

# **Abstract**

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## **Optimizing The Scheduling Of Mammogram Preventive Screening**

Breast cancer is a major disease that affects 1 in every 8 females in the US. Mammogram screening is the standard method used for diagnosing breast cancer, and the earlier the discovery of the cancerous cells, the better the chances of healing. Despite that there are several risk factors that affect the chances of developing breast cancer, the American Cancer Society recommends a generally static breast cancer screening plan that does not vary per patient per risk factor. In this research, we propose different dynamic screening plans that change the frequency of screening based on the risk of developing breast cancer. We use simulation to analyze the performance of the different plans. The proposed plans work well, and we recommend different approaches based on the insurance available fund, and the ability of the patient to afford extra screenings.