HDMS℠ Health Data & Management Solutions

Measure the Impact of Preventive Cancer Screenings

A case study for employers and health plans

The Need

The Affordable Care Act (ACA) requires employers to fully cover preventive screenings for breast, cervical/uterine and colorectal cancers.

For one state agency, declining member utilization of these preventive screenings was a cause for concern. Why were utilization rates dropping? Moreover, what impact was the reduction having on the agency's costs and its members' health outcomes?

The Analytic Challenge

The state agency, which administers health benefits for 205,000 employees and dependents, set out to identify the cost and outcomes of the ACA-required preventive cancer screenings. What the agency really wanted to know was whether the screenings were resulting in earlier cancer detection, which in turn required less invasive and less costly treatment.

For quite some time, the agency simply assumed that the screenings were cost effective. The challenge was to accurately quantify their impact at a time when:

- The American Cancer Society (ACS) released new, more targeted guidelines that lowered the number of people it recommended for the preventive screenings.[1] (The ACS believed the change would result in higher prevention rates even with fewer people screened.)
- Screening utilization was declining.
- Only 6 to 8 percent of members who were screened were actually diagnosed with cancer or a related condition as a result.

The Solution

The state agency's population health manager (PHM) uses HDMS' analytics and reporting solution on a quarterly basis to analyze trends in cost and utilization of employee benefits. With HDMS' data management expertise, the PHM trusted the credibility of the analysis. To further evaluate the cancer screenings, the PHM took advantage of the solution's built-in evidence-based guidelines to create episode-based analysis groups (cohorts) from claims and enrollment data to measure whether members:

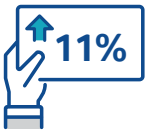
- Were diagnosed with any cancer within the three years prior to being diagnosed with breast, cervical, uterine or colorectal cancer. (This helped to identify new cancer cases as opposed to recurring cancer cases.)
- Received medical services for a cancer diagnosis within 60 days of a preventive cancer screening.

The Results

Analysis clearly showed the value of preventive cancer screenings for members and for the state agency:

- The majority of new cases of breast, colorectal and cervical cancer among the agency's members were initially diagnosed as a result of preventive screenings.

Of **new cases of breast cancer** were associated with preventive screenings[1]



Of members who received screenings **received additional treatments** – not just for cancer

Cervical cancer screenings led many members to **additional** uterine or ovarian **testing**

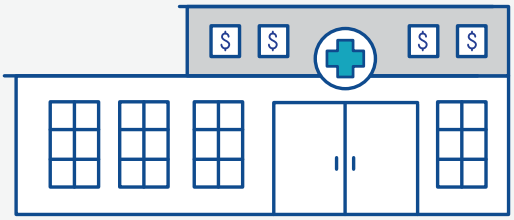
- Members diagnosed with breast, cervical, uterine or colorectal cancer through the preventive screenings experienced fewer medical complications, as shown through lower relative health risk scores.

1.00	**5.88 – 6.53**	**1.00**	**3.31 – 4.22**
Average **risk score** of members diagnosed with **breast cancer**	Average **risk score** of members diagnosed with **breast cancer**	Average **risk score** of members diagnosed with **cervical cancer**	Average **risk score** of members diagnosed with **cervical cancer**
THROUGH PREVENTIVE SCREENINGS	OUTSIDE OF PREVENTIVE SCREENINGS	THROUGH PREVENTIVE SCREENINGS	OUTSIDE OF PREVENTIVE SCREENINGS

- Those diagnosed through preventive screenings recorded lower total costs of cancer care on a risk-adjusted cost basis, as well as relative to expected cancer treatment costs.

18.9% **Decrease** in the **cost** of treatment for **breast cancer**

22.6% **Decrease** in the **cost** of treatment for **colon cancer**



- Overall, paid claims for all three types of cancer screenings was **3.6 percent lower** than in previous years.

CANCERS IDENTIFIED BY SCREENING VS OTHER			
Comparison of cancer treatment outcomes	**Women's breast cancer**	**Cervix/uterine cancer**	**Colorectal cancers**
Cancer diagnosis per screening **(benign tumor or other cancer)**	2.7% 5.2%	1.7% 4.2%	0.5% 5.6%
Health condition is worse (better) - Relative health risk score - Intensity of care index	 (0.03) (0.08)	 0.24	 (0.05) 0.01
Higher (lower) total cost of care: - Risk adjusted cost of care - Actual vs expected costs	 (5)% (46)%	 126% 45%	 (3)% (11)%

Data-informed insight improves health

Today, the state agency reviews a preventive screening dashboard every quarter to monitor outcome metrics. Furthermore, working together with HDMS to perform proactive data analysis may open up new insights into opportunities to reduce costs and improve member health. It's just one powerful illustration of how robust data analysis can help employers and health plans measure and enhance the effectiveness of preventive health benefits.

In the know

The ACS' updated preventive screening guidelines are now focused on smaller populations. However, they target age and gender groups that account for 82 to 92 percent of breast, cervical, uterine and colorectal cancer diagnoses. Screenings identify 68 percent of new breast cancer cases and more than 89 percent of other new cancer cases earlier. So, although the number of eligible members who received preventive cancer screenings declined, compliance with Healthcare Effectiveness Data and Information Set (HEDIS) guidelines, which measures individual clinical care influenced by health plan programs, generally improved. (The exception was compliance for breast cancer screenings.)

1. Grady, D., "American Cancer Society, in a Shift, Recommends Fewer Mammograms," *The New York Times*, Oct. 20, 2015, https://hms.harvard.edu/news/american-cancer-society-shift-recommends-fewer-mammograms

HDMS proprietary data

About HDMS

Health Data & Management Solutions, Inc. (HDMS) is a trusted leader in healthcare performance analytics. The company transforms data into a high-value decision-support asset for 100+ health plan, employer and provider clients. The company's web-enabled platform puts unparalleled analytic power into the hands of customers, guiding them to make actionable decisions to improve the health of their population. HDMS is a privately-held company headquartered in Chicago, Illinois. For more information, visit www.hdms.com.