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Provider perspectives of the complexities to abnormal mammography follow-up

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Abstract

Purpose—This study explores provider perspectives on follow-up of abnormal mammography results in medically underserved patients.

Methods—We employed Yin's Five-Phased Cycle of analysis to identify major themes drawn from interviews with breast health center providers.

Results—A linked patient tracking surveillance system, acknowledgement of Hispanic patients naming customs in the medical records at registration and innovative outreach strategies were revealed as approaches to improving diagnostic mammography follow-up.

Conclusions—The test result management system emerged as major area for improvement at this hospital. A public hospital brings unique delivery of care challenges. A facility-tailored approach complimenting mammography follow-up guidelines may be advisable.

Keywords

Abnormal tests; follow-up; qualitative; medically underserved

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DESCRIPTION OF PROBLEM

Nationally representative estimates of failure to follow-up after an abnormal mammogram do not exist. Reported estimates in single populations and clinics vary from 9% to 50% [1–3]. The majority of abnormal mammogram follow-up studies have been conducted within health insured and income-eligible populations [4–5]. There is a lack of research examining follow-up of abnormal screening tests for medically underserved (under- or uninsured) populations [6–9].

According to the Mammography Quality Standards Act (MQSA) mammography patients must receive a summary of results written in plain terms within 30 days of a mammographic examination. The facility must make reasonable attempts to ensure that the results ‘Suspicious’ or ‘Highly suggestive of malignancy’ are communicated to the patient as soon as possible [2, 10–13]. One breast facility serving medically underserved women in a public hospital located in the Southeast United States was examined. Out of 2,219 mammography patients who were seen at the breast center over a year (2014–2015), approximately 211 (9.4%) women received abnormal mammography results. Despite the efforts of our breast center to reach patients under the MQSA, 14.4% of those 211 women who received an abnormal mammography screening result delayed follow-up testing and 4.3% delayed diagnostic procedures. Delays >3 months between return for diagnostic mammography resolution and breast cancer diagnosis have been associated with bigger tumor size, positive lymph nodes, high incidence of late clinical stages, and metastatic disease [14–17]. We examined breast health center providers’ perspectives to further investigate follow-up of abnormal mammograms.

WHAT WAS DONE

We employed a qualitative, single case study approach to explore breast center health providers perspectives on abnormal mammography follow-up and recommended diagnostic resolution [18–19]. IRB approval was granted from Meharry Medical College.

Consent was obtained prior to interview administration. The interview consisted of questions on diagnostic mammography services, communication of abnormal results and tracking of breast center patients. Data sources consisted of interview transcripts and summary notes. Data analysis was guided by Yin’s Five-Phased Cycle qualitative data analysis process [19–20] which was used to identify themes and categories that emerged from the data. Participants’ words were disassembled line-by-line determining patterns, concepts and key thoughts [19–20]. Themes were interpreted through the constant comparison technique [19, 21, 22, 23, 24].

OUTCOMES

Twelve eligible providers participated in the study and agreed to be interviewed. Providers included a radiologist, two surgical oncologists, a family nurse practitioner, a physician’s assistant, two ultrasonographers, a mammography technician, a director of imaging, a lead mammography coordinator, and two administrative assistants. Sociodemographic data were available for all 12 providers (Table 1).

Three main provider perspectives emerged from the analysis: (1) Approaches to patient follow-up, (2) Patient barriers to follow-up, (3) Improving follow-up through technology.

Provider perspectives: Approaches to patient follow-up

Providers expressed their thoughts on the process of contacting patients for follow-up after not receiving a response to the abnormal results letter. One of the surgical oncologists indicated more non-traditional techniques are necessary to reach patients who were nonresponsive to diagnostic follow-up:

I'll get feedback once three certified letters have been sent. It will be brought to my attention that the patient had an abnormal mammogram and has not followed up... after...the second or third attempt that a patient does not respond or come back.... then maybe someone could visit their home or something like that.

Provider Perspectives: Information barriers to follow-up

When asked about the adequacy of the breast center tracking systems, an ultrasonographer revealed issues during patient registration that affected matching patient's abnormal results to their contact information:

We have a few problem(s) with Spanish people that have two different last names. Sometimes when they go to registration they've got a new patient's medical identification number and then when you look at the record in the computer it looks like two different people.

Provider Perspectives: Improving follow-up care through technology

One of the surgical oncologists emphasized the lack of internal surveillance to contact patients once their screening mammogram was flagged as abnormal.

I wish we had a better tracking system. The current model is not ideal in that we need more flags and notices. The patients may come back to the hospital for another service and they don't come in here. I wish there was... a flag where it would flag their chart that this person has something that needs to be seen.

Strengths, Weaknesses and Suggested Improvements

The strength of this study is the nature of the breast center setting. This is a public hospital brings which unique challenges by delivering care to patients with poor health and limited economic resources. By conducting this single case study at our breast center, we uncovered some areas of improvement in the abnormal mammography follow-up process which will allow us to better serve our patients.

There are several important limitations to this study. First, we examined a heterogeneous group of breast center team members at a single institution which limits generalizability. The provider roles represented in this study (physician, nurse, physician assistant, mammographer, administrative staff) may have differing levels of knowledge and training with mammography follow-up. Each breast center employee functions under different

professional norms, which may influence the provision of mammography follow-up. This study was unable to tease out these differences.

Second, our small purposive sample lacked gender and ethnic/racial diversity. We cannot exclude that if we had a more diverse sample stratified by gender or race/ethnicity might have identified additional or emerging themes. A cross-cutting suggested improvement is to consider a facility-tailored approach complimenting MQSA requirements to patient's abnormal mammography follow-up.

DISCUSSION

Despite MQSA methods proven effective in other facilities, providers averred that they exhausted all the resources available to them and still did not reach their patients [3]. What ensued was abnormal result letters unable to be delivered to patients. Subsequently, patients never returned for follow-up.

Providers noted a deficiency area in tracking Hispanic patients in the medical records by their last name. In the Hispanic culture, it is custom that a woman's first family name is inherited from the father's paternal family name. The second family name is inherited from the mother's paternal family name. Ensuring this cultural naming convention is common knowledge to standardize medical records starting at patient registration would minimize effort to match abnormal findings with recommended diagnostic procedures. The larger organization of the hospital has the ability to inform all faculty/staff on recognizing patient customs and applying them to medical record process.

A breakdown of communication exists between the breast health center providers and primary care clinicians. A pervasive need exists to develop and improve results management tools and track diagnostic imaging orders to completion [25]. Seamlessly linking primary care screening mammography orders and a flagging assessment notes showing delay of diagnostic needs to notify primary care providers would enhance breast health care and operational efficiency [26].

Providers revealed challenges at the patient, provider and health system levels to mammography follow-up in medically underserved women. Provision of diagnostic mammography resolution is complex and no single follow-up strategy will suffice. The major barriers for mammography follow-up vary by breast center. Given the pervasive issue of women in the public hospital setting failing to return for mammography follow-up and the higher rates of breast cancer mortality in minority and medically underserved women [27] multi-level interventions at all spectrums of the healthcare system are recommended.

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Summary Statement

We purport to explore providers' views on tracking medically underserved mammography patients for diagnostic follow-up.

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Table 1

Characteristics of the respondents n=12

Characteristic	N(%)
Gender	
Male	4 (33.3)
Female	8 (66.6)
Role at Center	
MD	
Radiology	1 (8.3)
Surgical Oncology	2(16.7)
Intermediate care professional	
Physician assistant	1 (8.3)
Family Nurse practitioner	1 (8.3)
Mammographer	1(8.3)
Ultrasonographer	2(16.7)
Administrative	
Director of imaging	1(8.3)
Lead Mammography Coordinator	1(8.3)
Administrative Assistants	2(16.7)
Years of training	
10	8 (66.7)
10–24	2 (16.7)
25	2 (16.7)
Race	
White	6(50.0)
Black	3(25.0)
Hispanic	3(25.0)
Age	
>40	4(33.3)
40–50	8(66.7)
Education	
HS	2(16.7)
Associates degree	5(41.7)
Master's Degree	2(16.7)
Medical Degree	3(25.0)