

Technology Enhanced Nurse Navigation (TENN)SM Trial

Conducted in collaboration with DHMH

Mercy Medical Center TENN Study Team

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***The Prevention and Research Center, Mercy Medical Center, Baltimore, MD
Advancing Synergy, LLC, Baltimore, MD, and DHMH***

Funded in part by Susan G. Komen for the Cure

Technology-Enhanced Navigation: The TENNSM Trial

Aim: Determine if “virtual” interaction with a patient navigator vs information access alone will improve:

adherence (relative dose intensity)

symptom management

quality of life

among low income breast cancer patients undergoing adjuvant breast cancer treatment

Motivation

- **The poor ↔ poor cancer outcomes**
 - **Multifactorial**
 - Adherence
 - Access - treatment, support, navigational support
- **Information gap – and information overload**
- **Disparities**
 - race, age, geography
- **Social isolation**
- **Increasing reliance on self-care**

Navigation

Physical Interaction



Virtual Interaction



Technology-Enhanced Navigation: The TENNSM Trial

- **Recruitment Goal: 100; currently 90 patients enrolled;**
 - **Eligibility:**
 - **Stage I-III; enrolled within 3 months of initiating adjuvant treatment**
 - **Income \leq 300% poverty (e.g., family of 4 = \$69,150); HUD guidelines**
 - **English speaking/able to consent**
 - **Residing within area of wireless access**

Sponsor:

Intervention v. Control Group

Intervention group is given:

- **Netbook with internet access (Wi-Fi)**
- **Access to portal with vetted internet links + videos to assist with treatment and recovery issues + documents**
- **Access to a navigator (nurse/social worker) who will virtually (via Skype, phone, email) assist patient during their treatment course**

Control group is given:

- **Netbook with internet access (Wi-Fi)**
- **Access to vetted internet links(e.g. NCI, ACS, Komen, etc.) to assist with treatment and recovery issues**

Duration of Intervention: 1 year

Welcome Page

TENNSM Portal

[[Log In](#)]

WELCOME

We are excited that you have decided to join the Technology Enhanced Nurse Navigation (TENNSM) Trial. Through your participation in this trial, we will learn more about the best way to give information to individuals to help them through their breast cancer treatment. The Prevention and Research Center at Mercy Medical Center is leading the study efforts. The mission of the center is to improve the health of individuals through clinical programs and research into the prevention, early detection and treatment and long-term management of diseases. This study is funded by Susan G. Komen for the Cure®. To access the TENNSM Portal, please [click here](#).

If you have any questions regarding your computer or the TENNSM Trial, please contact the TENNSM Trial Research Coordinator by calling 410-332-4945 or a member of our study team at anytime by calling 410-951-7950 from Monday through Friday between 8:00 AM to 4:30 PM. If you call after 4:30 PM or on a weekend or holiday, please leave a message and your call will be returned the next business day. If you have a medical emergency or any medical issues, please call either 911 or your healthcare provider.

The Prevention & Research Center
at Mercy



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Disclaimer: If you have a medical emergency or any medical issues, please call either 911 or your health care provider. The privacy of all medical records and other individually identifiable health information will be protected at all times. Information relating to a study participant's personal information and medical history are considered individually identifiable health information. Confidentiality of this health information is maintained at all times and may only be disclosed in accordance with privacy laws and the Health Insurance Portability and Accountability Act (HIPAA).

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Tips & Resources

TENNSM Portal

Welcome Intervention ! [[Log Out](#)]

THOUGHT FOR THE DAY ~ Happiness often sneaks in through a door you didn't know you left open. ~ John Barrymore

YOU HAVE **3** MESSAGE(S) AND **5** NOTE(S)

Tips & Resources | [Communication](#) | [My Information](#) | [Questionnaires](#) | [My Portal Use](#)

Click on the symbols below to find videos, website links and documents selected to help support you through your breast cancer treatment.



COMMON SYMPTOMS



NUTRITION CORNER



EXERCISE TIPS



RELAXATION CORNER



COPING & FEELINGS



WORK & FAMILY MATTERS



PRACTICAL RESOURCES



TREATMENT & BEYOND

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YOU HAVE **3** MESSAGE(S) AND **5** NOTE(S)

TREATMENT & BEYOND

In this section you will find videos, websites and documents that will give you information about topics related to your cancer treatment and beyond. Look for a specific topic on the left hand side of the screen and click on the links (highlighted in blue) in the adjacent column. After you have read the information, click on the 'X' in the upper right corner of the screen to close that screen and return to the portal home screen.

Home

Video **Links** Documents

Category	Description
General Treatment Information	 About Breast Cancer and Treatment Find general information about breast cancer and treatment. <i>Source: National Cancer Institute</i> <i>Date last updated: 01/02/2012</i>
General Treatment Information	 Overview of Treatment Options Learn about treatment options for breast cancer. <i>Source: National Cancer Institute</i> <i>Date last updated: 01/02/2012</i>
General Treatment Information	 Adjuvant Breast Cancer Therapy Learn about adjuvant and neoadjuvant therapy for breast cancer. <i>Source: National Cancer Institute</i> <i>Date last updated: 01/02/2012</i>
Communicating with your doctor	 Talking to Your Healthcare Provider Find tips and information on how to communicate with your health care provider and ensure that your questions are answered. <i>Source: Susan G Komen for the Cure</i> <i>Date last updated: 01/02/2012</i>
Treatment by Stage	 Treatment Options by Stage Find information about breast cancer treatment options by stage. <i>Source: National Cancer Institute</i> <i>Date last updated: 01/02/2012</i>
Treatment by Stage	 Breast Cancer Treatment and Stage Learn about breast cancer treatment by stage. <i>Source: ACS</i> <i>Date last updated: 01/02/2012</i>
Screening	 Breast MRI Learn about magnetic resonance imaging (MRI), a noninvasive medical test that helps physicians diagnose and treat medical conditions, including breast cancer. <i>Source: RadiologyInfo.org</i> <i>Date last updated: 01/02/2012</i>
Chemotherapy	 Chemotherapy: What to Expect Learn what to expect during your chemotherapy treatment and how it will affect your daily routine. <i>Source: BreastCancer.org</i> <i>Date last updated: 01/02/2012</i>

My Information

TENNSM Portal

Welcome Intervention ! [[Log Out](#)]

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YOU HAVE **3** MESSAGE(S) AND **5** NOTE(S)

Tips & Resources Communication **My Information** Questionnaires My Portal Use

Click on the symbols below to provide and update information about yourself and your treatment.



[MY INFORMATION](#)



[MY HEALTHCARE PROVIDER](#)



[MY TEAM](#)



[MY CORNER](#)

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YOU HAVE 3 MESSAGE(S) AND 5 NOTE(S)

MY INFORMATION

Enter information and your breast cancer diagnosis and treatment.

First Name	Last Name	Date of Birth	Age	Gender
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(*) DENOTES MANDATORY INFORMATION

Tumor Information

Tumor Stage

1

Tumor Size

1 cm

Tumor Type (select all that apply)

Ductal carcinoma in situ Invasive ductal Invasive lobular Don't Know Other, specify

Tumor Location

Left breast

Estrogen receptor status

Positive

Progesterone receptor status

Negative

HER-2/neu receptor status

Negative

Lymph node involvement

Yes

If yes, number of involved nodes:

3

Treatment

What type of surgery did you or will you have?

Lumpectomy Left Breast

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YOU HAVE **3** MESSAGE(S) AND **5** NOTE(S)

DOCTOR CONTACT INFORMATION

(*) DENOTES MANDATORY INFORMATION

First Name

Last Name (*)

Speciality

Street Address

City

State

Zipcode

Provider Email

Provider Phone

9999999999

Provider Fax

9999999999

Notes

Submit

Cancel

Communication





TENNsm Portal Welcome Intervention ! [[Log Out](#)]

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YOU HAVE **3** MESSAGE(S) AND **5** NOTE(S)


Tips & Resources | **Communication** | My Information | Questionnaires | My Portal Use

Click on the symbols below to find tools to help you with your communication and managing your schedule.

 SKYPE	 My MESSAGES	 My NOTES	 My SCHEDULE
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funded by  **Komen** FOR THE CURE.

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TENN TEAM

Meet the TENN Study Team members.

[Home](#)**Kathy J. Helzlsouer, MD, MHS**

Dr. Kathy Helzlsouer is the principal investigator (director) of the TENN Trial. Dr. Kathy's clinical work and research interests concern both cancer prevention and cancer survivorship. The project developed from her experience and interest in improving the quality of life of cancer survivors through treatment and beyond. She is fortunate to work on this project with a wonderful team who strive to make a difference in the lives of cancer patients.

FIELD: Epidemiology, Medical Oncology, Cancer Risk Assessment and Prevention, Women's Preventive Health

POSITION: Director, The Prevention and Research Center at Mercy

[Click here to meet Dr. Kathy](#)

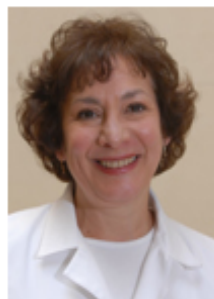
**Susan Appling, PhD, MS, CRNP**

Dr. Susan (Sue) Appling is the nurse navigator for the TENN Trial. At Mercy, Dr. Sue provides clinical care to women at increased risk for cancer and manages the long-term health promotion and disease prevention needs of cancer survivors. As the coordinator for both a clinical program and a research study for breast cancer survivors, Dr. Sue has helped to develop an innovative holistic mind-body medicine program to treat persistent fatigue in women who have been successfully treated for breast cancer.

FIELD: Women's Health and Wellness, Nursing Education

POSITION: Nurse Practitioner, The Prevention and Research Center at Mercy

[Click here to meet Dr. Sue](#)

**Susan A. Scarvalone, MSW, LCSW-C**

Ms. Susan is the social worker for the TENN Trial. She is a licensed clinical social worker with many years experience working with cancer patients and their families. Ms. Susan has completed training in Mind-Body Medicine and Motivational Interviewing. Her areas of expertise include counseling, survivorship for cancer patients, including pediatric cancer patients, and fatigue intervention research.

FIELD: Cognitive Therapy

POSITION: Clinical Research Therapist, The Prevention and Research Center at Mercy

[Click here to meet Ms. Susan](#)




Health Questionnaires

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You have **3** MESSAGE(S) AND **5** NOTE(S)

- Tips & Resources
- Communication
- My Information
- Questionnaires**
- My Portal Use

Please complete the questionnaires below when requested by the TENN Study Team. The Status column indicates the status of your questionnaire (red = Not Started; yellow = In Progress; green=Submitted)

Phase	Start Date	Completion Date	Status
Baseline	10/7/2012		 Active
6 months	4/7/2013		 Not Started
12 months	10/7/2013		 Not Started

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Characteristics at Enrollment

TENN Trial Participants N=90

Characteristic	Intervention N=46	Control N=44
Age at baseline (mean (SD))	52.5 (10.3)	48.7 (9.5)
Race %		
White	37.0	31.8
Black	60.9	63.6
Other	2.2	4.5
Education %		
High school or less	56.5	36.4
Greater than high school	43.5	63.6
Marital Status %		
Married/Partnered	23.9	27.3
Single/Divorced/Separated/Widowed	76.1	72.7
Employment Status %		
Full time	23.9	31.8
Disabled/Medical Leave	13.0	22.7
Unemployed/Other	63.0	45.5

Characteristics at Enrollment TENN Trial Participants

Characteristic	Intervention %	Control %
	%	%
BMI		
≥ 30.0	56.5	59.1
Self-Reported Health		
Excellent/Very Good	30.4	27.3
Good	47.8	47.7
Fair/Poor	21.7	25.0
Current Smoker	21.7	22.7

Usability Questionnaire Follow-up 3 to 6 months after enrollment

Usability Questions	Intervention %	Control %	p-value
Computer experience			
Comfortable/Very Comfortable	90.6	62.9	0.08
I use the Portal frequently			
Agree/Strongly Agree	59.4%	48.6%	0.03
I think the Portal is easy to use			
Agree/Strongly Agree	84.4%	57.1%	0.08
I feel very confident using the Portal			
Agree/Strongly Agree	81.3%	60.0%	0.2

Comments: Navigator

- *My navigator answered a lot of questions about breast cancer and what I would be going through and helped me to understand the side effects of drugs.*
- *Helpful is an understatement. She was excellent. She was helpful in every aspect of my life. She was there to help with my physical and mental needs 100% of the time. If I could put a star on someone it would be there for Susan*
- *This is a wonderful program and has lots of helpful information to anyone that is going through breast cancer. My nurse Sue is the best*

What Have We Learned?

- **Technology literacy improves with a brief education**
 - *My little Tenn portal buddy has been like my sidekick of information so far. I am happy to have something to help me remember appointments...I can go to one place and find all my doctors contact info... (Control)*
 - *It's easy to find information on the tenn without having to call the doctor every time you think of something..... (Control)*
 - *I like that I have everything I need in one place, such as, resources, tips, schedule. It helps keep everything organized, which in turn, takes a lot of stress off of me. (Control)*
 - *I find the Tenn Portal has extremely good information. It's easy reading and has been very helpful to me. (Intervention)*
 - *I like being able to send and receive messages. The messages I received have been very encouraging and informative. (Intervention)*
 - *It has helped me to have more insight on the things I don't understand. I specifically like the nutrition information- what is good and what is not good. (Intervention)*

What Have We Learned?

- **Participants are good stewards of the equipment – only 3 computers needed to be replaced**
- **Connectivity has geographical restrictions**
- **Biggest expense – connectivity charges; constant monitoring of data use needed (5GB limit)**
 - Free Wi-Fi access increasing - sustainability
 - Tablet prices reasonable
- **Phone interactions preferred by patients and navigators over Skype®**
- **Asset to navigate a mobile population – mobility high; follow-up challenging – changing phone numbers. Computers travel with them!**

What Have We Learned?

- **Social ills often exceed medical ills during treatment**
 - Home visits have been enlightening
- **Untreated or inadequate treated mental health is prevalent**
- **Navigator TEAM required – social worker + nurse**
- **Overcome social isolation:**
 - *without this portal i wouldn't have much communication i live alone and no family or friends that are close to talk with. (I)*
 - *This program was indeed a blessing to me at a time when I [was] left hopeless and [in] despair. The program was added support for me. (I)*
 - *I am lucky to have the access, and opportunity to have "my mini support system" by my side. (C)*
- **Adjunct to medical care**
 - *This TENN Portal has help me very much. I knew nothing about breast cancer. Now I can easily look up information about breast cancer. I am starting to understand more about my condition and treatments. Thank you all. (C)*
 - Relieves provider burden

Summary

- **Computer competence achieved after brief training (~2-3 hours) even among those with no prior computer experience**
- **Use of portal and confidence in using higher among those with interactive navigator than controls**
- **Both intervention and control participants report positive experience with accessibility to information**
- **Health outcomes, quality of life, and adherence (relative dose intensity) will be analyzed when all have completed the 12 month intervention period**



THANK YOU

- **DHMH and BCDDT staff**
- **Provider referrals**
- **Participants**
- **Susan G Komen for the Cure**