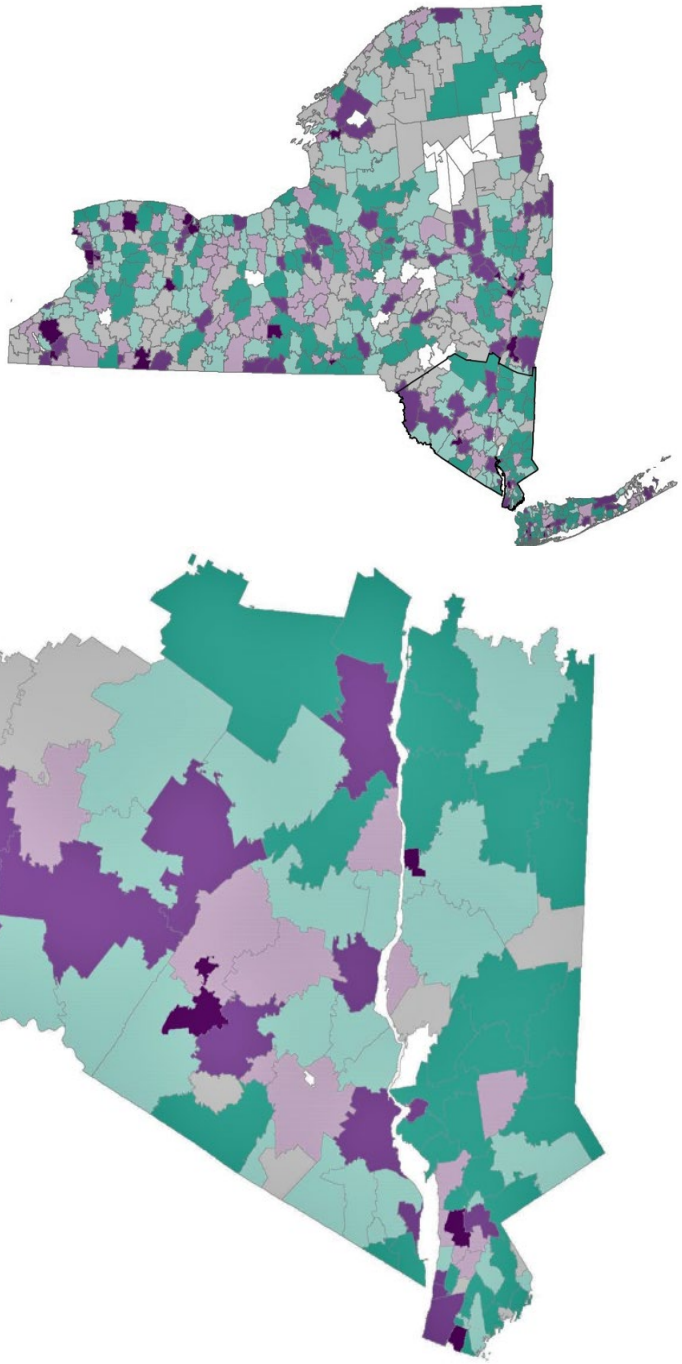
School districts with 1 to 5 diagnoses are shaded gray; school districts without any diagnoses are unshaded.

Sources: NYSDOH office of Sexual Health and Epidemiology

Chlamydia Diagnoses in Hudson Valley Region* School Districts



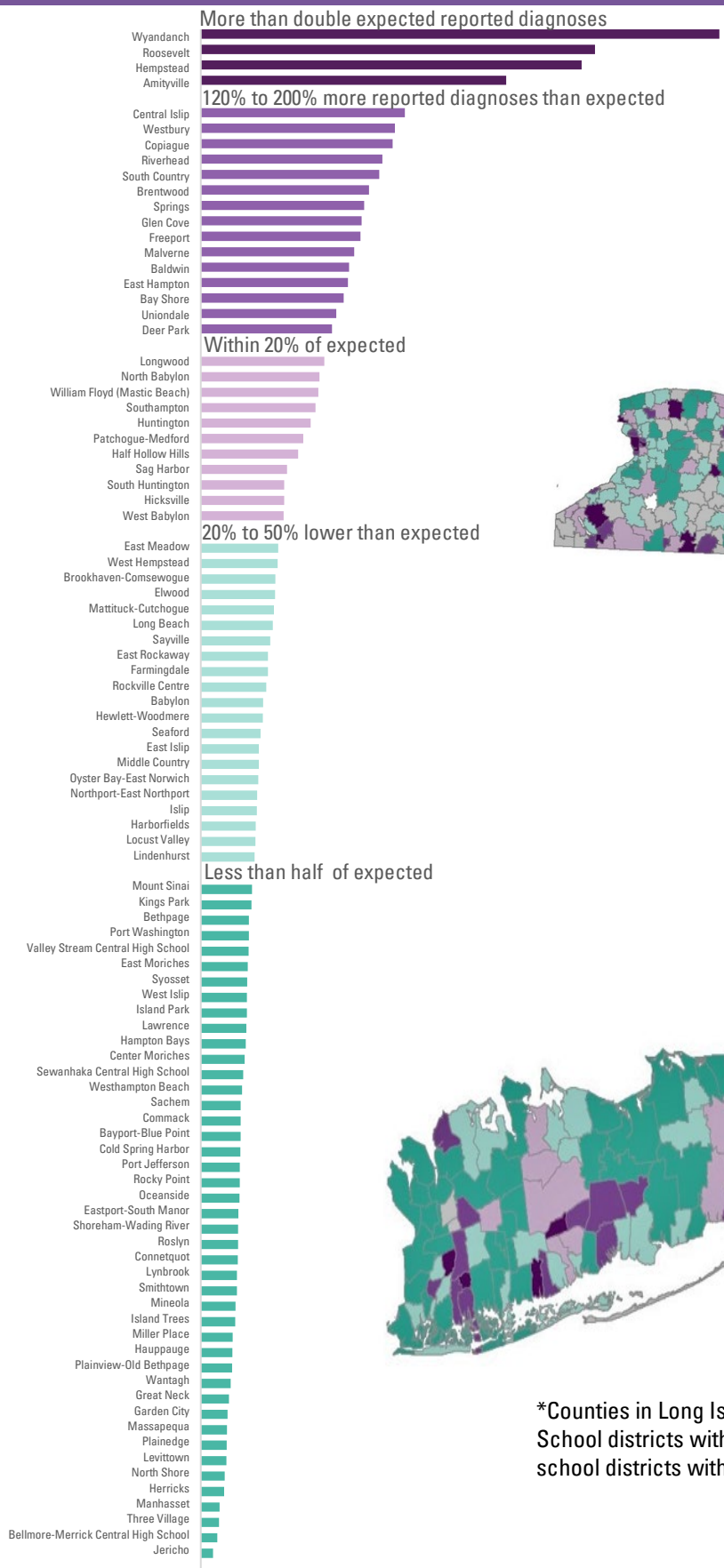
Ratio of observed to expected chlamydia diagnoses in New York State school districts, excluding New York City, aged 10 to 19 years, 2018-2020



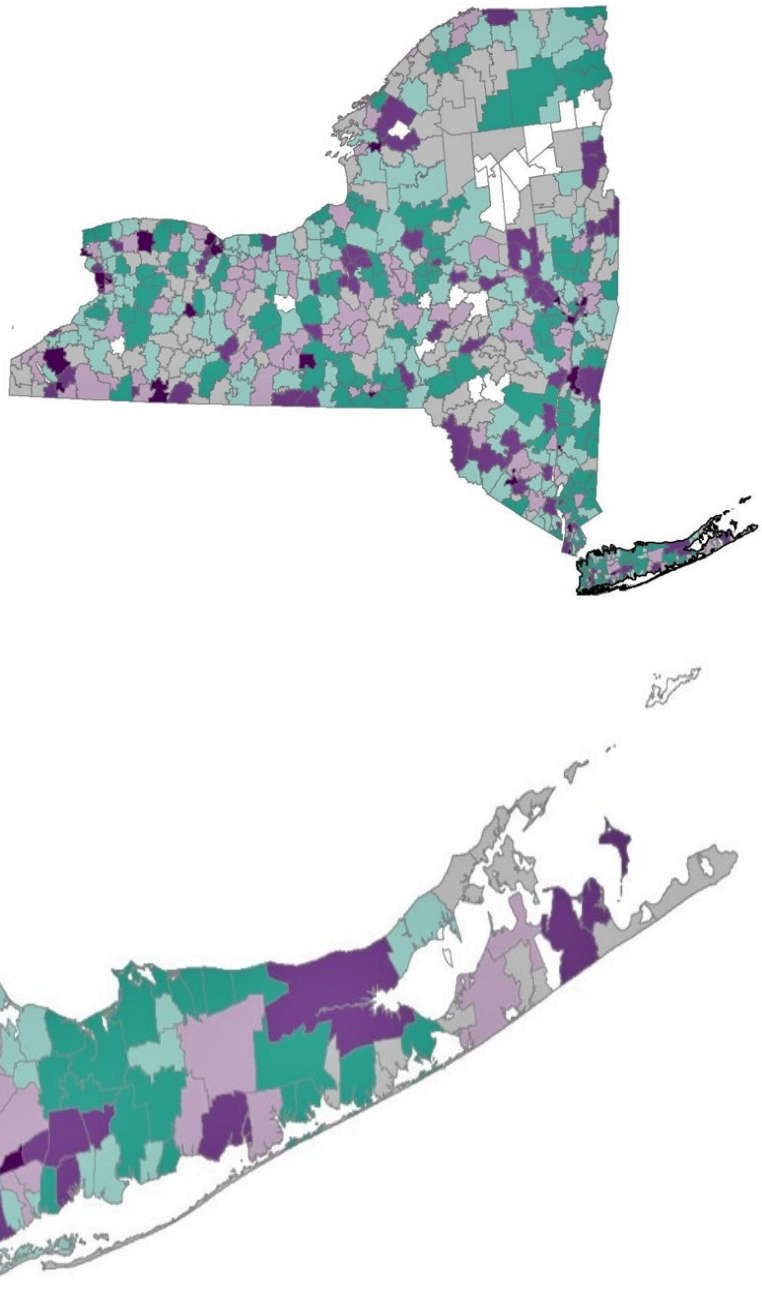
*Counties in Hudson Valley Region: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester.
School districts with 1 to 5 diagnoses are shaded gray; school districts without any diagnoses are unshaded.

Sources: NYSDOH office of Sexual Health and Epidemiology

Chlamydia Diagnoses in Long Island Region* School Districts



Ratio of observed to expected chlamydia diagnoses in New York State school districts, excluding New York City, aged 10 to 19 years, 2018-2020



*Counties in Long Island Region: Nassau and Suffolk. School districts with 1 to 5 diagnoses are shaded gray; school districts without any diagnoses are unshaded.

Sources: NYSDOH office of Sexual Health and Epidemiology

Inquiries regarding this report should be directed to:
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Albany, NY 12237
(518) 474-3598
stdc@health.ny.gov

For more information about New York State STI statistics, visit the following website:
https://www.health.ny.gov/statistics/diseases/communicable/std/

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*Excludes New York City