



What is the Virginia Cancer Registry?

The Virginia Cancer Registry (VCR) is part of the Virginia Department of Health. VCR collects data (information) on people with cancer.

How common is cancer in children?

Nationally, about 1 in 285 children will have cancer before they turn 20. In 2022, the rate of new pediatric cancers was 18.2 per 100,000 children aged 0-19. In Virginia, the rate of new pediatric cancers was 13.8 per 100,000 children aged 0-19. It is mostly unknown why children get cancer. Cancer is a disease of many causes. It is thought that many childhood cancers are caused by DNA changes that happen early in life or before birth.

What is a cancer cluster?

A cancer cluster is when statistically more people than usual get the same or related cancers over a specific time. The cancers are similar, have the same cause and are from the same location.

How is the Lenowisco Health District related to this investigation?

The Lenowisco Health District (LHD) is one of 35 health districts in Virginia that is part of the Virginia Department of Health. LHD provides services to help improve the health and well-being of the counties of Lee, Wise and Scott as well as the city of Norton. The LHD has worked closely with the Cancer Registry and the community on this investigation.

Investigation Process for January 8, 2026 Report (First VDH Report)

What defined a cancer case that was included in this investigation?

To meet the case definition for this investigation, the patient had to:

- live in a specific area (for this investigation, the area was defined as Scott County),
- be between the ages of 0 and 19 at diagnosis, and
- have had a confirmed cancer diagnosis between the years 2014 and 2023.

How many cases were evaluated in this investigation?

- Lenowisco conducted a survey and received 24 responses from Scott, Lee and Wise counties. The survey identified that the largest concentration of cases was in Scott County.
- Since the largest concentration of cases was in Scott County, the investigation focused on that specific geographic area. The investigation identified 12 cases in Scott County.

- Of the 12 cases identified in Scott County, five met the case definition for inclusion in the analysis.
- The Cancer Registry reviewed existing registry data and identified three additional cases that met the case definition.
- In total, eight cases were included in the 2014-2023 analysis—five that met the case definition, which were identified in Scott County, and three cases, already in the registry.

Why weren't all reported cases included?

Cases were not included in the investigation if:

- the case didn't meet the case definition
- diagnosed before 2014 or after 2023
- child didn't live in Scott County at the time of diagnosis
- diagnosis couldn't be confirmed
- reported information didn't match cancer registry records

Why weren't 2024 and 2025 cases included?

Cancer data takes time to be finalized. Virginia regulations allow facilities and providers up to six months to report a diagnosis. Cancer registries may receive multiple reports for the same person. VCR combines information to build a complete case. This is part of the quality assurance part of our work. Required steps for this process include, but are not limited to:

- verification of information received, including county of residence
- ensuring there are no duplications (same case not counted more than once)
- determination of accuracy of each case report
- data exchange with other state cancer registries
- review and analysis of cases reported

Cancer Registries throughout the country have a two-year delay. Data for 2024 and 2025 will be reviewed once we receive 90% of the expected number of cancer cases in Virginia for those years.

What information was reviewed for each cancer case?

VCR staff reviewed each patient's medical reports in the registry to confirm the type of cancer; the body part, tissue, or organ where the cancer started in the patient; and when the cancer was diagnosed. This review included doctors' notes and test results to ensure accuracy.

Why is it important to confirm where the cancer started?

Cancers can spread from one organ to another. For this review, it is necessary to review where the cancer originated in the patient, not where it later spread.

Why did you focus on Scott County?

A survey was conducted, and a total of 24 responses were received from Scott, Lee, and Wise Counties, with half reported from Scott County residents. Since this type of investigation requires VCR to focus on a specific area, we analyzed data from Scott County.

How were cancers that spread handled?

If cancer spread from another organ, it was counted as the original cancer type, not the location where it spread.

How were repeat cancer diagnoses handled?

If a child had the same cancer diagnosed again later, only the first diagnosis date was used.

Do adults in Scott County have more cancer than expected?

The Scott County cancer cluster investigation was conducted in response to a community request. The investigation focused on childhood cancers diagnosed between ages 0–19 and did not include adult cancers. An analysis of adult cancers in Scott County was not performed. County-level cancer rates for all ages are available on the [VDH Cancer Incidence Dashboard](#).

Results for January 8, 2026 Report (First VDH Report)

What is the Standardized Incidence Ratio (SIR)?

The SIR compares the number of cancer cases of a specific type seen in Scott County to the number expected for that same cancer type, which is based on cancer rates across Virginia. This is the first step in analyzing cases. The CDC recommends the step in its guidelines for investigating potential cancer clusters. More information can be found on the [Standardized Incidence Ratio Fact Sheet](#).

What is a SIR number?

A SIR of 1.0 means the number of cases is as expected. Below 1.0 means fewer cases than expected. Above 1.0 means more cases than expected.

What did the investigation reveal about the cases analyzed?

The investigation found that of the survey cases reviewed:

- 75% were male
- 75% were diagnosed under age five
- Four families reported cancer history and two reported genetic conditions
- Six different types of cancers were reported
- Five met criteria for inclusion

Why aren't different cancer types combined when analyzed?

VCR follows CDC guidelines for evaluating if cancer types can be combined for analysis. Since cancer is many different diseases, we cannot analyze all types of cancer together as one group. Different cancer types also occur at different frequencies, as there are several factors that may contribute to the development of cancer. It is important to consider the number of each type of cancer. Sometimes different types of cancer can be grouped together for analysis because they share a scientifically proven common cause or specific exposure. This was considered for the Scott County cancer cluster analysis. However, on review of published research, the cancer types investigated did not share a scientifically proven common cause or specific exposure to justify grouping multiple cancer types together for analysis.

What did the statistical analysis show?

The SIRs for each cancer type in this investigation were not found to be statistically significant, as the statistical range, called a 95% confidence interval, included 1.0 for each cancer type. In other words, the observed number of cancers for each cancer type analyzed in Scott County is not different than the

expected number of cancers for each cancer type. This means that the number of pediatric cancer cases for each type in Scott County was not higher than expected and does not suggest a cancer cluster from 2014-2023.

How does one know if results are meaningful?

The VCR used a statistical range called a 95% confidence interval. This range shows where the true value is likely to fall. It also helps show how accurate and reliable the calculated SIR is. If the confidence interval includes 1.0, the results are not considered different from what was expected. A wider confidence interval means the results vary more, so there is less confidence that the estimated SIR is the true SIR.

Why was a second statistical test used?

Because small case numbers can affect reliability, a second test (Fisher's Exact Test) was used to confirm results. The Fisher's Exact Test is used when there are small case numbers.

What did the second test show?

The Fisher's Exact Test confirmed that the odds of developing each type of cancer under investigation in Scott County did not differ from the odds for the rest of Virginia. The p-value was found to be greater than 0.05 for the reported cancer types. When the p-value is above a cut-off of 0.05, there is more confidence that there is no difference.

Was this considered a cancer cluster?

No. Cancer rates did not meet the CDC definition of a cluster for 2014-2023. Specifically, we did not see a higher rate of reported cancer types than expected.

Environmental Concerns

Were environmental causes reviewed?

Yes. Radon, drinking water, and industrial site concerns were reviewed. Survey results were also reviewed to look for common environmental exposures. Mapping of cases was also conducted. A literature review of environmental exposures and childhood cancer (for the cancer types observed) was also performed. These steps did not lead to any environmentally related hypothesis to test further.

What is radon?

Radon is a colorless, odorless gas that can increase lung cancer risk. Evidence linking it to childhood cancer is limited and inconclusive.

Is radon common in Scott County?

Like other areas of the Commonwealth, Scott County has been designated as high risk for radon by the Environmental Protection Agency (EPA). The higher risk is primarily due to the natural geology of the area. A map of radon test results between 2016-2024 can be found on the [VDH Radon Testing Results website](#).

How do you know if radon is a problem in your home?

The only way to know how much radon is in your home is to test for it. The EPA says that homes with radon levels greater than 4 pCi/L should be fixed. The EPA also says that action should be taken in a home when radon levels are between 2 pCi/L and 4 pCi/L. It is recommended that homes be retested for radon every 2-3 years. Additional information on radon including how to find professional testers and mitigators can be found on the [VDH Radon Testing and Mitigation website](#).

What was found about public drinking water?

All public water systems currently meet safety standards.

Is Scott County's public drinking water safe?

Yes, based on current monitoring data.

What about private wells?

Private well owners are responsible for water quality testing. For information related to testing of private wells, go to the [Private Well Program](#) website and open the tab labeled "Testing My Private Well Water."

Can VDH test private wells?

No, but VDH can help interpret results and connect residents to labs. Contact [VDH Scott County Information](#) if there are any questions.

Were industrial sites reviewed?

Yes. There was not enough evidence to link industrial sites in Virginia to cancer risk in the community. Eastman Chemical Company in Tennessee was also expressed as a community concern, but the pattern of cancer does not suggest a link to Eastman or any particular site.

Was air testing (indoor or outdoor) done?

No. Environmental testing would not normally be done during initial stages of a cancer cluster inquiry. Air testing could be performed if a common environmental exposure (an exposure through air) was suspected. At this time, nothing in the initial investigation suggests a link between an environmental exposure and the cases investigated.

What if I have air quality concerns?

The Virginia Department of Environmental Quality (DEQ) oversees air quality monitoring and assessment in Virginia. For air quality monitoring questions and contacts, please see the [DEQ air monitoring website](#).

Is recreational use of the Clinch River in Scott County a concern?

No, there are currently no recreational or fish consumption advisories for the Clinch River in Scott County, but there are polychlorinated biphenyls (PCBs) [fish consumption advisories](#) for the Guest River and Stone Creek in Scott County.

Have you tested sewage sludge on farms in Scott County?

No, sewage sludge testing was not performed. At this time, nothing in the initial investigation suggests a link between environmental exposure and the cases investigated.

Where do I find radon results for schools?

The best way to see radon air results for a school is to contact the school directly. At this time, nothing in the initial investigation suggests a link to schools.

Results for June 6, 2026 Report (Second VDH Report)

What defined a cancer case that was included in this updated investigation?

To meet the case definition for the updated investigation, the patient had to:

- live in a specific area (for this investigation, the area was defined as Scott County),
- be between the ages of 0 and 19 at diagnosis, and
- have had a confirmed cancer diagnosis between the years 2015 and 2024.

How many new cases are included in the updated report?

Three new childhood cancer cases were identified and verified by the VCR in 2024 and reported in the community survey: two leukemia cases, and one pineal gland case, which is a brain tumor. Along with the two leukemia cases previously evaluated in the original report, a total of 5 cases were evaluated during the updated 10-year time period (2015-2024).

What type of analysis and work was done for the updated report?

The literature review was updated to learn more about environmental risk factors for pediatric leukemia and brain cancers and to see if cancer types could be combined for analysis. Consistent with CDC Guidelines, the SIR was calculated only for the additional reported types (leukemia, brain) for the updated 10-year time period (2015-2024). Due to very small numbers, the Fisher's Exact Test was used again for this analysis. A map of cases (including the 3 new cases from 2024) was also reviewed to look for any unusual spatial pattern.

What were the updated results?

The analysis did not show statistical significance (i.e., p-value >0.05) for leukemia or brain cancer cases. The analysis also did not show statistical significance when combining those cancer types. Additionally, no unusual spatial pattern was observed.

Summary

Was this considered a cancer cluster?

No. Cancer rates did not meet the CDC definition of a cluster for 2014-2023 or 2015-2024.

Why wasn't further investigation done?

Because no increase or unusual pattern of cancer was identified at this time.

Will future cases be reviewed?

Yes. VDH will continue reviewing 2025 cases as data become more complete.

What should community members do now?

Follow standard public health recommendations: test homes for radon, test private wells, and stay informed. These recommendations haven't changed because of this cancer investigation.

- [VDH Indoor Radon Program](#)
- [VDH Private Well Program](#)
- [ASK Childhood Cancer Foundation](#)
- [Blood Cancer United \(formally Leukemia and Lymphoma Society\)](#)
- [Coalition Against Childhood Cancer](#)

Where can I find the results?

See the original [report](#) and the updated report at [VDH Cancer Cluster Information website](#).

What if a cancer cluster is found in the future? Will there be resources?

If a cluster were to be found, VDH would request technical assistance from federal partners such as the CDC and Agency for Toxic Substances and Disease Registry (ATSDR) to advise on next steps. Next steps could include an epidemiological study, which could potentially lead to environmental testing.

Who can I contact for questions?

You can email [VDH Scott County Information](#) for any questions.