

Rural Women's Cancer Care in Pennsylvania

Public Hearing of the Center for Rural Pennsylvania

Presented to Senator Gene Yaw, Chair, and Members of the Board

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Senator Yaw, members of the Board, and distinguished guests: thank you for the opportunity to testify today regarding cancer care for women in rural Pennsylvania.

Introduction

My name is Margaret or Peggy Rosenzweig. I am a Distinguished Service Professor at the University of Pittsburgh School of Nursing. I hold the Nancy Glunt Hoffman Endowed Chair of Oncology Nursing at the University of Pittsburgh School of Nursing, and I am the Associate Director for Community Outreach and Engagement at UPMC Hillman Cancer Center. I am also an oncology nurse practitioner in breast cancer care at UPMC Magee. My work focuses on understanding the cancer burden in our communities and reducing the barriers for equitable cancer care at every stage, from prevention and screening through treatment, clinical research, survivorship, and palliative care. My 25-year research career focuses on disparities during cancer treatment itself, exploring the disproportionate amount of suffering and distress experienced by poor and underserved patients leading to disruptions and early termination of their planned chemotherapy. Most of my research focuses on women with breast cancer as they undergo breast cancer treatment. Mine and other research findings, outlined in papers presented as appendices to this testimony, support the hypothesis that women who hold zip codes from areas of high deprivation, are more likely to experience these high symptom burdens and disruptions to planned, lifesaving treatment, more so than the women from areas of less deprivation.¹⁻⁵ These areas of high deprivation often include women from areas geographically categorized as rural. My testimony will focus primarily on my experience from Western PA.

Rurality Classification

The literature documenting racial, economic, and age-related disparities in cancer care is extensive. Evidence on rural–urban differences are less consistent, partly because researchers define “rural” in diverse ways. For studies of women’s cancers, the choice of rurality measure can change the conclusions.⁶

Several measures are commonly used to assess geographic disparities in cancer care. These include the USDA Rural-Urban Continuum Codes (RUCCs), which assign each county a value from 1 (most urban) to 9 (most rural), and the tract-level Rural-Urban Commuting Area (RUCA) codes.⁷ Patient travel distance to a needed cancer service is another commonly used metric.⁸ In

Pennsylvania, the Appalachian designation adds a classification of economic distress. Under the Appalachian Regional Commission's (ARC) current designations (fiscal year 2027, effective October 1, 2026), 52 of Pennsylvania's 67 counties are designated Appalachian, but Forest County is the only county in Appalachian Pennsylvania with an economically "Distressed" status, while Cameron and Fayette are "At Risk."⁹

These classifications are sensible but lack context. Cancer outcomes depend not only on geography and distance to a cancer center but on whether a community can support people through treatment.³ Contextual factors such as caregiver support, well-stocked pharmacies with needed medications and home care supplies, and neighbors with the time and resources to offer fundraisers, rides, or respite care are also important. These features vary within rural areas and between counties of the same classification, and no standard rurality measure fully captures them.

Contextual Measures of Area Deprivation

More contextual measures combine rurality with area deprivation or neighborhood vulnerability. As these measures have become more common in cancer outcomes research, the use of rurality alone to measure cancer care outcomes has diminished, and attention has turned to places where distance and deprivation overlap. Three terms recur in this literature. The Area Deprivation Index (ADI) is a composite score that summarizes neighborhood disadvantage from census indicators of income, education, employment, and housing quality; in its widely used national version, built from 17 indicators at the census block group level, neighborhoods are ranked from 1 (least disadvantaged) to 100 (most disadvantaged).¹⁰ A health professional shortage area (HPSA), sometimes called a physician shortage designation, is a federal designation made by the Health Resources and Services Administration for a geographic area, population group, or facility that has too few primary care, dental, or mental health providers for the population it serves.¹¹ The Social Vulnerability Index (SVI), developed by the Centers for Disease Control and Prevention and the Agency for Toxic Substances and Disease Registry, is a neighborhood vulnerability measure that ranks census tracts using 16 census variables grouped into four themes: socioeconomic status, household characteristics, racial and ethnic minority status, and housing type and transportation.¹² Each captures something beyond the RUCA code: the ADI and SVI describe the resources and stability of the people in a place, and an HPSA designation describes the supply of clinicians available to them. Educational attainment and insurance coverage are also important considerations, regardless of rurality.

Two studies that include Pennsylvania help to illustrate how combining a rural designation with other, more nuanced deprivation indices can strengthen our understanding of rural cancer care disparities among women. The first examined 138 Appalachian counties in Pennsylvania, Ohio, and Kentucky, linking cancer registry records for women aged 65 and older diagnosed with breast cancer in 2006–2008 to Medicare claims.¹³ The authors used an area deprivation index built from income, housing, education, employment, and household structure. After accounting for screening, health professional shortage areas, mammography supply, and other factors, counties at the highest level of deprivation had about 3.3 times as many later-stage (Stage III or IV) breast cancers as the least deprived counties. Later-stage breast cancer made up 17.3% of cases in the study area, compared with 16.0% nationally, and the counties with the highest proportions clustered in southwestern Pennsylvania and eastern Kentucky. Counties that were

partly designated as health professional shortage areas had about 15% more later-stage breast cancers than counties with no designation, and the deprivation index detected these patterns better than the economic-distress category alone.¹³

The second study points in a different but important direction. Penn State researchers surveyed 474 women aged 45 to 65 in the 28-county catchment area of the Penn State Cancer Institute in 2019–2020, about half of them rural residents.¹⁴ They found no statistically significant rural–urban difference in being up to date on colorectal cancer screening (55.4% overall), cervical cancer screening (82.8%), or having had a check-up in the past year (75.4%). What was associated with lower cancer screening uptake was medical mistrust: Women reporting greater mistrust were less likely to have had a recent check-up and less likely to be up to date on cervical and colorectal screening. The authors note a methodological limitation: their sample was recruited through social media, was almost entirely white, and relied on self-reported screening, so it may not represent the women who are hardest to reach.¹⁴

Where deprivation, shortage areas, and thin screening capacity converge in rural areas, as in the Appalachian counties, outcomes were markedly worse. However, even when rural women were connected to a primary care relationship, as in the Penn State sample, access alone did not predict screening, but trust did. Both findings point away from asking only whether a county is rural and toward asking whether the women who live there have both a trusted provider, and an accessible path to complete cancer care.

Although not specific to Pennsylvania, two additional studies strengthen this picture and help identify where policy can be effective. A national analysis by Gibson and colleagues examined breast, cervical, and colorectal cancer screening across more than 72,000 census tracts, distinguishing levels of urbanicity and remoteness and examining neighborhood deprivation. Breast and cervical screening differences between metropolitan and nonmetropolitan areas were modest, but screening declined as neighborhood deprivation increased; the largest deprivation-related gaps were seen in colorectal and cervical screening. The authors found that socioeconomic disadvantages and regional variation often explained more of the differences in screening than rural classification alone. Although this was a national, tract-level study it reinforces a practical lesson for Pennsylvania: rurality matters, but it should be considered alongside deprivation, local service availability, and the barriers women face in completing care.¹⁵

Regardless of neighborhood factors, insurance coverage matters, and Pennsylvania-specific evidence shows that expanding coverage can improve early detection but does not eliminate every disparity. Spada and colleagues studied 35,735 breast cancer cases among Pennsylvania women ages 50–64 and compared changes before and after key Affordable Care Act (ACA) provisions were implemented in Pennsylvania with women ages 68–74, who had conventional screening coverage. After implementation, early-stage diagnosis among women ages 50–64 increased by 1.71 percentage points ($p < 0.01$), while no comparable change was observed in the older comparison group. The gains were not evenly shared, however. Women from areas of higher socioeconomic neighborhoods had with higher odds of an early-stage diagnosis both

before and after the ACA. Although this improved for women of color, this improvement did not occur for women living in areas of neighborhood deprivation such as very rural areas.¹⁶

Specific Findings: Rural vs. Urban

County-level rankings sharpen this picture. The Hillman Cancer Center catchment area comprises twenty-nine counties in Western Pennsylvania. For the four cancers with established screening (breast, cervical, colorectal, and lung), we ranked each of the 29 counties in the catchment area from highest (1) to lowest rate, separately for incidence and mortality, and compared the 17 rural counties (RUCC 4–9) with the 12 urban counties (RUCC 1–3). Two patterns stand out. First, breast cancer reverses between diagnosis and death: urban counties rank higher for incidence (average rank 11.8 versus 17.3 for rural counties), but all five counties with the highest breast cancer mortality are rural (Warren, Huntingdon, Mercer, Clarion, and Elk). Second, rural counties hold all five of the highest colorectal cancer incidence ranks (Cameron, Greene, Indiana, Elk, and Potter), four of the five highest colorectal cancer mortality ranks, and four of the five highest ranks for both lung cancer incidence and lung cancer mortality (Table 2).

Table 1. Selected cancer rates, rural vs. urban residents of the Hillman catchment area, 2018–2022

Cancer site	Rural incidence	Urban incidence	Rural mortality	Urban mortality
Cervical	8.0*	6.6	2.2*	1.5
Colorectal	39.0*	37.0	13.9	13.1
All cancers	462.6	459.0	160.8	157.5

*Age-adjusted rates per 100,000. *Statistically significant difference. Source: Pennsylvania Cancer Registry, as reported in Hillman catchment-area data.*

Table 2. County rankings of cancer incidence and mortality by rurality, Hillman catchment area (29 counties)

Cancer site and measure	Counties ranked (rural / urban)	Rural counties: average rank	Urban counties: average rank	Rural counties among the five highest
Breast: incidence	17 / 12	17.3	11.8	2 of 5
Breast: mortality	15 / 12	12.3	16.2	5 of 5
Cervical: incidence	3 / 9	5.3 (of 12)	6.9 (of 12)	1 of 5
Cervical: mortality	0 / 6	Not reportable	3.5 (of 6)	0 of 5
Colorectal: incidence	17 / 12	14.2	16.2	5 of 5
Colorectal: mortality	16 / 12	12.8	16.8	4 of 5
Lung: incidence	17 / 12	14.8	15.3	4 of 5
Lung: mortality	17 / 12	13.9	16.6	4 of 5

Rank 1 = highest rate among counties with reportable data, so a lower average rank means a higher rate. Rural = RUCC 4–9; urban = RUCC 1–3 (2023 codes). Small counts are suppressed, so cervical cancer is ranked among only twelve counties for incidence and six for mortality (nonrural), and its ranks are not comparable with the 29-county scale used for other sites. Breast and cervical cancer rankings are for women. Source: Hillman catchment-area county statistics.

These are county-level comparisons, and rates in small rural counties are statistically unstable, so the rankings should be read as a pattern and not as proof of any single county's burden. The breast cancer pattern, with lower incidence but higher mortality in rural counties, is consistent with the rural access gaps.

Cancer Priorities and Practical Solutions for Women in Rural Pennsylvania

Breast Cancer

Breast cancer is the most diagnosed cancer among women nationally. In 2025 needs assessment of the 29-county catchment area of the Hillman Cancer Center, 62.5% of respondents reported breast cancer screening. Among women fifty and older, the figure was 73.2%, compared with 45.7% of women younger than fifty. These figures reinforce the need for consistent, guideline-based screening and follow-up. County rankings add to this picture: urban counties lead our catchment area in breast cancer incidence, yet the five counties with the highest breast cancer mortality are all rural (Table 2). Lower diagnosis alongside higher mortality is a pattern consistent with rural women being screened and treated less often, although county data alone cannot establish that. Evidence from Appalachian Pennsylvania, Ohio, and Kentucky adds that later-stage breast cancer was most common in the most deprived counties and was less common where screening rates were higher, with a stronger screening association in Pennsylvania.¹³

Cervical Cancer

Cervical cancer is among our clearest opportunities for prevention, through HPV vaccination, screening, and timely treatment of precancerous disease. Yet, rural women have both higher cervical cancer incidence and higher cervical cancer mortality than urban women, and within the Hillman Cancer Center's 2025 Needs Survey, only 41% of respondents reported a Pap test in the past three years, one half the national goal.

Lung Cancer and Environmental Exposure

Lung cancer remains the leading cause of cancer death in both women and men. Tobacco prevention and cessation remain essential, as does access to guideline-based low-dose CT screening for eligible people. But lung cancer is not exclusively a smoking-related disease. The National Cancer Institute notes that up to one-quarter of lung cancers occur in people who have never smoked, and outdoor air pollution, including fine particulate matter (PM_{2.5}), is classified as a Group 1 human carcinogen. Recent research has linked fine-particle exposure to cancer-driving genomic changes in lung tumors among people who never smoked.¹⁴ The relevance to women extends beyond the lung. A large NIH study associated residence in areas with higher fine-particulate air pollution with increased breast cancer incidence. Air quality is a women's cancer concern and belongs in cancer prevention policy.

Radon is a second exposure that Pennsylvanians encounter at home. Every county in southwestern Pennsylvania lies in EPA Zone 1, the highest radon potential category. In Allegheny County, the average measured level is 6.5 pCi/L against an EPA action level of 4.0, and 43% of tested homes exceed that action level. Testing and mitigation are simple, effective, and underused.

Colorectal Cancer

Colorectal cancer affects women and men alike and is preventable, or far more treatable, when screening finds precancerous lesions or early disease. In our region, rural residents have significantly higher colorectal cancer incidence than urban residents. County rankings from the Hillman Cancer Center reinforce this: all five counties with the highest colorectal cancer incidence, and four of the five with the highest colorectal cancer mortality, are rural (Table 2).

Skin Cancer and Melanoma

Skin cancer is the most common cancer in the United States, and melanoma incidence has risen over time. Federal data for 2009 through 2018 show melanoma incidence increasing by an average of 1.5% per year among women, compared with 1.1% among men. In our Hillman Cancer Center needs assessment, more than half of respondents reported a sunburn in the prior year, and one in five reported never using sunscreen, even on sunny days. Skin cancer was also among the cancers respondents named most often, as having experienced, a reminder that hospital cancer registries capture it poorly and that the true burden is larger than official counts suggest.

Clinical Trials as Access to Care

For many patients, a clinical trial is access to the best available treatment. Rural residents make up about 19% of Hillman's cancer cases but only 12.5% of participants in our interventional trials. The needs survey found that knowledge of clinical trials was modest overall and weaker than the farther respondents lived from an urban center. Closing this gap requires local outreach, navigation, and practical support for travel and lodging, so that where a woman lives does not decide whether a new therapy is within her reach.

Recommendations

- 1. Stabilize and increase funding to PA regional cancer centers.** The Commonwealth currently appropriates \$2 million annually, divided into four \$500,000 grants administered to the regional cancer institutes: Penn Medicine, Hillman Cancer Center, Penn State Cancer Center, and the Northwest Regional Cancer Institute. These funds are a large component of each center's operating costs for outreach, education, and screening. At this year's Regional Cancer Center lobby day, modest bipartisan support for this funding, expressed appreciation for the work accomplished with the somewhat modest funds provided, and, at times, a question as to why more funds were not sought, since cancer control, particularly in rural, underserved communities, enjoys rare bipartisan support. Additional funding of

\$500,000 annually/center would allow the development of a community health workforce, increased dollars for mobile van utilization, and screening costs, including the purchase of fecal immunochemical test (FIT) kits. It is further investment in a well-known and successful model.

2. **Utilize advanced practice providers** to fill the physician gap in rural areas While steps have been taken at both federal and state levels to relax ARNP advanced registered nurse practitioner's practice restrictions, many states inhibit ARNPs' ability to practice at the level for which they have been prepared, including Pennsylvania, a restrictive practice state. The Institute of Medicine states: "Collaborative models of practice, in which all health professionals practice to the full extent of their education and training, optimize the efficiency and quality of care for patients and enhance the satisfaction of healthcare providers" Relaxing scope of practice restrictions could help ARNPs meet the critical demand for cancer care services, particularly for screened cancers, in rural areas. ¹⁷
3. **Train and reimburse community health workers and navigators.** Trust is part of the case for this investment: in a central Pennsylvania survey, medical mistrust was the factor most consistently associated with lower screening and preventive care. ¹⁴The Pennsylvania Area Health Education Center (AHEC) regions offer a standardized, competency-based training program that provides the core competencies community health workers (CHWs) need to work in community-based organizations and in outpatient and inpatient medical settings, and to apply for state certification as a Community Health Worker. Their work in cancer care could expand the presence of a trusted health care guide to encourage screening and treatment if necessary. ¹⁸ Additional oncology and cancer care training is available through the ACS LION program, a comprehensive training, credentialing, and implementation support program for patient navigators, social workers, nurse navigators, community health workers, and other professionals involved in oncology care. It is designed to help navigators deliver high-quality, compassionate guidance aligned with the Oncology Navigation Standards of Professional Practice and the Centers for Medicare & Medicaid Services (CMS) training requirements for Principal Illness Navigation (PIN) reimbursement. ¹⁹ The Commonwealth should support this training and establish sustainable reimbursement for outreach, education, screening coordination, barrier assessment, follow-up, and survivorship support.
4. **Preserve existing programs.** Protect programs that communities already trust, including breast and cervical cancer early-detection services, tobacco-control and cessation infrastructure, cancer registries, comprehensive cancer control, mobile screening, transportation assistance, patient navigation, and rural health networks.

The Pennsylvania Breast & Cervical Cancer Early Detection Program (PA-BCCEDP) is a free breast and cervical cancer screening program of the Pennsylvania Department of Health, funded by the Department of Health through the federal Centers for Disease Control and Prevention. Within Pennsylvania, the program is administered, in all but five

counties, through Adagio Health and its community partners. From July 1, 2025, to June 30, 2026, Adagio Health served 6,729 people through the program. Of those served, 2,067 live in Pennsylvania's 48 rural counties. Services included 954 mammograms and 745 Pap tests; 108 of those patients had a positive HPV test. Of note, 16% of BCCEDP patients in rural counties identified Spanish as their primary language, which adds to patient needs.

Once screening is complete, if a cancer is found, the patient is navigated through the Medical Assistance application for cancer treatment coverage through the Breast and Cervical Cancer Prevention and Treatment (BCCPT) program. Adagio Health submitted 150 BCCPT Medical Assistance applications for rural Pennsylvanians from July 1, 2025, to June 30, 2026.

An example of this impact is one patient's story. In February 2026, a 51-year-old woman from Crawford County reached out to one of Adagio Health's BCCEDP partners. She was experiencing breast pain and had recently lost her insurance, and she did not know how she could afford medical care. Staff at her OB/GYN office explained the BCCEDP and enrolled her. The BCCEDP covered her mammogram, ultrasound, biopsy, and aspiration. She was diagnosed with breast cancer in May and applied for Medical Assistance through BCCPT. She was then approved for Medical Assistance and began treatment.

- 5. Use data to target resources.** Support county-level cancer, environmental, and access surveillance, and pair those data with community input. Direct resources toward documented geographic and demographic needs while protecting patient privacy. With changes in the Medicaid policy landscape and funded projects from the 2025 national Rural Health Transformation Fund launching over the next few years, evaluating the effect of innovative programs and policies on these key areas will help further strengthen rural cancer care.

Closing

For a woman in rural Pennsylvania, the most important cancer center is not the one with the most advanced technology. It is the system she trusts, can access, navigate, and complete. Our goal should be a connected continuum in which prevention reaches her community, screening is feasible, abnormal findings are resolved quickly, treatment is accessible, and survivorship support continues close to home. It is a tall order but is attainable.

I respectfully ask the Board to examine these solutions: provide stable cancer-control funding; build the rural oncology workforce; train and reimburse community health workers and navigators; and preserve the trusted programs and coalitions that communities already rely on. The solutions for equitable cancer care for women in rural areas in Pennsylvania do exist. They can be implemented.

Where a woman lives should shape the community she calls home, not her chance of surviving

cancer. I respect your commitment to rural Pennsylvania's health. I would be glad to answer questions and supply any additional data the Board finds useful.

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