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Analysis of Draft Bill 25.0075.02000 Diagnostic and Supplemental Breast Exam Coverage with Cost Sharing Restrictions

Prepared for the North Dakota Legislative Council Pursuant to North Dakota Century Code 54-03-28

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I. Evaluation of Proposed Mandated Health Insurance Services

The North Dakota Legislative Council (NDLC) was asked to perform a cost-benefit analysis of Draft Bill 25.0075.02000¹ for the 69th Legislative Assembly pursuant to the North Dakota Century Code (NDCC) 54-03-28. The Draft Bill creates and enacts a new section to 54-52.1 of the NDCC, provides for a report, provides for an application, and provides an expiration date. The Draft Bill, as proposed, states that "the board may not impose a deductible, copayment, coinsurance, or other cost-sharing requirement that causes out-of-pocket costs for a diagnostic breast examination or a supplemental breast examination provided to an individual enrolled under the plan."

NovaRest, Inc., has been contracted as the NDLC's consulting actuary and has prepared the following evaluation of diagnostic and supplemental breast exams with limited cost sharing.

This report includes information from several sources to provide more than one perspective on the proposed mandate and provide an unbiased report. As a result, there may be some conflicting information within the contents. Although we only used sources that we considered credible, we do not offer any opinions regarding whether one source is more credible than another.

NovaRest was asked to provide estimates for the North Dakota Public Employee Retirement System (NDPERS), as well as the impact if the Draft Bill was expanded to the commercial market. We were provided information on four plans administered by NDPERS, 1. Grandfathered PPO/Basic Plan, 2. Non-Grandfathered PPO/Basic Plan, 3. High Deductible Health Plan (HDHP), and 4. Dakota Retiree Plan. For the commercial market we used information from the National Association of Insurance Commissioners Supplemental Health Care Exhibit (SHCE) for individual, small group, and large group markets. Generally, when considering benefits for the individual and small group we considered the Affordable Care Act (ACA) single-risk pool plans, and for large group we considered a sample of plans from the largest three insurers in the North Dakota market.

NovaRest estimates the additional impact of eliminating cost-sharing for diagnostic and supplemental breast exams on health care costs and premiums, which range from 0.2% to 0.5% of premium and \$1.10 to \$2.40 per member per month (PMPM) for NDPERS. The variation reflects the range of costs associated with breast examinations, the number of breast examinations that would be prescribed, and differences in plan deductibles and cost sharing

If similar language is implemented in the commercial market, we estimate the premium impact to be \$0.70 PMPM to \$2.30 PMPM, or 0.1% to 0.5% of premium. The variation reflects the range of costs associated with breast examination, the number of breast examinations that would be prescribed, and differences in plan deductibles and cost sharing



II. Process

NovaRest was responsible for addressing the following analyses regarding this proposed mandate:

- The extent to which the proposed mandate would increase or decrease the cost of the service;
- The extent to which the proposed mandate would increase the appropriate use of the service;
- The extent to which the proposed mandate would increase or decrease the administrative expenses of insurers and the premium and administrative expenses of insureds; and
- The impact of the proposed mandate on the total cost of health care.

NovaRest reviewed literature (including reports completed for other states that were either considering or have passed similar legislation) and developed an independent estimate of the proposed mandate's impact on premiums.

III. Mandated Cost-Sharing Restriction for Diagnostic and Supplemental Breast Examination Benefits

The Draft Bill would mandate coverage for diagnostic and supplemental breast examinations without any deductible, copayment, coinsurance, or other cost-sharing requirement that causes out-of-pocket exam costs. The Bill defines a "diagnostic breast examination" as a medically necessary and appropriate examination of the breast, including an examination using contrast-enhanced mammography, breast magnetic resonance imaging, and breast ultrasound, to evaluate an abnormality seen or suspected from a mammogram examination or detected by any other means of examination. A "supplemental breast examination" means a medically necessary and appropriate examination, including those listed above, to screen for breast cancer when there is no abnormality seen or suspected and is based on personal or family medical history or the presence of increased risk factors.



Background

Condition

The types of breast exams outlined in the Draft Bill can find lesions that cannot be seen on routine mammography. ² These routine mammograms, also known as screening mammograms, are x-rays of the breast and are performed routinely to detect breast cancer in women with no apparent symptoms. If a sign or symptom of breast cancer is found during this screening (or detected by another means as specified in the Draft Bill), a diagnostic exam is done. Any follow-ups to these diagnostic exams are known as supplemental exams. The Draft Bill specifies the same types of exams for both diagnostic and supplemental exams. Routine mammograms flag abnormalities that can include anything from a change in skin texture to a lump or breast pain.³ More specifically, doctors look for calcifications, masses, asymmetries, architectural distortion, and breast density.⁴

Calcifications are calcium deposits within the breast tissue and appear as white spots of flecks on a mammogram. They are generally common and mostly noncancerous, but calcification patterns are suspicious. A diagnostic mammogram or biopsy is usually recommended to ensure they are not cancerous.⁵ An area of abnormal breast tissue with different shapes and edges than the rest of the breast tissue would indicate a mass. These masses can be seen with or without calcification; like calcification, most solid breast masses are not cancer. Two common types of masses are cysts and non-cancerous solid tumors. Both types of masses can feel similar and look alike on a mammogram. Because of this, additional tests like a breast ultrasound or extra imaging tests are recommended. These can help the radiologist determine how likely the masses are to be cancerous.⁶

Asymmetry refers to an increased fibroglandular density in one area compared to others. If found during a screening, diagnostic work or additional imaging is necessary. According to the Breast Imaging Reporting & Data System (BI-RADS), four types of asymmetries can be found on a mammogram. An asymmetry is a finding only seen on one projection, and a focal asymmetry is a finding seen on two projections. A six-month imaging follow-up is usually sufficient if these symmetries have been evaluated and do not look suspicious. A developing asymmetry is an asymmetry that gets larger and more noticeable with each exam. These asymmetries are usually more concerning and may require additional tests and biopsies. Lastly, global asymmetries are seen on two projections, showing largely increased breast tissue in more than one quadrant. Follow-up diagnostics would be needed to determine whether these asymmetries with suspicious features are cancerous or not.⁷

Architectural distortion refers to the distortion of the breast parenchymal architecture without a definable mass. It can be due to either benign or cancerous lesions. In other words, it is a change in the breast's structure. This type of abnormality in mammograms is usually associated with inflammatory breast cancer (IBC) and lobular carcinoma.⁸



Breast density measures how much fibrous and glandular tissue is in the breast. There are four categories of breast density with varying degrees of fatty tissue found within the breast. These categories are category A (almost all fatty tissue), category B, category C (also known as heterogeneously dense), and category D (extremely dense). Most women, about half of all women in the US who have mammograms, fall into categories C and D. Dense tissue does make it more difficult to find breast cancer on a mammogram, thus increasing the risk for developing breast cancer. In this case, additional imaging and testing are recommended.⁹

Treatment

Additional diagnostic exams are part of the usual course of treatment for abnormalities found in a routine mammogram. The diagnostic and supplemental exams outlined in the Draft Bill include contrast-enhanced mammography, diagnostic mammography, breast magnetic resonance imaging, and breast ultrasound.

Diagnostic mammograms are similar to routine mammograms. Both are X-rays of the breast, and the same machines are used for both exams. However, diagnostic mammography requires more radiation and takes longer because more X-ray images are needed to view the breast from different angles. Diagnostic examinations are especially recommended for detecting architectural distortion. The positive predictive value for architectural distortion varies from 10-67% for screening and 60-83% for diagnostic exams. In

A breast magnetic resonance imaging (MRI) scan is a non-radiation imaging technique. It is recommended as a follow-up diagnostic tool rather than a screening tool because it is more likely to find abnormalities that turn out not to be cancer, leading to unnecessary biopsies. However, the breast MRI can locate smaller breast lesions sometimes missed by mammography. This scan is recommended for women with breast implants and women with dense breasts since a regular mammogram would not be as effective in these cases. Additionally, since MRIs do not use radiation, they can increase the number of screenings per year for women who are at high risk for breast cancer. 12 13

A contrast-enhanced mammogram (CEM) is also similar to a routine mammogram. Patients receive an IV injection of iodine-based dye as part of the CEM before proceeding with the mammogram. This helps feature abnormal blood vessels and hyperactive tissues when cancers develop. CEM is recommended as a diagnostic exam for women who are at high risk for breast cancer and cannot have a screening MRI, women who have dense breast tissue, and women who have a history of breast cancer and had breast-conserving surgery that left post-surgical scars.¹⁴

A breast ultrasound is a secondary tool used when a lump or mass is felt but cannot be seen on a routine mammogram. It is especially useful for distinguishing between the previously mentioned main types of masses—fluid-filled masses like cysts and solid masses. In addition, it can be used to guide biopsies done on breasts. ¹⁵



Prevalence of Coverage

State Employee Retiree Group Health Insurance

Sanford confirmed contrast enhanced mammography, diagnostic mammography, breast MRI, and breast ultrasound are currently covered services on the grandfathered and non-grandfathered North Dakota Public Employees Retirement System (NDPERS) plans. Additionally, they cover one mammogram screening service for Members between the ages of 35 and 40 and 1 mammogram screening service per year per Members ages 40 and older at 0% member cost and the deductible is waived, per the plans certificate of insurance available on the NDPERS website. ¹⁶

The NDPERS Medicare plan services are determined by Medicare covered services, which covers screening, baseline, diagnostic and breast ultrasounds.¹⁷

Essential Health Benefits Benchmark Plan

We confirmed that Sanford Health Plan, Blue Cross Blue Shield, and Medica Insurance Company which cover a majority of the North Dakota commercial market (per the 2023 annual financial statements) currently cover contrast enhanced mammography, diagnostic mammography, breast MRI, and breast ultrasound. However, deductible and cost sharing typically applies.

Most individual and small group commercial plans follow the benefits outlined in the EHB Benchmark Plan. The current EHB Benchmark Plan for the individual and small group markets includes coverage for mammography screening. It covers 100% of Allowed Charges and waives the deductible for one service for consumers aged 35 to 40, and for one service per year for consumers aged 40 and older.



Analysis Concerning Mandated Coverage for the Coverage of Diagnostic and Supplemental Breast Exams with No Cost-Sharing

The extent to which the coverage will increase or decrease the cost of the service.

Mandating a service or product often increases demand for it, which typically increases the cost of the service, where allowed. Carriers can offset this upward pressure on price by contracting with providers.

North Dakota has 50 providers of mammography services covering 78 locations, providing approximately 90,000 mammography examinations each year. Typically, a mammogram requires 2 providers – a radiology technologist or mammographer to perform the exam and a physician radiologist to interpret the results. ¹⁸ We understand that diagnostic and supplemental breast examinations would be available at medical centers with breast imaging departments and, therefore, believe there are sufficient providers available for the NDPERS population. Potential increases in cost are not expected to significantly impact state-wide per member per month (PMPM) costs or percentage of premium estimates, as NDPERS already covers the services. While we expect an increase in usage due to lower member cost-sharing, we believe sufficient providers are available and do not anticipate an increase in the cost of services.

If the Draft Bill language is expanded to include the commercial market, we believe there would be additional utilization since the commercial market is 300% larger than the NDPERS enrollment. However, we confirmed services are already covered in the commercial market. While we expect an increase in usage due to lower member cost sharing, we believe sufficient providers are available and do not anticipate an increase in the cost of services.



The extent to which the coverage will increase the appropriate use of the service.

The United States Preventive Service Task Force (USPSTF) recommends biennial breast cancer screenings for women aged 40 to 74 years. ¹⁹ The USPSTF shows insufficient evidence regarding women over age 74 or for women with dense breasts. The Draft Bill does not specify ages range, gender, or the number of services covered at zero cost-sharing, so there is potential for inappropriate use, according to USPSTF recommendation. However, the Draft Bill does mention "medically necessary." While not defined, we believe the inappropriate use of breast examinations will be very low, even with zero-member out-of-pocket cost-sharing.

We estimate that approximately 3,700 NDPERS members use diagnostic and supplemental breast examinations annually. In addition, we expect 230 more NDPERS members will appropriately use diagnostic and supplemental breast examinations due to the removal of member costs for these services, and therefore we assume a 4,000 annual usage of diagnostic and supplemental breast examinations for NDPERS.

If similar language is expanded to the North Dakota commercial market, we expect 16,200 commercial members use diagnostic and supplemental breast examinations annually. In addition, we expect 1,000 more commercial members will appropriately use diagnostic and supplemental breast examinations due to the removal of member costs for these services, and therefore assume a 17,200 annual usage of diagnostic and supplemental breast examinations for the North Dakota commercial market.



The extent to which the coverage will increase or decrease the administrative expenses of carriers, including health maintenance organizations, or other organizations authorized to provide health benefit plans in the State, and the premium and administrative expenses of policyholders and contract holders.

The Draft Bill outlines four examination procedures that would need to be covered. These utilize mammogram, ultrasound, and MRI machines, which we understand are already common in various radiology and imaging centers. However, we are unclear about the level of coverage of each of these examination procedures. Expanding coverage could have minor administrative implications due to increased claim processing or costs for insurers to contract with additional facilities; however, we do not believe that it would have a significant impact.

We estimate the premium impact to be \$1.10 PMPM to \$2.40 PMPM to NDPERS, or 0.2% to 0.5% of premium. The variation reflects the range of costs for the type of breast examination, the number of breast examinations needed per member, as well as differences in plan deductibles and cost sharing. Please see Appendix B for more information on our assumptions and methodology.

If similar language is expanded to the commercial market, we estimate the premium impact to be \$0.70 PMPM to \$2.30 PMPM, or 0.1% to 0.5% of premium. The variation reflects different cost-sharing available by plan, and differences in the cost of procedures.



The impact of this coverage on the total cost of health care.

Changes to the cost of the service or utilization of the service would impact the total cost of health care in North Dakota. The primary impact of Draft Bill 25.0075.02000 is primarily shifting member cost sharing to the insurer which is not an increase to the total cost of health care. However, we do expect an increase in usage of breast examination due to lower member cost sharing which we do expect to increase the total cost of health care, in what we call "induced utilization."

We estimate \$700,000 to \$1.4 million annually in costs shifted from member cost-sharing to NDPERS, although we recognize this is cost-shifting and does not actually represent an increase to the total cost of health care. We estimate a \$100,000 to \$250,000 annual increase to the total cost of health care in the NDPERS market due to induced utilization if Draft Bill 25.0075.02000 is passed.

If language is expanded to the commercial market, we estimate \$1.8 million to \$3.9 million annually in costs shifted from member cost-sharing to commercial insurers, although we recognize this is cost-shifting and does not actually represent an increase to the total cost of health care. We estimate an additional annual \$500,000 to \$1.1 million increase to the total cost of health care in the individual, small group, and large group markets due to induced utilization.

However, having better access to breast cancer exams would likely catch the development of breast cancer sooner which could have health savings in the long run. Cost-effectiveness studies have shown that although costs may rise initially for increased screening, there will be cost savings by avoiding more costly cancer treatment.^{20,21}



IV. Other State Diagnostic and Supplemental Breast Exam Laws²²²³

mammography (tomosynthesis); MBI = molecular breast imaging; MRI = contrast-enhanced breast magnetic resonance imaging; NCCN = for a summary of these laws. For more information, please see endnote 23. The table utilizes the following abbreviations: 3D = 3D Thirty-six (36) states have passed some kind of law related to the coverage of diagnostic and supplemental breast exams. See the table below National Comprehensive Cancer Network; US = ultrasonography.

State	Insurance Law: 3D and/or Supplemental Screening Coverage and Effective Dates	Do Copay and Deductible Apply for Supplemental Screening? (Effective Date if Different than Insurance Law)
Alaska	Screening + diagnostic imaging including CEM, diagnostic mammography, MRI, US; screening based on personal/family history or other risk factors (1/1/2025)	No
Arizona	Screening, diagnostic imaging based on NCCN high-risk recommendations, includes 3D/mammogram, MRI, US or other (effective 90 days after 2023 session ends)	Yes
Arkansas	All women, 3D; ages 35 – 40 mammography; if dense, US (8/2017)	No (amendment, 8/2021)
Colorado	If high risk, dense, or diagnostic, "non-invasive" modality coverage (1/1/2021)	No, if "non-invasive"
Connecticut	If dense or at increased risk, US (10/1/2006); High-risk, MRI (1/1/2012); All women, 3D (1/1/2017); mammogram ages 35-39 (1/1/2020), Or ages <35 if increased risk (1/1/2023)	No, 3D (1/1/2019) No, US, MRI (10/1/2021)
Delaware	All women, diagnostic imaging, supplemental screening (12/31/2024)	No less favorable than screening mammography
Georgia	All women, diagnostic imaging; supplemental based on NCCN/other guidelines (1/1/2024)	No
Hawaii	No law	No less favorable than screening mammography
Illinois	Diagnostic mammography (1/1/2020); Screening: if dense, US (3/27/2009); all, 3D (7/1/2016); If dense and medically necessary, MRI (1/1/2018); If dense or medically necessary, MRI (1/1/12026)	No



Indiana	If dense, not modality specific (7/1/2013)	Yes
Iowa	All women, supplemental screening and diagnostic imaging to include but not limited to MRI, CEM, or ultrasound (1/1/2025)	Out-of-pocket costs "can be no less favorable than screening mammography"
Kentucky	All women, 3D (7/31/2017); diagnostic imaging and supplemental screening to include, but not limited to, MRI or ultrasound (1/1/2025)	ON
Louisiana	All women; 3D (1/1/2019); All women screening US, diagnostic mammography/US (1/1/2021); Pathogenic mutation/chest wall radiation age > 25, MRI, age > 30, mammogram; High-risk age > 35 mammogram/MRI; Dense, prior history age < 50, supplemental imaging (1/1/2022); Diagnostic imaging, diagnostic mammogram, CFM MRI or US (1/1/2025)	No, mammogram, screening US, diagnostic mammogram (1/1/2021) Coverage ambiguous (amendment, 1/1/2022)
Maine	All women, diagnostic or supplemental screening, MRI, US (1/1/2024)	ÖZ
Maryland	All women, 3D (1/1/2018); Supplemental MRI, US; Diagnostic mammogram, MRI, US (1/1/2024)	Yes, 3D No, all else (1/1/2024)
Massachusetts	All women, screening 3D; diagnostic imaging; and if medically necessary, supplemental screening, MRI, ultrasonography (1/1/2026)	No
Minnesota	Dense or other risk, 3D (1/1/2020); Diagnostic services/testing (1/1/2024)	No
Mississippi	Screening, diagnostic imaging based on NCCN guidelines, including CEM, diagnostic mammography, MRI, US (7/1/2024)	No
Missouri	All women, 3D (1/1/2019); medically necessary, not modality specific; above-average risk, US, MRI (08/28/2020)	No, 3D No, all else (amendment,
Montana	Supplemental US, MRI; diagnostic imaging (10/1/2023)	No
Nebraska	Mammo/3D age 35-39; increased risk based on NCCN guidelines, mammogram, 3D, US, diagnostic MRI; if dense, US; if dense and increased risk, MRI (1/1/2024)	Yes, MRI, if only risk is dense
Nevada	Screening, diagnostic imaging based on health provider recommendation (1/1/2024)	No No



New	All women, 3D (8/7/2018); screening, diagnostic imaging including MRI, US (1/1/2025)	Yes, 3D (9/10/2019) No, all else (1/1/2025)
New Jersey	All women, 3D (8/1/2018); If extremely dense, US, MRI (5/1/2014)	No, 3D Yes, all else
New Mexico	Supplemental US, MRI; diagnostic imaging (1/1/2024)	No
New York	All women, screening + diagnostic breast imaging including diagnostic mammogram, US, MRI (1/1/2017); ages 35-39, mammogram (9/1/2019); Coverage based on recommendation of physician based on nationally recognized clinical practice guidelines (1/1/2026)	No
Ohio	All women, 3D; supplemental screening based on ACR guidelines if dense or increase risk (9/23/2022)	Yes
Oklahoma	All women, 3D (11/1/2018); diagnostic mammogram ages 35 – 39 every 5 years, age 40+ annually; diagnostic exams/other modalities (11/1/2022)	No
Oregon	All women, diagnostic imaging, mammogram, MRI, ultrasonography, supplemental screening (1/1/2024)	No
Pennsylvania	All women, 3D (10/1/2015); if extremely dense, high-risk, or heterogeneously dense + high-risk, US, MRI (8/30/2020); all costs associated with 1 annual supplemental screening (1/1/2025)	No, 3D; Yes, all else* *No, all else (amendment, effective on plan renewals by 1/1/2025)
Rhode Island	<5-year survivor/high risk/high risk lesion, 2 screening mammograms/year; dense, screening per ACR guidelines incl. MRI, ultrasonography, or MBI (1/1/2024)	Yes
Tennessee	Mammogram, baseline ages 35-40, annually ages 35-40 if personal/family history, dense breasts or other risk factors; annually ages 40+; supplemental breast screening if personal or family history, dense breasts or other risk factors (5/25/2022)	No, amendment (8/9/2023)
Texas	All women, 3D (9/1/2017); If personal history or dense, ultrasonography/MRI; diagnostic imaging (9/1/2021)	No
Vermont	All women, 3D; if dense, US (1/1/2019) Screening/diagnostic ultrasound or MRI (1/1/2026)	No
Washington	All women, 3D (6/7/2018); supplemental US, MRI, diagnostic imaging (7/23/2023)	No
Washington D.C.	All women, 3D; if dense/high-risk, ultrasonography, MRI, MBI (3/22/2019)	No, 3D Yes, all else



V.Limitations

NovaRest has prepared this report in conformity with its intended use by persons technically competent to evaluate our estimate regarding Draft Bill 25.0075.02000. Any judgments as to the data contained in the report or conclusions about the ramifications of that data should be made only after reviewing the report in its entirety, as the conclusions reached by review of a section or sections on an isolated basis may be incorrect. Appropriate staff can explain and/or clarify any matter presented herein. It is assumed that any user of this report will seek such explanations regarding any matter in question.

NovaRest did not have access to actual insurer claims data by service type or reimbursement rates. NovaRest also did not perform an insurer data request for the commercial market or have access to the most recent rate filings in North Dakota. NovaRest has developed projections that conform to what we believe to be the current and proposed operating environments and are based on best estimates of future experience within such environments. It should be recognized that future results may vary from those projected in this report. Factors that may cause the actual results to vary from the projected include new insurance regulations, differences in implementation of the required coverage by NDPERS, changes in medical treatments and practices, accounting practices, changes in federal and/or local taxation, external economic factors such as inflation rates, investment yields and ratings, and inherent potential for normal random fluctuations in experience.

VI. Reliance and Qualifications

We are providing this report to you solely to communicate our findings and analysis of Draft Bill 25.0075.02000. The reliance of parties other than the North Dakota Legislative Council (NDLC) on any aspect of our work is not authorized by us and is done at their own risk.

To arrive at our estimate, we made use of information provided by Sanford Health Plan for NDPERS, carrier rate filings and other public sources including census data and National Association of Insurance Commissioners financial data. We did not perform an independent investigation or verification. If this information was in any way inaccurate, incomplete, or out of date, the findings and conclusions in this report may require revision.

This memorandum has been prepared in conformity with the applicable Actuarial Standards of Practice.

We have no conflicts of interest in performing this review and providing this report.

We are members of the American Academy of Actuaries and meet that body's Qualification Standards to render this opinion. We meet the Qualification Standards promulgated by these professional organizations to perform the analyses and opine upon the results presented in this Actuarial Report.



Appendix A: Definitions

- a) "Diagnostic breast examination" means a medically necessary and appropriate examination of the breast, including an examination using contrast-enhanced mammography, diagnostic mammography, breast magnetic resonance imaging, and breast ultrasound, to evaluate an abnormality seen or suspected from a mammogram examination or detected by another means of examination.
- b) "Supplemental breast examination" means a medically necessary and appropriate examination of the breast, including an examination using contrast-enhanced mammography, diagnostic mammography, breast magnetic resonance imaging, and breast ultrasound, to screen for breast cancer when there is no abnormality seen or suspected and is based on personal or family medical history or other factors that may increase the risk of breast cancer.



Appendix B: NovaRest Methodology and Assumptions

NovaRest Estimate

Data

- NDPERS provided the premiums, claims, and membership in NDPERS for 2023.
- The age and gender proportions of North Dakota's population are based on the 2023
 Vintage population estimates.²⁴
- Commercial market premiums, claims, and membership were from the 2023 National Association of Insurance Commissioners Supplemental Health Care Exhibit.

Assumptions

- There are no current screening guidelines for men. If a man is at high risk for breast cancer, it is recommended that they get a clinical breast exam annually. However, breast cancer is very rare in men. Only about 1% of all breast cancers in the United States occur in males. Because of this, the male population was excluded from the analysis as we believe the cost for male diagnostic exams will be negligible.
- It is recommended that women get a screening every 2 years for woman aged 40 and above. Please note this differs from the current coverage included in the EHB-BP and NDPERS plans of 1 screening per year.
- Not all women will utilize this benefit. The following are the annual percentage of mammogram screenings used. The source is based on percentages of those who have received screenings within two years, however, the report does not discuss the percentage that screen annually, ²⁷ however, high risk are recommended to screen annually. Additionally most NDPERS and commercial plans cover screenings annually, therefore we used the following as the annual screening rates.
 - o Women aged 35 39: $6.2\%^{28}$
 - Unlike the other age ranges, this is the prevalence of ever receiving a mammogram within these ages (31%). As coverage and recommendations are for 1 screening within the 5 year period, we divided by 5 to get the 6.2%.
 - o Women aged 40 − 49: 60.2%
 - Women aged 50 64: 76%
 - Women aged 65 74: 78%
 - Women aged 75 and up: 54%



- Usually, 10 12% of routine mammograms will require a follow-up diagnostic exam.²⁹ Out of these diagnostic exams, about 8% of those will need additional follow-up.³⁰
- We assume 15% of women above age 34 are considered high risk and would be eligible for a supplemental breast examination.³¹
- We assume 13% of women above age 34 have had breast cancer and would be eligible for a supplemental breast examination.³²
- 8-28% do not follow-up with recommended supplemental or diagnostic breast exam, which decreases to 1% and 4% for supplemental or diagnostic breast exam respectively with no member out of pocket costs.³³
- Low and high costs for Contrast-enhanced mammography, Diagnostic mammography, Breast MRI, and Breast ultrasound were based on a variety of sources.
 - Contrast-enhanced mammography ranged from \$200 to \$1,000.^{34,35}
 - o Diagnostic mammography ranged from \$200 to \$300.36
 - Breast MRI ranged from \$400 to \$1,100^{37,38}
 - o Breast ultrasound ranged from \$100 to \$450.³⁹
- Additionally, some patients may require multiple forms of breast examination, especially if high-risk. Assume low end cost is \$500 and high end cost is \$1,100 on average.
- Current average cost sharing for individual and small group market is based on projected cost sharing from 2023 rate filings. Average cost sharing for large group was set equal to small group. Average cost sharing for NDPERS was based on actual 2023 data provided.

Methodology

- Diagnostic and supplemental exams are done when an abnormality is found in a routine mammogram, so we began with the routine mammogram screening rates per age population of women 35 and over.
- Applied the percentage of diagnostic and supplemental exams to determine the total number of diagnostic and supplemental breast exams that will be done yearly.
- Induced utilization determined by comparing the difference between mammogram screening rates for insured to uninsured.
- Found a range of costs for each type of exam outlined in the Draft Bill. Averaged
 these costs since assume only one exam will be done, unless high risk or personal
 history of breast cancer.
- Applied the average cost to the number of diagnostic and supplemental exams to get a total year cost for these exams.
- Applied this cost to the commercial and NDPERS premiums and populations to determine the PMPM and percent of premium impact.
- Scenarios using average cost sharing compared to total cost represent the insurer cost if the procedure is currently covered to represent the member cost sharing was shifted to the insurer.



Sources

¹ ndlegis.gov/assembly/68-2023/interim/25-0075-02000.pdf. Accessed 19 Dec. 2024.

³ "Diagnostic Mammogram." National Breast Cancer Foundation, 1 Aug. 2024, www.nationalbreastcancer.org/diagnostic-

mammogram/#:~:text=A%20mammogram%20is%20an%20x,physician%20to%20check%20the%20tissue. Accessed 18 Dec. 2024.

⁴ Bcrf. (2024). Screening vs. Diagnostic Mammogram: What Are the Differences?: BCRF. Retrieved from https://www.bcrf.org/blog/screening-vs-diagnostic-mammogram/. Accessed 18 Dec. 2024.

⁵ Breast calcifications: When to see a doctor. (2023). Retrieved from

https://www.mayoclinic.org/symptoms/breast-calcifications/basics/definition/sym-20050834. Accessed 18 Dec. 2024.

⁶ What Does the Doctor Look for on a Mammogram? (n.d.). Retrieved from https://www.cancer.org/cancer/types/breast-cancer/screening-tests-and-early-detection/mammograms/what-does-the-doctor-look-for-on-a-mammogram.html. Accessed 18 Dec. 2024.

⁷ "Breast Asymmetry." *UCLA Health*, www.uclahealth.org/departments/radiology/education/breast-imaging-teaching-resources/birads/breast-asymmetry. Accessed 18 Dec. 2024.

⁸ Bora Lim, M.D. "5 Reasons You Might Get Called Back after a Screening Mammogram." *MD Anderson Cancer Center*, www.mdanderson.org/cancerwise/5-reasons-you-might-get-called-back-after-a-screening-mammogram.h00-159699912.html. Accessed 18 Dec. 2024.

⁹ "Dense Breast Tissue: Breast Density and Mammogram Reports." *Dense Breast Tissue* | *Breast Density and Mammogram Reports* | *American Cancer Society*, www.cancer.org/cancer/types/breast-cancer/screening-tests-and-early-detection/mammograms/breast-density-and-your-mammogram-report.html. Accessed 18 Dec. 2024.

10 "Mammograms." *NCI*, www.cancer.gov/types/breast/mammograms-fact-sheet#:~:text=of%20breast%20implants.-

"How%20are%20screening%20and%20diagnostic%20mammograms%20different?,doctor%20make%20an %20accurate%20diagnosis. Accessed 18 Dec. 2024.

11 "Case: Architectural Distortion." UCLA Health,

www.uclahealth.org/departments/radiology/education/breast-imaging-teaching-resources/cases/case-architectural-

distortion#:~:text=Architectural%20distortion%20is%20described%20as%20distorted%20appearance,or% 20spiculations%20radiating%20from%20a%20central%20focus.&text=Architectural%20distortion%20is% 20the%20third%20most%20common,in%20up%20to%204%%20of%20screen%2Ddetected%20cancers. Accessed 18 Dec. 2024.

¹² Breast Magnetic Resonance Imaging (MRI). (2024). Retrieved from https://www.hopkinsmedicine.org/health/treatment-tests-and-therapies/breast-mri#:~:text=MRI%2C%20used%20with%20mammography%20and,that%20can%20indicate%20breast%2 0cancer. Accessed 18 Dec. 2024.

What Is a Breast MRI?: Breast Cancer Screening. (n.d.). Retrieved from https://www.cancer.org/cancer/types/breast-cancer/screening-tests-and-early-detection/breast-mriscans.html. Accessed 18 Dec. 2024.

¹⁴ Olena Weaver, M. D. (n.d.). What is a contrast-enhanced mammogram? Retrieved from https://www.mdanderson.org/cancerwise/what-is-a-contrast-enhanced-mammogram.h00-159701490.html. Accessed 18 Dec. 2024.

¹⁵ "What Is a Breast Ultrasound?: Breast Cancer Screening." What Is a Breast Ultrasound? | Breast Cancer Screening | American Cancer Society, www.cancer.org/cancer/types/breast-cancer/screening-tests-and-early-detection/breast-ultrasound.html. Accessed 18 Dec. 2024.

² www.gehealthcare.com/-/media/GEHC/US/Files/Products/Mammography/Whitepaper-CEM-The-Cost-and-Savings-of-care?srsltid=AfmBOorQh6ez0RdWuusNk2_4ABsa3Iv-1Z8Ix_RXEEBzhc3J20h-M4cd. Accessed 18 Dec. 2024.



- ¹⁶ Retrieved from https://www.ndpers.nd.gov/ active and retired member certificates of insurance on Dec. 13, 2024
- ¹⁷ Retrieved from https://www.medicare.gov/coverage/mammograms Jan. 4, 2025.
- ¹⁸ professional, Cleveland Clinic medical. "Mammogram: When & Why To Get One." *Cleveland Clinic*, 28 Oct. 2024, my.clevelandclinic.org/health/diagnostics/4877-mammogram. Accessed 30 Dec. 2024.
- ¹⁹ US Preventive Services Task Force; Nicholson WK, Silverstein M, Wong JB, et al. Screening for breast cancer: US Preventive Services Task Force recommendation statement. JAMA. 2024;331(22):1918-1930. doi: 10.1001/jama.2024.5534. Accessed 18 Dec. 2024.
- ²⁰ (N.d.). Retrieved from https://www.esmoopen.com/article/S2059-7029(24)00964-5/fulltext. Accessed 18 Dec. 2024,
- ²¹ A;, E. (n.d.). Costs of breast cancer and the cost-effectiveness of breast cancer screening. Retrieved from https://pubmed.ncbi.nlm.nih.gov/1778705/. Accessed 18 Dec. 2024.
- ²² State Law Insurance Map: DenseBreast-info, Inc. (2024). Retrieved from https://densebreast-info.org/legislative-information/state-law-insurance-map/. Accessed 18 Dec. 2024.
- ²³ densebreast-info.org/wp-content/uploads/2024/11/DBI-INSURANCE-TABLE111724.pdf. Accessed 19 Dec. 2024.
- ²⁴ Bureau, US Census. "State Population by Characteristics: 2020-2024." *Census. Gov.*, 25 Nov. 2024, www.census.gov/data/tables/time-series/demo/popest/2020s-state-detail.html. Accessed 19 Dec. 2024

 ²⁵ www.gehealthcare.com/insights/article/men-and-mammography%E2%80%94addressing-breast-cancer-
- in-men?srsltid=AfmBOopzIGC4-SgLLxhCQTXscAw3qKXQP5wk3sS-FX9UL21bge0Fa9tw. Accessed 19 Dec. 2024.
- ²⁶ Underferth, Danielle. "Mammograms for Men: What to Expect." *MD Anderson Cancer Center*, www.mdanderson.org/cancerwise/mammograms-for-men--what-to-expect.h00-159387468.html#:~:text=Male%20breast%20cancer%20is%20extremely,need%20to%20get%20a%20ma mmogram. Accessed 19 Dec. 2024.
- ²⁷ "Mammograms Are Recommended Beginning at Age 50. Are Women Getting Them?" *USAFacts*, USAFacts, 24 Oct. 2023, usafacts.org/articles/mammograms-are-recommended-beginning-at-age-50-are-women-getting-them/. Accessed 19 Dec. 2024.
- ²⁸ Qin J, White MC, Sabatino SA, Febo-Vázquez I. Mammography use among women aged 18-39 years in the United States. Breast Cancer Res Treat. 2018 Apr;168(3):687-693. doi: 10.1007/s10549-017-4625-6. Epub 2017 Dec 20. PMID: 29264752; PMCID: PMC5843553.
- ²⁹ "What's The Difference Between A Screening And Diagnostic Mammogram?" *Henry Ford Health Detroit, MI*, www.henryford.com/blog/2023/10/whats-the-difference-between-screening-and-diagnostic-mammogram#:~:text=If%20you're%20called%20in,will%20typically%20require%20a%20biopsy.%E2%8 0%9D. Accessed 19 Dec. 2024.
- ³⁰ Wernli, K. J., Aiello Bowles, E. J., Haneuse, S., Elmore, J. G., & Buist, D. S. M. (n.d.). Timing of follow-up after abnormal screening and diagnostic mammograms. Retrieved from https://pmc.ncbi.nlm.nih.gov/articles/PMC3151253/. Accessed 19 Dec. 2024.
- ³¹ Xinyi Jiang et al., Identifying Women at High Risk for Breast Cancer Using Data From the Electronic Health Record Compared With Self-Report. JCO Clin Cancer Inform 3, 1-8(2019). DOI:10.1200/CCI.18.00072
- ³² American Cancer Society. (n.d.). How common is breast cancer? Retrieved January 10, 2025, from https://www.cancer.org/cancer/types/breast-cancer/about/how-common-is-breast-cancer.html
- ³³ USAFacts. (2023, October 5). Mammograms are recommended beginning at age 50. Are women getting them? USAFacts. Retrieved from https://usafacts.org/articles/mammograms-are-recommended-beginning-at-age-50-are-women-getting-them/ Jan. 4, 2025.
- ³⁴ Patel, B.K. · Gray, R.J. · Pockaj, B.A. Potential cost savings of contrast-enhanced digital mammography. *Am. J. Roentgenol.* 2017; https://www.ajronline.org/doi/10.2214/AJR.16.17239
- ³⁵ Stefanie Woodard, Adrian Murray, Contrast-Enhanced Mammography: Reviewing the Past and Looking to the Future, Seminars in Roentgenology, Volume 57, Issue 2, 2022, ISSN 0037-198X, https://doi.org/10.1053/j.ro.2021.12.001.



³⁶ GoodRx. (n.d.). How much does a mammogram cost? GoodRx. Retrieved January 4, 2025, from https://www.goodrx.com/conditions/breast-cancer/how-much-mammogram-cost

³⁷ The Women's Imaging Center. (n.d.). MRI: MRI breast, MRI shoulder, MRI knee, MRI spine, MRI cost, MRI low cost Denver imaging. The Women's Imaging Center. Retrieved January 4, 2025, from https://thewomensimagingcenter.com/news/mri-mri-breast-mri-shoulder-mri-knee-mri-spine-mri-cost-mri-low-cost-denver-imaging-denver-womens-imaging-center

³⁸ Brem Foundation. (n.d.). Screening options. Brem Foundation. Retrieved January 4, 2025, from https://www.bremfoundation.org/screening-options#:~:text=higher%2Drisk%20women.-,How%20much%20does%20it%20cost?,risk%20for%20developing%20breast%20cancer.

³⁹ MDsave. (n.d.). Ultrasound breast unilateral (1 breast). MDsave. Retrieved January 4, 2025, from https://www.mdsave.com/procedures/ultrasound-breast-unilateral-1-breast/d785f9c9.

