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Implementation of MCD Testing in Screening of Hereditary Cancer Risk Patients

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Disclosures

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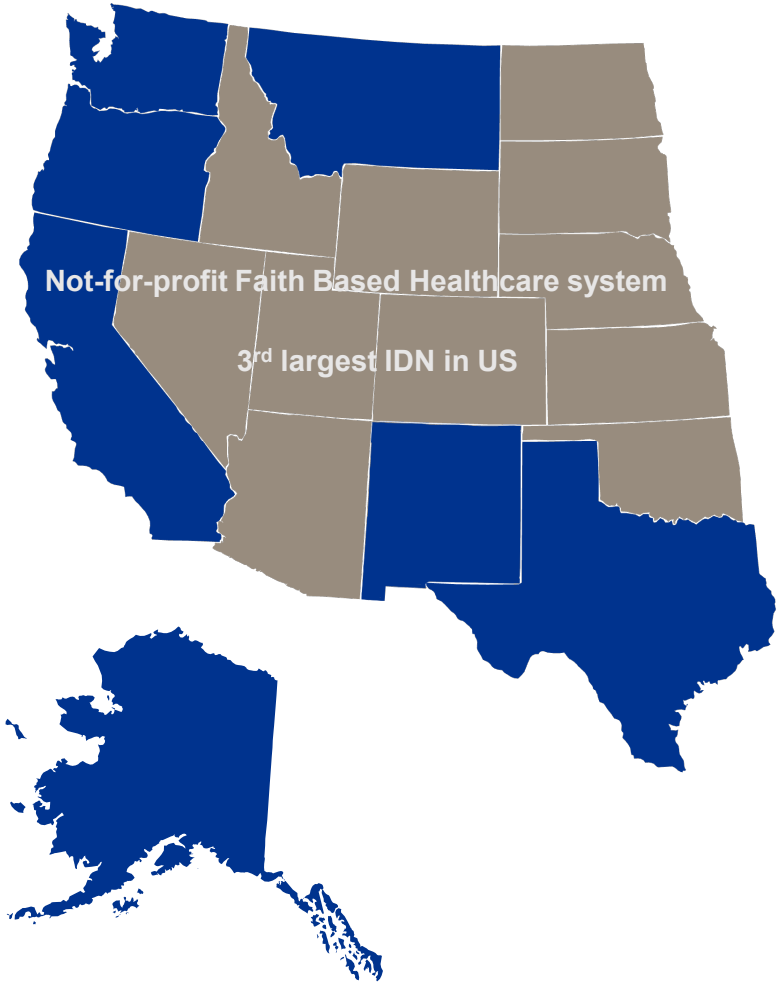
Providence Overview



Mission: Provide innovation in care, enhance population health, commitment to care for the most vulnerable

Interest from providers and patients, executive leadership in MCD

51 Hospitals

122,000 Caregivers

38k Nurses

34k Physicians

29M Total Patient Visits

1,700+ Published Research Studies

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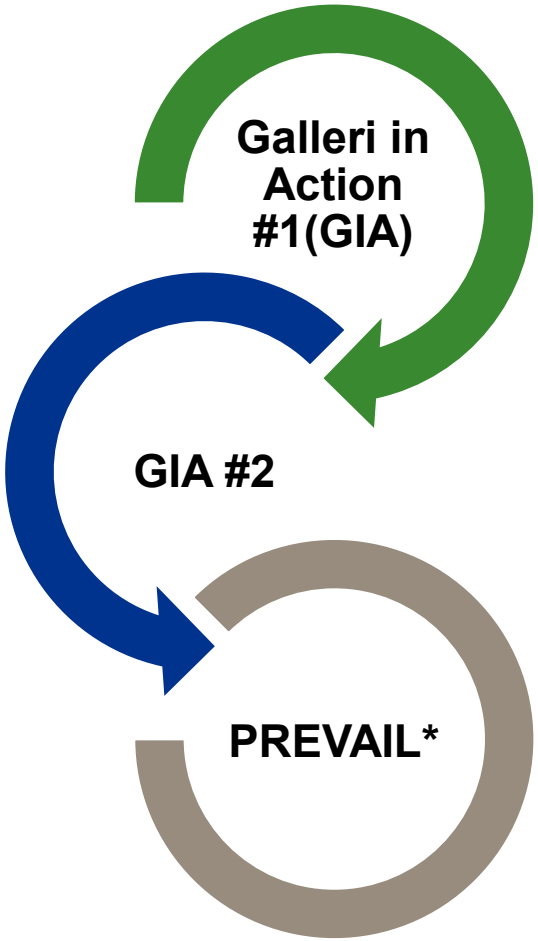
Providence MCD Implementation Studies



GIA #1 launch 4/2022

Observational Single Arm Providence Southern CA

Three Initial Cohorts

1. Hereditary Cancer Risk
2. Family hx with no known mutations
3. Cancer Survivors >5 years

4,544 Outreached
1,314 Enrolled,
(29% overall, 55% high risk clinics)
1,167 Tests Completed
11 Positive Tests
5 Cancer Confirmed / 6 No cancer
2 confirmed at re-test

GIA #2 launch 9/2023

Observational Annual Testing

Serial Annual Testing, 12-18 months

- Mutation carriers only

667 Outreached
427 Re-Consented **(65%)**
397 Tests Completed
1 Positive Test
No Cancer Confirmed

PREVAIL 7/2024

Randomized, carriers stratified levels risk by gene and risk reduction surgery

Cohorts:

- Routine clinical care + questionnaires
- Routine clinical care + questionnaires + annual MCD testing

3297 Outreached
334 Randomized Galleri Tests
259 Randomized Usual Care
(10% consent rate)
110 tests completed

**Providence Evaluation of Annual Cancer Screenings*

** Health disparities studies ongoing

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Key Elements of Testing Infrastructure

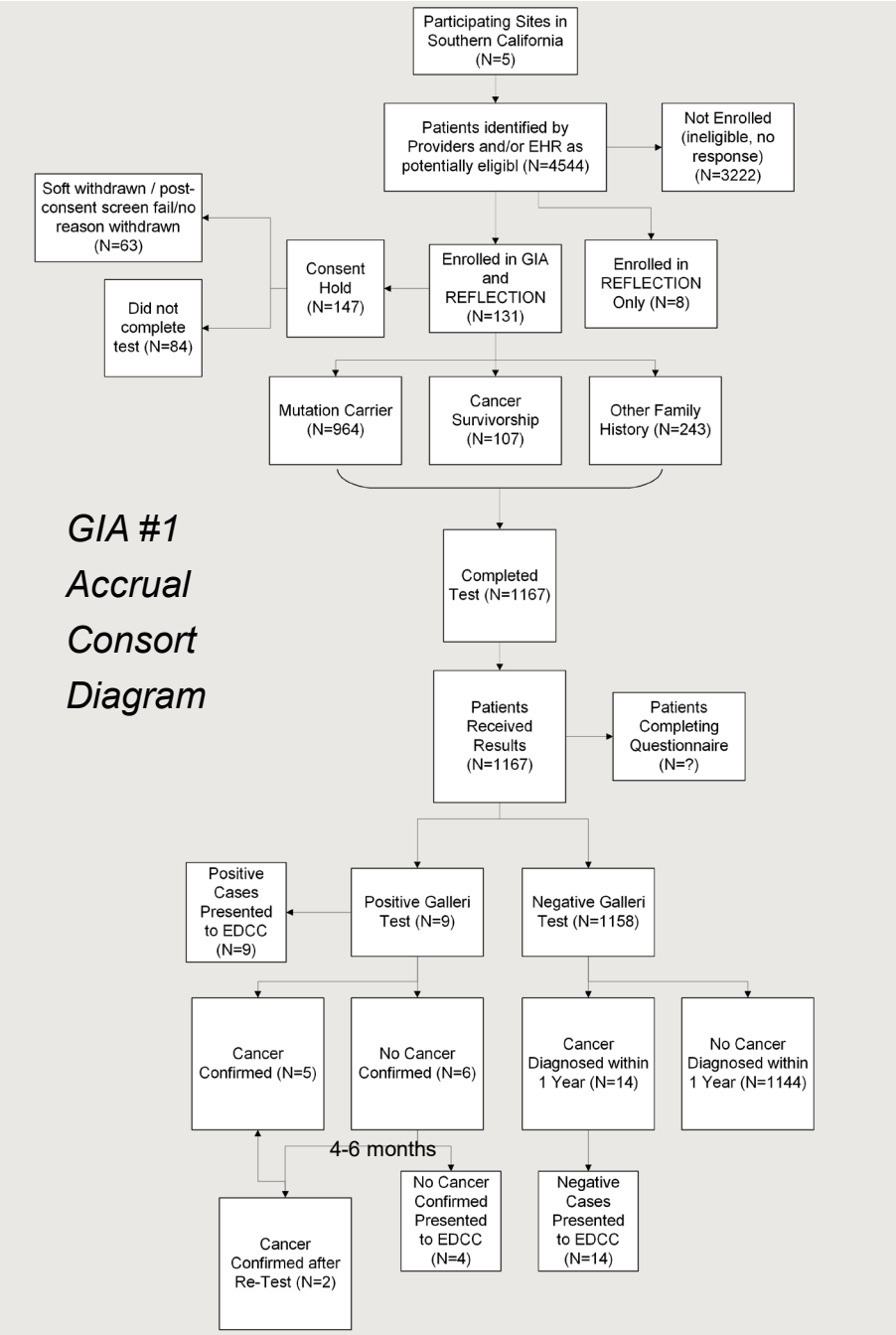
Early Detection Case Conference (EDCC)

Purpose:

- Support MCD ordering providers through the positive signal workup
- Provide best practice strategies for resolution of primary and secondary signals

Structure *(modeled after virtual molecular tumor board)*:

- Open to all Providence providers
- Plan for diagnostic resolution or confirmed results of completed follow-up testing
- Retest authorization
- Guest speakers



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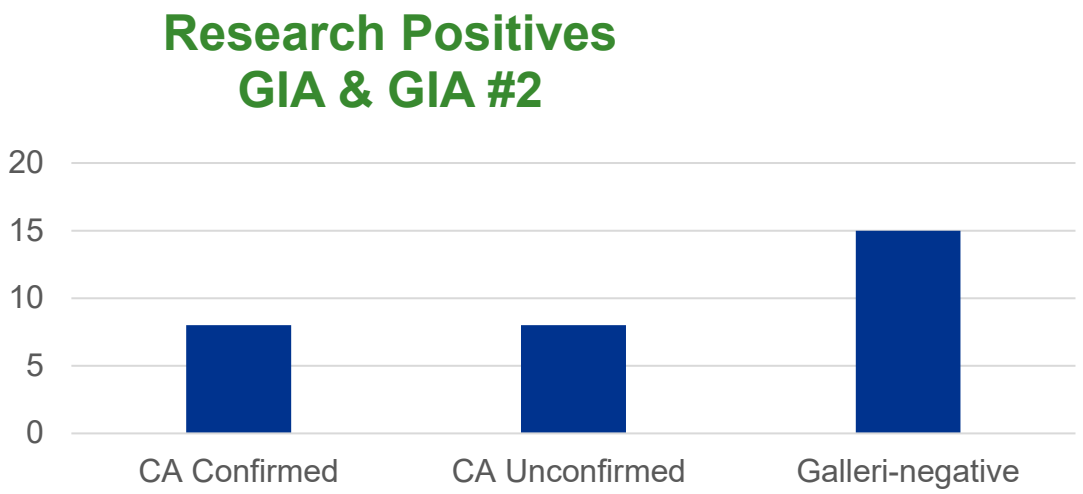
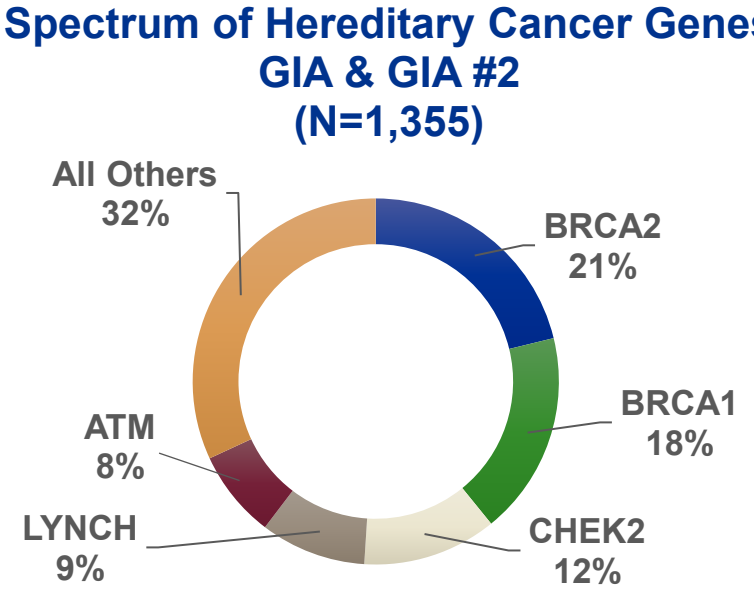
GIA Study results



- ~1% Positive during first year of testing
- 2 repeat tests cancer confirmed after persistent positive signal
- 14 Galleri-negative patients with cancer detected within 12 months of test



Qualifying Cancer Risk Genes

APC	CDH1	LZTR1	PMS2	SDHA
AIP	CHEK2	MAX	POLE	SDHAF2
ATM	CDKN2A	MITF	POT1	SDHB
BAP1	CTNNA1	MLH1	PTEN	SDHC
BARD1	EGFR	MSH2	PTCH1	SDHD
BMPR1A	EPCAM	MSH6	RAD51C	SMAD4
BRCA1	FH	MUTYH	RAD51D	STK11
BRCA2	FLCN	NF1	RET	TP53
BRIP1	HOXB13	PALB2	RUNX1	VHL

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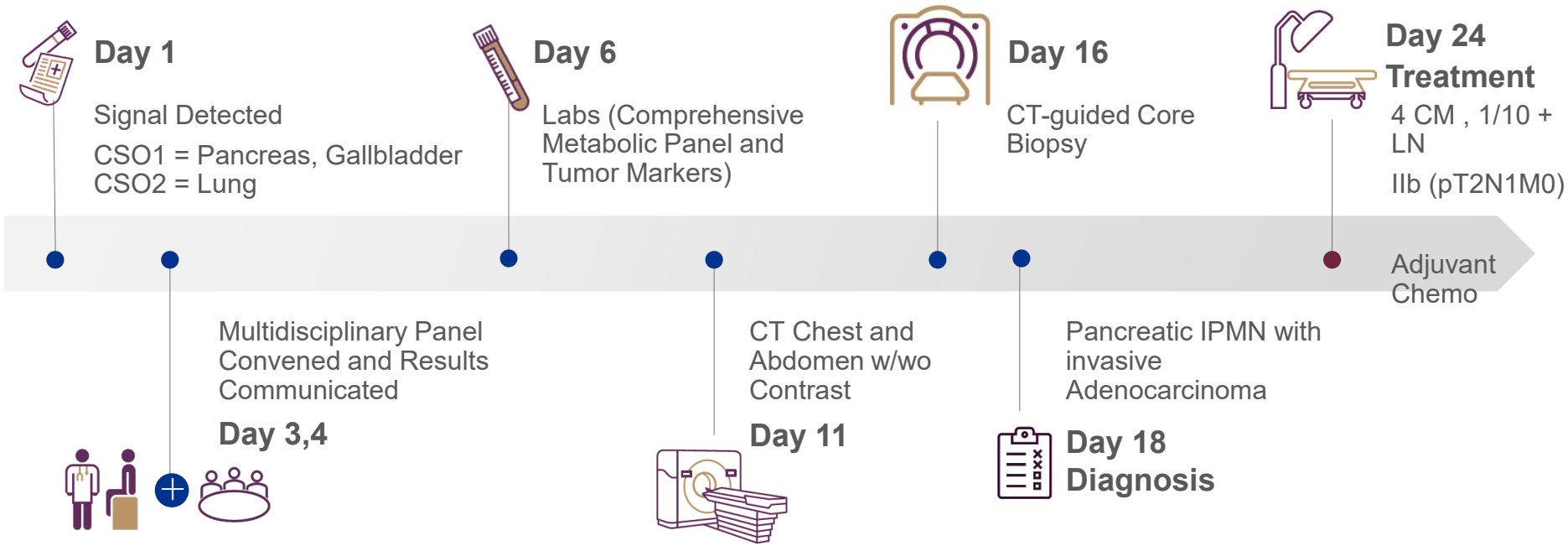
Case Studies

Case #1 Early detection, no routine screening recommendations

Patient History	72 year-old male ATM carrier, family history breast and prostate
Treatment & Outcome	Partial pancreatectomy Well tolerated chemotherapy



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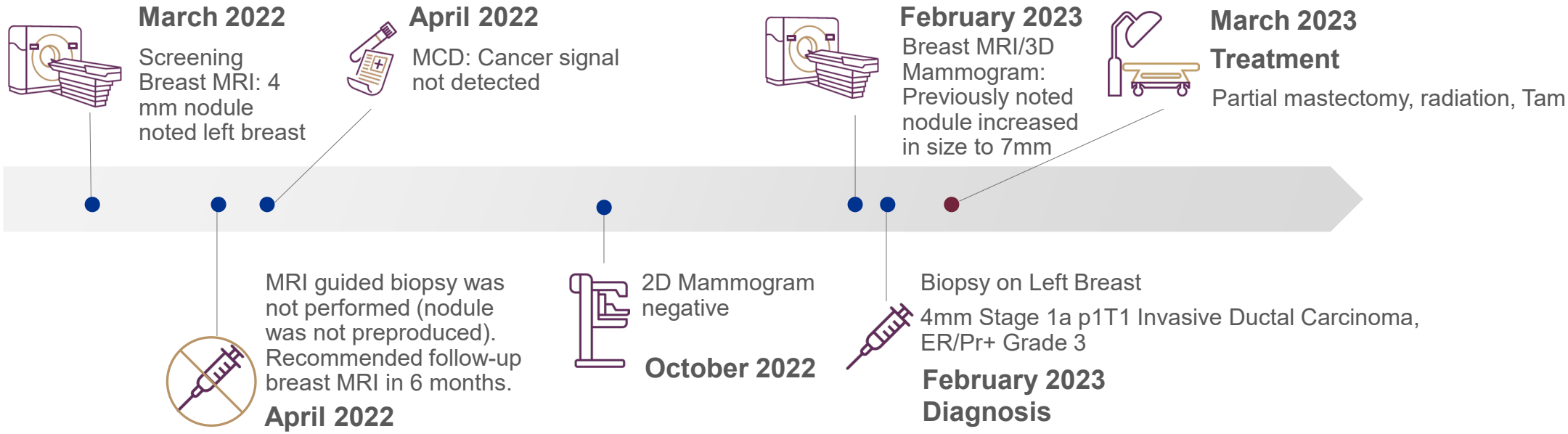
Case Studies

Case #2 High Risk patient, MCD negative early-stage breast cancer

Patient History	62-year-old female BRCA2 Positive, s/p BSO On high-risk surveillance mammogram and MRI Medication: Evista
Treatment & Outcome	Lumpectomy/oncoplasty, Radiation Tamoxifen



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Case Studies

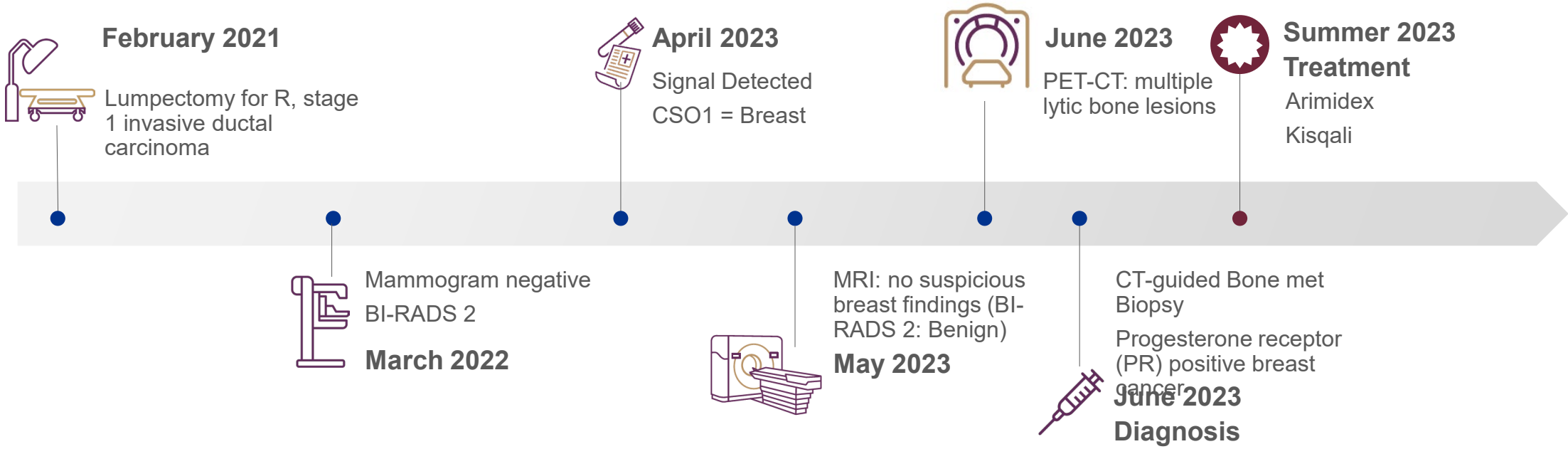
Case #3 Unanticipated distant disease, MCD detected

Patient History

59-year-old female
Previous breast cancer, lumpectomy 2021
Family history of breast and pancreatic cancer
Enrolled in pancreatic high-risk program

Treatment & Outcome

Began Arimidex, NGS
Ribociclib (Kisqali)
Complete remission



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Early Lessons Learned

Reach

- High engagement in hereditary risk population, but significant numbers failed to complete test
- Open health system / insurers high variability in diagnostic work up timing

Implementation

- EDCC essential for provider knowledge and uniformity of work up
- Diagnostic studies were covered, financial safety net not utilized
- High uptake repeat testing

Efficacy and Maintenance

- Repeat testing interval should be shortened to immediately following initial diagnostic work up
- **Development of Shared Decision Tool**

1,663 Tests Completed

~1% Positive Signal

~ 43% Positive Predictive Value

.9% False Negative Early Stage

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MCD Clinic Eligibility and Elevated Risk Criteria
Primary care- patient pay

640 tests YTD 2024
126 providers onboarded
1.78% positive signal

Primary Care Guidance

Test Validated for:
- >22 years old
- Not pregnant
- Not undergoing current cancer treatment > 1 yr

Hereditary Risk Factors (>22 years old):
- Known deleterious germline mutations / strong family history of cancer
- Personal history of cancer eligible for germline testing

General Risk Factors:
AGE >50 **AND**
- Smoking history > 10 pack years
- Heavy alcohol use > 2 drinks a day
- Chronic immunosuppression with biologics i.e., Humera/other agents not for cancer treatment, for >2 years & >50 years of age
- New onset diabetes* (less than 3 years)
- Solid organ transplant recipients
- HIV +
- Cirrhosis diagnosis
- Active Hepatitis B or C
- Inflammatory Bowel Disease/Crohn's Disease
- Barret's Esophagus

GIA/PREV*AIL* Study Enrollment Criteria:
- *Inclusions: Patient of Providence, St. Joseph Health, Swedish, + Carrier of any of included Hereditary Cancer syndrome genes such as BRCA1, BRCA2, CHEK2, ATM, Lynch syndrome*
- *Exclusions: Undergoing active cancer treatment or completed cancer treatment within the past 12 months, pregnant*

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References

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Science of Dissemination and Implementation in Health 2024

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