Impact of Breast Imaging Nurse Navigation on Care Timeliness, Compliance and Retention

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Background

- First patient navigation program at Harlem Hospital (1990) started in response to disproportionate late-stage cancer presentation among African Americans with the goal to assist with cancer screening, diagnosis, follow-up, and treatment.[1]

- Studies have looked at different metrics evaluating patient navigation programs for breast cancer (timeliness of care, treatment adherence, satisfaction). Most showed some benefit to having a navigation program.[2-5]

- **Initial practice at our institution**:

    - Radiologist communicates breast biopsy pathology results to PCP and PCP communicates results to patients.

    - PCP coordinates referral to breast care center if needed.

- **Challenges to initial practice**:

    - Time constraints for PCPs to coordinate results and PCPs referring outside our system.

    - Patient requests to transfer care for treatment to local competitors after receiving breast cancer diagnosis.

    - Two QA cases regarding patient miscommunication/ misunderstanding biopsy results.

- **Proposal for role of imaging Nurse Navigator to hospital leadership**.

1. Freeman HP. Patient navigation: a community centered approach to reducing cancer mortality. *J Cancer Educ*, 2006.
2. Ferrante J.M et al. The effect of patient navigation on time to diagnosis, anxiety and satisfaction in urban minority women with abnormal mammograms: a randomized controlled trial. *Journal of Urban Health*, 2007.
3. Koh C et al. Evaluation of a patient navigation program. *Clin J Oncol Nurs*, 2011.
4. Ramirez A et al. Reducing time-to-treatment in underserved Latinas with breast cancer: The Six Cities Study. *Cancer*, 2014.
5. Ko NY et al. Can patient navigation improve receipt of recommended breast cancer care? Evidence from the National Patient Navigation Research Program. J Clin Oncol, 2014.

The Journey of a Breast Biopsy Patient & Role of Nurse Navigator

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Imaging

Mammography

Cancer
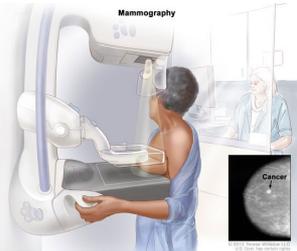
Start by having
mammogram, US, or MRI

Biopsy

Abnormality detected->
biopsy performed

Pathology
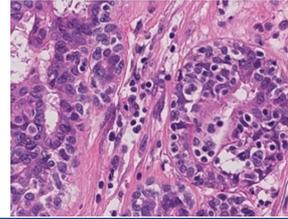
Tissue is sent to
pathology for diagnosis

Result Communication

Biopsy results are
communicated to either:
1. Patient
2. Referrer in the
   Breast care center
3. Non-breast care
   referrer (PCP)

⭐ Role of Nurse Navigator
- Call patient day after biopsy (patient experience)
- Call patients with biopsy pathology results
  (timeliness and accuracy)
- Communicate biopsy results to referring provider
- Facilitate appointment at breast care center
  (longitudinal care, care retention)
- Communicate other recommendations - need for
  follow up, additional imaging (close loop)

Treatment

A treatment
plan is
decided, and
patient may
ultimately go
onto surgery

**Breast care appt/
Initiation of care**

The radiologist
recommends referral to
our institution's Breast
care center as needed
(e.g. cancer/ atypia on
core)

Purpose

- The purpose of our study was to determine the impact of breast imaging nurse navigation (NN) on patient care time metrics, compliance, and care retention at Beth Israel Deaconess Medical Center (BIDMC) after breast biopsy.

Methods: Retrospective Review of Image-Guided Core Needle Biopsies

5/1/2017

GROUP 1:
Pre- NN
498 patients

10/31/2017

Imaging Nurse Navigator (NN) at BIDMC

5/1/2019

GROUP 2:
Post- NN
526 patients

10/31/2019

★ **(2018)**

Data Collected

- **Demographic data**: age, race, language, insurance, zip code
- **Breast pathology**: benign, atypia, cancer
- **Time points for care**: time of path results, communication of results, breast care clinic visit, surgery, other procedure
- **Primary contact point with results**: patient, referrer, other
- **Follow-up recommendations and compliance with recs**
- **Retention in BIDMC system, transfer of care, lost to follow up**

Exclusions: Patients with cancer diagnosis who transferred care to our institution; axillary LN biopsies for staging; cyst aspirations; abscesses. For patients with multiple biopsies, timeline starts with first biopsy.

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Results: Demographics (n=1,024 patients)

Language
- English
- Non- English

18% (182)
82% (842)

Race
- White
- Asian
- Black
- Hispanic
- Other/ na

4% (42)
6% (59)
13% (132)
17% (165)
61% (626)

Insurance
- Private
- Medicare
- Medicaid
- Self-pay/ na

11% (112)
1% (16)
23% (233)
65% (663)
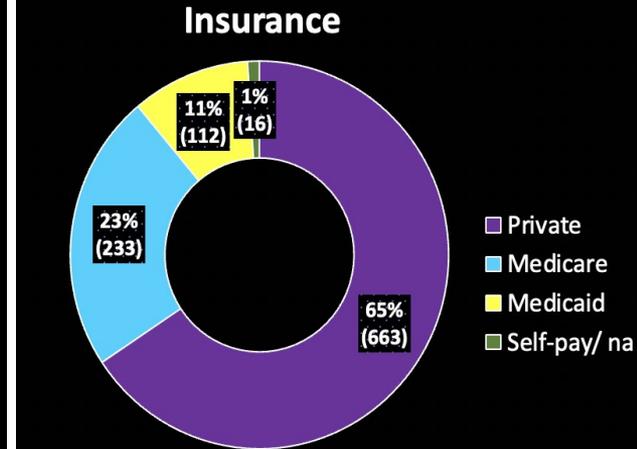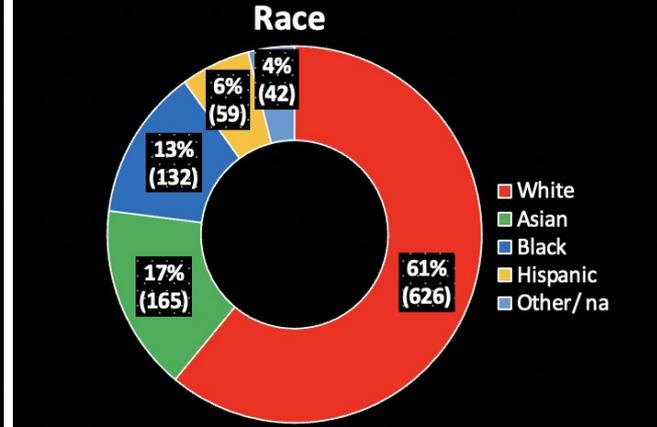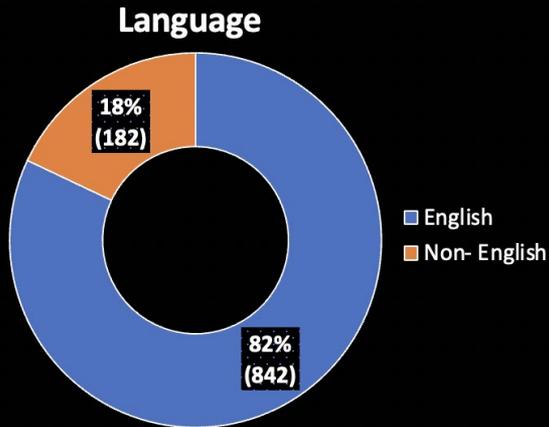
- Mean Age = 54 years old (19.6-102 years)
- No significant difference in Race and Language between pre- and post- NN groups
- Significantly less Medicaid patients in the post- NN group (p=0.03). No difference in rates of private insurance.

Results: Result Communication and Compliance

Biopsy Result Communication

Pre-NN (n=498)

- Primary Care Referrer: 71% (355)
- Breastcare Referrer: 22% (109)
- Patient: 4% (21)
- Other: 3% (13)

Post-NN (n=526)

- Patient: 71% (374)
- Breastcare Referrer: 24% (126)
- Primary Care Referrer: 4% (22)
- Other: <1% (4)

Legend: ■ Patient ■ Breastcare Referrer ■ Primary Care Referrer ■ Other

Compliance with Recommendations

Pre-NN (n=272, excluding NAs)

- Compliance: 90% (244)
- No Compliance: 10% (28)

Post-NN (n=243, excluding NAs)

- Compliance: 90% (218)
- No Compliance: 10% (25)

Legend: ■ Compliance ■ No Compliance
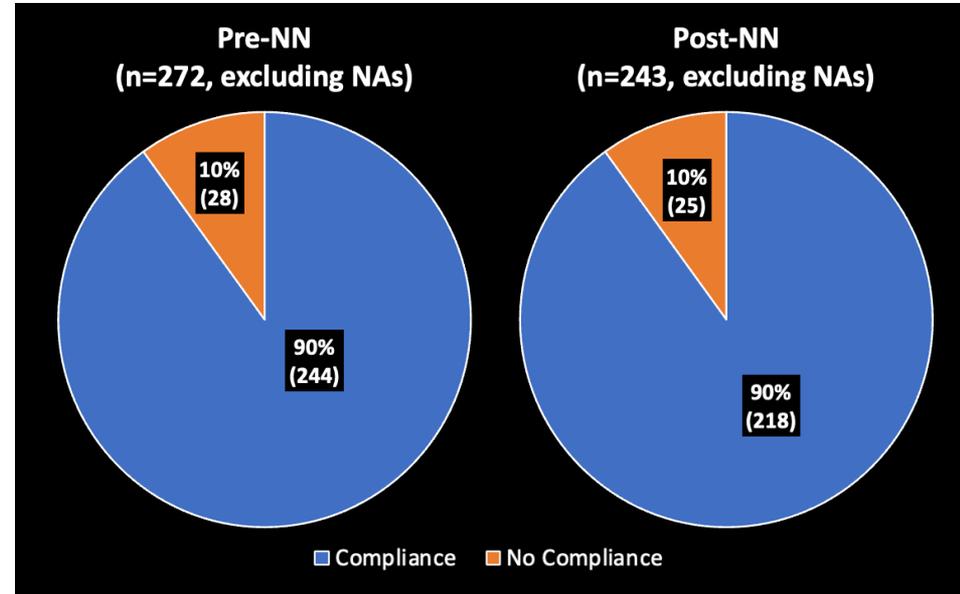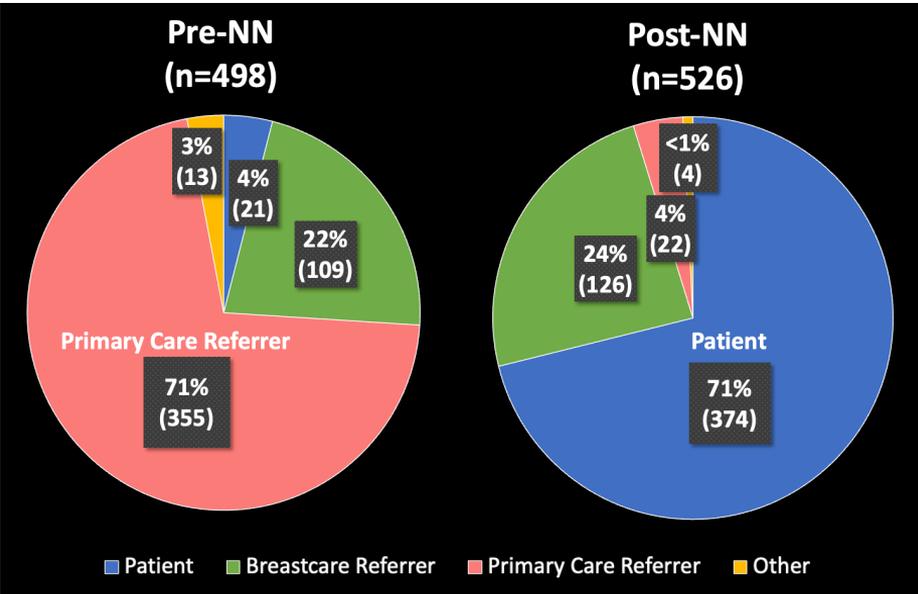
- Shift in radiology communicating the biopsy results to the PCP pre-NN to communicating the results directly to the Patient post-NN (p<.0001)

- No significant difference and good compliance in both pre-NN and post- NN groups (p=1) (excluding cases where compliance was unable to be determined, NA)

Results: Time Metrics

Time Metrics for Breast Biopsy Patients

Time Points	Pre NN (median days)	Post NN (median days)	P value
Path report to Result Communication	1	1	0.08
Result Communication to Initiation of Care	**7**	**13**	**<0.0001**
Biopsy to Surgery	**44**	**67**	**<0.0001**

- Median number of days from result communication to initiation of care and from biopsy to surgery in the post-NN group was significantly longer than in the pre-NN group
- No significant difference based on race, insurance, or language

Core Biopsy to Surgery by Pathology Type

Path	Pre NN (median days)	Post NN (median days)	P value
Cancer	42	63	**<0.0001**
No Cancer	50	84	**<0.0001**

Incidence of Cancer:
Pre NN: 25%   Post NN: 23%

- Significantly longer time from biopsy to surgery in non-cancer vs. cancer cases
- Significantly longer time from biopsy to surgery in post-NN group than pre-NN group

Results: Care Retention and Lost to follow up

Care Retention of Breast Cancer Patients

Pre- NN (n=124 cancers)
- 22% (27)
- 78% (97)

Post- NN (n=121 cancers)
- 23% (28)
- 77% (93)

■ Cancer care within our system
■ Transfer or cancer care to another system/ lost to follow-up
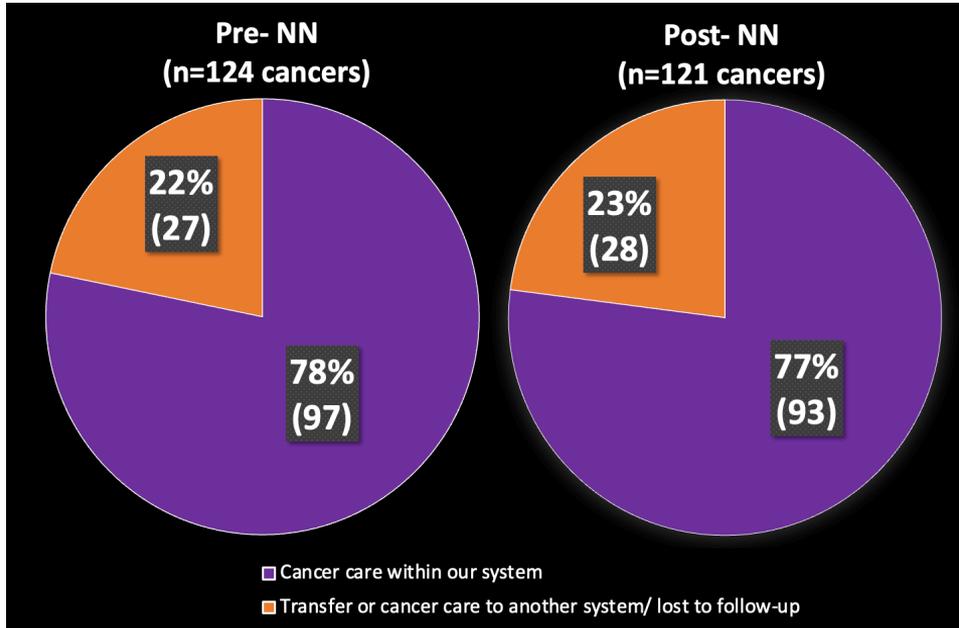
- No significant difference in retention of breast cancer patients in our institution pre- NN and post- NN (p=0.2)

Cancer patients who left our system

	Pre- NN (n=27)	Post- NN (n=28)
Transferred care	81% (22)	96% (27)
Lost to follow-up	19% (5)	4% (1)

All patients who left our system (Pre- and Post- NN)

	Cancer (n=55)	No Cancer (n=35)
Transferred care	89% (49)	69% (24)
Lost to follow-up	11% (6)	31% (11)

- There were fewer patients lost to follow-up post-NN (p=0.10)
- Fewer cancer patients lost to follow up vs. non-cancer (p=0.03)

Conclusions and Future Direction

Conclusions

- Imaging Nurse Navigator shifted the communication of biopsy results to one in which radiology directly communicated with the **patient** (patient centered care).

- Longer times to next point of care and to surgery was unexpected and may be due to changes within the surgery/ pathology departments and/or discontinuation of multidisciplinary clinics.

- No significant difference in care retention or compliance.

Future Direction

- Evaluate factors contributing to increase in time from biopsy to next point of care and to surgery in post-NN group, such as surgeon availability.

- Survey patients regarding experience with Nurse Navigator and impact on choices.

- Survey radiologists and referrers regarding experience with the Nurse Navigator.