

NC RADON

INTRODUCTION & ASSESSMENT

Chapter #:

INTRODUCTION

Environmental exposures in the places where people live, work, and spend time can influence community health outcomes. Environmental health examines how environmental conditions affect human health, including exposures through air, water, soil, and indoor environments. Radon is a naturally occurring radioactive gas produced from the breakdown of uranium in soil and rock that can accumulate indoors through cracks in foundations, basements, crawl spaces, and other openings in buildings. Since radon is colorless, odorless, and tasteless, the only way to determine indoor radon levels is through testing. Long-term exposure to elevated radon levels increases the risk of lung cancer and is the leading cause of lung cancer among non-smokers. Radon exposure is therefore a preventable environmental health risk because testing can identify elevated levels and allow mitigation to reduce exposure. Elevated radon levels have been identified in homes in all 100 counties in North Carolina, indicating that radon exposure is a statewide environmental health concern. Radon testing data can therefore provide environmental context when examining lung cancer patterns within a community and identifying opportunities for prevention.

RADON AND LUNG CANCER

Radon exposure is a recognized environmental risk factor for lung cancer. When radon gas accumulates indoors and is inhaled over long periods of time, radioactive particles can damage lung tissue and increase cancer risk.

Examining radon testing indicators alongside lung cancer data can provide environmental context for community health conditions and help identify opportunities for prevention through increased radon awareness and testing.

Data Sources

This folder contains a comprehensive collection of radon-related educational and planning materials from the NC Radon Program to support LHDs, CHAs, and community outreach efforts.

Resources include:

- NC Environmental Health Data Dashboard (EHDD)
- NC Data Portal - Air & Quality - Radon Testing indicators
- These indicators are based on radon test results voluntarily reported by radon testing laboratories and represent measured radon levels among residential and commercial buildings that have been tested. Radon testing remains the primary indicator used to assess potential indoor radon exposure within communities. Since testing is voluntary and not conducted in every home or building, these data reflect radon levels among tested structures and may not represent radon exposure across all households within the community.

Radon Indicators

Radon Testing Activity

- Number of residential buildings tested for radon
- Radon tests per 10,000 housing units

Radon Test Results

- Median radon level among tested buildings
- Maximum radon level detected

Radon Risk Indicator

- Percentage of tests ≥ 4 pCi/L (EPA action level)

These indicators describe indoor radon conditions among tested buildings and provide environmental context when considering lung cancer risk within the community.

RECENT RADON TESTING DATA (LAST 3 YEARS)

Insert the most recent three years of available radon testing data.

Year	Buildings Tested	Median Radon Level (pCi/L)	% Tests ≥ 4 pCi/L
Describe community health conditions using credible data	NC CHA Guidebook	CHAs incorporate credible quantitative and qualitative data to describe community health conditions and contributing factors.	Radon testing data from NC Environmental Health Data Dashboard (EHDD) or NC Data Portal may provide environmental health context related to indoor air quality and lung cancer risk.
Year 1			
Year 2			
Year 3			

Interpretation

Provide a summary describing trends in radon testing activity or results.

Example prompts:

- Whether radon testing has increased or decreased in recent years
- Whether elevated radon levels (≥ 4 pCi/L) are frequently detected among tested homes
- Whether testing levels suggest opportunities to increase community awareness and participation in radon testing

Increasing radon testing can help identify homes with elevated radon levels and support prevention efforts aimed at reducing lung cancer risk in the community.

GOALS AND OBJECTIVES

Community Health Goal

Objective

WHY IT MATTERS

Radon exposure is a common and preventable environmental health concern, causing approximately 21,000 lung cancer deaths annually in the U.S. While smoking is the leading cause, radon significantly raises lung cancer risk for everyone. Since exposure occurs mainly inside homes, increasing testing and awareness offers a chance to identify high levels and reduce preventable lung cancer risk through mitigation. This is a relevant issue for community health planning because testing and mitigation are practical, evidence-based prevention strategies. Increasing radon testing can help identify homes with elevated radon levels and support actions that reduce exposure and associated lung cancer risk.

STRATEGIES

Local health departments and community partners may promote radon awareness and testing through:

Community Education

- Share radon educational materials and fact sheets through community events, local organizations, and public outreach efforts
- Promote radon awareness through social media campaigns and local communication channels
- Support community events and outreach activities where community health workers, health care professionals, and community members can share information about radon exposure and its connection to lung cancer

Community Partnerships

- Collaborating with housing organizations, real estate professionals, and home inspectors
- Sharing radon resources with schools, child care centers, and community organizations

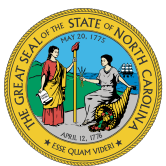
- Health Care Engagement
- Providing radon education materials to health care providers
- Encouraging discussion about environmental risk factors for lung cancer

State Technical Assistance and Support

The North Carolina Office of Environmental Education (OEE) offers technical assistance to local efforts to boost radon awareness and testing. OEE provides educational resources, training, and outreach materials to help local health departments and community groups effectively communicate environmental health risks.

OEE's support includes:

- Providing radon education materials and toolkits.
- Assisting with communication strategies for indoor air quality.
- Supporting community events and awareness campaigns.
- Connecting local programs with statewide environmental education networks.
- Leveraging OEE assistance ensures accurate, accessible materials aligned with statewide messaging, strengthening local outreach and expanding opportunities for community engagement regarding radon exposure and lung cancer prevention.



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