Objectives

1. Review critical elements of building successful oncology rehabilitation programs.
2. Describe strategies for scaling program development efforts to various settings.
3. Describe strategies for scaling staff training and assessment and development and assessment of competencies given limited resources.
4. How can we focus on collaboration and avoid competition?
Evolution of Cancer Care

1980s
• The majority of cancer care delivered in large specialized tertiary cancer centers

Present day
• Most cancer care delivered in physician-owned practices
  ➢ Earlier detection
  ➢ Improved treatments (less radical surgery, combined-modality therapy, and adjuvant endocrine therapy)
  ➢ Hospitalized patients have shorter stays


Recent Demographics of Cancer in the U.S.

• In 2016, an estimated 1,685,210 new cases of cancer will be diagnosed in the United States and 595,690 people will die from the disease.
• The most common cancers in 2016 were projected to be breast cancer, lung and bronchus cancer, prostate cancer, colon and rectum cancer, bladder cancer, melanoma of the skin, non-Hodgkin lymphoma, thyroid cancer, kidney and renal pelvis cancer, leukemia, endometrial cancer, and pancreatic cancer.
• The number of people living beyond a cancer diagnosis reached nearly 14.5 million in 2014 and is expected to rise to almost 19 million by 2024.

“Without specific training dedicated to learning the nuances of oncology rehabilitation, it can be challenging to become skilled and effective providers. This can be a daunting task for those already in practice who may feel overwhelmed by the knowledge they must accumulate to expertly treat cancer patients. In addition, there is a relative paucity of continuing education coursework and mentors to prepare existing clinicians for such practice.”


**Current State of Practice**

**Inpatient**
- Academic
  - Acute Care Hospitals (ACHs)
    - Academic Cancer Center
    - Academic Medical Center
  - Inpatient Rehabilitation Facilities (IRFs)
- Community
  - Acute Care Hospitals (ACHs)
    - Non-academic Cancer Center
    - Community Hospital
  - Long-term Acute Care Hospitals (LTACHs)
- Skilled Nursing Facilities (SNFs)
- Veterans Administration
  - Acute Care Hospitals (ACHs)
  - Inpatient Rehabilitation Facilities (IRFs)

**Outpatient**
- Academic
- Community
- Veterans Administration
- Day treatment Programs
- Home Rehabilitation
- Gym-based

Developing Communities of Practice

- AOTA-oncology forum on OTConnections
- APTA-Oncology Section
- ACRM-Cancer Rehabilitation Networking Group

The Cancer Care Continuum

- Pretreatment
  Newly diagnosed, no treatment initiated
- Active Treatment
  Presently receiving treatment with a curative goal
- Maintenance
  Long-term therapy to maintain remission
- Post treatment
  Medical treatment is complete with no evidence of disease
- Palliative care
  - Palliative treatment for incurable cancer
  - Optimize comfort
  - Decrease caregiver burden
  - Patient-centered goals

Rehabilitation Across the Cancer Care Continuum

<table>
<thead>
<tr>
<th>Stage of Care</th>
<th>Example of Rehabilitation Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention</td>
<td>Lifestyle redesign, healthy behaviors, exercise and weight loss</td>
</tr>
<tr>
<td>Early Detection and Screening</td>
<td>Primary and secondary prevention of functional deficits</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>Early intervention to maintain function and promote positive psychological health. Prepare clients for intervention. Pre-habilitation.</td>
</tr>
<tr>
<td>Treatment</td>
<td>Fatigue, cognition, ADL, IADL, mobility etc., symptom management, medication management, falls reduction.</td>
</tr>
<tr>
<td>Survivorship</td>
<td>Lifestyle redesign, healthy behaviors, exercise and weight loss</td>
</tr>
<tr>
<td>End of Life Care</td>
<td>Full range of interventions promoting function and self-determination, goal attainment</td>
</tr>
</tbody>
</table>

Critical Elements in Program Development

Choosing a Conceptual Practice Model

1. Does the model specify the underlying mechanisms of action necessary to deal with the occupational problems and challenges faced by the client group?
2. Is the evidence sufficient to support application of the model to the client group and the occupational problems that they experience?
3. Does the model fit with the social, cultural, political, professional and financial contexts in which the program must be implemented?
4. Does implementation of programming based on the model have any special requirements for space, equipment or personnel?

Program Development in Occupational Therapy

- The process for planning intervention is similar whether you are planning individual intervention for a single client, developing a protocol for a group of clients with the same diagnosis/functional challenge or developing a broad program.
  - Key principles include:
    - Use of a guiding set of theories/conceptual practice models
    - Application of current evidence
    - Application of formative and summative program evaluation

Developing OT Services

- Occupational Profile
- Analysis of Performance
- Intervention Plan
- Intervention Implementation
- Intervention Review
- Outcomes
- Needs Assessment
  - Identify needs
  - Identify resources & constraints
- Program Planning
  - Establish goals and objectives
  - Ongoing formative evaluation
- Program Implementation
  - Document actions
  - Communicate with stakeholders
- Program Evaluation
  - Outcomes
Four Steps of Program Development

- Client needs assessment
- Customer needs assessment
- Assessing and building competency
- Professional development
  - Knowledge
  - Clinical skills
  - Clinical sophistication

Key Elements of Program Success
Primary forms of cancer (where cancer originates):

- Melanoma
- Carcinoma
- Sarcoma
- Leukemia
- Lymphoma, Multiple Myeloma
- Central Nervous System

12 most common symptoms

- Weakness
- Dry mouth
- Anorexia
- Depression
- Pain
- Insomnia
- Swollen legs
- Nausea
- Constipation
- Vomiting
- Confusion
- Dyspnea
Impairments in Cancer Survivors

- Neuromuscular
  - Cerebropathy
  - Myelopathy
  - Radiculopathy
  - Plexopathy
  - Neuropathy
    - Polynicupathy
    - Mononeuropathy
      - Mononeuropathy Multiplex
      - Ganglionopathy
      - Small Fiber
    - Myopathy
    - Disorders of Neuromuscular Transmission
    - Pain

- Musculoskeletal
  - Tendonitis
  - Adhesive Capsulitis
  - Epicondylitis
  - Tenosynovitis
  - Spolindyliosis
  - Spinal Instability
  - Fracture
  - Impending Fracture
  - Arthritis
  - Enthesopathy
  - Osteoporosis
  - GVHD
  - Scoliosis
  - Bony Metastases
  - Pain

- Functional
  - Lymphedema
  - Fatigue
  - Psychiatric
  - Cognitive
  - Autonomic
  - Cardiac
  - Pulmonary
  - Endocrine
  - Gastrointestinal
  - Urinary
  - Genitourinary
  - Debility/frailty
  - Balance dysfunction


Cancer Treatments

- Surgical removal of cancer cells/tumors from the body.
- Radiation therapy focused on killing cancer cells and shrinking tumors.
- Chemotherapy using drugs to kill cancer cells.
- Immunotherapy focused on strengthening and using a person's immune system to fight cancer.
- Hormone therapy uses hormones to slow or stop cancer cell growth.
- Stem cell transplants which restore blood-forming cells destroyed by high dose chemotherapy or radiation.
### Assessing Patient Needs

<table>
<thead>
<tr>
<th></th>
<th>Fatigue</th>
<th>Cognition</th>
<th>Pain</th>
<th>Pelvic Floor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leukemia</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head/Neck</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Ortho</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>GYN</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Brain/Spine (Neuro)</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Assessing Customer Needs

<table>
<thead>
<tr>
<th></th>
<th>Information</th>
<th>Outcomes</th>
<th>Adequate Service</th>
<th>???</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APN’s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PA’s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community partners</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Sample applications of research strategies, tools, and methodologies within the steps of program development

<table>
<thead>
<tr>
<th>Research strategy, tool or methodology</th>
<th>Needs Assessment</th>
<th>Program Planning</th>
<th>Program Implementation</th>
<th>Program Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questionnaires and Surveys</td>
<td>Identify needs and desires of internal and external stakeholders</td>
<td>Validate assumptions, validate perceptions of needs, and gather data to plan for strategic and programmatic needs.</td>
<td>Monitor and improve staff satisfaction, identify opportunities for programmatic growth.</td>
<td>Gather information during summative and formative evaluation of program.</td>
</tr>
<tr>
<td>Record Reviews</td>
<td>Gather demographic data, rates of readmission, impact on patient satisfaction.</td>
<td>Establish baseline benchmarks for productivity and financial modeling, as well as assessment of performance.</td>
<td>Determine limits of productivity, compliance to accreditation or other standards and aligned financial outcomes.</td>
<td>Gather necessary data for participation in additional benchmarking of parameters.</td>
</tr>
<tr>
<td>Interventions or Focus Groups</td>
<td>Identify needs and desires of internal and external stakeholders.</td>
<td>Gather support of key stakeholders, identify methodologies to measure, validate necessary product or service, collect information on outcomes.</td>
<td>Plan and conduct human resource and performance appraisal and staff development.</td>
<td>Examine what incidents to learn from cases in which customer expectations or outcomes were either successful or not met.</td>
</tr>
<tr>
<td>Observation</td>
<td>Validate existing program to new design space and workflow, and customer expectations</td>
<td>Compliance with strategic plan and deliverables, and other stakeholders in key plan continued</td>
<td>Assess the business case and design for open communication</td>
<td>Carry out human resources functions including assessment of competency or performance appraisal.</td>
</tr>
</tbody>
</table>

Scaling to Size: One size does not fit all...

- **Do no harm**
  - But understand your risks and in many settings they may not be as great as you fear

- **Self-assess strengths & weaknesses**
  - Clinically
  - Culturally
Scaling: Do no harm

Effect of Exercise on Cancer-Related Fatigue: A Meta-analysis
Tomlinson, Deborah MN, RN; Diorio, Caroline HBSc; Beyene, Joseph PhD; Sung, Lillian MD, PhD
American Journal of Physical Medicine & Rehabilitation
Issue: Volume 93(8), August 2014, p 675-886

Breast Cancer Research and Treatment
Volume 2014, Issue 2, pp 249-268
Safety and efficacy of progressive resistance training in breast cancer: a systematic review and meta-analysis

Authors

Brinder S. Cheema, Sharon L. Kilbreath, Paul P. Fahey, Geoffrey P. Delaney, Evan Atlantis

Building Oncology Rehabilitation Programs
Across the Age-Span and Care Continuum
12
Scaling: Self-Assessment

- Personal knowledge & skills
  - We need experts but you don’t have to be an expert in everything
  - Keep expectations reasonable within a context of safety
- Assess your network
  - Do you have the necessary level of access for day-to-day critical issues?
  - Do you have contacts and resources for developing future efforts?

Environmental Scanning (Clinical)

- American Occupational Therapy Association
- American Cancer Society
- National Cancer Institute
- American Congress of Rehabilitation Medicine
- National Comprehensive Cancer Network
- American Physical Therapy Association
- American Society of Clinical Oncology
Environmental Scanning (Policy)

- America’s Health Insurance Plans (Professional)
- American Enterprise Institute (Conservative)
- Brookings Institute (Progressive)
- Cato Institute (Libertarian)
- Commonwealth Fund (Liberal)
- Heritage Foundation (Conservative)
- Kaiser Family Foundation (Independent)
- Rand Corporation (Independent)
- Urban Institute (Liberal)

http://www.thebestschools.org/features/most-influential-think-tanks

Key Elements of Program Success

- Client needs assessment
- Customer needs assessment
- Assessing and building competency
- Professional development
  - Knowledge
  - Clinical skills
  - Clinical sophistication
Training and Education

Training and Education Requirements

- Practitioners focusing in oncology need understanding of:
  - Types of cancer, their progression and impact
  - Treatments and side-effects including chemotherapy, radiation and surgical interventions
    - Fatigue
    - Mild Cognitive Impairment
    - Neuropathy and neurological function
  - Contraindications to treatment (lab values and impact on participation in self-care, exercise, mobility etc.)
  - Age specific factors and role transitions
- May consider specialty training/certification
  - Lymphedema/MLD
  - Cognition (A-One)
Training and Education Requirements

- MD Anderson provides a comprehensive 8-12 week orientation:
  - Associate patient’s aberrant clinical presentation with presenting lab values
  - Recognize symptoms that may indicate an oncology emergency
  - Understand basic oncology with respect to statistics, external and internal risk factors, mechanisms of tumor growth and ability to metastasis and grading and staging of tumors
  - Review of cancer therapy modalities currently used in the management of the patient and how each modality presents with potential impairments that impact the overall function of the patient
  - Review the five paradigms of cancer rehabilitation and define the therapists unique contribution within each of the paradigms

Training and Education Requirements

- Comprehensive assessment of competency program:

<table>
<thead>
<tr>
<th>Employee Name</th>
<th>Competency: P7 - Thoracic and Cardiovascular Surgery</th>
<th>Core Competency</th>
<th>Not Competent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>D. O. V. T. V.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Demonstrates and understands use of telemetry monitor.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Understands and demonstrates proper chest tube management.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Able to verbalize stable vital signs and implications for therapy.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Verbalizes sternal precautions and relation to ADL; can locate handout to place on patient’s wall.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Understands different forms of oxygen administration and can safely transfer to appropriate portable oxygen unit when indicated.</td>
<td></td>
<td>D. V. O. V. T. V.</td>
</tr>
<tr>
<td></td>
<td>6. Understands how to check for pulmonary embolism diagnosis in chart and therapy protocol after new diagnosis.</td>
<td></td>
<td>D. V. V.</td>
</tr>
<tr>
<td></td>
<td>7. Understands cardiac precautions and implications for therapy.</td>
<td></td>
<td>V. V. V.</td>
</tr>
</tbody>
</table>
Training and Education Resources

• American College of Rehabilitation Medicine Conference: Oncology track (Atlanta, Oct 23-28, 2017)
• American Cancer Society
• Turning Point Breast Cancer Rehabilitation (https://myturningpoint.org)

AOTA Fact Sheets:
• The Role of Occupational Therapy in Oncology (Longpré & Newman)
The Role of Occupational Therapy in Palliative Care by Claudine (Campbell & Munoz)
• Occupational Therapy’s Role in Breast Cancer Rehabilitation

AOTA Cancer Practice Guidelines Coming in 2017

Training and Education Resources

• AOTA offers an Online Course titled “Occupational Therapy’s Unique Contributions to Cancer Rehabilitation.” It includes 4 lessons which are:
  Lesson 1: Cancer Basics
  Lesson 2: Medical Rehabilitation Principles in Oncology
  Lesson 3: Complex Oncology Symptoms
  Lesson 4: Oncology-Related Symptoms and Occupational Therapy’s Role Case Study
• MSKCC Cancer Rehabilitation Symposium
  • Targeted audience: physicians, psychologists, physical therapists, occupational therapists, physical and occupational therapy assistants, nurses, nurse practitioners and other healthcare professionals interested in cancer rehabilitation (See https://www.mskcc.org/events/symposium/second-annual-rehabilitation-symposium/form).
Training and Education Resources

- AOTA Conference presentations 2017
  - 25 posters
  - 4 short courses
  - Research Panel
- AOTA Oncology Specialty Conference January 27-28, 2016

Training and Education Resources

- APTA Oncology Section
  [http://www.oncologypat.org/home-page.cfm](http://www.oncologypat.org/home-page.cfm)
  - Educational events
  - Oncology Rehabilitation Journal
  - Public Resources (PT Oncology Fact Sheets)
  - Public Resource Library (links to public sites)
Cancer rehabilitation is an integral component of quality cancer care. The cancer rehabilitation specialty program focuses on strategies to optimize outcomes from the time of diagnosis through the trajectory of cancer in an effort to prevent or minimize the impact of impairments, reduce activity limitations, and maximize participation for the persons served.

“Our mission is to assure every cancer survivor in the U.S. has access to high quality cancer rehabilitation services. The STAR Program is a turnkey solution that enables hospitals and cancer centers to provide reimbursable rehabilitation services to patients and survivors before, during and after cancer treatment.”

STAR Certification Process:

- Gap Assessment
- Train the Team
- Implement Protocols
- Measure Outcomes and Accelerate Success

(NOT AN ADVERTISEMENT NOR ENDORSEMENT)

Precautions & Medical Complexity

- Safety & do no harm
- Disease and medications can affect HR, Bp, vision, cognitive status, appetite, metabolism.
- Lab values including red and white blood cell counts, hemoglobin and hematocrit
- Coagulation times
- Metabolic panels (blood sugar, calcium, potassium etc.)
Radiology & Imaging

- CT cans, MRIs, ultrasounds, & Xrays
- MRI may show pathologic fractures limiting weight bearing
- Metastatic disease to the brain could warrant cognitive screening

Thanks for attending!

Questions?  Discussion?

Contact Information
Brent Braveman PhD, OTR/L, FAOTA
bhbraveman@mdanderson.org