

Navigating Cancer Cluster Investigations with CDC Guidelines: Wisconsin's Approach

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SUMMARY

This case study examines how the Wisconsin Cancer Reporting System (WCRS) responded to a community cancer cluster concern using CDC's *Guidelines for Unusual Patterns of Cancer and Environmental Concerns* (CDC Guidelines).¹ It highlights the importance of collaboration between cancer registries and environmental health staff in applying CDC's framework effectively.

CHALLENGE

- The CDC Guidelines (2022) are designed to help state health agencies investigate unusual cancer patterns. However, many states have faced challenges operationalizing them.
- WCRS received a community inquiry about a potential cancer cluster in 2023, which prompted closer engagement with the guidelines.

SOLUTION

WCRS collaborated with environmental health staff to create data tables and case listings for the investigation. The CDC Guidelines provided a structured framework for assigning roles and guiding analyses.

RESULTS

The team encountered difficulties applying Phase 2 of the CDC Guidelines, especially in comparing rates and selecting appropriate reference populations. Challenges included:

- **Reference populations:** Identifying suitable comparison groups for standardized incidence ratio calculations.
- **Geocoding:** Ensuring accurate geocoding for mapping, especially in small or rural areas.
- **Data release:** Communicating registry data release protocols and validating statistical models.
- **Statistical model validation and power:** Distinguishing true clusters from random variation because high rates can occur by chance when testing multiple areas.

Key takeaways for other registries:

- Use U.S. Incidence Site Recode variables (SEER or ICCC sites) to specify cancer types.
- Ensure geocoding accuracy, especially for small areas. Include census tract certainty codes in data extracts for mapping.
- Document case inclusion criteria and ensure all involved staff understand them.
- Ensure staff are trained on the Cancer Pattern Investigation Tool (CPIT) and other relevant cancer surveillance tools.

Strong collaboration between cancer registries and environmental health staff is key to applying the CDC Guidelines. This partnership ensures informed decision-making in data analysis and model validation. To sustain this success, WCRS and environmental health staff held monthly meetings throughout 2024 to refine the investigation process, explore new tools like CPIT, and review responses to cancer cluster inquiries. Also, WCRS staff participated in a 2024 mock investigation of a new internal staff protocol being developed by environmental health staff to guide responses to cancer cluster inquiries.

CONCLUDING REMARKS

WCRS plans to integrate best practices from this case into routine operations, including standard geocoding checks and improved communication around data release. This approach will strengthen our response to future cluster concerns and ensure continued effective use of the CDC Guidelines. Through these ongoing efforts, WCRS aims to maintain a robust, efficient system for investigating unusual cancer patterns and environmental concerns in Wisconsin.

CITATION

1. CDC, National Center for Environmental Health. Guidelines for Examining Unusual Patterns of Cancer and Environmental Concern. Available at: www.cdc.gov/cancer-environment/php/guidelines/.