Cancer Survivorship Care: An Emphasis on Rehabilitation Needs in Maine

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**Community Level:** Nicole Christine, BA and Angela Serrani, BS

Doctor of Physical Therapy Candidates, 2015 University of New England

August-December 2014
Today’s Presentation

Background and Evidence
- Maine, Community Wellness, Behavioral Change

Needs Assessment
- Community Wellness and State of Maine Cancer Centers

Products and Sustainability
- Algorithm, Logic Model, Budget, Evaluation and Future Recommendations
Background

Facts
- 8,500 people in Maine diagnosed each year
- ¼ of the total deaths in Maine each year
- 2007 Incidence of cancer in Maine was 515 per 100,000 people.
Maine Cancer Survivorship Care: An Emphasis on Rehabilitation Logic Model

Inputs
Partners
- Maine Cancer Consortium
- 15 Maine Cancer Treating Hospitals
- Livestrong Program at Freeport YMCA
- Community Cancer Center in South Portland
- Dana Farber Cancer Institute
- Maine Medical Center Cancer Institute
- Exeter Hospital

Outputs
Activities
- Performed needs assessment of Maine cancer care
- Determined proposed best practices for delivering quality care to Maine cancer survivors
- Created Cancer Survivorship Rehabilitation Algorithm
- Presented Algorithm to stakeholders

Participants
- Cancer survivors
- Oncologists
- Primary care physicians
- Caregivers
- Rehabilitation professionals
- Community wellness program staff

Outcomes
Short Term
- Increased oncologist and primary care physician knowledge of rehabilitation and wellness services
- Increased awareness of rehabilitation and wellness services

Medium
- Increased integration of rehabilitation and wellness services by oncologists and primary care physicians

Long Term
- Standardized rehabilitation and survivorship services
- Decreased public healthcare financial burden
- Increased quality of life of cancer survivors

Assumptions/External Factors:  Our needs assessment is an accurate portrayal of entire state of Maine, our algorithm is optimal for Maine, Maine healthcare professionals are willing to change their practice, there are appropriate resources for improving oncology rehabilitation
Evidence of Risk Factors

Cancer and Cancer Treatment Leads To

- Fatigue
  - 60-96% of survivors
  
  Wagner, LI & Cella, D 2004

- Lymphedema
  - 21% of survivors
  
  Fu, M et al 2013 & Disipio, T et al 2013

- Chemotherapy Induced Peripheral Neuropathy
  - 68.1% of survivors
  
  Serenity, M et al 2014

All Lead to Decreased Quality of Life
Evidence for Physical Therapy and Wellness

Cancer-Related Fatigue
- Exercise decreased fatigue during and following cancer treatment
- Palliative effect in patients during treatment
- Recuperative effect post-treatment
  Puetz TW & Herring MP 2012

Lymphedema
- CDT is effective at decreasing pain and swelling and increasing quality of life
- Treatment of lymphedema with CDT is more effective than standard therapy without MLD or compression bandaging alone
  Lasinski BB et al 2011
Evidence for Physical Therapy and Wellness

Chemotherapy-Induced Peripheral Neuropathy
- 87.5% of participants in the intervention group experienced reduced symptoms with sensorimotor, endurance and resistance training while there were no changes in the control group.
  Streckmann F et al 2014 and Streckmann F et al 2014

Quality of Life
- Exercise during and after cancer treatment was found to have beneficial effects on quality of life and domains including physical functioning, role function, social function, and fatigue.
LIVESTRONG at the Freeport YMCA

- 2x/wk for 12 wks
- No Cost
- Low Attendance
- No Transportation
- Limited PT involvement
- Pre/Post assessment

http://www.ymcaofsouthernmaine.org/livestrongattheymca
Community Wellness Needs Assessment

Cancer Community Center

- Calendar of class offerings
- No Cost
- Varied Attendance
- No Transportation
- Limited PT involvement
- Program assessment

http://cancercommunitycenter.org/
Maine Needs Assessment

Goal 14: Increase awareness and utilization of rehabilitation and survivorship services throughout Maine.

1. Educational programs for rehab/survivorship
2. Rehabilitation services and relationship with PT
3. Patient navigator
4. Quality of life measures
5. a. Transportation or lodging to access treatment
   b. Referral to wellness programs
6. Definition of “cancer survivorship”
7. Other services to cancer survivors
8. Services for children and adolescents
9. Patient satisfaction measures
10. Survivorship care plan
11. Maine Cancer Consortium Activity Tracker
# Maine Needs Assessment

<table>
<thead>
<tr>
<th>Region</th>
<th>Accredited Cancer Centers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Northern Maine (n=2)</strong></td>
<td>Aroostook Medical Center, Presque Isle; Cary Medical Center, Caribou</td>
</tr>
<tr>
<td><strong>Central Maine (n=4)</strong></td>
<td>Franklin Memorial Hospital, Farmington; Blue Hill Memorial Hospital, Blue Hill; Eastern Maine Medical Center*, Bangor; Mayo Regional Hospital, Dover-Foxcroft</td>
</tr>
<tr>
<td><strong>Southern Maine (n=9)</strong></td>
<td>Maine Medical Center*, Portland; Mercy Hospital*, Portland; Mid Coast Hospital*, Brunswick; Penobscot Bay Medical Center*, Rockport; Stephens Memorial Hospital, Norway; Waldo County Hospital, Belfast; Southern Maine Medical Center*, Biddeford; York Hospital*, York; St. Mary’s Regional Medical Center*, Lewiston</td>
</tr>
</tbody>
</table>

*ACoS Accredited Cancer Centers
Maine Needs Assessment Results

Definition of Cancer Survivorship (Question 6)

- 13 described survivorship as from cancer diagnosis until death
- The 14th said it was life after cancer treatment, returning to baseline health energy and psychological levels
### Patient Navigator Titles (Question 3)

<table>
<thead>
<tr>
<th>Role</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>RN</td>
<td>++</td>
</tr>
<tr>
<td>Breast Patient Navigator</td>
<td>++</td>
</tr>
<tr>
<td>All Sites Navigator</td>
<td>++</td>
</tr>
<tr>
<td>Navigator Team</td>
<td></td>
</tr>
<tr>
<td>Social Worker</td>
<td>++</td>
</tr>
<tr>
<td>Health Center Coordinator</td>
<td></td>
</tr>
<tr>
<td>Patient Navigator</td>
<td></td>
</tr>
</tbody>
</table>

### Survivorship Care Plans (Question 10)

- Overall 6 said yes and 8 said no, 4 said they had plans to implement by 2015
- Out of the 6 that said yes, 5 are in the **Southern Maine Region**
- Out of the 4 that said they have plans to by 2015, 3 were from the **Southern Maine Region**
Maine Needs Assessment Results

Estimated Percentage of Patients Referred to Physical Therapy (Question 2):
- Northern Maine: ranged from very rare to “good relationship”
- Central Maine: 2-25%
- Southern Maine: 10%-100%
Maine Needs Assessment Results

Question 5

Percentage of Hospitals Referring to Community Wellness by Region

- **Yes**: Central 80, Southern 20
- **No**: Central 40, Southern 60

Percentage of Hospitals Offering Transportation or Lodging by Region

- **Yes**: Central 80, Southern 60
- **No**: Central 40, Southern 20
Maine Needs Assessment Results

Patient Satisfaction Measure Use (Question 9)
- Yes (9)
- No (5)

Activity Tracker Use (Question 11)
- Yes (4)
- No (10)
Maine Needs Assessment Results

Quality of Life Measures (Question 4)

- Quality of Life = Psychosocial issues
- PHQ-9 standardized tool used

- Unmet needs Hansen et al, 2013
  - 60.1% of patients reported unmet rehabilitation needs

Pediatric Services (Question 8)

- Supportive care for families vs pediatric oncology services

[Image of a child and adults]
Assessment in Oncology Rehabilitation

Health Condition
- Cancer Type
- Treatment (Surgery, Radiation, Chemotherapy)

Body Functions
- Mental Function
- Sensory and Pain
- Voice and Speech
- Cardiovascular, Hematological, Immunologic, and Respiratory
- Digestive, Metabolic, and Endocrine
- Genitourinary and Reproductive
- Neurological/Skeletal and Movement-Related
- Skin and Related

Body Structures
- Nervous System
- Eye, Ear, and Related
- Voice and Speech
- Cardiovascular, Immunologic, and Respiratory
- Digestive, Metabolic, and Endocrine
- Genitourinary and Reproductive
- Movement-Related
- Skin and Related

Activity and Participation
- Learning and Applying Knowledge
- General Task and Demands
- Communication
- Mobility
- Self-care
- Domestic Life
- Interpersonal Interactions and Relationships
- Major Life Areas
- Community, Social, and Civic Life

Environmental Factors

Personal Factors

Figure.
Cancer Survivorship Rehabilitation Algorithm

The branches off curative and palliative show that there are 3 distinct points in which rehabilitation is appropriate for a cancer survivor. It is important to acknowledge which stage a patient is in to understand what their impairments may be.
Implementing Behavioral Change

Algorithm  
Behavioral Change  
Implementation
Implementing Behavioral Change

**Creation of Algorithm**
- Determine whether or not the cancer survivor requires a rehabilitation screen by a physical therapist

**Behavioral Change Theory**
- Determine which method would be most beneficial for prompting providers to make appropriate referrals
  
  Smith WR 2000

**Implementation of Algorithm**
- Determine which method would be most effective to deliver the algorithm and promote referrals to physical therapy within the realm of cancer survivorship

Value Proposition

- Decrease financial burden through utilizing our algorithm as a guideline to improve a patient’s quality of life

- There needs to be more of an emphasis on preventative care and tailoring treatments to meet the unique needs of every survivor
Budget of Physical Therapy In Oncology Team for One Year

**Fixed Expenses**

Salaries:
- Senior PT - $71,040
- PT - $57,600
- PTA - $42,240
- Personnel - $34,560

= $205,440

**Variable Expenses**

Supplies:
- EMR System
- Exercise and Other Equipment
- Utilities

= $23,780

Total = $229,220
Budget of Physical Therapy In Oncology Team for One Year

**Income**
- Billable Hours As PT:
  - Patients Per Year
  - Frequency of Visits
  - Services Provided
  \[= \$309,600\]

**Revenue**
- Total Income: \[\$309,600\]
- Total Expenses: \[\$229,220\]
- Revenue = \[\$80,380\]
Comparing a prospective surveillance model to traditional therapy model  Stout et al 2012

<table>
<thead>
<tr>
<th>Prospective Surveillance</th>
<th>Traditional Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preoperative Baseline and follow-up 1, 3, 6, 9, and 12 months</td>
<td>Pt referred to PT, eval $69.29</td>
</tr>
<tr>
<td>If lymphedema is dx (&gt;3-5% volume increase) pt is issued with ready-made garments</td>
<td>Eval then CDT 5 visits/week for 2 weeks, 3 visits/ for 1 week $1,388.48</td>
</tr>
<tr>
<td>No compression bandages req’d</td>
<td>Custom made garments $1400.00</td>
</tr>
<tr>
<td></td>
<td>Bandages $230.00</td>
</tr>
<tr>
<td></td>
<td>Follow up $37.15</td>
</tr>
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Prospective surveillance = $636.19

Traditional model = $3,124.92
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Evaluation

**Strengths**
- Research supports rehabilitation
- Low developmental cost
- Strengthens scope of practice for PT

**Weaknesses**
- Limited professional representation
- Great level of time and effort for 9 students

**Opportunities**
- Interprofessional incorporation
- Create gold standard

**Threats**
- Sustainability
- Behavioral changes required
- No set baseline
Questions?

TO DO LIST:

☐ BEAT CANCER
☐ LIVE MY LIFE
References


