



ReVital
Cancer Rehabilitation

Living well beyond cancer.

Revolutionizing Service Delivery to Meet Cancer Survivors' Needs in a Pandemic and Beyond

ACRM Pandemic Webinar Series

Mackenzi Pergolotti PhD, OTR/L

Director of Research, ReVital Cancer Rehabilitation

Disclosure

Dr. Pergolotti receives a salary from ReVital Cancer Rehabilitation, Select Medical.

Learning Objectives

1. Discuss the impact of the pandemic on the rehabilitation needs of cancer survivors
2. Understand the state of evidence for cancer telerehabilitation
3. Propose best practices for cancer telerehabilitation during and post COVID-19
4. Identify challenges to sustaining cancer telerehabilitation services post pandemic.
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Cancer care in the Pandemic

Oncologists meeting existing and new patients via telehealth platforms

Increased reliance on multidisciplinary team

Patient and provider distress due to complex, high risk decision making

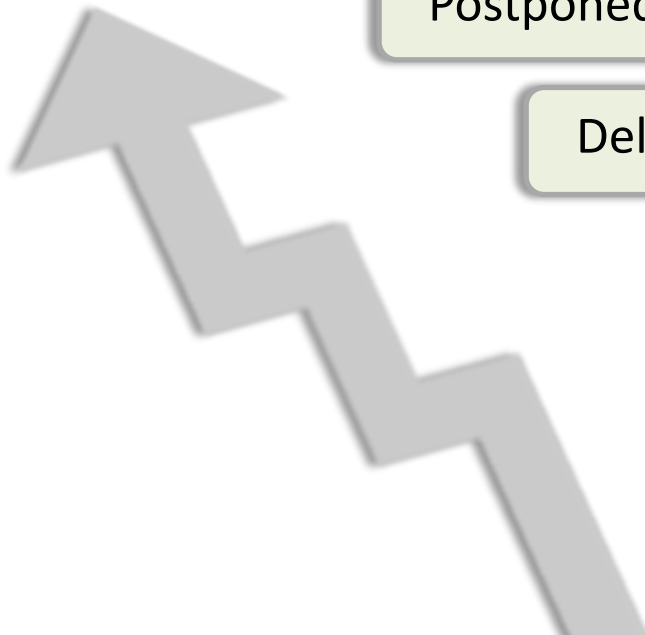
Postponed surgeries

Delayed screening and initiation of treatment

Alterations in routine care and treatment regimens

Many clinical trials put on hold

Social distancing, stay at home orders and need for PPE



The Perception of Access

Pre-COVID

- Access is a common barrier for many with cancer
- Expectations:
 - No access? = SETTLE



<https://512pixels.net/2012/12/imac/>

During COVID-19

- Access is barrier for EVERYONE
- Expectations:
 - Tele-based delivery of services
 - Multidisciplinary collaboration



<https://www.apple.com/shop/buy-iphone/iphone-xr/6.1-inch-display-64gb-blue-verizon>

Is Telerehab the “new normal” in oncology?

Oncology patients...

- High prevalence
- High risk
- Limited access to care
- Prospective surveillance needs

- Connected to dial up or LAN
- Small processor
- Limited applications
- High cost
- Low accessibility



- Connected to 4G
- Powerful processor
- 2.2 million applications (2017)
- Relatively affordable
- Mod-high accessibility

“Some people see innovation as change, but we have never really seen it like that. It’s making things better.”

– Tim Cook, CEO, Apple

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What do we know? – Key Research Evidence

1 Cheville, et al. 2019

JAMA Oncology | Original Investigation
Effect of Collaborative Telerehabilitation on Functional Impairment and Pain Among Patients With Advanced-Stage Cancer
A Randomized Clinical Trial

Andrea L. Cheville, MD, MSCE, Timothy Moynihan, MD, Jeph Herrin, PhD, Charles Loprinzi, MD, Kurt Kroenke, MD

2 Lyons, et al. 2015

Published in final edited form as:
J Psychosoc Oncol. 2015 ; 33(2): 199–218. doi:10.1080/07347332.2014.1002659.
Development and Initial Evaluation of a Telephone-Delivered, Behavioral Activation and Problem-solving Treatment Program to Address Functional Goals of Breast Cancer Survivors

Kathleen D. Lyons, ScD, OTR/L¹, Jay G. Hull, PhD², Peter A. Kaufman, MD³, Zhongze Li, MS⁴, Janette L. Seville, PhD⁵, Tim A. Ahles, PhD⁶, Alice B. Kornblith, PhD⁷, and Mark T. Hegel, PhD¹

3 Burns, et al. 2017

ORIGINAL ARTICLE
Randomized controlled trial of a multisite speech pathology telepractice service providing swallowing and communication intervention to patients with head and neck cancer: Evaluation of service outcomes
Clare L. Burns, BSpPath, PhD,^{1,2,3} Elizabeth C. Ward, BSpTny, Grad Cert, PhD,^{2,3,4} Anne J. Hill, BSpPath, PhD,^{2,3} Sanjeewa Kularatna, PhD,⁵ Joshua Dymes, PhD,¹ Lizbeth M. Kenny, MBBS, FRANZC^{6,7,8}

4 Bray, et al. 2017

VOLUME 35 • NUMBER 2 • JANUARY 10, 2017
JOURNAL OF CLINICAL ONCOLOGY ORIGINAL REPORT
Evaluation of a Web-Based Cognitive Rehabilitation Program in Cancer Survivors Reporting Cognitive Symptoms After Chemotherapy
Victoria J. Bray, Haryana M. Dhillon, Melanie L. Bell, Michael Kabourakis, Mallorie H. Fien, Desmond Yip, Frances Boyle, Melanie A. Price, and Janette L. Vardy

5 Cox, et al. 2017

Journal of Medical Internet Research
gmir.org
Cancer Survivors' Experience With Telehealth: A Systematic Review and Thematic Synthesis
Anna Cox, PhD, Grace Lucas, MSc, [...], and Emma Ream,

What do we know? – WHO

Evidence from the selected key studies supports **feasibility** and **acceptability** for adults with...

- Breast cancer ²
- Advanced stage cancer who have functional limitations and pain ¹
- Head and neck cancer ³
- Patients with cancer-related cognitive dysfunction ⁴



What do we know? - WHY

Cancer telerehabilitation can...

- **Improve patient's..**
 - Functioning ^{1,2}
 - Coping and problem-solving skills ²
 - Quality of life ^{1,2,3}
 - Cognition ⁴
 - Likelihood of being discharged to their home ¹
- **Decrease..**
 - Cancer-related pain ¹
 - Fatigue ⁴
 - Anxiety and depression ⁴
 - Days spent in the hospital ¹
- **Result in high patient satisfaction with care ^{2,3,5} and with their therapist-patient relationship.⁵**



What do we NOT know?



**Evidence-based best practice guidelines for
discipline-specific cancer telerehab**

So what do we do?



- Follow best available evidence and contribute to development of best practices.
- Identify principles of telerehab best practices in key research.

COPE Trial

Cheville et al., 2018, 2019, & 2020

JAMA Oncology | **Original Investigation**



Effect of Collaborative Telerehabilitation on Functional Impairment and Pain Among Patients With Advanced-Stage Cancer A Randomized Clinical Trial

Andrea L. Cheville, MD, MSCE; Timothy Moynihan, MD; Jeph Herrin, PhD; Charles Loprinzi, MD; Kurt Kroenke, MD

ORIGINAL RESEARCH

Cancer Medicine Open Access WILEY

Cost-effectiveness of the Collaborative Care to Preserve Performance in Cancer (COPE) trial tele-rehabilitation interventions for patients with advanced cancers

Colleen F. Longacre¹  | John A. Nyman¹ | Sue L. Visscher² | Bijan J. Borah² | Andrea L. Cheville³ 

COPE Trial

Cheville et al., 2018, 2019, & 2020

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- Improved function
- Improved pain intensity and interference
- Enhanced likelihood of home discharge
- Fewer days in hospital

- ICER of \$15,494/QALY
- Was most cost-effective strategy in 95.4% of simulations
- Lower inpatient hospitalization costs

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Implications for telerehab best practice and research:

1. Telerehab was safe, feasible and effective for individuals with advanced cancer with functional needs and pain
2. Incorporation and modification of REST program
3. Used PRO as screening tool
4. Demonstrated impact on cost and hospitalization
5. Collaborative care model


*““Be a yardstick of quality.
Some people aren't used to an
environment where excellence is
expected.”*

– Steve Jobs, Co-founder, Apple

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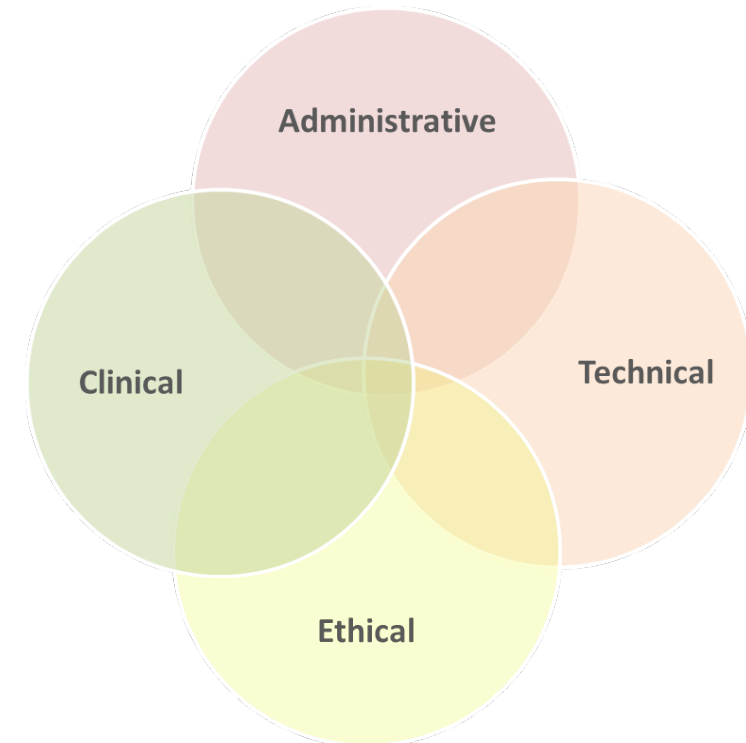
Key Principles of Tele-rehab Best Practices

International Journal of Telerehabilitation • telerehab.pitt.edu 

AMERICAN TELEMEDICINE ASSOCIATION'S PRINCIPLES FOR DELIVERING TELEREHABILITATION SERVICES

TAMMY RICHMOND, MS, OTR/L, FAOTA¹, CHRISTOPHER PETERSON, PT, DPT², JANA CASON, DHS, OTR/L, FAOTA³, MIKE BILLINGS, PT, DHSC, CEEA⁴, EVELYN ABRAHANTE TERRELL, OTD, MHSA, OTR/L⁵, ALAN CHONG W. LEE, PT, PHD, DPT, CWS, GCS⁶, MICHAEL TOWEY, M.A. CCC-SLP⁷, BAMBANG PARMANTO, PHD⁸, ANDI SAPTONO, PHD⁹, ELLEN R. COHN, PHD, CCC-SLP¹⁰, DAVID BRENNAN, MBE¹¹

¹GO2CARE, LOS ANGELES, CA; ²HARTFORD HEALTHCARE, HARTFORD, CT; ³AUERBACH SCHOOL OF OCCUPATIONAL THERAPY, SPALDING UNIVERSITY, LOUISVILLE, KY; ⁴INFINITY REHABILITATION, WILSONVILLE, OR; ⁵NICKLAUS CHILDREN'S HOSPITAL, MIAMI CHILDREN'S HEALTH SYSTEM, MIAMI, FL; ⁶DOCTOR OF PHYSICAL THERAPY PROGRAM, MOUNT ST. MARY'S COLLEGE, LOS ANGELES, CA; ⁷VOICE & SWALLOWING CENTER OF MAINE, WALDO COUNTY GENERAL HOSPITAL, BELFAST, ME; ⁸DEPARTMENT OF HEALTH INFORMATION MANAGEMENT, SCHOOL OF HEALTH AND REHABILITATION SCIENCES, UNIVERSITY OF PITTSBURGH, PITTSBURGH, PA; ⁹DEPARTMENT OF HEALTH INFORMATION MANAGEMENT, SCHOOL OF HEALTH AND REHABILITATION SCIENCES, UNIVERSITY OF PITTSBURGH, PITTSBURGH, PA; ¹⁰DEPARTMENT OF COMMUNICATION SCIENCE AND DISORDERS, SCHOOL OF HEALTH AND REHABILITATION SCIENCES, UNIVERSITY OF PITTSBURGH, PITTSBURGH, PA; ¹¹TELEHEALTH INITIATIVES, MEDSTAR INSTITUTE FOR INNOVATION, WASHINGTON, DC



Key principles serve as a framework for telerehab delivery best practices

Russell, T. G., & Theodoros, D. G. (1 C.E.). Rehabilitation. In K. S. Rheuban & E. A. Krupinski (Eds.), Understanding Telehealth. McGraw-Hill Education.

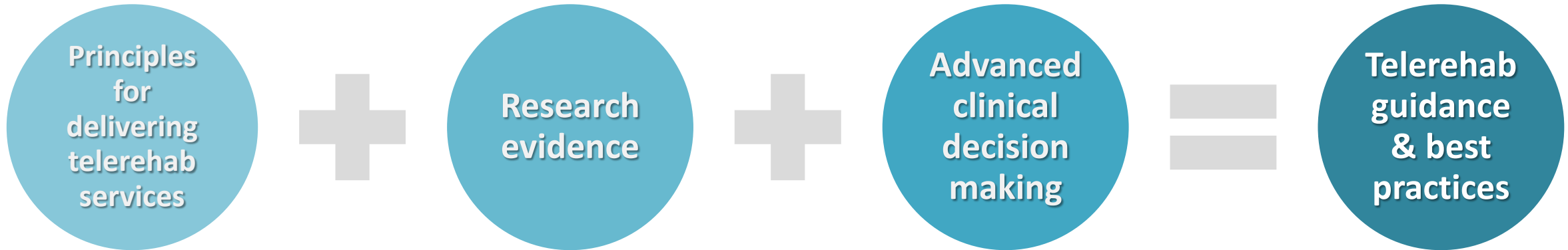
<http://accessmedicine.mhmedical.com/content.aspx?aid=1153060611>; Richmond, T., Otr, L., Peterson, C., Cason, J., Otr, L., Billings, M., Terrell, A., Otr, L., Lee, A. C. W., Towey, M., Parmanto, B., Cohn, E. R., & Brennan, D. (2017). American Telemedicine Association's Principles for Delivery Telerehabilitation Services. *International Journal of Telerehabilitation*, 9(2), 63–68.

Core Standards and Guidelines In Telerehab

- Adherence to professional code of ethics and scope of practice
- Adherence to institutional, state, federal, and international country laws
- Selection of appropriate technologies “fit for purpose” and of high quality
- Client selection
- Client safety
- Clinical education and professional development
- Telerehab underpinned by evidence based practice
- Modification to assessment and treatment
- Stakeholder support



The Path to Best Practices



“You can’t connect the dots looking forward; you can only connect them looking backwards. So you have to trust that the dots will somehow connect in your future.”

– Steve Jobs, Co-founder, Apple

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Challenges to Sustaining Cancer Telerehab

- Infrastructure
- Operations
- Reimbursement
- Policy
- Implementation/integration
- Patient expectations and awareness
- Oncology-specific best practices
- Literature gaps

“ You can focus on things that are barriers or you can focus on scaling the wall or redefining the problem.”

– Tim Cook, CEO, Apple

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A Health Services Research Agenda to Fully Integrate Cancer Rehabilitation Into Oncology Care

Mackenzi Pergolotti, PhD, OTR/L ^{1,2}; Catherine M. Alfano, PhD ³; Alison N. Cernich, PhD, ABPP-Cn⁴; K. Robin Yabroff, PhD⁵; Peter R. Manning, MBA¹; Janet S. de Moor, PhD, MPH ⁶; Erin E. Hahn, PhD, MPH ⁷; Andrea L. Cheville, MD ⁸; and Supriya G. Mohile, MD, MS⁹

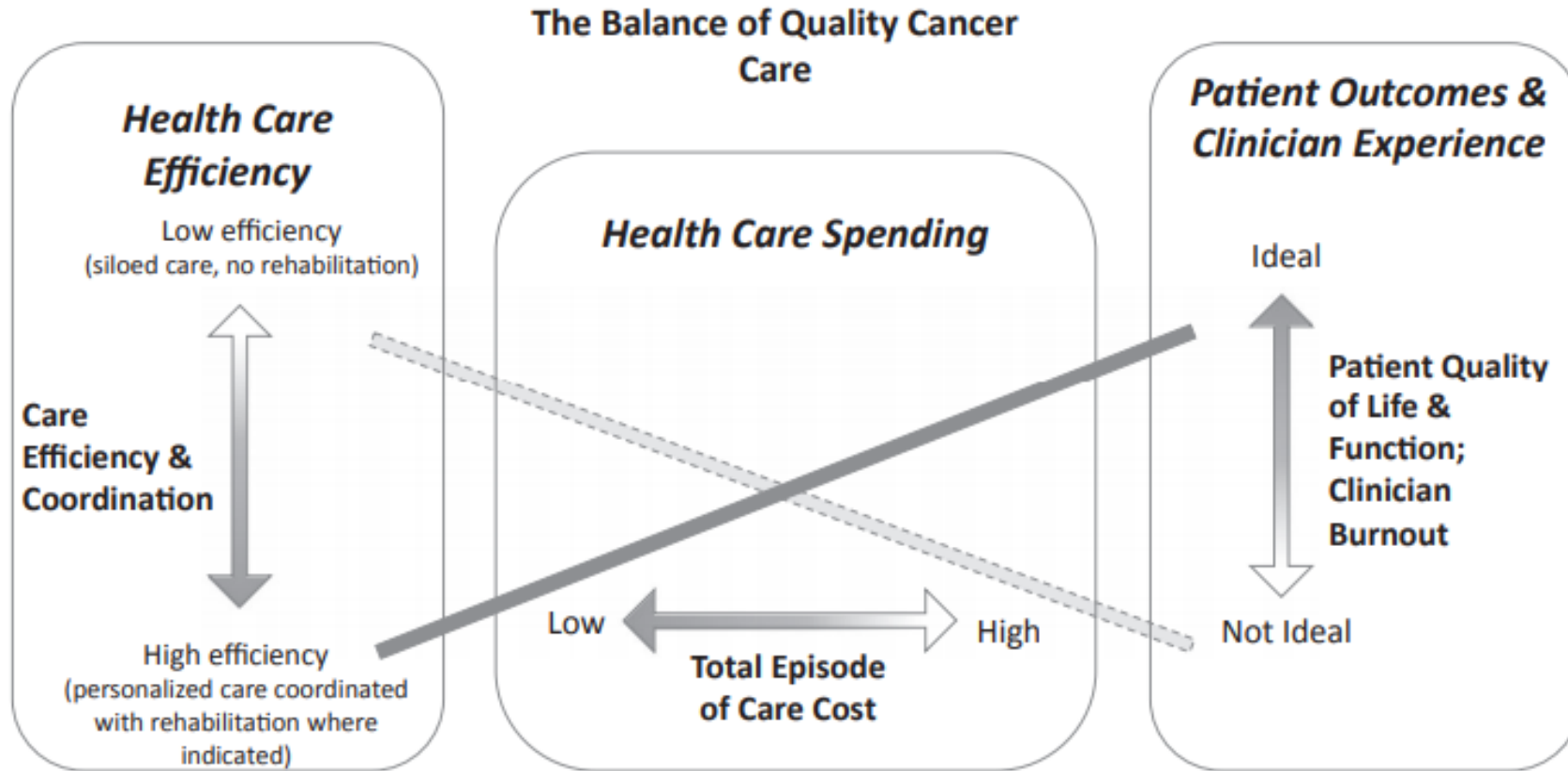


Figure 1. Optimizing health care efficiency also will optimize patient outcomes, clinician experience, and cost.

HSR Agenda to Integrate Cancer Telerehab

1

Increase understanding of beliefs and expectations regarding cancer rehabilitation care, delivery, cost, and value

2

Identify better ways to involve all stakeholders

3

Create value metrics that truly add patient centered value

4

Accelerate/scale changes that work by evaluating rehabilitation in value-based care payment initiatives

5

Improve evidence regarding drivers of variations in care and identify low-value care

6

Assess the use of technology for referral, evaluation, and treatment delivery

7

Build workforce capacity to deliver cancer rehabilitation services

8

Answer key questions within cancer rehab and HSR to inform the redesign of health policy “scoring rules”

9

Test methods for dissemination and implementation of new care models

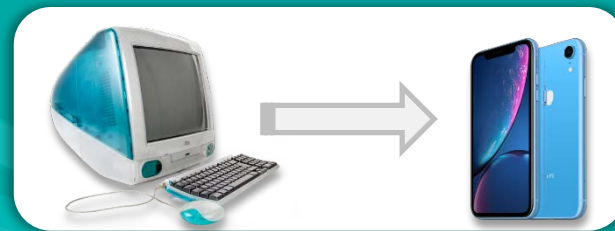
10

Develop program evaluation methods that allow for rapid feedback and continuous quality improvement

“Life can be much broader once you discover one simple fact: Everything around you that you call life was made up by people that were no smarter than you.

And you can change it, you can influence it... Once you learn that, you’ll never be the same again.”

– Steve Jobs, Co-founder, Apple



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THANK YOU!

mpergolotti@revitalcancerrehab.com

@mpergolottiPhD