

Medina County Hodgkin Lymphoma Cancer Assessment

Community Report

January 2026



Summary

A community concern was voiced to the Medina County Health Department (MCHD) in 2024 regarding the number of Hodgkin lymphoma cases among teens and young adults in Medina County, specifically within the Medina Schools System. An analysis was completed at that time by MCHD that did not show a statistically higher number of cases in Medina County. A second analysis was completed in 2025 that also did not show a statistically higher number of Hodgkin lymphoma cases among Medina County residents.

MCHD follows the Ohio Community Cancer Concerns Response Protocol and evidence based research methods. Community cancer assessments are challenging since the exact cause of each cancer case is difficult to establish. Unfortunately, cancer is not a rare disease and can be triggered or developed at any point in someone's life by a number of genetic, environmental, or a combination of factors. Therefore, it is very difficult to identify a single cause to any particular cancer case.

Lymphomas are among the most common cancers diagnosed among individuals 15-19 years of age. There are minimal known risk factors for Hodgkin lymphoma. Known risk factors include age 15-30 and 55 and older, family history of Hodgkin lymphoma, Epstein-Barr virus infection/mononucleosis, human immunodeficiency virus (HIV) infection, and having an autoimmune disease. There is currently no established evidence linking specific community environmental exposures to Hodgkin lymphoma.

MCHD continues to monitor for increases in Hodgkin lymphoma cases in the Medina County community as well as all other cancer types using evidence based methods. If cancer cases were to exceed expected levels, MCHD would inform the community as well as work closely with our research and environmental partners.

Background

The Centers for Disease Control and Prevention (CDC) defines a cancer cluster “as a greater than expected number of cancer cases that occurs within a group of people in a geographic area over a period of time.” In order to be a true cancer cluster, the group of cancer cases must meet the following criteria:¹

- 1. A greater than expected number:** The number of observed cancer cases is greater than what would typically be observed in a similar setting.
- 2. Of cancer cases:** All of the cancer cases must involve the same type of cancer or the cancer cases must be associated to the same cause. Different types of cancer have different known risk factors.
- 3. That occurs with a group of people:** The population in which the cancers are occurring is carefully defined by factors such as race/ethnicity, age, and gender, so that rates can be calculated.
- 4. In a geographic area:** The area in which cancer cases are occurring has carefully defined geographic boundaries.
- 5. Over a period of time:** The time period chosen is applicable to the calculation of the expected number of cancer cases in a population.

Even when a cluster is confirmed in an area, identifying a single cause or exposure is difficult and unlikely. As people move into an area, it is hard to identify prior exposures.

Unfortunately, cancer is not a rare disease. Lymphomas are among the most common cancers diagnosed among individuals 15-19 years of age.² There are minimal known risk factors for Hodgkin lymphoma which include age 15-30 and 55 and older, family history of Hodgkin lymphoma, Epstein-Barr virus infection/mononucleosis, human immunodeficiency virus (HIV) infection, and having an auto-immune disease.² Currently, there is no established evidence linking specific community environmental exposures to Hodgkin lymphoma.

Methods

Cancer cases were identified through the Ohio Cancer Incidence Surveillance System (OCISS). OCISS is a cancer registry that has collected data on cancer cases diagnosed among Ohio residents since January 1, 1992.³ The Medina County Health Department (MCHD) monitors OCISS for increases in all cancer types among Medina County residents. Cases in OCISS are grouped into 23 site/type categories established by the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program. The number of cases that were diagnosed among residents of Medina County are considered to be the "observed" number of cases.

In order to compare the number of observed cases to the number of expected cases, both a standard incidence ratio (SIR) and a confidence interval (CI) were calculated using multiple years of data and select age groups. Calculating a CI is an important step that helps to describe the stability and precision of the SIR.⁴ Both calculations are required to offer a complete picture of the data.

If the value of the SIR is equal to one, it means that the number of observed cases is equal to the number of cases "expected" to occur. In order to account for random error or lessen the probability that results occurred by chance alone, a 95% CI for each SIR is calculated. The CI represents a range of possible values of the SIR that we are 95% confident contains the true value. **If the 95% CI includes one, the result is not statistically significant and we cannot conclude that the number of "observed" cases is different from the "expected" number of cases.⁴**

When observed case counts are fewer than 16, SIRs become unstable and confidence intervals widen substantially.⁶ SIRs and 95% CIs should be interpreted with caution when counts fall below reliability thresholds. Due to there being less than 10 cases over a ten-year period in the Medina School System, an SIR value and 95% CI was not calculated as the results would be unstable and unreliable.

MCHD also compared rates of Hodgkin lymphoma to neighboring counties and the state. MCHD offered interviews to any resident or parent of a child who was diagnosed with Hodgkin lymphoma in the past 10 years to look for commonalities among the cases and to provide an outlet for residents to inform MCHD of their concerns.

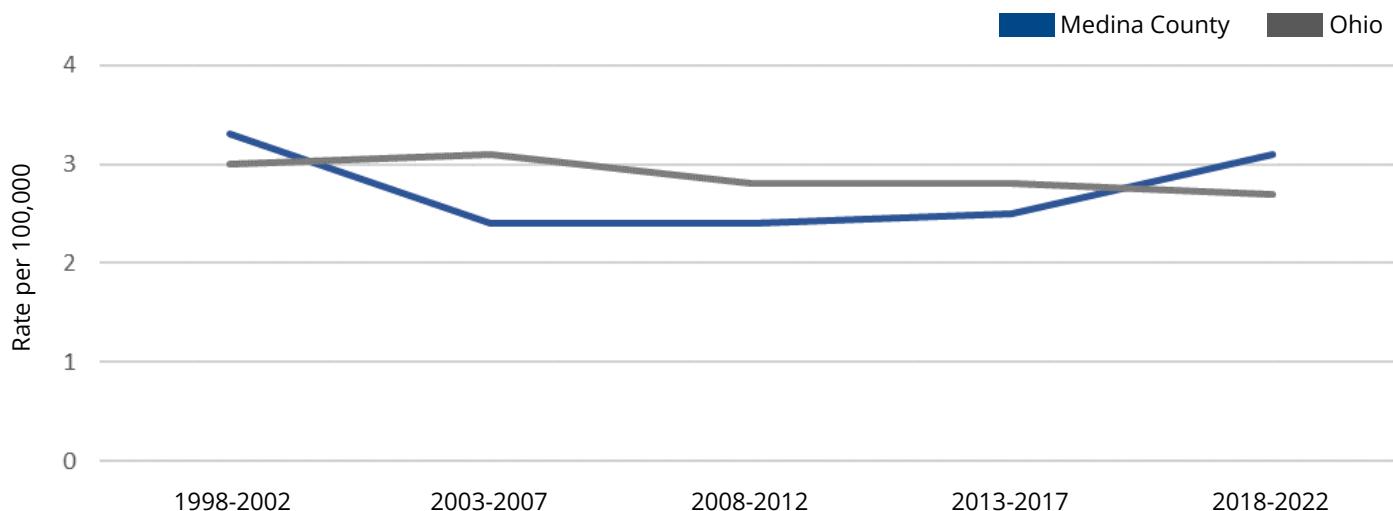
In order to address the community concern, the Medina County Health Department sought to:

1. Determine the number of cases of Hodgkin lymphoma diagnosed among residents of Medina County from 2014 to 2023 and 2015 to 2024 that were 15 to 24 years of age at diagnosis.
2. Compare the number of "observed" cases of Hodgkin lymphoma among residents 15 to 24 years of age to the number of "expected" cases based on state estimates.
3. Review all evidence-based risk factors to determine if there were any connections among individuals diagnosed with Hodgkin lymphoma.
4. Make recommendations for further action.

Results

The overall rate of Hodgkin lymphoma among Medina County residents was 3.2 cases per 100,000 population from 2018 to 2022. The Medina County rate was slightly higher than the state rate of 2.5 cases per 100,000 population. However, the Medina County rate was lower than or equal to other counties in the Northeast Central Ohio region (Ashland County 3.4 cases per 100,000, Summit County 3.2 cases per 100,000).⁶

Figure 1. Crude Rates of Hodgkin Lymphoma by 5-Year Groups, Medina County and Ohio, 1998-2022



Case counts for 2023 and 2024 are not finalized at the time of this report and were not included. Source: OCIS

Table 1 shows an SIR calculation with 95% CI of Hodgkin lymphoma cases among Medina County residents aged 15 to 24 years from 2014 to 2023. This analysis does not demonstrate a statistically reliable excess of cases. Because the number of observed cases is less than 16, the SIR estimates are unstable and should be interpreted with caution.

Table 1. Number of Observed and Expected Hodgkin Lymphoma Cases, Standardized Incidence Ratios (SIR) and 95% Confidence Intervals (CI), by Age Group, among Medina County Residents, 2014-2023*

| Age Group (years) | Observed Cases | Expected Cases | SIR | 95% CI |
|-------------------|----------------|----------------|------|-------------|
| 15-24 | 11 | 8.1 | 1.40 | 0.68 - 2.43 |

Because the number of observed cases is less than 16, the SIR estimates are unstable and should be interpreted with caution. The data do not demonstrate a statistically reliable excess.

*Data for 2023 is preliminary and incomplete. Final case counts may increase as reporting and quality assurance processes are completed. Results based on these years should be considered provisional. Source: OCIS.

Results, continued

Table 2 shows an SIR calculation with 95% CI of Hodgkin lymphoma cases among Medina County residents aged 15 to 24 years from 2015 to 2024. This analysis does not demonstrate a statistically reliable excess of cases. Because the number of observed cases is less than 16, the SIR estimates are unstable and should be interpreted with caution.

Table 2. Number of Observed and Expected Hodgkin Lymphoma Cases, Standardized Incidence Ratios (SIR) and 95% Confidence Intervals (CI), by Age Group, among Medina County Residents, 2015-2024*

| Age Group (years) | Observed Cases | Expected Cases | SIR | 95% CI |
|-------------------|----------------|----------------|------|-------------|
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Because the number of observed cases is less than 16, the SIR estimates are unstable and should be interpreted with caution. The data do not demonstrate a statistically reliable excess.

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MCHD completed 6 interviews with individuals aged 15-24 years, or their guardian, who were residents of Medina County at the time of diagnosis, and were diagnosed within the past 10 years. A single known risk factor or exposure of concern was not identified among the cases interviewed.

There is currently no established evidence linking specific community environmental exposures to Hodgkin lymphoma; thus, there is not evidence to suspect a single environmental cause of Hodgkin lymphoma cases in Medina County at this time.

Conclusions and next steps

Taking all of this information into account, there is no evidence to suggest action is warranted at this time based on established cancer protocols. However, the Medina County Health Department continues to monitor for increases in Hodgkin lymphoma cases in the Medina County community as well as all other cancer types. If the number of cancer cases meets the threshold for a “cancer cluster” using evidence-based statistics and the Ohio Community Cancer Concerns Response Protocol, MCHD will work with regional and state partners to address the concern. MCHD will also monitor any new developments and research into Hodgkin lymphoma risk factors that could help inform our knowledge of how and why cases occur. MCHD will inform community members if cancer cases were to exceed a statistically significant amount.

MCHD acknowledges the profound impact that cancer has on the community and will continue to further our mission to prevent disease, assure a healthful environment, prolong life, and promote well-being for the residents of Medina County.

Sources

1. Centers for Disease Control and Prevention (CDC). About Unusual Patterns of Cancer, the Environment, and Community Concerns. <https://www.cdc.gov/cancer-environment/about/index.html>
2. American Cancer Society, Hodgkin lymphoma Statistics. <https://www.cancer.org/cancer/types/hodgkin-lymphoma/key-statistics.html>
3. Ohio Cancer Incidence Surveillance System (OCISS). The Ohio Cancer Incidence Surveillance System is supported in part by the State of Ohio and the Centers for Disease Control and Prevention (CDC), National Program of Cancer Registries, cooperative agreement number NU58DP007097. The contents are the sole responsibility of the authors and do not necessarily represent the official views of the CDC.
4. Centers for Disease Control and Prevention (CDC). Unusual Patterns of Cancer, the Environment, and Community Concerns. Appendix A: Statistical Considerations. <https://www.cdc.gov/cancer-environment/php/guidelines/statistical-considerations.html>
5. Centers for Disease Control and Prevention (CDC). United States Cancer Statistics: Suppression of Rates and Counts. https://www.cdc.gov/united-states-cancer-statistics/technical-notes/suppression.html#cdc_research_or_data_summary_explore_more-state-and-county-data
6. Ohio Department of Health. County Cancer Profiles, 2018-2022. <https://odh.ohio.gov/know-our-programs/ohio-cancer-incidence-surveillance-system/data-statistics>

Questions about this report can be directed to the Medina County Health Department epidemiologist via email at epidemiology@medinahealth.org.

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