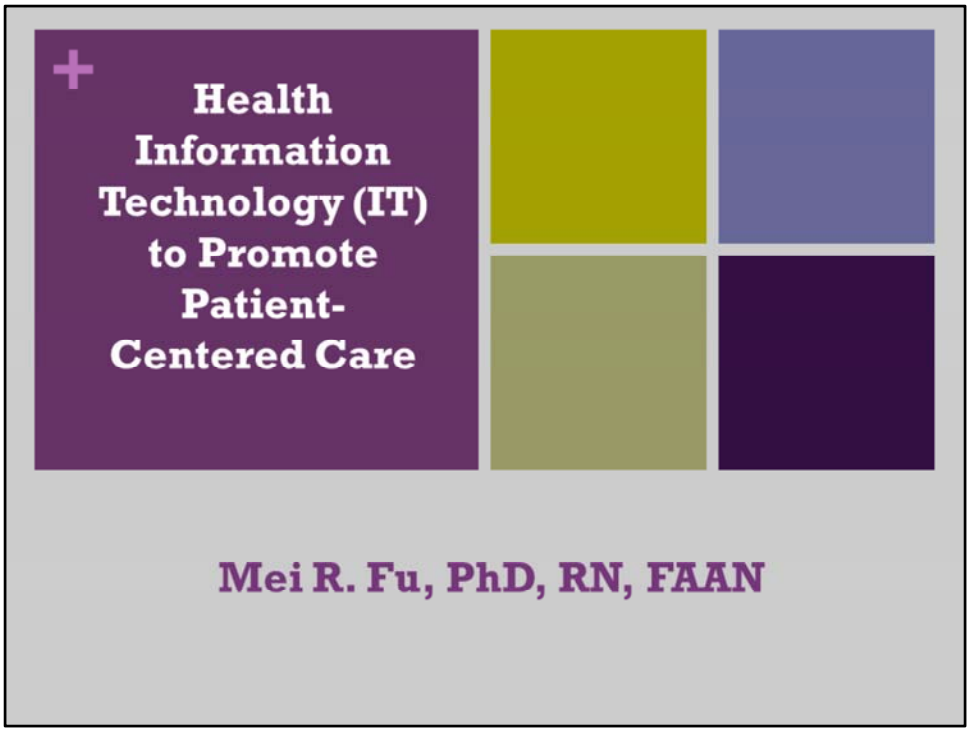
Health Information Technology (IT) to Promote Patient-Centered Care
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Sandy

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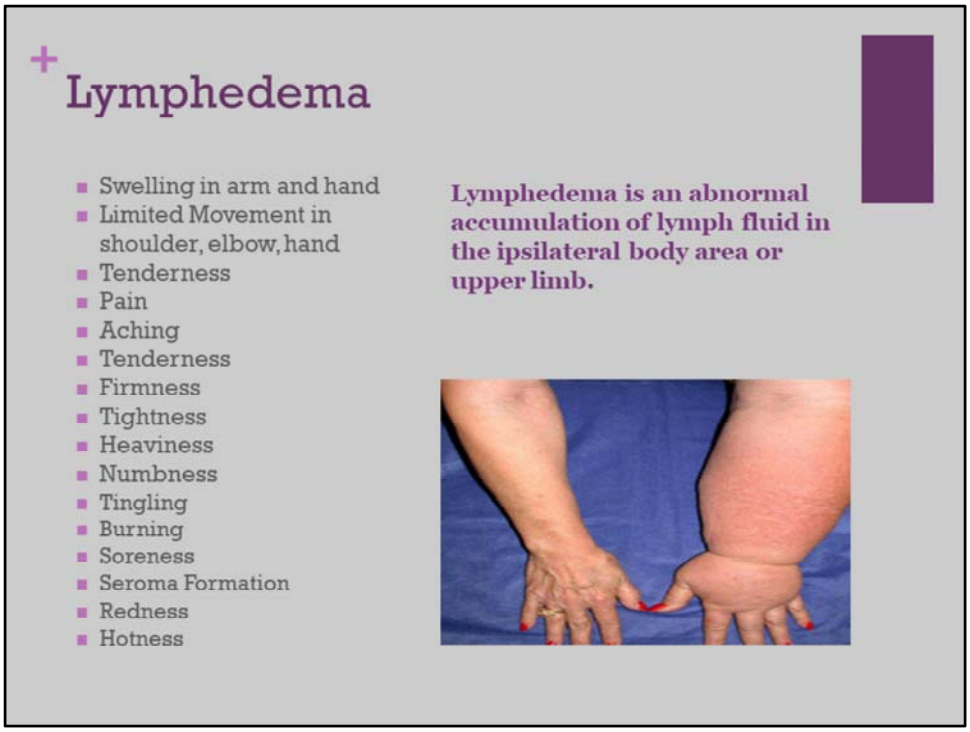
Objectives

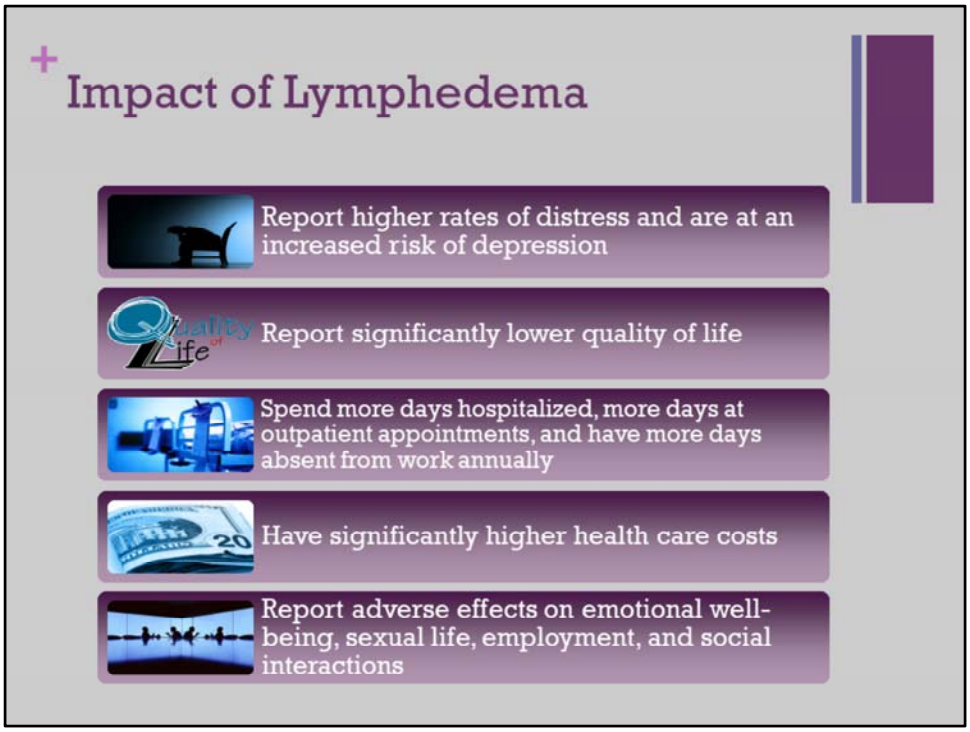
- The purpose of this presentation is to share our experience of using health IT to promote patient-centered care in lymphedema symptom assessment among breast cancer survivors, focusing on building institutional infrastructure, feasibility, and sustainability of using health IT in clinical practice.
- Understand the process of establish a health IT system in clinical practice.
- Understand the process of evaluating the implementation of a health IT system in clinical practice.

Background

- Health information (IT) can be broadly defined as the use of information and communication technology that is accessible to patients or healthcare professionals to support the delivery of patient or population care or to support patient self-management.
- A growing body of evidence indicates the use of health IT solutions are effective in implementing patient-centered care and can be instrumental to improving the safety, quality, and efficiency of patient-centered health care delivery.



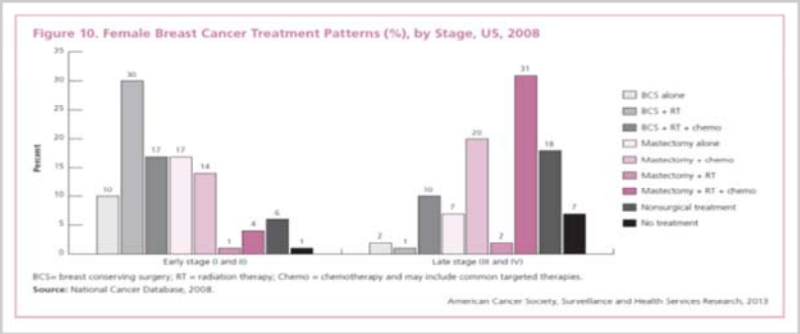
So what are the symptoms of lymphedema? In a study by Fu et al, breast cancer survivors reported the most common symptoms of lymphedema as:... In addition the unsightly appearance of lymphedema can serve as a reminder of the devastating consequences of breast cancer.



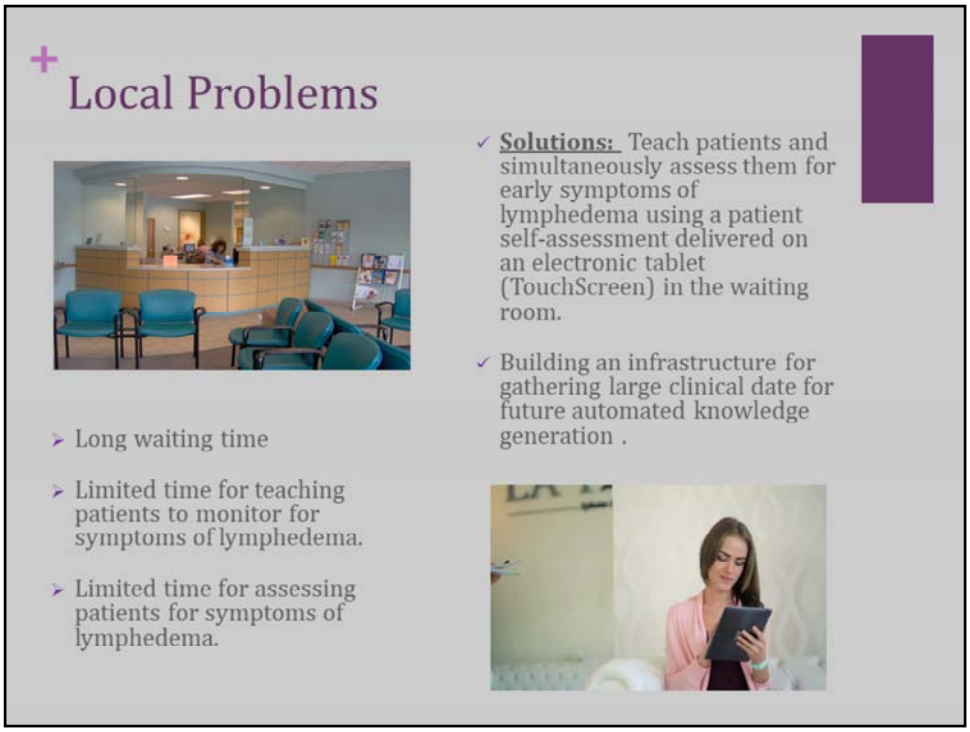
The literature suggests that lymphedema can have potentially profoundly negative effects on quality of life for breast cancer survivors.
The average life expectancy for breast cancer survivors is currently 10 years and lymphedema can have a detrimental impact on these years for survivors.
Lymphedema can occur at any point after breast cancer treatment.
And the swelling may range from mild and barely noticeable, to a seriously disabling enlargement.

Local Problems

- 15,000 women in NY are diagnosed with breast cancer annually.
- 83% of women diagnosed with Stage I or Stage II breast cancer receive radiation or surgery or both.
- 71% of women diagnosed with Stage III or IV breast cancer receive radiation or surgery or both.

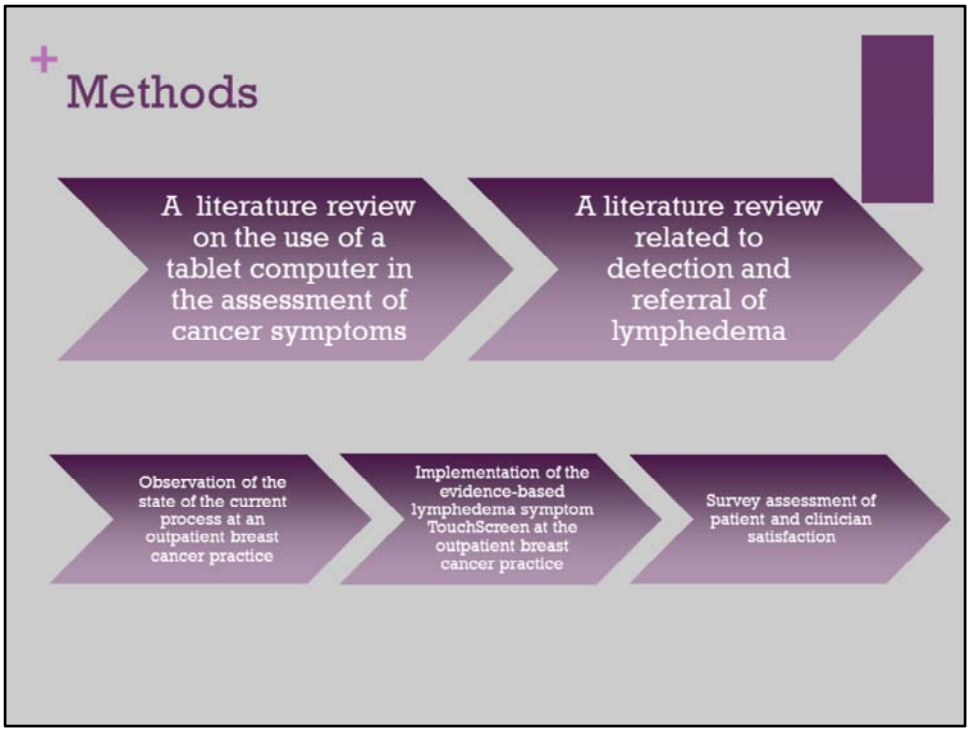


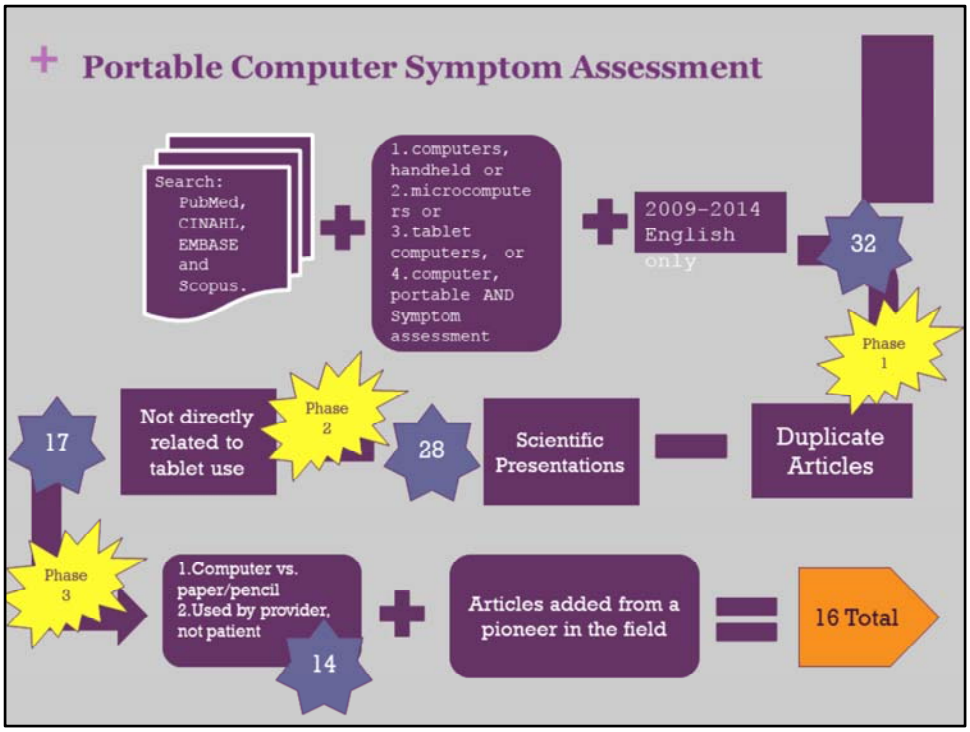
So how does this effect New Yorkers? Each year in New York State, 15,000 women are diagnosed with breast cancer. The literature suggest that...
If up to 40% of women treated for breast cancer develop lymphedema as the literature suggests, this means that an estimated of 4,500 NY women annually may develop lymphedema secondary to breast cancer treatment, while all those who receive radiation therapy or surgery are at risk.



The current process allows very little time for teaching patients regarding symptoms of lymphedema.

In reviewing the current literature related to this problem, it was identified that it may be possible to utilize the patient wait times to teach patients and simultaneously assess them for early symptoms of lymphedema using a patient self-assessment delivered on an electronic tablet, known as the TouchScreen.

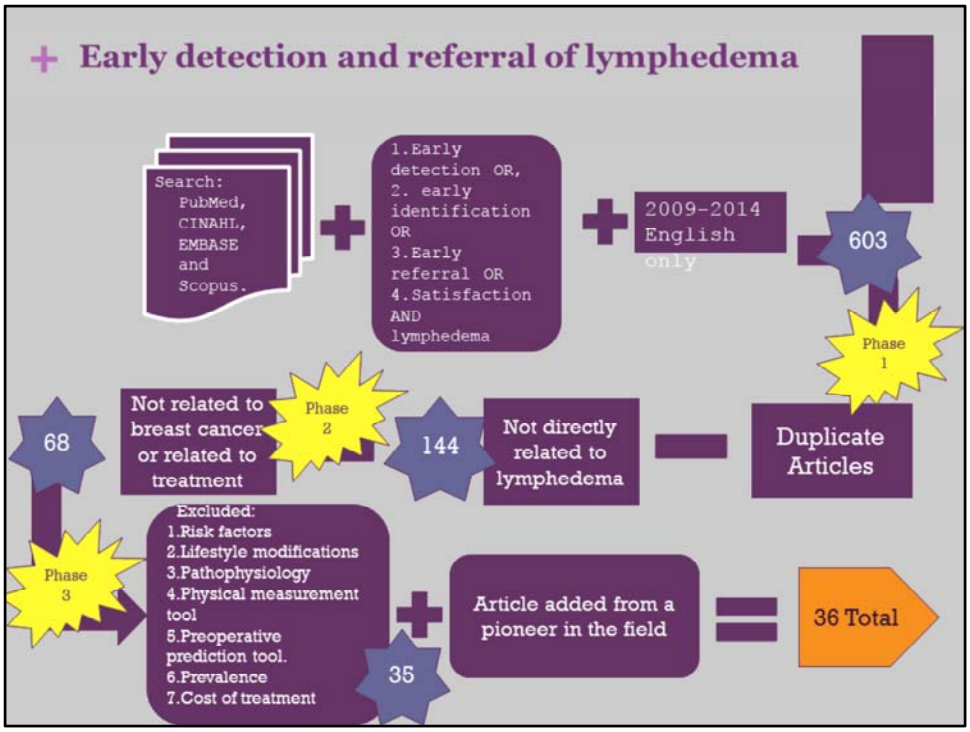

Methods
A literature review on the use of a tablet computer in the assessment of cancer symptoms
A literature review related to detection and referral of lymphedema
Observation of the state of the current process at an outpatient breast cancer practice
Implementation of the evidence-based lymphedema symptom TouchScreen at the outpatient breast cancer practice
Survey assessment of patient and clinician satisfaction



As you can see, the same four major search engines used the tablet like terms listed paired with the words symptom assessment with the same restrictions and 32 articles

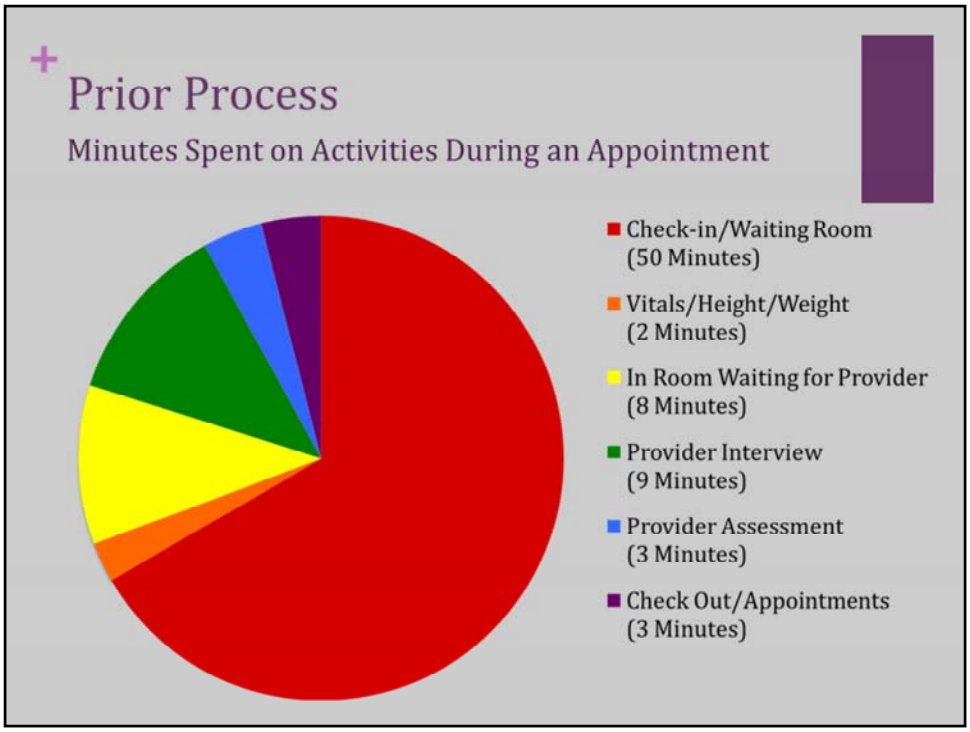
Removing duplicate articles and scientific presentations left us with 28 articles. Those articles not related directly related to tablet use were also removed. And then exclusion criteria were applied leaving 14 articles. Dr. Fu, a pioneer in

this field was consulted and she added one additional article for a total of 16 articles.

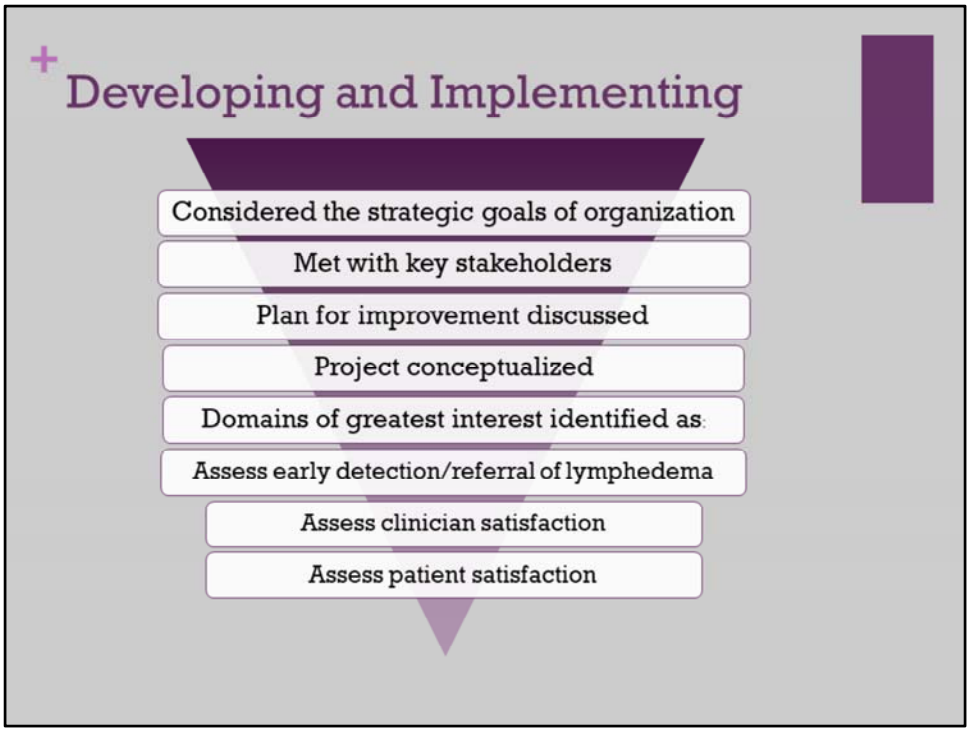


As you can see, four major search engines used the tablet like terms listed paired with the word lymphedema and the listed search parameters to yield 603 results. Removing duplicate articles and those not directly related to lymphedema left us with 144 articles. Those articles not related to breast cancer or related to treatment of lymphedema were also removed. And then exclusion criteria were applied leaving 35 articles. Dr. Fu, a

pioneer in this field was consulted and she added one additional article for a total of 36 articles.

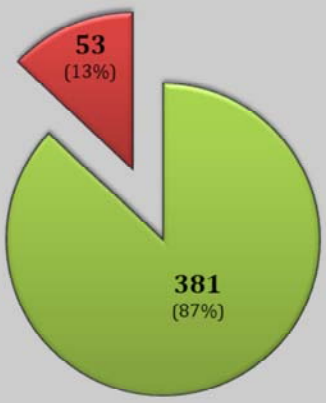


Using the EPIC Model to guide our process, in evaluating the context of the system it was identified that patients spend an average of 68 minutes out of 83 minutes of their appoint time waiting.
This pie chart displays the percentage of time spenton each activity during a patient's post-surgical breast cancer appointment.
On average, 50 minutes are spent checking in with the receptionist and waiting in the waiting room
2 minutes are spent with the medical technician obtaining vital signs, height, and weight
Another 8 minutes are spent waiting in the exam room for the provider
The provider (usually a CNS or NP) then sees the patient and spends 9 minutes interviewing them
The provider (usually an MD) then spends 3 minutes assessing & evaluating the patient and making recommendations and referrals
There is then an average of 3 minutes spent checking out and scheduling the next appointment



In planning the evaluation the program evaluators first considered the strategic goals of the outpatient breast surgery practice. The program evaluators then met with key stakeholders to discuss the intended plan for improvement and evaluation. Next, the evaluation project was developed by the program evaluators and key stakeholders who agreed and identified detection and referral of lymphedema, provider satisfaction and patient satisfaction as themes of greatest importance.

87% of participants were able to complete the Assessment in the given time



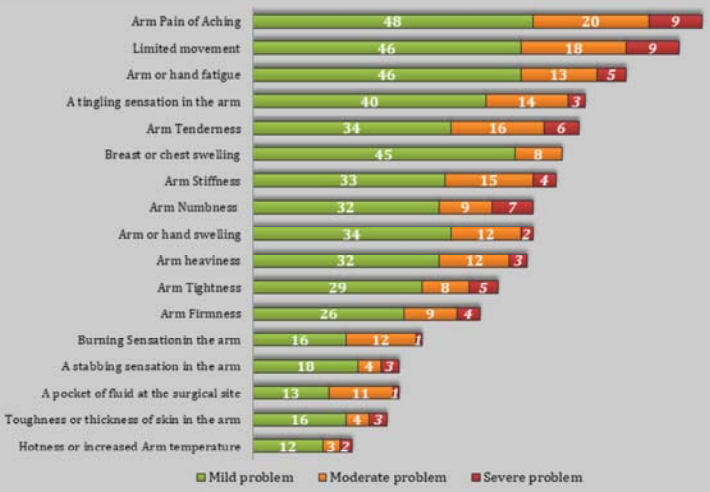
Average Time to Complete Assessment = 4.5mins

Completed Assessments Incomplete Assesments

N=435

The most common symptom for all participants is Arm Pain of Aching (18%)

"In the past two weeks how much of a problem has this been for you?"

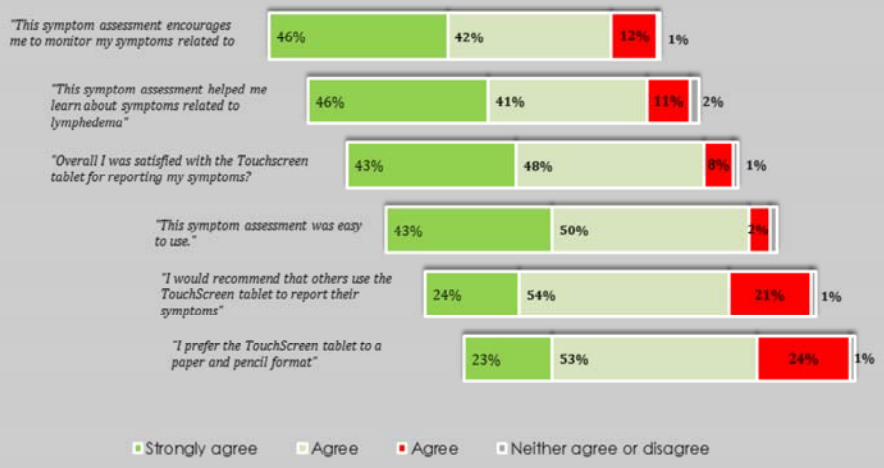


N=435

Participants were generally satisfied –

88% felt that the assessment encouraged them to monitor their lymphedema related symptoms.

"Please complete the following few questions so that we can learn about your experience using this (TouchScreen) tool"



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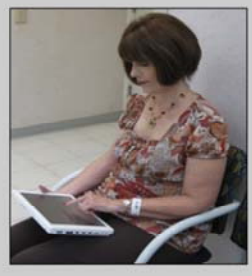
Conclusions

- The use of the TouchScreen increased the number of timely referrals for lymphedema treatment and patients' self-recognition of lymphedema symptoms. (18 vs 45)
- Overall, clinicians and patients reported being very satisfied with the use of the TouchScreen that improved clinicians' assessment of lymphedema symptoms and improved communication among health care providers and patients and patients' learning about lymphedema symptoms.



- Using TouchScreen for patients to report lymphedema symptoms show benefit to patients in terms of earlier self-recognition of lymphedema symptoms, increased communication among clinicians and patients and increased timely referral to lymphedema specialist, all potentially leading to a reduction of lymphedema complications.