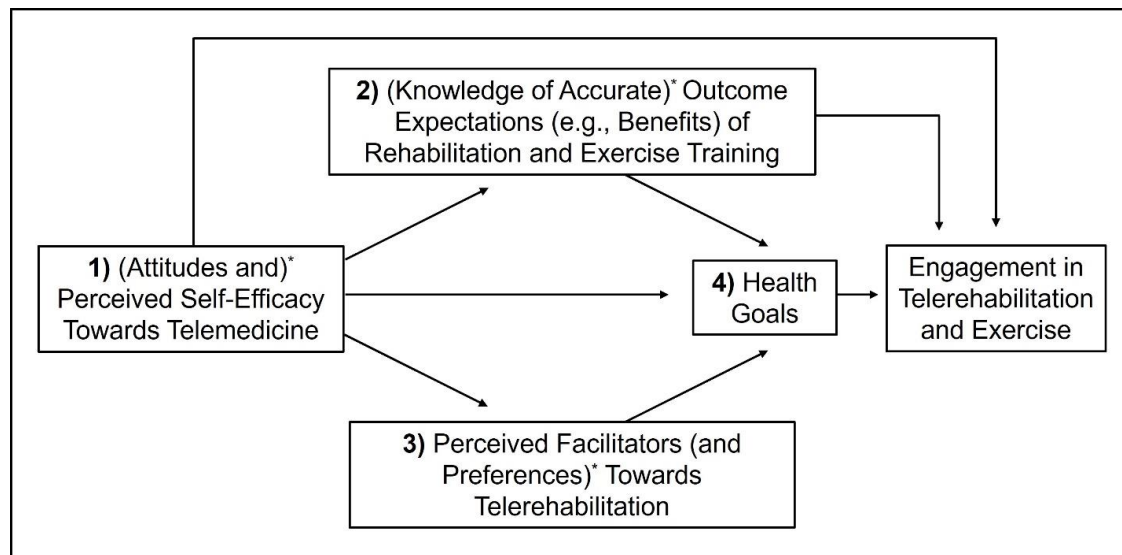


**Lung Cancer Survivors' Views on Telerehabilitation Following Curative Intent Therapy: A
Formative Qualitative Study**

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ONLINE SUPPLEMENT

E-Figure 1: Bandura's Social Cognitive Theory¹ Adapted to Inform Telerehabilitation

**Additional constructs or modifications to the SCT that could influence engagement in telerehabilitation and exercise.*

E-Table 1: Semi-structured Interview Questions Guided by the Social Cognitive Theory¹

Thank you for taking your time to help us with these questions. In this interview, we will ask you about your health goals, knowledge on exercise and rehabilitation, and views on technology. We will also ask you about your level of health literacy, frailty, and basic demographics. These interviews typically take about 30-45 minutes. We will use the results to help design an ideal telerehabilitation program for Veterans who recently completed lung cancer treatment.

(Opening question) To begin, we will start with a broad question – When were you diagnosed with lung cancer?

What treatment did you receive? (surgery, chemo, radiation, etc.)

When did you complete the treatment? (1-6 months ago)

How has your experience been following lung cancer treatment?

Have there been any new diagnosis or any new medical issues/concerns following your treatment?

What **health issues** (new symptoms, new limitations to daily activities/daily life; shortness of breath, poor sleep, or fatigue, neuropathy) have you had to deal with since completing lung cancer treatment? [possible probes: Can you tell me more about...; Can you describe...more?]

How have symptoms impacted your day-to-day activities, hobbies, or ability to complete tasks?

Have you had any falls since completing your treatment (related or non-related to treatment)?

What concerns you most about these health issues that you've had to deal with (since completing lung cancer treatment)?

What is the most important (health) issue you think we should know about your experience following lung cancer treatment?

Thank you for sharing your experience. Now, we will ask you a few questions about your current and future goals.

What are your **health goals** in the next few months and beyond? [possible probes: Can you describe more about...; Can you explain...more?]

What are your goals for the next few months to get your life activities to where you would like them to be?

How are your (health) goals similar or different compared to before your lung cancer treatment? [possible probes: Describe...more for me; Explain...]

How ready do you feel about taking steps to meet these goals? What are some possible challenges?

What else would you like to add that you think might be important for us to know about your health since you completed lung cancer treatment.

Thank you for sharing with us your health issues and goals. Next, we would like to understand more about your knowledge of exercise and rehabilitation.

What, if any, have you been **told about exercise** after lung cancer treatment? [possible probes: Tell me more about...; Explain...]

What is your understanding about what types of exercises there are and how they can or cannot help with your health?

What is your understanding about how much exercise can or cannot help with symptoms we previously discussed (e.g., shortness of breath, poor sleep, or fatigue)?

What is your understanding about what types of exercises can reduce falls? How are these important to you, if at all?

When clinicians use the word “rehabilitation”, what does that mean to you? [possible probes: Tell me more about...; Explain...]

How is the **meaning of “rehabilitation”** similar or different compared to some of the health services that you may have received in the past, like physical or occupational therapy, or pulmonary or cardiac rehabilitation?

Sometimes people think that “rehab” or “rehabilitation” is for substance use or abuse; how is the meaning of “rehabilitation” negative, positive, or neutral to you?

How do you **feel rehabilitation and exercise** can help you achieve your health goals, if at all? [possible probes: Can you tell me more about...; Describe...]

How are your exercise levels different, if at all, after lung cancer treatment?

What are some reasons why you exercise or not?

How ready do you feel to participate in rehabilitation and exercise in the next few months?

Thank you sharing these thoughts. Part of the reason why are doing this is to help design a telerehabilitation program for Veterans who recently completed lung cancer treatment. So the next set of questions will ask you about using **technology for health care**.

Recently, a lot of Veterans have had experience receiving care remotely through telephone or video – where you can see a picture on your phone or computer screen. In the VA, this is called VA Video Connect, or VVC.

Have you received care remotely in VA? Over telephone or video? If you did not do it over video, why is that?

How comfortable do you feel about using computers and the internet for health care services?

What are some challenges you expect to have with video technology? What would help you feel more comfortable using it?

How do you feel about exercise or rehabilitation services delivered remotely using video technology?

Since our goal is to design a telerehabilitation program for Veterans with lung cancer following treatment,

If you could design your **ideal telerehabilitation program**, what would that look like?

How important is having live interaction with a therapist (and one-on-one or in group setting)? Why or why not?

How do you feel about self-help videos for exercises? How can they help or not?

The next set of questions are surveys. Unlike the previous questions, these next questions do not need detailed or lengthy answers since we can only check the answer options available on the surveys.

This first survey assesses your level of **health literacy**.²

1) How often do you have someone help you read hospital materials?

Always (1) Often (2) Sometimes (3) Occasionally (4) Never (5)

2) How often do you have problems learning about your medical condition because of difficulty understanding written information?

Always (1) Often (2) Sometimes (3) Occasionally (4) Never (5)

3) How often do you have a problem understanding what is told to you about your medical condition?

Always (1) Often (2) Sometimes (3) Occasionally (4) Never (5)

4) How confident are you filling out medical forms by yourself?

Not at all confident (1) A little bit (2) Somewhat (3) Quite a bit (4)
 Extremely confident (5)

This next survey assesses your level of **frailty**.³

1) How much of the time during the past 4 weeks did you feel tired?

All of the time Most of the time Some of the time A little of the time
 None of the time

2) By yourself and not using aids, do you have any difficulty walking up 10 steps without resting?

Yes No

3) By yourself and not using aids, do you have any difficulty walking a couple of blocks (e.g., several hundred yards)?

Yes No

4) Did a doctor ever tell you that you have these illnesses? (*check each illness*)

hypertension, diabetes, chronic lung disease, heart attack, congestive heart failure, angina, asthma, arthritis, stroke, and kidney disease. How many?
[Total number of illnesses, then add 1 for (lung) cancer]: _____

5) How much do you weigh? _____

6) One year ago, how much did you weigh? _____

7) Have you been admitted to the hospital in the past 3 months? Yes No

This last set of questions are on your basic **demographics**.

1) Are you

Married/living with partner; Divorced/separated; Widowed; or
 Single/Never married?

2) What is your highest level of education?

Some high school Completed high school Some college
 Completed college Graduate or doctorate degree

3) What is your employment status?

Employed (part- or full-time) Retired Disabled Unemployed

4) Do you have access to internet at home? Yes No

This completes our interview today. Thank you again your time. Please let us know if you have any questions for us?

E-Table 2: Post-Interview Debrief Guide

In general, how did the interview process go? (e.g., how engaged was the participant; how candid were the responses; how was your own comfort level?)

What were the main **health issues** and **health goals** that came up?

- Health Issues:
- Health Goals:

What were participants' **knowledge** on exercise and rehabilitation?

- How was their understanding on the types and roles (purpose) of exercise?
- How did they view and define rehabilitation?
- How did they feel about rehabilitation and exercise?

How did participants feel about using **technology** for health care?

- How did they feel about using technology to access health care?
- How did they feel about using technology for rehabilitation services?
- What were key program designs?

Did anything surprise you?

Did anything **new** come up?

Should we change anything about the interview process?

Should we change anything on the interview guide?

Codes to consider:

E-Table 3: Operational Definitions of Terminologies for Data Analysis and Interpretation

Terminology	Definition
Exercise	Physical activity which is usually regular and done with the intention of improving or maintaining physical fitness or health. ⁴
Goal	The end (or result or achievement) toward which effort is directed. ^{5,6}
Rehabilitation	Restoration of human functions to the maximum degree possible in a person or persons suffering from disease or injury. ⁷
Self-efficacy	<i>General:</i> 1) Participant's belief about his/her ability to perform actions necessary to produce a given effect ⁸ ; and 2) Participant's perception that he/she can exercise control over his/her health habits. ¹ <i>Specific to this study:</i> Participant's belief about his/her ability to use technology to access health care.
Telemedicine	The delivery of health services via remote telecommunications. ⁹
Telerehabilitation	The delivery of therapeutic rehabilitation at a distance or offsite using telecommunication technologies. ¹⁰

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