Penn Medicine
Abramson Cancer Center

Penn Medicine
Department of Surgery

National Cancer Policy Forum Biological Effectors of SDOH in Cancer: Identification and Mitigation

Policy Opportunities to Address SDOH on Cancer Outcomes and Improve the Evidence Base on the Impact of SDOH on Biological Outcomes

The Research Perspective

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- Breast Cancer Research Foundation (BCRF) (PI: Fayanju, 2023-present)

Collecting and Intervening upon Modifiable Contributors to Disparity: *Social Determinants of Health*

- ↑↑↑ Rates of missingness and misinformation of social history data in EMR
- Who collects this data?
  - Temporal and financial pressures in outpatient primary and specialty care
  - Patient vs clinic staff vs provider entry
  - Data entry platform: paper/pencil, electronic, hybrid
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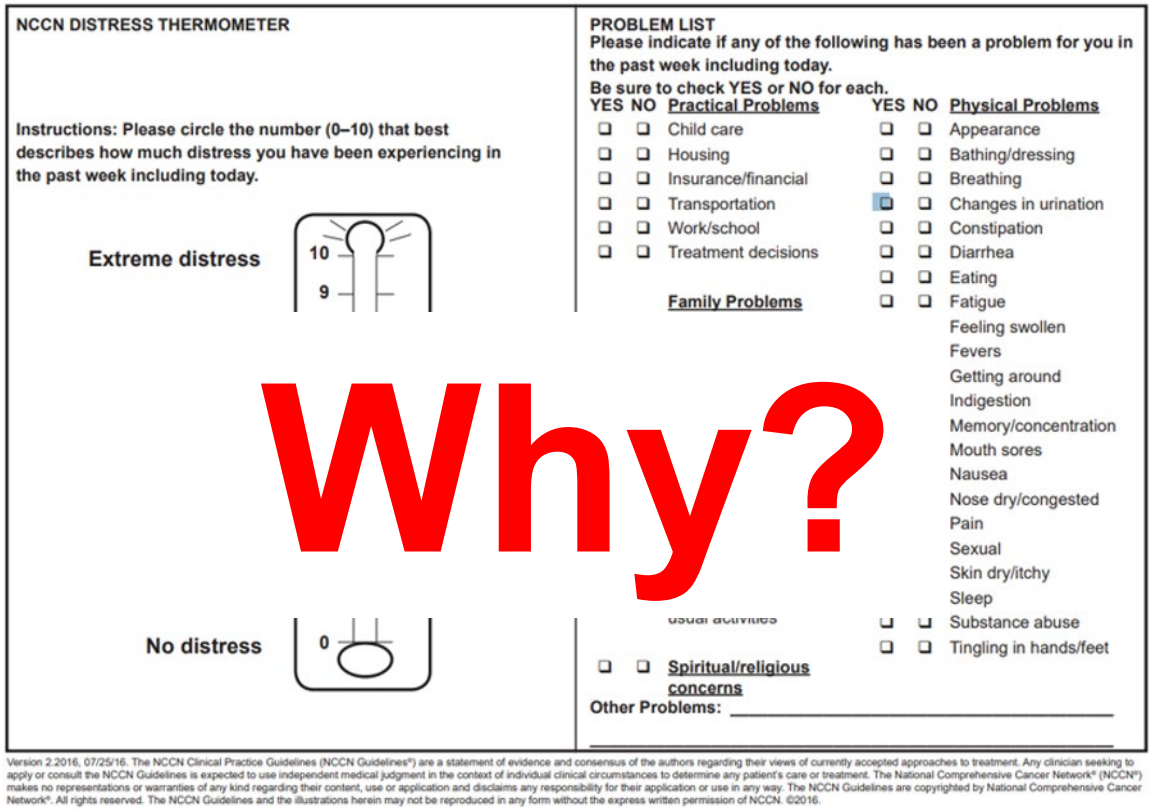
The NCCN Distress Thermometer

- Duke Cancer Center, Jan 2014 – Jul 2016
- 1029 women → 12,569 visits (67 mos f/u)
- Increased distress over time for women breast cancer who were…
  - Unmarried
  - Medicaid recipients
- Median DT score = 4 (scale 0-10) but….
- Black patients
  - Reported lower baseline scores
  - Experienced less improvement in distress over time



NCCN DISTRESS THERMOMETER

Instructions: Please circle the number (0–10) that best describes how much distress you have been experiencing in the past week including today.

Extreme distress

10

9

No distress

0

PROBLEM LIST

Please indicate if any of the following has been a problem for you in the past week including today.

Be sure to check YES or NO for each.

YES	NO	Practical Problems
❑	❑	Child care
❑	❑	Housing
❑	❑	Insurance/financial
❑	❑	Transportation
❑	❑	Work/school
❑	❑	Treatment decisions

Family Problems

YES	NO	Physical Problems
❑	❑	Appearance
❑	❑	Bathing/dressing
❑	❑	Breathing
❑	❑	Changes in urination
❑	❑	Constipation
❑	❑	Diarrhea
❑	❑	Eating
❑	❑	Fatigue
		Feeling swollen
		Fevers
		Getting around
		Indigestion
		Memory/concentration
		Mouth sores
		Nausea
		Nose dry/congested
		Pain
		Sexual
		Skin dry/itchy
		Sleep
❑	❑	Substance abuse
❑	❑	Tingling in hands/feet

usual activities

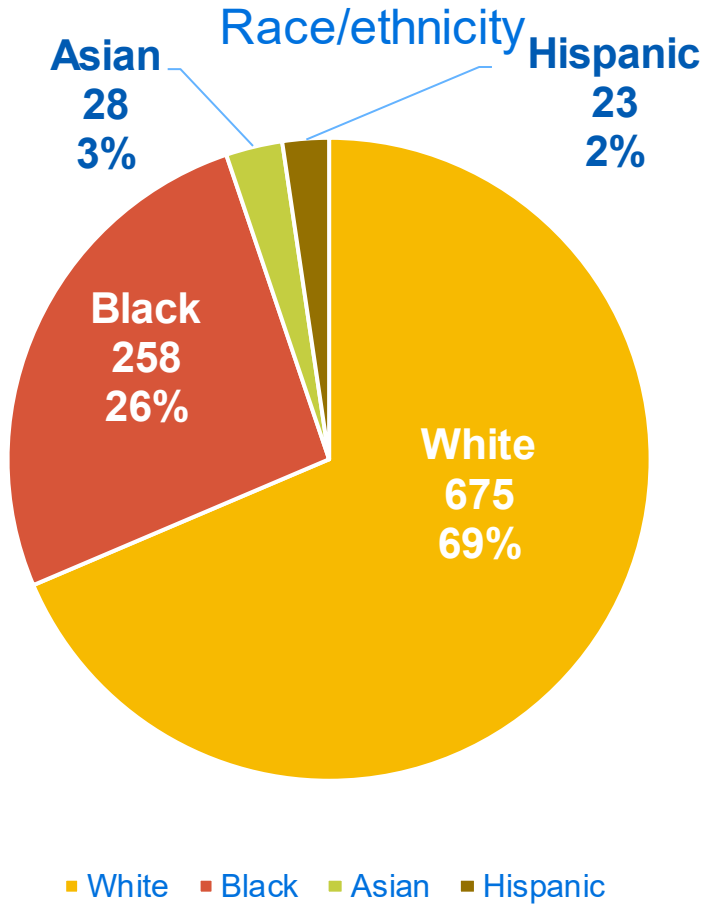
❑ ❑ Spiritual/religious concerns

Other Problems: _____

Why?

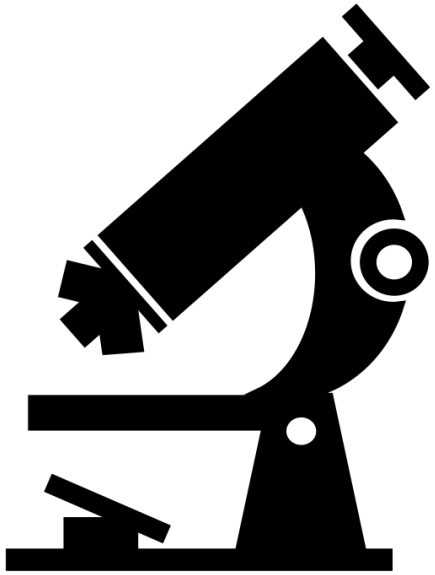
Levels and causes of distress at 1st visit – Breast Cancer

- Asian/PI & Hispanic patients had highest median DT scores (score = 5, p=0.01)
- Black patients had lowest median DT score (3, IQR 0-6)
- **Emotional**, **physical**, and **practical** stressors → ↑ **distress**
- **Black** patients ↑ likely to report ***no distress*** than **Whites**
  - ZINB zero model OR 2.72, 95% CI 1.68-4.40
- **Black** patients ***only racial/ethnic group*** with median **DT score** IQR 0-6) **below** the **automatic referral** threshold score of 4
- No difference in number of stressors (p=0.07)

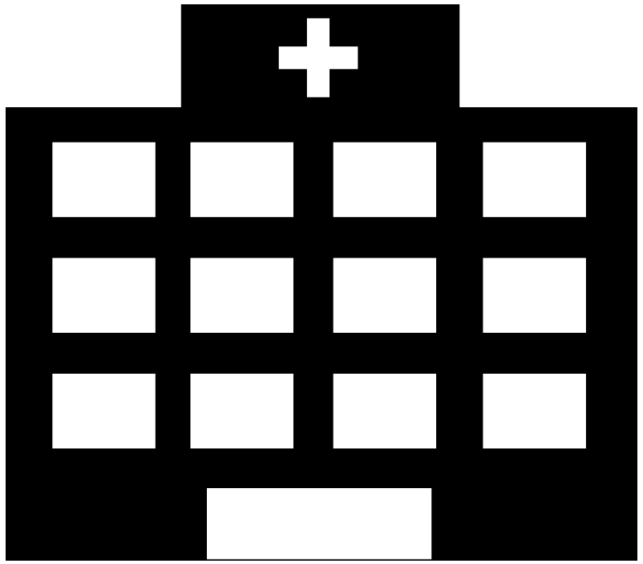


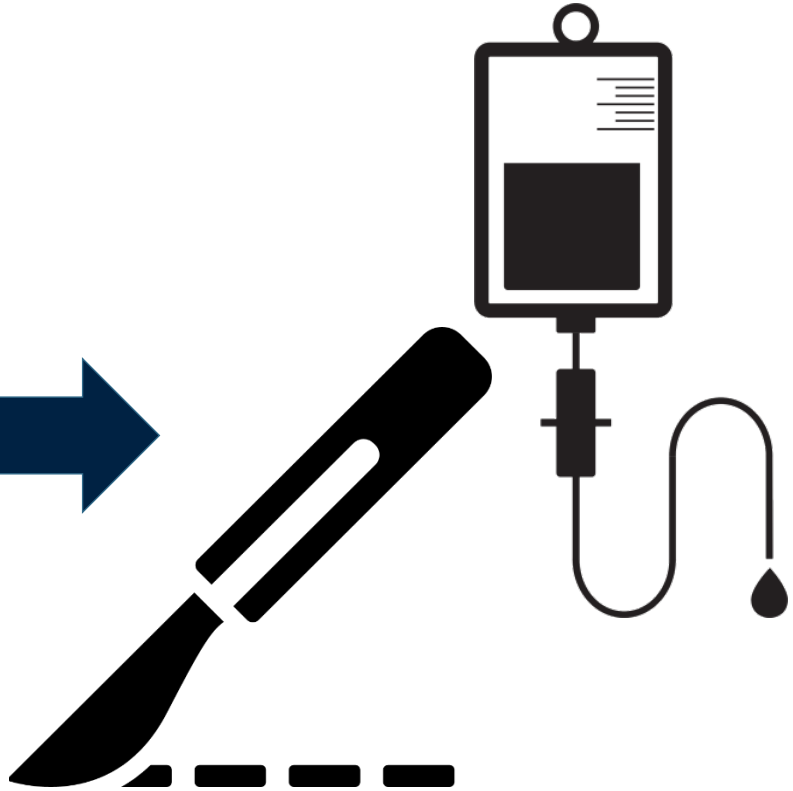
Fayanju OM, et al. Cancer. 2021 Mar 1;127(5):757-768

Impact of distress on time-to-evaluation & time-to-treatment



Black race
Divorced
Practical stressors
Physical stressors
Hispanic*Practical





Diagnosis → Evaluation → Treatment

D E L A Y S

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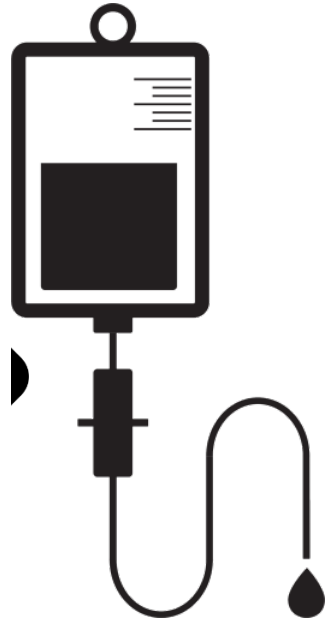

Black race

Practical stressors

Dia nt

Conclusion

By the time someone arrives for her visit, the die has been cast. We have to start sooner.

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Oncologists are information gatekeepers at key inflection points during patients' lives.

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Department of Surgery I Division of Breast Surgery

Optimizing SBDoH DATA COLLECTION in Breast Cancer Care

Effect of Early Point-of-Service Social and Behavioral Determinants of Health (SBDOH) Screening and Enhanced Navigation on Care Delivery for Patients with Breast Cancer

NCT06019988

Principal Investigator: Oluwadamilola "Lola" Fayanju, MD, MA, MPHS, FACS

Sponsor: Gilead Sciences, Inc.

Overall Goals

- We propose that early, anticipatory point-of-service screening for SBDOH – operationalized through electronic health records and linked with interventions – could redress modifiable contributors to breast cancer disparities.
- Our goal is to improve the equity, effectiveness, and efficiency of care for patients with breast cancer across the continuum – from screening to treatment to survivorship.

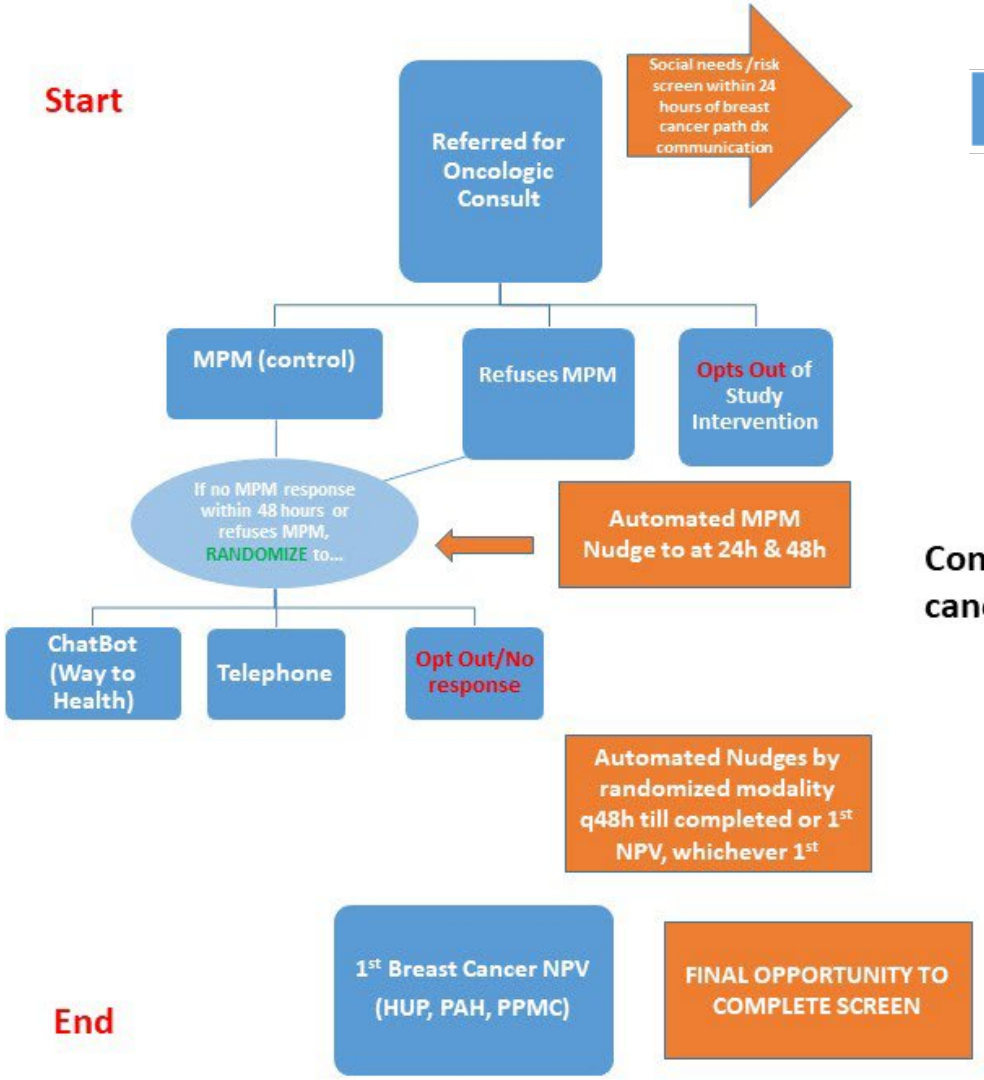
Study Objectives

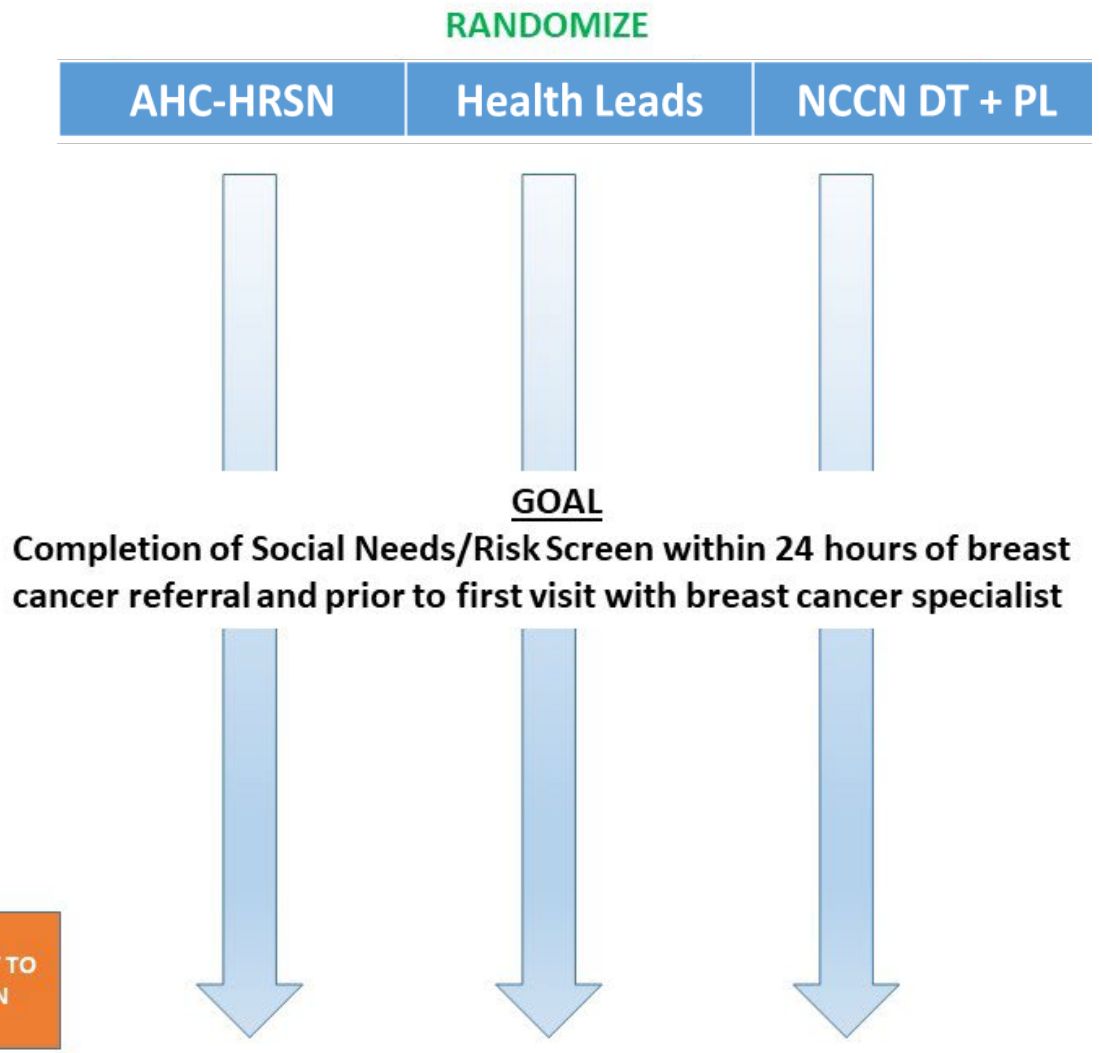
- Aim to **identify the optimal combinations of modality and data collection instrument to facilitate SBDOH collection among diverse patients** with breast cancer at Abramson Cancer Center (ACC)
  - To compare rates of SBDOH data collection using 3 different self-administered instruments designed for SBDOH data capture vs. usual care (i.e., unstructured data collection)
  - To compare rates of SBDOH data collection by modality (Epic patient portal/MyPennMedicine [MPM], chatbot, telephone interactive voice response) and assess time to evaluation (i.e., time from biopsy to first consultation with an oncologist)
  - To evaluate (via qualitative interviews) contextual mechanisms contributing to the effectiveness of data collection tools and modalities described in the trial

Enrollment

- Patients will be eligible based on a new patient visit (NPV) for breast cancer at HUP, PPMC, PAH, or Radnor from Mar 2024 to Feb 2025 (Goal N=2500)

- All patients who are diagnosed via percutaneous needle biopsy at Penn Radiology (internal) and all patients with a new (external) diagnosis of non-metastatic cancer who schedule an NPV with breast surgery will be contacted


Start
Referred for Oncologic Consult
Social needs /risk screen within 24 hours of breast cancer path dx communication
MPM (control)
Refuses MPM
Opts Out of Study Intervention
If no MPM response within 48 hours or refuses MPM, RANDOMIZE to...
Automated MPM Nudge to at 24h & 48h
ChatBot (Way to Health)
Telephone
Opt Out/No response
Automated Nudges by randomized modality q48h till completed or 1st NPV, whichever 1st
1st Breast Cancer NPV (HUP, PAH, PPMC)
FINAL OPPORTUNITY TO COMPLETE SCREEN
End


RANDOMIZE
AHC-HRSN
Health Leads
NCCN DT + PL
GOAL
Completion of Social Needs/Risk Screen within 24 hours of breast cancer referral and prior to first visit with breast cancer specialist

Timeline to Trial Initiation

- December 2021: Preliminary conversations with industry sponsor
- May 2022-Feb 2023: Budget finalization and contract negotiation with industry sponsor
- March 14, 2023: Discovery Workshop at the Inn at Penn, Philadelphia, PA
- March-August 2023: Protocol development in response to Discovery Workshop feedback
- July 2023: Began working with Way to Health (W2H) to adapt surveys into chatbot and IVR formats
- August 18, 2023: IRB Protocol approved
- August-October 2023:
  - Testing and troubleshooting W2H platforms by study team & pt advocates
  - Building Epic infrastructure to ensure workflow could accommodate:
    - Randomization to instrument
    - Assigning patients to survey and sending surveys to patient in user-friendly manner
    - Presentation of response data to clinicians
    - Patient opt-outs
    - Closing surveys after 48 hrs and transferring non-responders to W2H; reopening charts of W2H non-responders to administer at NPV
- October 2023-February 2024: Integrating Epic and W2H
- **March 12, 2024: Trial Launch!**

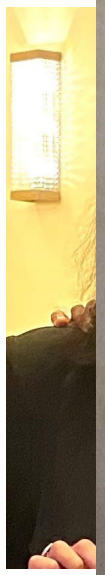
Obstacles to Trial Initiation

Optimizing SBDoH DATA COLLECTION in Breast Cancer Care

- Technical
  - Limitation of existing systems (Way to Health and Epic)
  - Integration of existing systems
- People/Stakeholders
  - Unexpected concerns from key stakeholders (radiology, SW)
- Institutional
  - Unanticipated review and approval by institutional entities (e.g., Epic Questionnaire Committee, Epic Governance Board)

Co

- We
- ....
-



BDoH
COLLECTION
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Thank you!

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