HDMS Perspectives

A Data-Smart Approach to Analyzing Preventive Cancer Screening Effectiveness

HDMS ℠ **Health Data & Management Solutions**

As healthcare costs continue to increase, more employers and health plans are evaluating the impact of their health and wellness benefits – including the effectiveness of preventive screenings.

Three out of five U.S. employers use health screenings and risk assessments to screen for expensive chronic conditions, such as cancer.[1] Yet, 79 percent of large U.S. employers and 44 percent of mid-sized employers do not measure the effectiveness of employee wellness programs, including preventive screenings.[2]

With the cost of employee health benefits expected to rise 5 percent in 2019, it is critical that employers and health plans develop a data-centric approach to measuring the effectiveness of preventive screenings.[3]

How Data Insight Strengthens Preventive Cancer Screening Outcomes

Analytics inform a high-value approach for health benefits design by providing employers and health plans insights into opportunities for targeted interventions that reduce costs and improve health. Data analytics also help avoid "one-size-fits-most" solutions that may not be a good fit given member and provider characteristics.

> **Employee health benefit costs are expected to rise 5% in 2019**

Increasingly, analytics are used to track outcomes of preventive care. For example, a recent study examined the impact of preventive cervical cancer screenings and showed these efforts resulted in substantially lower deaths and increased lifespans.[4]
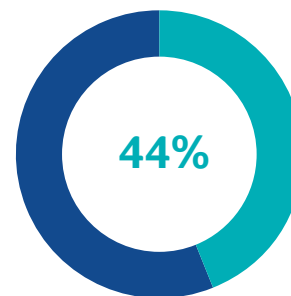
Analytics can also help employers and health plans prioritize preventive cancer screening offerings. Criteria might include:

- Risk factors such as high proportions of members who are overweight, have high cholesterol or high blood sugar levels, or smoke.

- Regional health trends that may point to potential socioeconomic-based risks for members, like higher-than-average prevalence rates of lung cancer or heart disease. For example, 6.2 percent of Ohio's population has heart disease, even as rates across the nation dropped.[5]

Employers Who Do Not Measure the Effectiveness of Employee Wellness Programs

79%
large U.S. employers
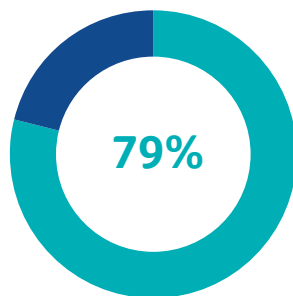
44%
mid-sized U.S. employers

- Evidence of possible "hot spots" within a plan sponsor membership. For instance, analytics show certain locations where employers and health plans should focus efforts on encouraging preventative cancer screenings (member education, onsite clinic involvement, etc.).

The analysis of claims data – as well as socioeconomic data that might be available from state and regional health organizations – can provide powerful insights in developing a high-value approach to preventative cancer screening health benefits for members that improves outcomes.

Case Study: Measure the Impact of Preventive Cancer Screenings

Employers and health plans can demonstrate success through data analytics by determining the impact of preventative cancer screenings on access to treatment, risk and costs of care.

For example, a state health plan covering around 205,000 employees and dependents set out to identify the rate at which members were diagnosed with cancer after undergoing preventive screenings for breast, colorectal and cervical cancers.

For the overall state population, new cases of colorectal and cervical cancer have been decreasing while new cases of breast cancer are increasing. However, analysis of claims data for the state health plan differs for state employees:

- While the rate of newly diagnosed cases of breast cancer remained steady, it was higher than the state average.

- The number of new cases of colorectal and cervical cancer among state employees increased; however, the rate of occurrences was lower than the state average.

By collaborating with HDMS experts, the state health plan created episode-based analysis groups, or cohorts, to assess compliance with preventive screenings compared to national guidelines and measure the impact of such screenings on early cancer detection and treatment.

Members in the episode-based analysis group included those who were newly diagnosed with breast, colorectal and cervical cancers as well as those who had been identified as having a recurring cancer diagnosis within two years of initial detection of the cancers. The results were enlightening:

Increased early diagnosis. The majority of new cases of breast, colorectal and cervical cancer were initially diagnosed following preventive screenings:

- Preventive screenings were associated with 80% of new cases of breast cancer among plan members.

- Among members who received preventive screenings, 11% received additional treatments – and not just for cancer (e.g., removal of benign tumors or polyps).

- Cervical cancer screenings helped identify women who need additional testing to detect or rule out uterine or ovarian cancer.

Decreased risk. The study showed early diagnosis of cancer through preventive screenings was associated with significantly reduced members' risk scores. Members who were diagnosed earlier through preventive screening had significantly lower concurrent risk scores compared to other members with the same type of cancer. Higher risk scores are typically associated with members with later stages of cancer that require more complex treatment.

Increased early diagnosis of cancer through preventive screenings reduces costs of care

Specifically, members diagnosed with breast cancer through preventive screenings had an average risk score of less than 1.00 while members diagnosed outside of preventive screenings had average risk scores from 5.88 to 6.53. Similarly, members diagnosed with cervical cancer through preventive screenings had average risk scores of 1.00 while those diagnosed later exhibited risk scores of 3.31 to 4.22.

Reduced costs of care. Analysis also revealed the impact of preventive screenings in lower costs of care. The cost of treating breast and cervical cancer for women identified by preventive screening was lower on average.[6]

Optimize Value Through Claims Analysis

The results showcase the power of using data to measure the effectiveness of preventive screenings.

When employers and health plans leverage claims and socioeconomic data analysis to refine their approach to benefits design, they are more empowered to reduce costs and improve outcomes.

Average Cancer Risk Scores for Breast and Cervical Cancer

Breast Cancer

<1.00
for members diagnosed through preventive screenings

5.88 – 6.53
for members diagnosed outside of preventive screenings

Cervical Cancer

1.00
for members diagnosed through preventive screenings

3.31 – 4.22
for members diagnosed outside of preventive screenings

1. "Top 10 Health Conditions Costing Employers the Most," Employee Benefit News, Feb. 9, 2018, https://www.benefitnews.com/slideshow/top-10-health-conditions-costing-employers-the-most

2. Desai, P., "Why Health Screening Programs Fail and What Employers Can Do About It," Corporate Wellness Magazine, https://www.corporatewellnessmagazine.com/worksite-wellness/health-screening-programs-fail/

3. https://www.shrm.org/resourcesandtools/hr-topics/benefits/pages/employers-adjust-health-benefits-for-2019.aspx

4. Kim, J.J., Burger, E.A., Regan, C., et al., "Screening for Cervical Cancer in Primary Care: A Decision Analysis for the U.S. Preventive Services Task Force," JAMA, Aug. 21, 2018, https://jamanetwork.com/journals/jama/fullarticle/2697702

5. "Heart Disease Hotspots: 14 States with Highest Rates," CBS News, https://www.cbsnews.com/pictures/heart-disease-hotspots-14-states-with-highest-rates/

6. 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.

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