

# Case Study: Data Networks for Cancer Screening

OM1<sup>®</sup>

## A time and resource efficient solution for optimizing diagnostic outcomes in breast cancer screening

### Situation

A leading healthcare diagnostics company was looking for a rapid, large scale way to evaluate and demonstrate the effectiveness of advances in mammography screening, to determine diagnostic patterns and associated outcomes, and to establish an ongoing learning health system to develop personalized breast imaging pathways.

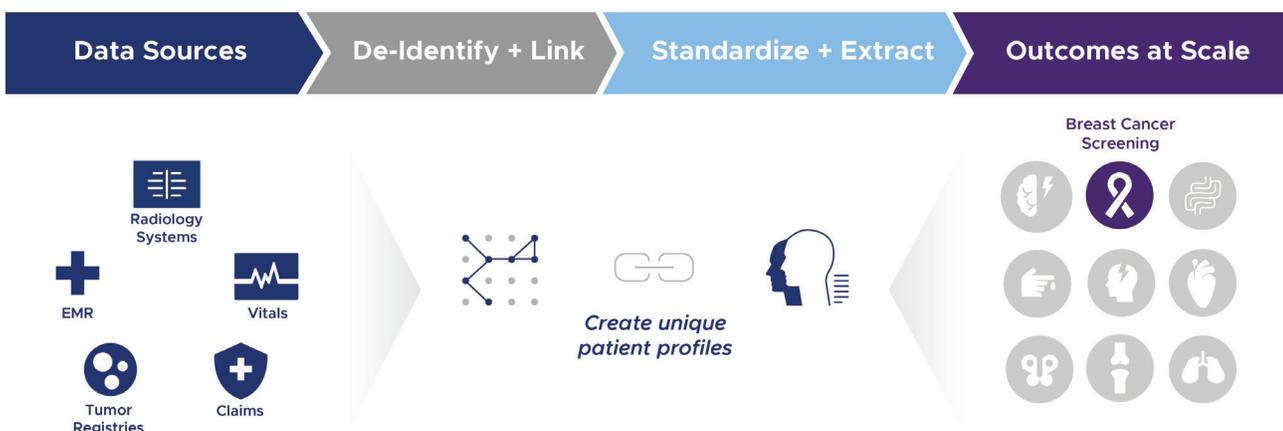
» The challenge was to collect different types of patient-level data from disparate sources and to transform them into a usable data source for analysis, publication and future exploration.

Traditional patient registries and prospective research approaches were costly and time prohibitive. Alternative retrospective research approaches wouldn't have addressed the challenges with integrating multiple types of data sources, provided the flexibility to collect additional data values as needed, or supported the need to access and interpret unstructured data.

### Solution

Using a hybrid prospective-retrospective approach, OM1 designed a next generation patient registry leveraging data networks based on the OM1 Real-World Data Cloud, which uses natural language processing and machine learning technology to:

- **Automate** data collection, integration, and transformation of data from outpatient and inpatient EMR systems, radiology information systems, and tumor registries at multiple sites, into a common data model
- **Extract** relevant attributes from structured and unstructured data
- **Link** with additional extrinsic data including claims and vital status

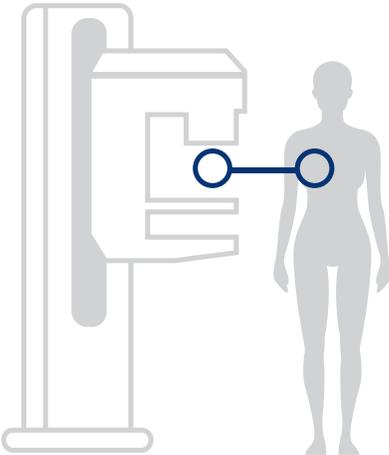


## Results

The OM1 registry enabled large scale assessment (common pathways, diagnostic and clinical outcomes by pathway, and variation in care) of screening mammography in a real-world population quickly and efficiently.

» Initial analyses demonstrate significant differences in choice of screening modalities and outcomes by patient demographic, breast cancer risk profile, screening modality, and imaging facility factors.

Future analyses will focus on optimizing diagnostic pathways on the basis of risk profiles with the goal of improving outcomes in breast cancer screening.



## Key Milestones & Takeaways

- First electronic data transfer completed just 3 months from contract execution
- First abstract submitted just 4 months from contract execution, 3 abstracts submitted to date



- Automated data collection from 64 imaging facilities from four large healthcare organizations, pulling data from existing EMRs, radiology information systems, and tumor registries
- Collected and integrated data on more than 700,000 women and more than 1 million breast screening exams, with plans to enroll more than 1 million patients
- Automation of data feeds limited the burden on practicing physicians and their staffs

<b>64</b> Imaging facilities	<b>4</b> Large Healthcare Organizations
<b>700,000+</b> Women enrolled	<b>1,214,052</b> Screening Exams



+1 888 324 3899  
info@om1.com | www.om1.com  
OM1, Inc.