

# Rehabilitation and Cancer Survivorship

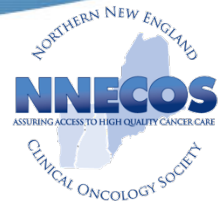
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UNE Doctor of Physical Therapy Program

Central Maine Medical Center  
December 4th, 2015



UNIVERSITY OF  
NEW ENGLAND



# Why We Are Here

- ◆ Third and final year community based project
- ◆ Northern New England Clinical Oncology Society Grant Recipients
- ◆ Build awareness on the role of rehabilitation services in cancer survivor management
- ◆ Discuss strategies to address existing need
- ◆ Motivated by personal and professional connections to cancer survivors

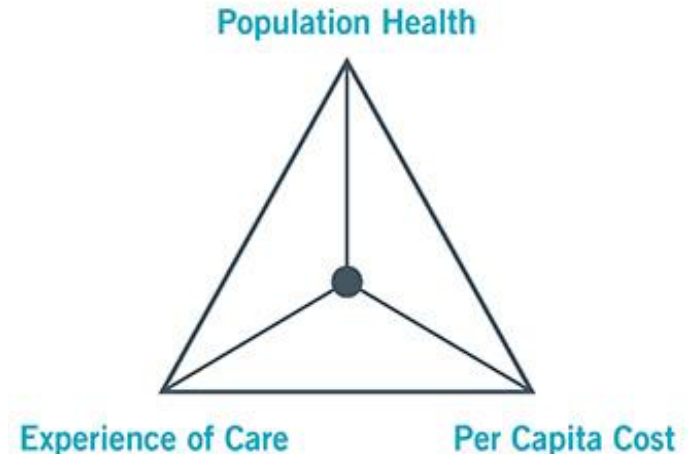
# Overview

- ◆ Each cancer survivor has a unique set of risk factors, disease presentation, and course of treatment
- ◆ Cancer survivors are at high risk for severe and persistent symptoms of physical distress that impair post-treatment function
  - ◆ Kim YM et al. *J Korean Med Sci*. 2011
  - ◆ Kim BH, 2015
- ◆ Many cancer survivors can endure physical distress symptoms for up to 10 years following treatment
  - ◆ Hearn J et al. *J Public Health Med*. 1997
- ◆ Comprehensive rehabilitation and extensive wellness services available locally

# Triple Aim

- ◆ Improving the patient care experience
- ◆ Improving the health of populations
- ◆ Reducing the per capita cost of health care

## The IHI Triple Aim



# Objective & Goals

## Objective

- ◆ All cancer survivors have the opportunity to receive the additional services they need to maximize their quality of life.

## Goals

- ◆ Feasible resolution to current barriers
- ◆ Identify physical distress screening tools and outcome measures
- ◆ Improve utilization of screening tools
- ◆ Education on rehabilitation services

# 2015 Cancer Incidence

## National

- ◆ Estimated 1,658,370 new diagnoses (ACS, 2015)
  - ◆ Breast: 234,190 new cases
  - ◆ Lung/Bronchus: 221,200 new cases
  - ◆ Prostate: 220,800 new cases
  - ◆ Colorectal/Anal: 139,970 new cases

## Maine

- ◆ Estimated 8,810 new diagnoses (ACS, 2015)
  - ◆ Breast: 1,010 (female) new cases
  - ◆ Lung/Bronchus: 1,360 new cases
  - ◆ Prostate: 1,100 new cases
  - ◆ Colorectal/Anal: 610 new cases

# Cancer Incidence Statistics at CMMC

## **CMMC Annual Report 2013**

- ◆ Cancer survivors treated in 2012: 735
- ◆ Total % of 2012 Analytic Cases: 99.9%
  - ◆ Breast Cancer: 20.4%
  - ◆ Lung/Bronchus: 16.2%
  - ◆ Colorectal/Anal Cancer: 8.2%

# Late Effects of Cancer Survivorship

- ◆ Between 1971 and the projections for 2022, the number of cancer survivors will increase from **3 million** to **18 million**.
- ◆ **Tools** to identify long-lasting side effects of cancer therapy **must be implemented** earlier to treat and/or prevent them.
  - ◆ At least 50% of survivors suffer from late treatment-related side effects
  - ◆ Many side effects are chronic in nature and even life-threatening

Valdivieso et al. *Int J Med Sci.*, 2012



# Current CMMC Model

## ECOG - Eastern Cooperative Oncology Group Scale of Performance Status

- ◆ Currently assessed at each patient visit
- ◆ Preliminary tool used for detecting change
- ◆ 0 = no impairment  
5 = death

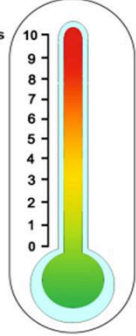
Grade	ECOG
0	Fully active, able to carry on all pre-disease performance without restriction.
1	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature (i.e. light housework, office work).
2	Ambulatory and capable of all self-care but unable to carry out any work activities. Up and about more than 50% of waking hours.
3	Capable of only limited self-care, confined to bed or chair more than 50% of waking hours.
4	Completely disabled. Cannot carry on any self-care. Totally confined to bed or chair.
5	Dead.

# Current CMMC Model

## Distress Thermometer

- Currently administered at the initial patient visit
- A recommendation by the NCCN to screen for emotional, psychological, and physical distress
- 0 = no distress  
10 = extreme distress
- Practical, Family, Emotional, Spiritual/Religious, and Physical Problems

The Distress Thermometer

<p>First please circle the number (0-10) that best describes how much distress you have been experiencing in the past week including today.</p>	<p>Second, 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.</p>																																																																																																																																		
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# Oncology Rehabilitation Continuum

Pre-  
habilitation

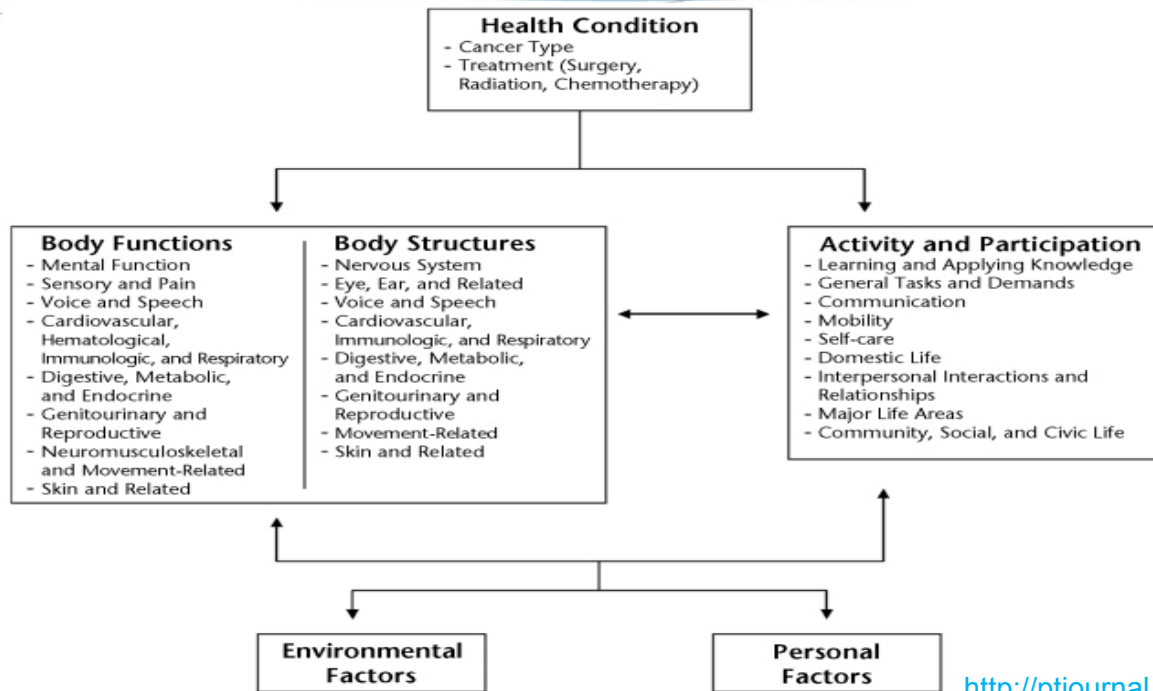
Surgical  
Recovery

Active  
Cancer  
Treatment

Post-Cancer  
Treatment  
Survivorship

Hospice/  
Palliative  
Care

# Assessment in Oncology Rehabilitation



# Common Cancer-Related Impairments

## Fatigue

- ◆ “Overwhelming and sustained exhaustion and decreased capacity for physical and mental work...not relieved by rest”
- ◆ As many as 75% of patients have cancer-related fatigue
- ◆ **Tools:** Distress Thermometer, Brief Fatigue Inventory (BFI), FACIT-F, FACIT-An
- ◆ **PT Intervention:** promote mobility, ambulation, passive/active ROM, light resistance exercises

# Common Cancer-Related Impairments

## Sensory, Balance, Gait, and Fall-Risk

- ◆ Most prevalent neurological complication of cancer is chemo-induced peripheral neuropathy (CIPN)
- ◆ May develop in 50-60% of patients treated with taxanes
- ◆ **Tools:** various PT balance tests, fall risk screenings, Dizziness Handicap Inventory (DHI), visual acuity tests, Modified Total Neuropathy Score (mTNS)
- ◆ **PT Intervention:** fall risk prevention, vestibular rehab, balance activities, strengthening exercises, assistive devices, adaptive equipment

# Common Cancer-Related Impairments

## Pain

- ◆ PT and wellness programs early in cancer treatment “may help to diminish the intensity and incidence of chronic pain in long-term survivors.”
- ◆ “30-50% of patients undergoing acute cancer treatment and up to 70% of patients with metastatic disease”
- ◆ **Tools:** Visual Analog Scale (VAS), Numeric Pain Rating Scale (NPRS), Faces Pain Scale (FPS), Distress Thermometer, Brief Pain Inventory (BPI)
- ◆ **PT Intervention:** modalities, manual therapy, pressure point release, transcutaneous neuromuscular stimulation (TENS), positioning, stretches

# Common Cancer-Related Impairments

## Neuromusculoskeletal

- ◆ ROM loss, decreased muscle strength, gait pattern abnormalities, and balance deficits
- ◆ Weakness is present in up to 78% of patients with brain tumors and 74-76% of patients with cancer-related spinal cord injury
- ◆ **Tools:** goniometry, manual muscle testing, grip strength, deep tendon reflexes, gait speed, gait analysis, etc.
- ◆ **PT Intervention:** PROM/AROM, muscle endurance and strength exercises, balance activities, and assistive devices



# Common Cancer-Related Impairments

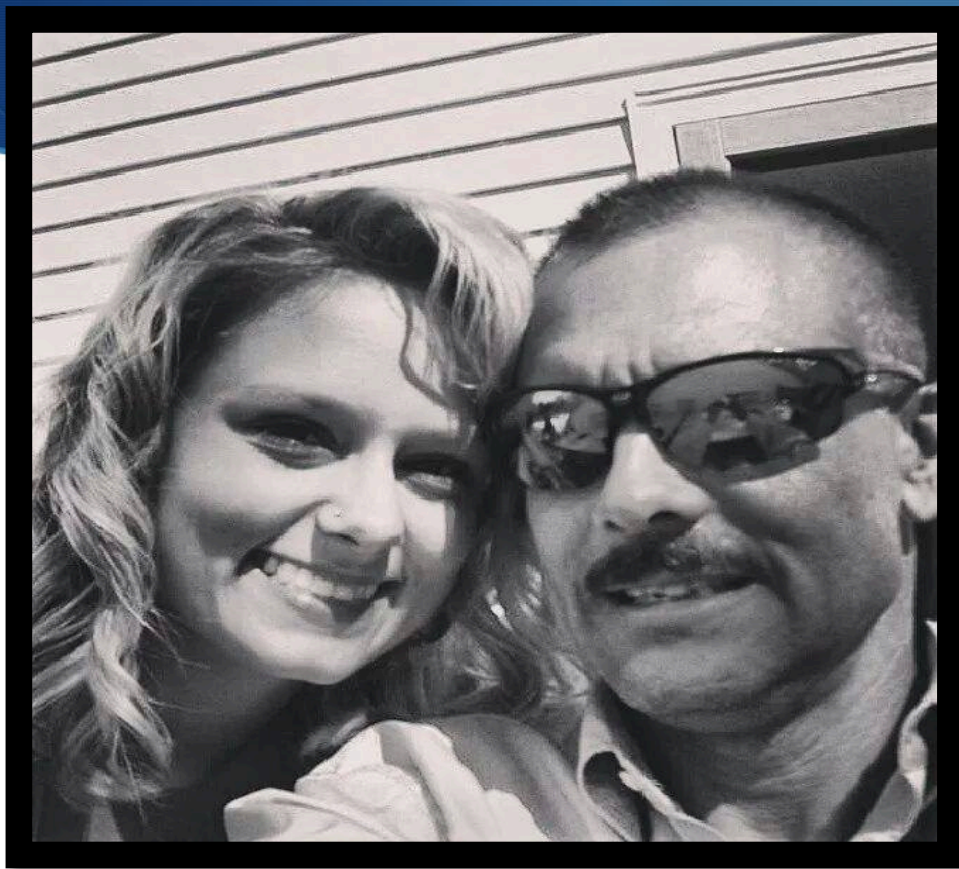
## Incontinence Related to Pelvic Floor Imbalances/Weakness

- ◆ More common with pelvic cancers, such as cervical, ovarian, uterine, or vaginal cancer in women or prostate or testicular cancer in men
- ◆ **Tools:** Numerous standardized questionnaires available for symptoms, QoL, and sexual function
- ◆ **PT Intervention:** pelvic floor rehab/EMG, transverse abdominis muscle training, manual therapy, soft tissue release, positioning, education

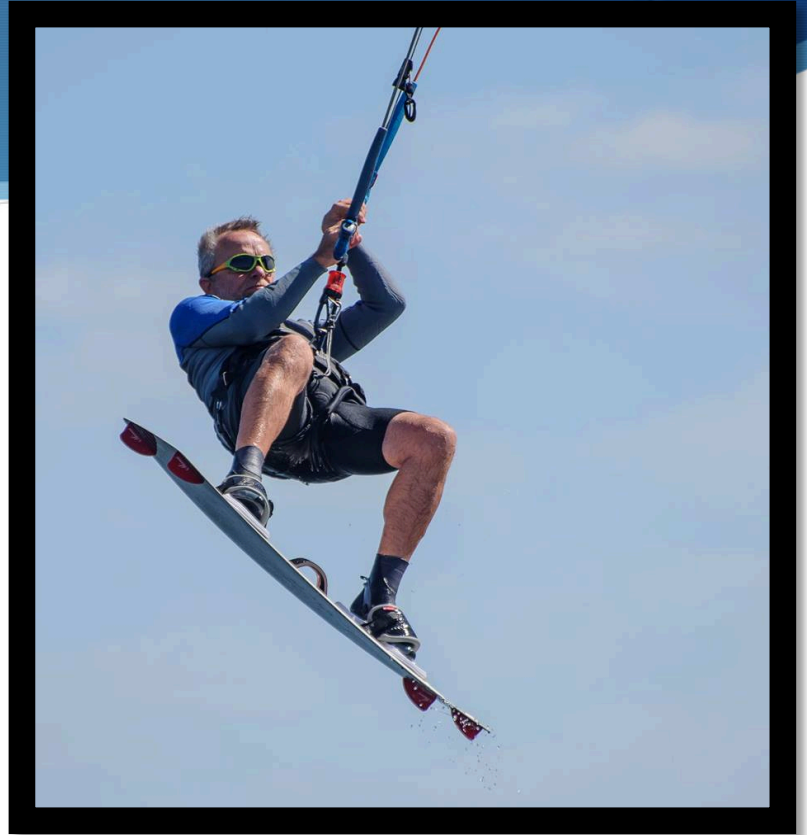
# Common Cancer-Related Impairments

## Lymphedema

- ◆ Can cause disfigurement, physical discomfort, and functional impairment
- ◆ 6.3% - 22.3% develop secondary lymphedema following SLND and ALND
- ◆ **Tools:** EDGE task force, circumferential measurements, FACIT-Lymphedema
- ◆ **PT Intervention:** complex decongestive therapy



January 14, 1966 - September 14, 2015





# Positive Effects of Physical Activity

- ◆ Reduces cancer mortality by up to 17%

Li et al. *Br J Sports Med.* 2015

- ◆ Pre-habilitation and rehabilitation can reduce physical distress and improve QoL

Silver et al. *CA Cancer J Clin.* 2013.

Bernat et al. *BJU Int.* 2015

- ◆ Reduces cancer-related fatigue

Meneses-Echavez et al. *J Physiother.* 2015

# Additional Oncology Rehabilitation Services

## Occupational Therapy

- ◆ ADL management
- ◆ Assistive device management
- ◆ Energy conservation and relaxation techniques
- ◆ Environmental modifications
- ◆ Return to leisure activities
- ◆ Lymphedema management

## Speech-Language Pathology

- ◆ Neurogenic Communication Disorders
- ◆ Cognitive-Communication Assessment - “Chemo-brain”
- ◆ Augmentative/Alternative communication
- ◆ Dysphagia
- ◆ Intraoperative language mapping
- ◆ Laryngectomy Rehabilitation
- ◆ Voice Therapy

# Fitness and Wellness for Survivors

## The Patrick Dempsey Center for Cancer Hope and Healing

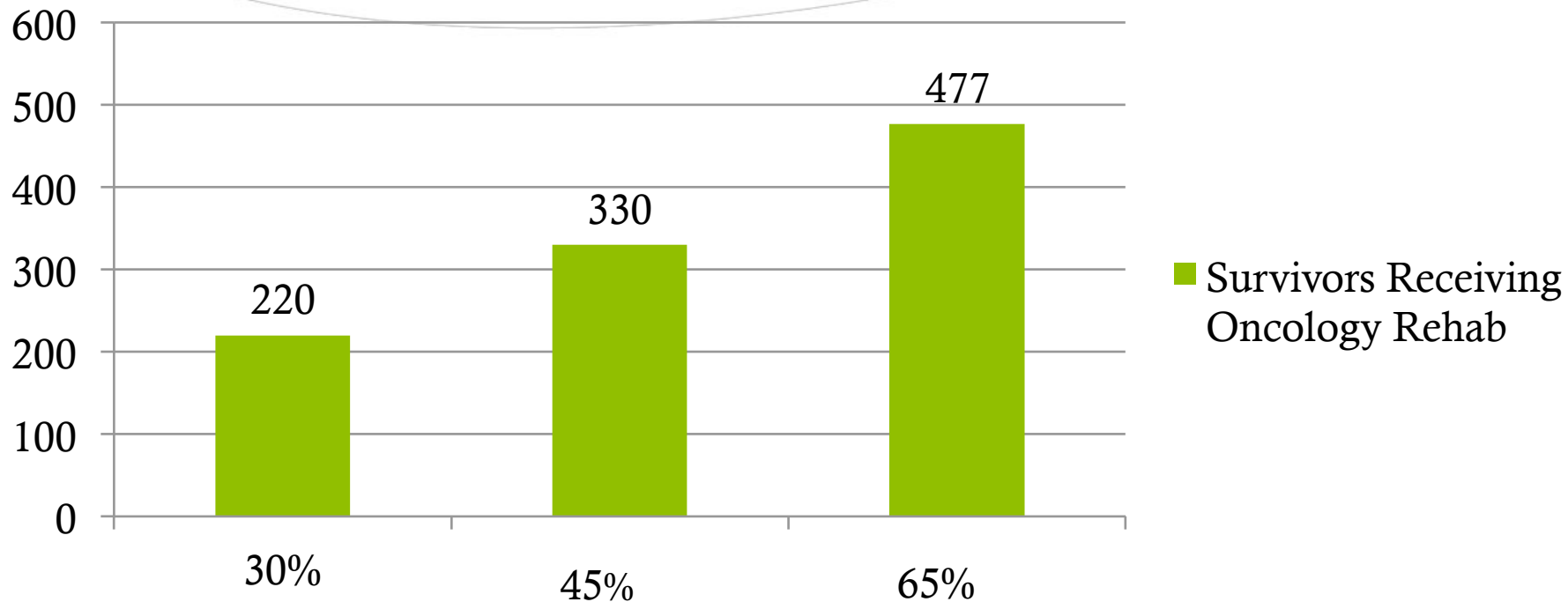
- ◆ Massage, Reiki, yoga, Tai Chi, meditation
- ◆ Mindfulness Meditation ongoing series
- ◆ Toll-free cancer assistance line
- ◆ Short-term therapeutic counseling services
- ◆ Financial resource counseling
- ◆ Nutrition counseling
- ◆ *Nutrition for Life* series
- ◆ Community cancer-related health outreach and education
- ◆ Professionally facilitated cancer and caregiver support groups
- ◆ Educational workshops on a variety of cancer and wellness-related topics
- ◆ Patient Navigation
- ◆ The Healing Tree program, which offers support, education and wellness services for youth and families impacted by cancer.
- ◆ Space to Breathe and Space to Grieve, adolescent outdoor adventure programs
- ◆ Interactive website and social media
- ◆ A cancer resource Lending Library including books, periodicals and DVDs



# Need for Referral

- ◆ 92% of women with metastatic breast cancer had at least 1 physical impairment Silver, CA Cancer J Clin. 2013
  - ◆ 91% of those impairments required a physical rehabilitation intervention
  - ◆ 88% required PT and/or OT
  - ◆ Fewer than 30% received this care
- ◆ 63% of survivors of the 10 most common cancers reported the need for at least 1 rehabilitation service Silver, CA Cancer J Clin. 2013
  - ◆ 40% of the patients reported unmet rehabilitation needs

# Estimated Patient Rehab Needs for CMMC Survivors



# Barriers and Opportunities to Access Services

## Potential Barriers

- ◆ Cancer survivors overwhelmed and limited available time
- ◆ Financial burden
- ◆ Lack of awareness
- ◆ Lack of financial incentive

## Potential Opportunities

- ◆ Progressive thinking
- ◆ Pilot a PT in Cancer Center to increase referrals and financial revenue
- ◆ Encourage utilization of nearby facilities
- ◆ Empower cancer survivors to be an active participant in their treatment

# Budget

## An example of lymphedema:

◆ 6.3% – 22.3% of breast cancer survivors

◆ Shaitelman et al. *CA Cancer J Clin.* 2015

◆ Healthcare costs increase with lymphedema \$14,877-\$23,167 using traditional care

◆ Shih et al. *Journal of Clinical Oncology.* 2009

# Budget

## Prospective surveillance screening:

- ◆ Before beginning treatment
- ◆ Follow-up screening at 3 month intervals

OT/PT in Maine

0.2 FTE = \$15,000 (BLS.gov)

## Cost:

- ◆ Prospective Surveillance Model:  
\$636.19
- ◆ Cost to manage late lymphedema:  
\$3,124.92

Stout et al. *Phys Ther.* 2012

# Economic Impact

- ◆ Fatigue is most common impairment among cancer survivors
- ◆ 75% changed their employment status
- ◆ 65% of family caregivers took extra days off work
- ◆ Work loss due to cancer accounts for 0.8% of GDP
  - ◆ 120 billion dollars

# Rehabilitation for Advanced Cancer Survivors

- ◆ 103 adults undergoing radiation therapy for advanced cancer
- ◆ Single-blinded RCT
- ◆ 8 multi-disciplinary interventions of 90 minutes, 30 minutes devoted to PT
- ◆ **89.3% attendance rate**

# Cost-Effectiveness of Cancer Rehabilitation: A Systematic Review

“Studies published so far report statistically significant benefits for multidimensional interventions over usual care, most notably for the outcomes fatigue and physical functioning....all [available economic evaluations] showed favorable cost effectiveness ratios.”

Mewes JC, et al. *Oncologist*. 2012.



# Opportunities



Working together with  
Massachusetts General Hospital  
Cancer Center

## Annual Report 2013

TOTALS	809	763	735
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# Our Recommendation: The Cancer Center

- ◆ Increased frequency of Distress Thermometer administration
- ◆ Referral to rehabilitation services with a Distress Thermometer score of 4 or more
  - ◆ Indicates significant distress requiring screening
- ◆ Allow rehabilitation services to perform additional patient screens in Cancer Center

# Our Recommendation: Rehabilitation Dept.

- ◆ A full-time rehab clinician as part of the oncology team
  - ◆ Patient care and interdisciplinary team meetings
- ◆ Clinician follow-up with patients based on distress thermometer results
- ◆ Improve clinical collaboration with Live**Strong** program and the Dempsey Center

# Our Recommendation: The Dempsey Center

- ◆ Volunteer representative in the Cancer Center (Medical Oncology & Radiation Oncology)
- ◆ Pamphlets/Calendars available in waiting room, exam room, gowned waiting room in Radiation Oncology
- ◆ Enhance access in Cancer Center to visiting massage therapist, Reiki practitioner, and meditation services
- ◆ Enhance collaboration with patient navigator

# Turning Challenges into Opportunities

- ◆ Identifying the right patient at the right time
  - ◆ CMMC Cancer Center Infusion Center
- ◆ Securing patient buy-in
  - ◆ through word-of-mouth, pamphlets, and personal experience
  - ◆ face-to-face interaction with a PT to educate patient on benefits of rehabilitation specific to their cancer diagnosis and treatment
- ◆ Feasibility

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# References

- ◆ Ashford J, Logemann J, McCullough G. Treatment Efficacy Summary: Swallowing Disorders (Dysphagia) in Adults. American Speech-Language Hearing Association
- ◆ Bernat JK, Wittmann DA, Hawley ST, et al. Symptom burden and information needs in prostate cancer survivors: A case for tailored long-term survivorship care. *BJU Int.* Sept 21, 2015: 1-7. doi: 10.1111/bju.13329.
- ◆ Carlson M, Christine N, Dowd C, et al. Cancer survivorship care: An emphasis on rehabilitation needs in Maine. *Disease Prevention and Health Promotion Papers.* Paper 1. 2014. [http://dune.une.edu/dphp\\_papers/1](http://dune.une.edu/dphp_papers/1). Accessed Nov 1, 2015.
- ◆ Cheville AL, Girardi J, Clark MM, et al. Therapeutic exercise during outpatient radiation therapy for advanced cancer: Feasibility and impact on physical well-being. *Am J Phys Med Rehabil.* Aug 2010; 89(8): 611-619. doi: 10.1097/PHM.0b013e3181d3e782.
- ◆ ECOG-ACRIN Cancer Research Group. Updated 2015. <http://ecog-acrin.org/resources/ecog-performance-status>. Accessed October 2015.
- ◆ Franklin D, Delengowski A, Yeo T. Facing forward: Meeting the rehabilitation needs of cancer survivors oncology, suppl. *Nurse Edition.* Oct 2010;21(3):29-32.



# References Continued

- ◆ Gilchrist LS, Galantino ML, Wampler M, et al. A framework for assessment in oncology rehabilitation. 2009; 89: 286-306. doi: 10.2522/ptj.20070309.
- ◆ Hearn J. Outcome measures in palliative care for advanced cancer patients: A review. 1997.
- ◆ Horn K, Jennings S, Richardson G, et al. The Patient-Specific Functional Scale: Psychometrics, clinimetrics, and application as a clinical outcome measure. *J of Ortho and Sports Phys ther.* 2012; (42) 1: 31-38.
- ◆ Kim BH. Social networks and physical activity behaviors among cancer survivors: Data from the 2005 health information national trends survey. 2015.
- ◆ Kim YM, Kim DY, Chun MH, Jeon JY, Yun GJ, Lee MO. Cancer rehabilitation: Experience, symptoms, needs. *J Korean Med Sci.* 2011. 26(5): 619–624. doi: 10.3346/jkms.2011.26.5.619
- ◆ Lacomba M, Yuste Sanchez MJ, Zapico Goni A, et al. Effectiveness of early physiotherapy to prevent lymphoedema after surgery for breast cancer: Randomised, single blinded, clinical trial. *BMJ.* Jan 13, 2010; 12:340. doi: 10.1136/bmj.b5396.

# References Continued

- ◆ Li T, Wei S, Shi Y, et al. The dose-response effect of physical activity on cancer mortality: findings from 71 prospective cohort studies. *Br J Sports Med*. Sep 18, 2015. doi: 10.1136/bjsports-2015-094927
- ◆ Longpre S, Newman R. The role of occupational therapy in oncology. American Occupational Therapy Association, Inc. [http://www.aota.org/-/media/Corporate/Files/AboutOT/Professionals/WhatIsOT/RDP/Facts/Oncology\\_fact\\_sheet.pdf](http://www.aota.org/-/media/Corporate/Files/AboutOT/Professionals/WhatIsOT/RDP/Facts/Oncology_fact_sheet.pdf). Published 2011. Accessed Nov 23, 2015.
- ◆ Meneses-Echávez JF, González-Jiménez E, Ramírez-Vélez R. Effects of supervised exercise on cancer-related fatigue in breast cancer survivors: A systematic review and meta-analysis. *BMC Cancer*. 2015; 15(77): 1-13. doi: 10.1186/s12885-015-1069-4
- ◆ Mewes JC, Steuten LM, Ijzerman MJ, van Harten WH. Effectiveness of multidimensional cancer survivor rehabilitation and cost-effectiveness of cancer rehabilitation in general: a systematic review. *Oncologist*. 2012; 17(12): 1581-1593. doi: 10.1634/theoncologist.2012-0151.
- ◆ Pelvic cancer. HealthGrades Website. <http://www.healthgrades.com/conditions/pelvic-cancer> Updated 2015. Accessed Nov 24, 2015.
- ◆ Shaitelman SF, Cromwell KD, Rasmussen JC, et al. Recent progress in the treatment and prevention of cancer-related lymphedema. *CA: A Cancer Journal for Clinicians*. Jan 2015; 65(1): 55-81.

# Resources Continued

- ◆ Shih YCT, Xu Y, Cormier JN, et al. Incidence, treatment costs, and complications of lymphedema after breast cancer among women of working age: A two-year follow-up study. *Journal of Clinical Oncology*. 2009;27:1-8.
- ◆ Silver JK, Baima J, Mayer J. Impairment-driven cancer rehabilitation: An essential component of quality care and survivorship. *CA: A Cancer Journal for Clinicians*. Sept 2013; 63(5): 295-317.
- ◆ Stout NL, Pfalzer LA, Springer B, et al. Breast cancer-related lymphedema: Comparing direct costs of a prospective surveillance model and a traditional model of care. *Phys Ther*. Jan 2012; 92(1): 152-163. doi: 10.2522/ptj.20100167
- ◆ Temel JS, Greer JA, Muzikansky A, et al. Early palliative care for patients with metastatic non-small-cell lung cancer. *N Engl J Med*. August 19, 2010; 363:733-742. doi: 10.1056/NEJMoa1000678
- ◆ Tesouro GM, Rowland JH, Lustig C. Survivorship resources for posttreatment cancer survivors. *Cancer Pract* 2002;10(6): 277-83.
- ◆ Valdivieso M, Kujawa A. Cancer survivors in the United States: A review of the literature and a call to action. *Int J Med Sci*. 2012; 9(2): 163-173.