Enhancing Patient Care: A Digital Approach Improves Universal Breast Cancer Risk Stratification in Imaging Centers

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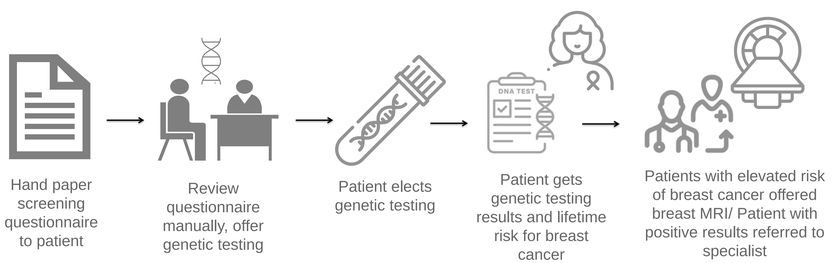
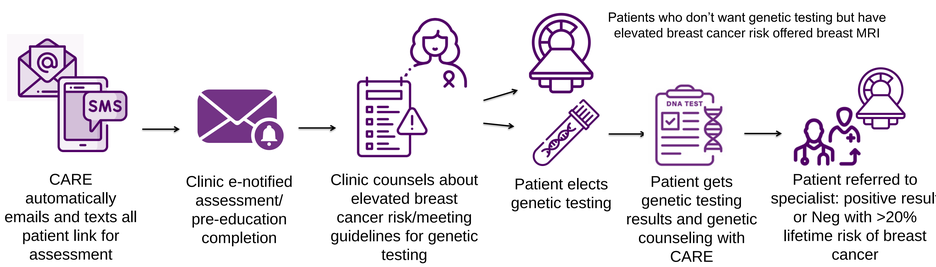
Introduction

- Identifying high-risk individuals aids in breast cancer prevention and early diagnosis.
- Integrating a risk assessment tool in imaging centers enables proactive cancer management.
- We analyzed 6+ years of data from 15 sites of Midstate Radiology Associates (MRA).
- MRA transitioned from paper screening to a universally accessible digital platform called the Ambry CARE Program®

Findings show that digital risk assessment in imaging centers significantly enhances detection of high-risk individuals.

Process for Screening High Risk Patients Before and After Introduction of Web-Based Tool

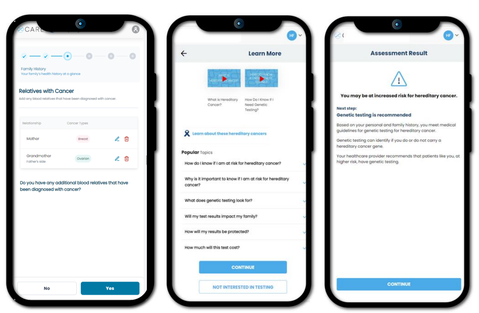




Methods

- Retrospective study conducted at 14 MRA Imaging Centers (2018–June 2024).
- 2018–2021: 13 centers used paper forms for mammography genetic testing screening, including Tyrer-Cuzick scores for tested patients.
- 2021 onward: Patients used Ambry CARE Program® pre-appointment to assess breast cancer risk (Tyrer-Cuzick v8.0).
- Genetic testing eligibility based on NCCN® guidelines for hereditary cancers (breast, ovarian, pancreatic, prostate), Lynch syndrome, and FAP.
- Outcomes compared between paper and digital tools, including:
  - Risk assessment completion
  - Genetic testing criteria met
  - Germline testing pursuit
  - Positive germline results
  - Tyrer-Cuzick scores ≥20%

Figure 1: Web-Based Platform: Patient Assessment and Education



Results

- 2018-2021 Paper screening (168,323 mammogram appointments):
  - Untracked number of paper forms offered and completed
  - 24.6% (41,424) met criteria for genetic testing.
  - 12.4% (5,133) pursued testing.
  - 6% (332) had positive results.
  - 22% (1,133) had a ≥20% lifetime breast cancer risk
- 2021-2023 Digital screening (84,122 invited):
  - 75.8% (63,749) responded;
  - 98% (60,438) were females aged 18+.
  - 26.3% (16,819) met criteria for genetic testing.
  - 20.7% (3,489) pursued germline testing; 1,431 not meeting criteria chose testing.
  - 9.6% (470) had positive results, with 46.8% (220/470) affecting breast cancer management.
  - 10.6% (5,984/56,245) with no cancer history had ≥20% lifetime risk, suggesting modified medical management.

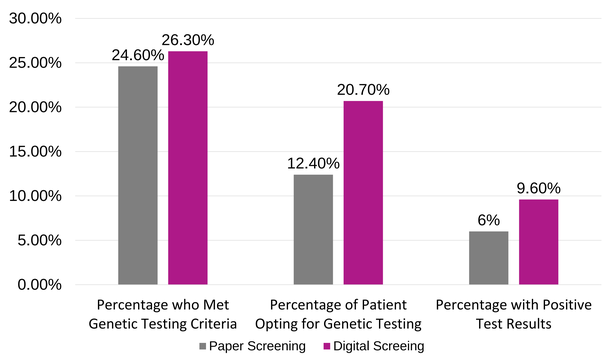


Table 1: Comparison of Patient Journey: Digital Screening Increased Percentage of High-Risk Patients Identified

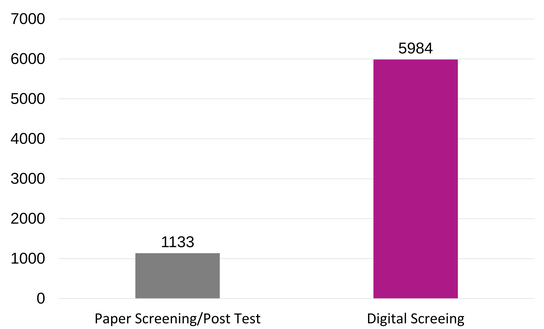


Table 2: Digital Screening Increased Opportunities to Identify Patients with ≥20% Lifetime Risk of Breast Cancer

Key Take Home Points

- **Paper screening showed poor documentation, indicating inconsistent risk screening.**
- **Digital risk stratification tool ensures universal screening for all patients.**
- **The Ambry CARE Program® coupled risk assessment and pretest education led to more patient opted to have genetic testing**
- **Digital approach improves identification of patients eligible for modified management of breast cancer and hereditary syndromes**
- **Enhanced prevention and early treatment potential with digital implementation in imaging centers.**