Hennepin Health
your community health plan

Focus Study

Cervical Cancer Screening (CCS): Understanding the Primary Deterrents to and Barriers Impacting CCS

June 1, 2025

Cervical Cancer Screening (CCS): Understanding the Primary Deterrents to and Barriers Impacting CCS

Description

Cervical cancer remains a significant public health issue, with substantial disparities in incidence and mortality rates across different racial and ethnic groups in the United States (U.S.). The National Cancer Institute (NCI) highlights that almost all cancer cases are caused by the human papillomavirus (HPV), the most prevalent sexually transmitted infection globally.[1] Despite advancements in screening and prevention, cervical cancer continues to be a leading cause of cancer deaths among women worldwide.

The World Health Organization (WHO) recommends at least two screenings for every woman, one at age 35 and another at age 45. The target for WHO is to reduce cervical cancer cases to four per 100,000 women.[2] The current cervical cancer rate among women in the U.S. is 7.6 per 100,000 which is higher than the global target. The current death rate among women in the U.S. stands at 2.2 per 100,000 women per year. In 2021, an estimated 295,748 women were living with cervical cancer in the U.S. An estimate of 13,820 new cases is projected in 2024, with 4,360 projected deaths.[3]

Significant racial and ethnic disparities exist in cervical cancer screening and outcomes. For instance, Black/ African American women over the age of 65 have a much higher incident rate (18.9 per 100,000) compared to the national average.[4] Generally, U.S. statistics show that racial and ethnic minorities have higher chances of being diagnosed with advanced states of cervical cancer when compared to people who identify as Non-Hispanic White Women.[5]

In Minnesota, studies from 2015 to 2019 indicate 50% of cervical cancers were diagnosed among females under age 50. During the same period, 813 women were diagnosed with cervical cancer in addition to a reported 203 deaths.[6] American Indians and Asian populations in Minnesota show higher incidence and mortality rates compared to the general female population in the state.[7] According to MDH, 93% of Minnesotan women who received early diagnosis of cervical cancer have a survival chance of at least five years after diagnosis, compared to 52% for those diagnosed with the disease at a later stage.[8]

Given these disparities, it is crucial to investigate the barriers impacting cervical cancer screening among minority groups. Understanding these barriers can inform targeted interventions to improve screening rates and reduce cervical cancer incidence and mortality among these populations. This study aims to explore the factors contributing to low screening rates and develop strategies to enhance cervical cancer prevention efforts, particularly in underserved communities.

This study will be conducted in two phases. The initial phase will entail a fact-finding mission focusing on a comprehensive review of existing cervical cancer studies and direct consultations with Hennepin Healthcare System (HHS) and NorthPoint Health and Wellness (NorthPoint) staff and providers whose work centers around CCS. Both institutions are part of Hennepin Health's Accountable Health Model Partners and serve as State Grantees for the Cervical Cancer Quality Improvement (CSQI) program. These sources will offer a substantial foundation for understanding the observed barriers and will help highlight potential interventions to address these gaps. The second phase of the study will commence in 2025 utilizing insights from the first phase to guide a focus group conversation and/or survey with our members through NorthPoint's existing Listening Sessions or organized groups. This will be done in collaboration with NorthPoint who will take the lead in facilitating the discussions. During the second phase, an attempt will be made to assess the Social Determinants of Health wheel in Epic®, to identify the key areas that

---

[1] Prevention CfDCa, 2020

[2] WHO, *Global strategy to accelerate the elimination of cervical cancer as a public health problem*, 2020

may impact care for our members. This phase will also feature implementation of a small test of change for key strategies identified during the first phase of the study. The 2024 interim report will be produced by March 31, 2025, and the final report will be completed by March 31, 2026, following the completion of implementation strategies by December 31, 2025. The reports of the study will be presented to the Clinical Quality Outcomes Committee.

The study will provide valuable insights into barriers to cervical cancer screening from the perspective of researchers, healthcare providers, and the community. Strategies will be developed to address the main challenges and enhance screening rates. Using the Plan-Do-Study-Act (PDSA) methodology, a small test of change will be implemented and assessed through continuous monitoring of HEDIS® CCS rates.

Focus Study Question

- What barriers are we seeing that hinder CCS?
- What tested strategies worked and what did not work in addressing?
- What strategies can we adopt to address these barriers?
- What are the trends in CCS screening among Hennepin Health members?

Process and Documentation

For this study, CCS includes:

- Primary HPV test every 5 years for women, ages 30-64.
- HPV test with a Pap test (co-test) every 5 years for women, ages 30-64.
- Pap test every 3 years for women, ages 21-29.

Anything that poses as hinderance to getting the above screenings done is considered a barrier.

Sample size and sampling methodology

Approximately 90% of female Hennepin Health members, who are attributed to health care providers, use HHS for their care[3]. Some Hennepin Health members also use NorthPoint for their care. The study will obtain information from HHS and NorthPoint providers and staff who interact with the eligible population of this study. The sample size for the second phase will be 10% of the total Hennepin Health eligible member population who are attributed to HHS and NorthPoint. The members in the sample must be between the ages of 21 to 65 at the time of the survey. This age backet determination is based off recommendation of the U.S. Preventive Services Taskforce.[4] Using HEDIS® for calendar year (CY)2023, CCS data among eligible Hennepin Health female members receiving services from HHS and NorthPoint will be analyzed. Trends will be monitored for CY2024 and CY2025 during the study period. A questionnaire will be used to gather information. If the opportunity presents itself, we will explore conducting interviews over the phone or in person.

Analysis

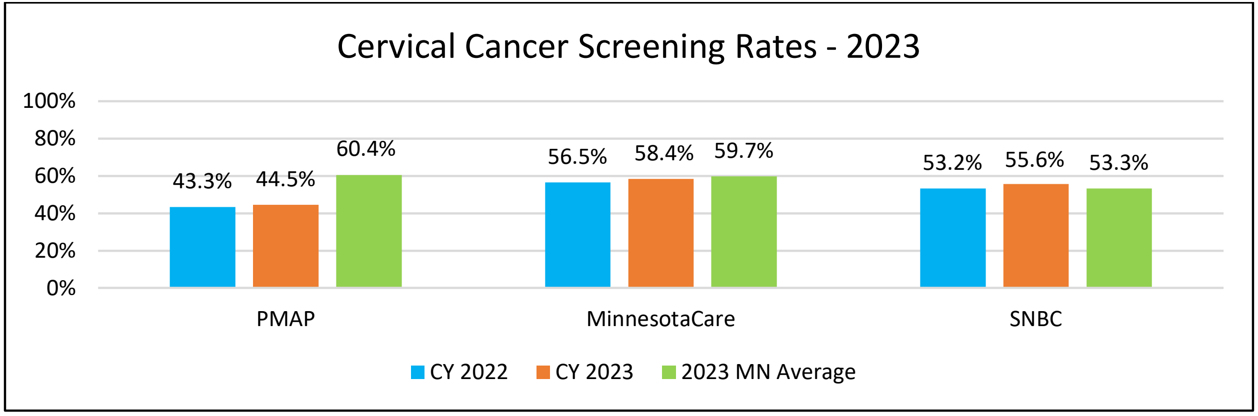
According to the Minnesota Community Measurement (MNCM) report, the Statewide CCS average in 2023 was 68% which was below the benchmark of 82.10%. ▯ Based on HEDIS® CY2023 data, an analysis was completed on the status of CCS for eligible Hennepin Health members. Figure 1 below shows CCS rates from 2022 to 2023 and compares the data with the 2023 Minnesota state average rate. While there has been consistent improvement in rates from 2022 to 2023 across all products, the Minnesota state average was higher in both PMAP and MinnesotaCare populations. In the SNBC population, Hennepin Health members rate was higher than the Minnesota average, but it is still slightly over 50% of the eligible population.

---

[3] Hennepin Health Data Warehouse, Hennepin Health HEDIS® CY2023

[4] U.S. Preventive Services Task Force, *Screening for Cervical Cancer, U.S. Preventive Services Task Force Recommendation Statement.* JAMA August 21,2018. Volume 320 Number. [cervical-cancer-final-rec-statement.pdf]()

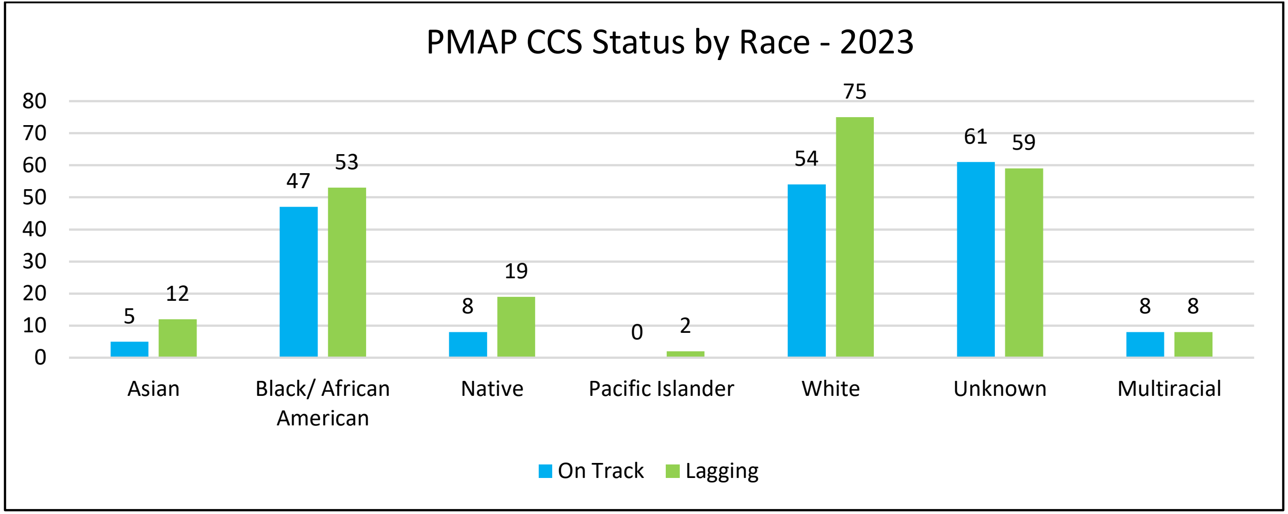
Figure 1: Cervical Cancer Screening Status - CY2023



Data Source: Hennepin Health Data Warehouse, Hennepin Health HEDIS® CY 2023

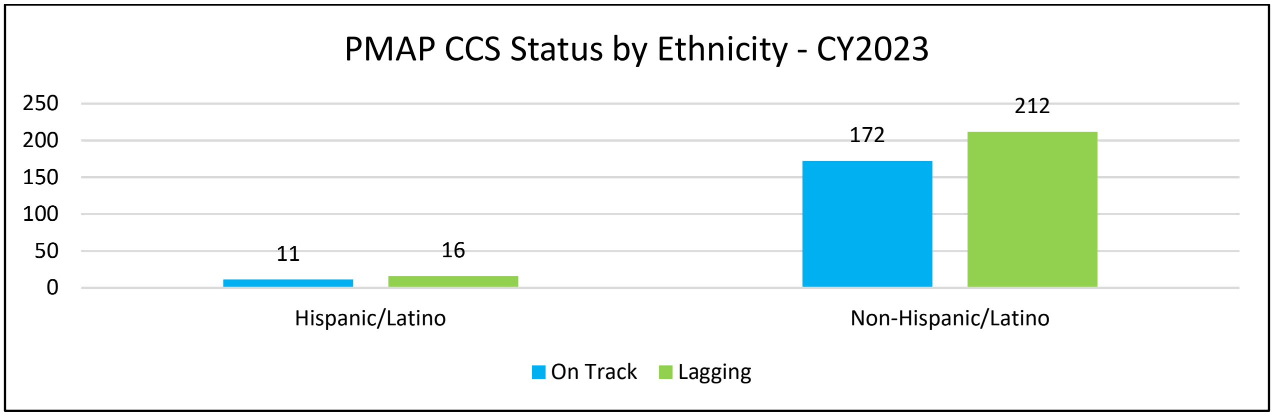
Out of a sample size of 411 for the PMAP population, 183 (43.53%) were on track with their screening expectations. Figure 2 below shows the racial distribution of members who were on track with CCS. The sample comprised of 384 non-Hispanic members, (of which 172 were on track with screening) and 27 Hispanic/Latino (of which 11 were on track with their screening). See figure 3 for the PMAP CCS status by ethnicity. The populations with the highest screening rates were the Multiracial (50%), Black/ African American (47%), White (42%) and unknown (51%). The Asian, Pacific Islanders, and Native American populations were behind in the ratio of those screened at 29%, 0% and 30% respectively.

Figure 2: PMAP Cervical Cancer Screening Status by Race - CY2023



Data Source: Hennepin Health Data Warehouse, Hennepin Health HEDIS® CY 2023

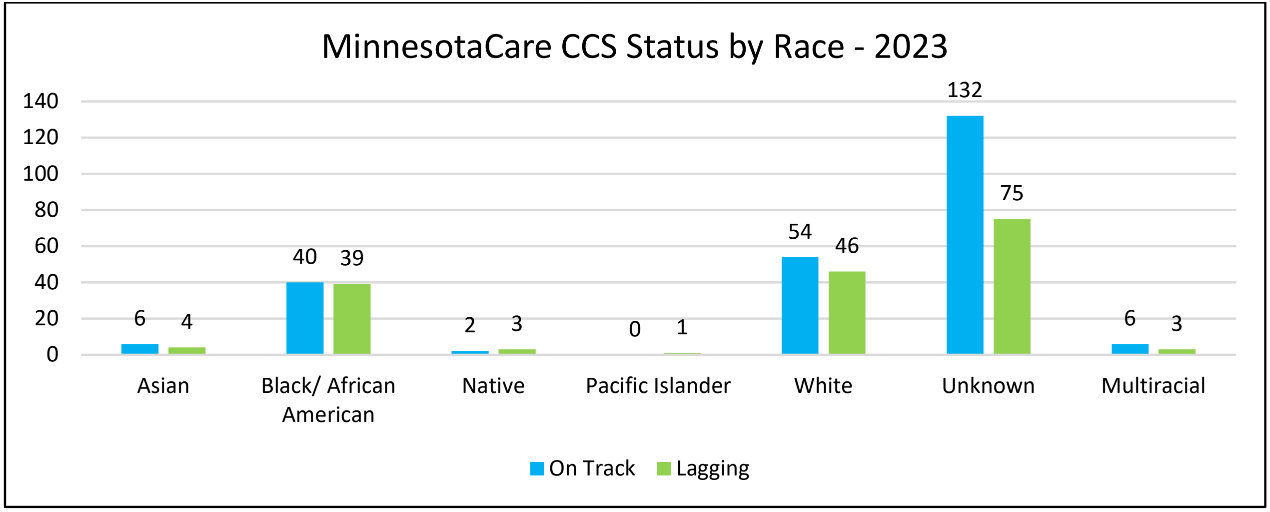
Figure 3: PMAP Cervical Cancer Screening Status by Ethnicity - CY2023



Data Source: Hennepin Health Data Warehouse, Hennepin Health HEDIS® CY 2023

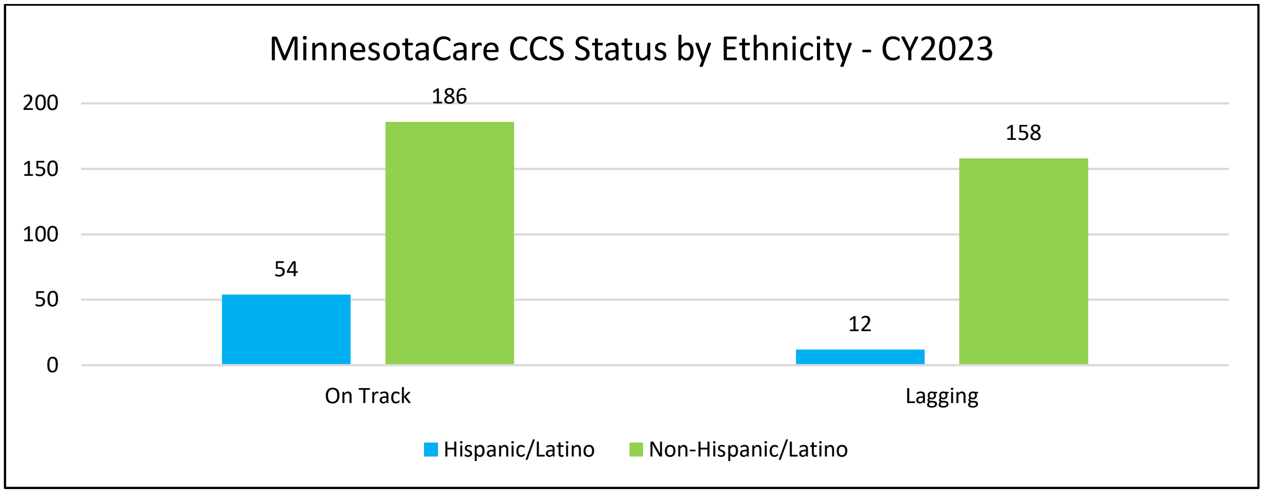
MinnesotaCare HEDIS® data indicate that out of a sample size of 411, 240 (58.39%) were on track with their screening expectations. Figure 4 below shows the racial distribution of members who were on track with CCS. This sample comprised of 344 non-Hispanic members, (of which 186 were on track with screening) and 66 Hispanic/Latino (of which 54 were on track with their screening). See figure 5 for the MinnesotaCare CCS status by ethnicity. The populations with the highest screening rates were the Asian (60%), Black/ African American (51%), White (54%) and Multiracial (58%), and unknown (67%). The Pacific Islanders and Native American populations were behind in the ratio of those screened at 0% and 40% respectively.

Figure 4: MinnesotaCare Cervical Cancer Screening Status by Race - CY2023



Data Source: Hennepin Health Data Warehouse, Hennepin Health HEDIS® CY 2023

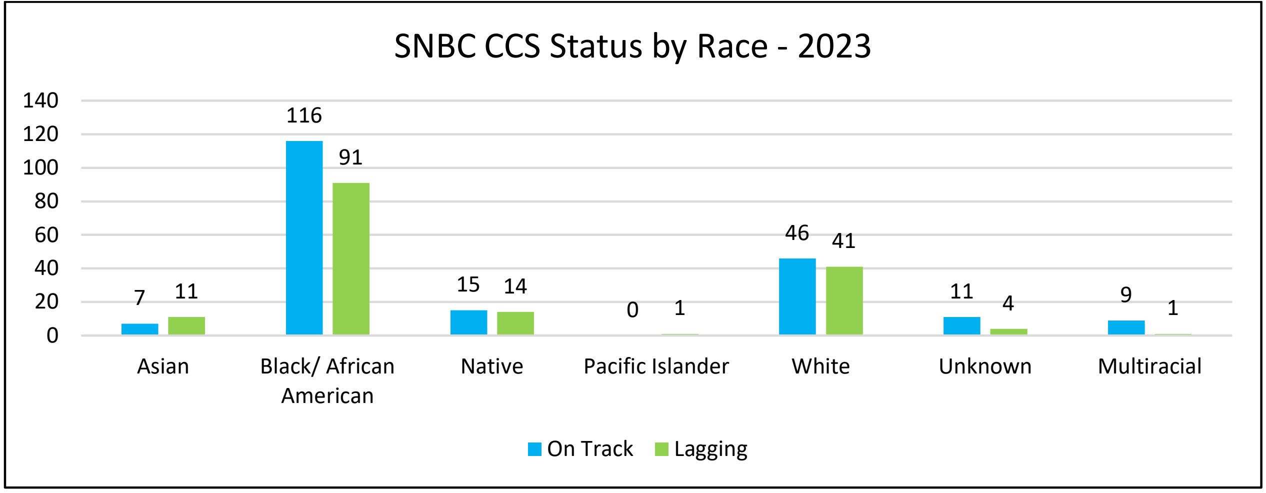
Figure 5: MinnesotaCare Cervical Cancer Screening Status by Ethnicity – CY2023



Data Source: Hennepin Health Data Warehouse, Hennepin Health HEDIS® CY 2023

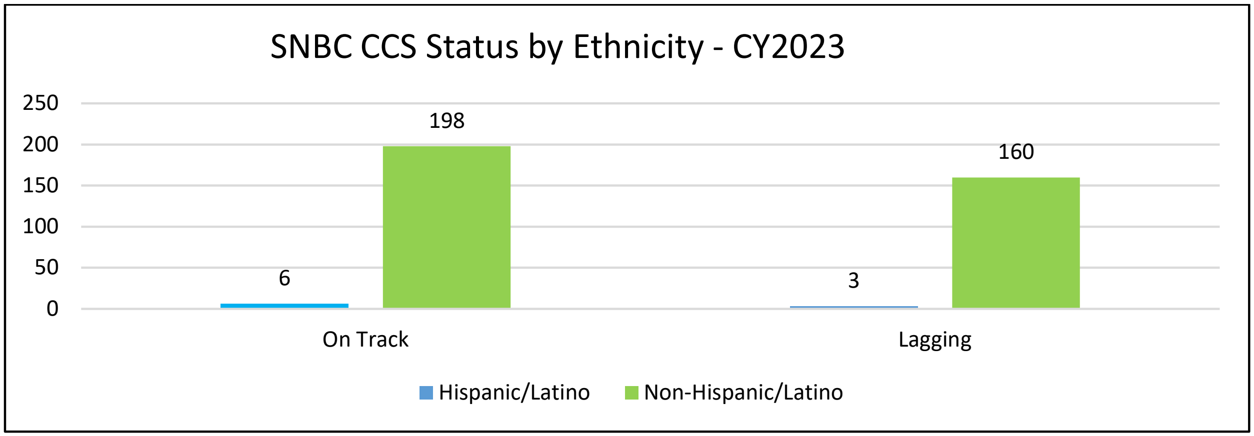
The SNBC HEDIS® data indicate that out of a sample size of 367, 204 (55.59%) were on track with their screening expectations. Figure 6 below shows the racial distribution of members who were on track with CCS. This sample comprised of 358 non-Hispanic members, (of which 198 were on track with screening) and 9 Hispanic / Latino (of which 6 were on track with their screening). See figure 7 for the SNBC CCS status by ethnicity. The populations with the highest screening rates were the Multiracial (90%), unknown (73%), Black/ African American (56%), White (53%) and Native American (52%). The Pacific Islanders and Asians were lagging in the ratio of those screened at 0% and 39% respectively.

Figure 6: SNBC Cervical Cancer Screening Status by Race - CY2023



Data Source: Hennepin Health Data Warehouse, Hennepin Health HEDIS® CY 2023

Figure 7: SNBC CCS Status by Ethnicity - CY2023



Data Source: Hennepin Health Data Warehouse, Hennepin Health HEDIS® CY 2023

Results

Phase I: Findings for Phase

The first phase of the study centered on CCS fact-finding through literature review and direct consultations with staff of HHS and NorthPoint staff and providers whose work centers around CCS. Direct discussion with the American Cancer Society (ACS) will also be referenced in the findings.

A review of existing research on CCS identified key deterrents to screening. Previous research from United States Preventive Services Task Force has highlighted the impact of cervical cancer mortality on minority populations, including African Americans, American Indians and Asian.[5] The paper further asserts that although the screening rates for African American population are closer to those for White population in the US, mortality rates are higher due to inadequate follow-up after screening and differential treatment. Higher mortality rates from cervical cancer among African Americans are exacerbated by their increased likelihood of developing 'higher than average rate of adenocarcinoma, which carries a worse prognosis than the most common type of cervical cancer (squamous cell carcinoma)"'.[6] While both American Indians and Asians generally have lower screening rates, Asians may have language and cultural barriers which impact screening rates. Additionally, lack of health insurance coverage and irregular access to healthcare care clinicians pose obstacles to CCS. The study identified geographic isolation as a barrier for women in remote and medically underserved areas. [7]

In a Center for Disease Control (CDC) brief about barriers to cervical cancer screening among women with chronic conditions, reference was made to previous research findings of barriers including "age, lack of awareness, lack of transportation, fatalistic health beliefs, low health literacy, poor patient compliance to provider recommendations, and low-quality health care services"[8] result in untimely CCS. As identified in these findings, a review of grievances and appeals received at Hennepin Health has consistently identified transportation as the leading cause of grievances.

---

[5] U.S. Preventive Services Task Force, *Screening for Cervical Cancer, U.S. Preventive Services Task Force Recommendation Statement.* JAMA August 21,2018. Volume 320 Number. cervical-cancer-final-rec-statement.pdf

[6] U.S. Preventive Services Task Force, *Screening for Cervical Cancer, U.S. Preventive Services Task Force Recommendation Statement.* JAMA August 21,2018. Volume 320 Number. cervical-cancer-final-rec-statement.pdf

[7] U.S. Preventive Services Task Force, *Screening for Cervical Cancer, U.S. Preventive Services Task Force Recommendation Statement.* JAMA August 21,2018. Volume 320 Number. cervical-cancer-final-rec-statement.pdf

[8] Crawford A, Benard V, King J, Thomas CC. Understanding Barriers to Cervical Cancer Screening in Women With Access to Care, Behavioral Risk Factor Surveillance System, 2014. Prev Chronic Dis 2016;13:160225. DOI: http://dx.doi.org/10.5888/pcd13.160225

Barriers related to transportation cut across populations and product lines. In 2023, transportation grievances accounted for 48 out of 110 grievances from the PMAP/MinnesotaCare members and 31 out of 46 grievances from SNBC members. This trend persisted in 2024 when transportation accounted for 78 out of 150 PMAP/MinnesotaCare grievances and 51 out of 64 SNBC grievances.[9]

Direct consultations were held with HHS and NorthPoint team members whose work centers around cervical cancer screening. These discussions yielded insights into the barriers encountered by patients who use these systems, including Hennepin Health members. By virtue of being connected to CCS and other cancer screening initiatives at HHS and NorthPoint, these team members have the opportunity of uncovering some issues deterring their patients from fulfilling their screening needs. Multi-factual barriers were identified during the discussions. Limitation was noted in the sex of the provider attending to collection of the pap smear sample. While some cultures may account for members preferring a certain sex from another in their providers, others may not feel comfortable having someone of a sex different from theirs to attend to them. For individuals with limited English proficiency, language barrier hampers the understanding of the relevance of CCS and, thus, the low rates observed in these communities. Ineffective communication was also identified as a barrier and is more impactful for patients whose primary language is not English. Poor communication between healthcare provider and patient results in inadequate care and missed screenings. Uninsured patients often face financial hardships that prevent them from seeking preventive care, including cervical cancer screening. Without health insurance, the cost of medical services becomes a significant obstacle, and patients keep away to avoid unexpected high bills. Many patients are unaware of the importance of regular cervical cancer screenings or the availability of such services. Thus, for some not complying with screening expectation is linked to deficiency in knowledge and awareness of procedure and available resources. Additionally, historical and ongoing instances of discrimination and mistreatment have led to pervasive mistrust in the healthcare system among certain communities. The mistrust is aggravated when the providers do not reflect the patient population they serve. Socioeconomic factors, such as income, housing, social connections and wellness, significantly influence an individual's ability to access health care. Moreover, where these challenges are present, health care needs, especially preventive care, are not the top priority for patients.

Recommendations

The recommendations below were identified from previous research findings and direct consultations with AHM partners and the American Cancer Society. Some recommendations emerged from tactics that have been tried by AHM partner institutions, yielding positive results.

1. Offer flexible screening alternatives.
    a. Provide pap tests outside regular clinic hours (late hours on weekdays and/or weekends).
    b. Organize community events like 'Pap Fests' on a quarterly basis to create opportunities for screening[10] outside regular clinic hours (late hours on weekdays and/or weekends).
    c. Provision of a mobile community screening van.
2. Streamline screening processes.
    a. Improve screening processes for patients and doctors for increased access to care.
    b. Eliminate the need for multiple visits to get screened by training more primary care doctors to perform pap tests.
    c. Establish easy screening referral mechanisms.
3. Implement patient education and outreach interventions that cater to the needs of the population served.
    a. Provide CCS patient education through health center staff/providers.
    b. Provide CCS patient education through community events.

---

[9] Hennepin Health Data Warehouse: Essette™

[10] After-Hours Care Increases Cervical Cancer Screening in Louisiana | NBCCEDP | CDC

    c. Provide CCS patient education through direct community outreach (e.g., at clinic lobbies or through faith institutions) and offering scheduling assistance, transportation. and incentives for screenings.
    d. Health organizations collaborate with the American Cancer Society, launching screening campaigns to educate patients, providers and administrative staff (e.g., front desk staff and schedulers) about CCS.
    e. Involve community outreach staff who reflect the communities they serve.
    f. Bridge language barriers during outreach, by providing materials in key languages of the populations and providing accessible interpreters (over the phone and in-person).
4. Enhanced Provider-Patient Communication.
    a. Use health care center staff and patient navigators to send regular CCS reminders to patients and providers, thereby improving patient reminder processes.
5. Provide support services to boost participation in screening and for ease of access.
    a. Offer appointment scheduling assistance during outreach interventions.
    b. Offer transportation or transportation scheduling assistance during outreach interventions.
    c. Offers incentives and rewards for screenings during outreach interventions.
    d. Work with providers to block provider schedule for outreach-driven screening.
6. Provide Care Coordination for CCS
    a. Maintain accurate patient screening status records to ensure outreach is done with the eligible population.
    b. Offer care coordination for CCS-eligible population to stay on track.
    c. Involving laboratory staff in tracking patient screening status.

Next Steps

The report of the first phase will be presented to the Clinical Quality Outcomes Committee Recommendations will be sought to identify key interventions to be tested in 2025. Outreach will be made to NorthPoint to collaborate in organizing a focused group discussion and/or survey. The final report of this study will be completed by March 2026.

References & Acknowledgements

Acknowledgements:

Special appreciation is extended to the following people for their invaluable insights and discussions during the study:

- Dr. Wendy Miller (MD, MS), primary care provider at Hennepin Healthcare
- Tamara Senior, Director of Primary Care at Hennepin Healthcare
- Carla Lucas, Certified Nurse Practitioner, NorthPoint Health and Wellness Center
- Carmen Parrotta, Manager, Quality Management, NorthPoint Health and Wellness Center
- Jesus Barrera (MHA) – Associate Director of Community Partnerships at American Cancer Society (ACS)

References:

1. Colditz G.A., Wei E.K. Relative Contributions of Biologic and Social and Physical Environmental Determinants of Cancer Mortality. Annual Review of Public Health, 2012;33:137-156.
2. Doll R, Peto R. The Causes of Cancer: Quantitative Estimates of Avoidable Risks of Cancer in the United States Today. Journal of the National Cancer Institute; 1981, 66:6;1193-1308.
3. Harvard Report on Cancer Prevention. Cancer Causes and Control, 1996, 7: S55-S58.
4. Schottenfeld D, Beebe-Dimmer JL, Buffler PA, Omenn GS. Current Perspective on the Global and United States Cancer Burden Attributable to Lifestyle and Environmental Risk Factors. Annual Review of Public Health 2013, 34:97-117.
5. American Cancer Society (ACS). March 14, 2022. Retrieved January 10, 2023, from American Cancer Society Guidelines for the Early Detection of Cancer.

6. Centers for Disease Control. May 19, 2022. Retrieved January 10, 2023, from Centers for Disease Control - Screening Tests.
7. MN Community Measurement (2023). Health Care in Minnesota: Summary Report: Health Care in Minnesota: Summary Report

(Remainder of page intentionally left blank)

Hennepin Health

your community health plan