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Northern New England Palliative Care Teleconsult Research Laboratory

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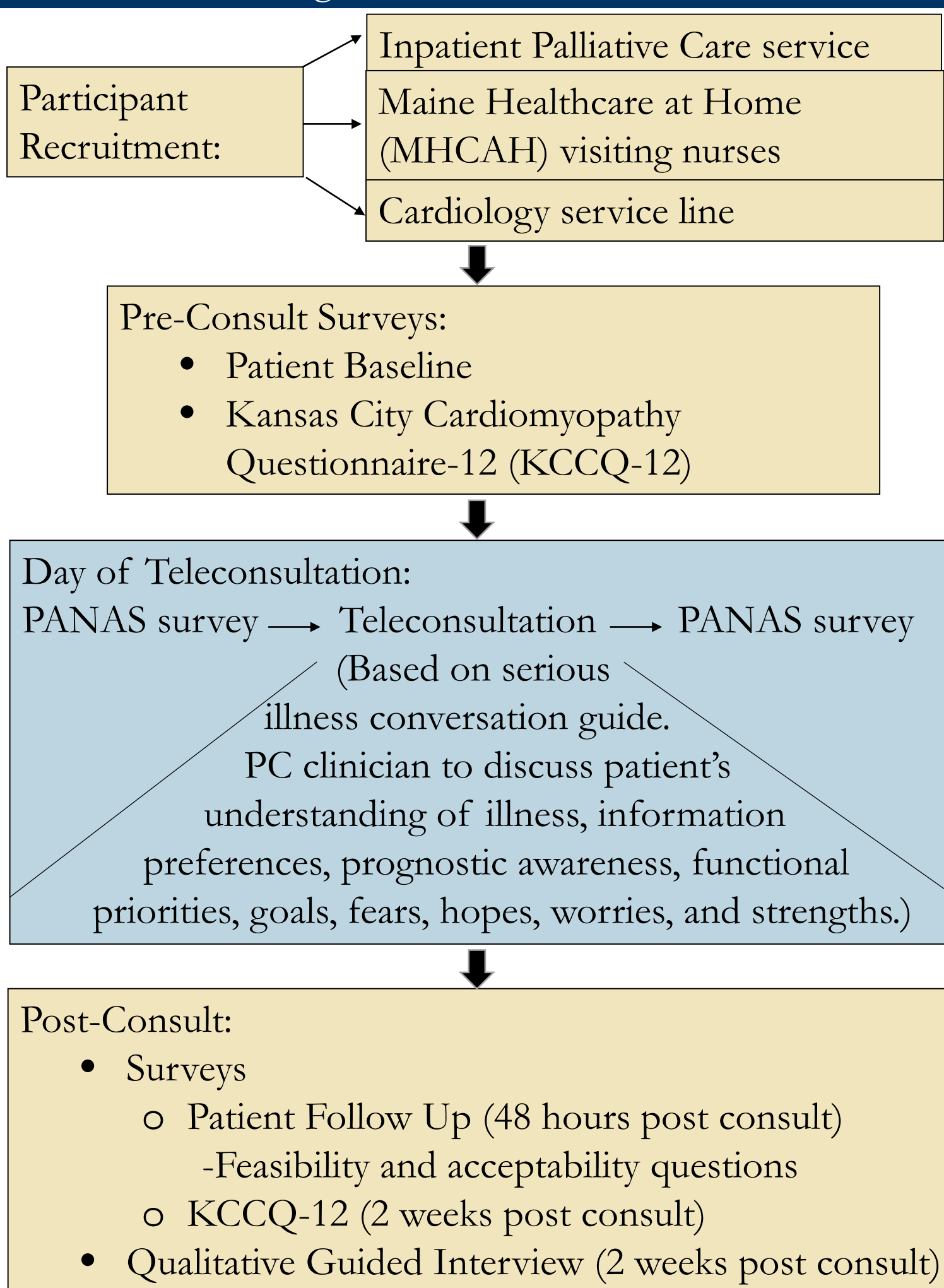
Introduction

- Palliative care (PC) is an approach that improves the quality of life of patients and their families.
- Delivery of PC via telehealth technology (tele-PC) has been proposed as a solution to increase access to PC in rural areas.
- The feasibility, acceptability, and effectiveness of applying telehealth technology to PC remains unknown.
- The overarching purpose of the proposed study is to 1) evaluate the feasibility and acceptability of a tele-PC intervention for seriously ill patients, and 2) generate pilot data to better understand provider-patient communication during tele-PC consultations.

Methods

- Subject cohorts:
 - Advanced heart failure patients (n=10)
 - Primary caregivers of advanced heart failure patients
 - Visiting nurses who regularly work with advanced heart failure patients
 - Clinicians who deliver the tele-PC consultation

Figure 1: Protocol Overview



Quantitative Survey Questions

Quality of life

Considering all parts of your life – physical, emotional, social, spiritual, and financial – over the past week, how would you rate your quality of life?

0	1	2	3	4	5	6	7	8	9	10
Very Bad										Excellent

Distress from uncertainty

Over the past week, how much have you been bothered by uncertainty about what to expect from the course of your illness?

Not at all	Slightly	Moderately	Quite a bit	Completely
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Prognostic awareness

If you had to take a guess, how long do you think you might live?

1 year	2 years	5 years	10 years or more	Other
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Perceptions of patient centered communication

Thinking about the teleconsult conversation yesterday, how much did you feel heard and understood by the palliative care clinician?

Not at all	Slightly	Moderately	Quite a bit	Completely
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Affect and emotion

Please indicate the extent to which you feel this way currently:

	Not at all	Very Slightly	A Moderate Amount	A Great Deal	Extremely		
	1	2	3	4	5	6	7
Afraid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hopeful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Responses to teleconsultation

How would you compare having a conversation with the palliative care clinician using teleconsult compared to an in-person conversation?

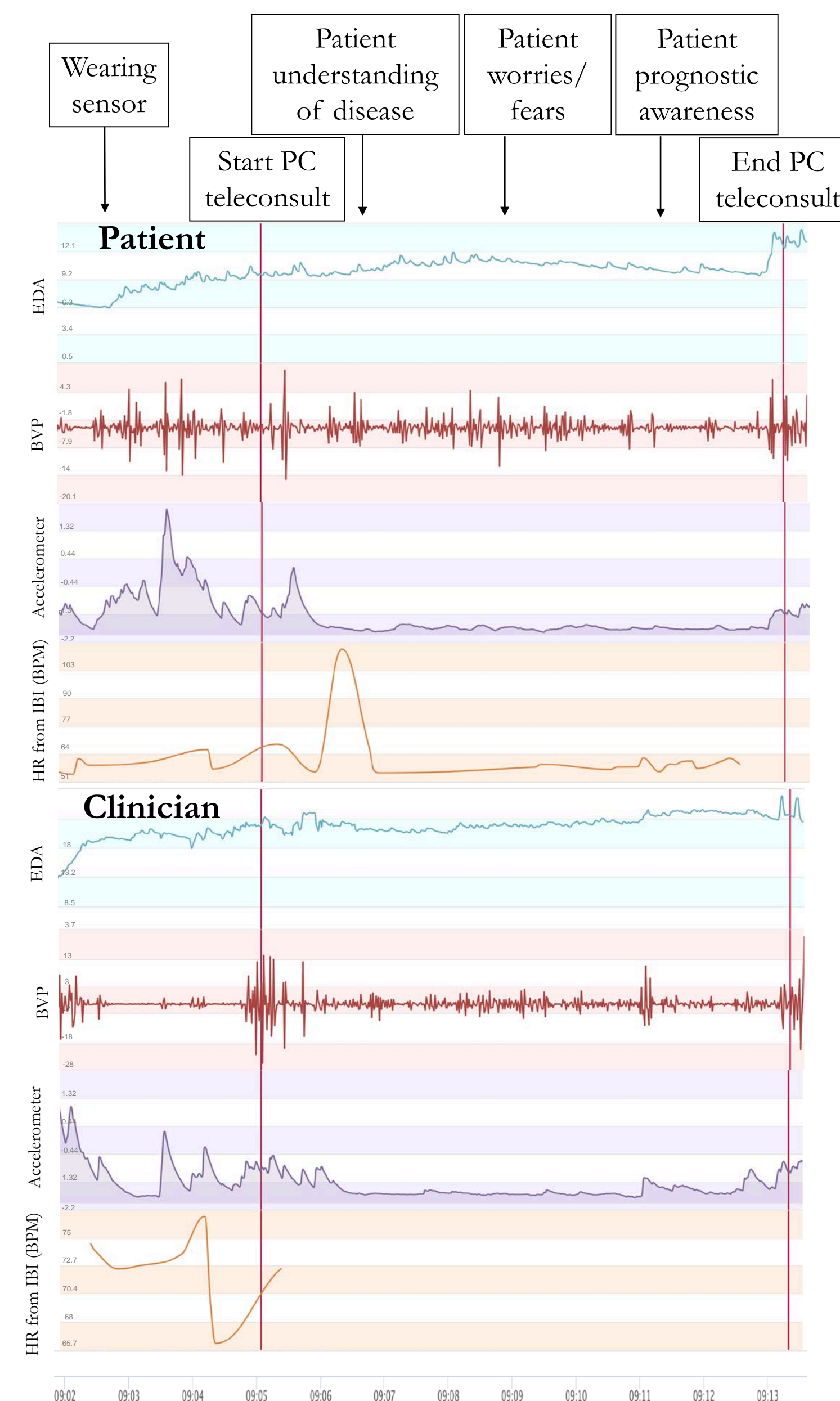
Teleconsult Much Better	Teleconsult a Little Better	About the Same	Office Visit a Little Better	Office Visit Much Better
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Qualitative Data

- Qualitative data will include individual in-depth semi-structured interviews with patients, caregivers, home nurses, and physicians.

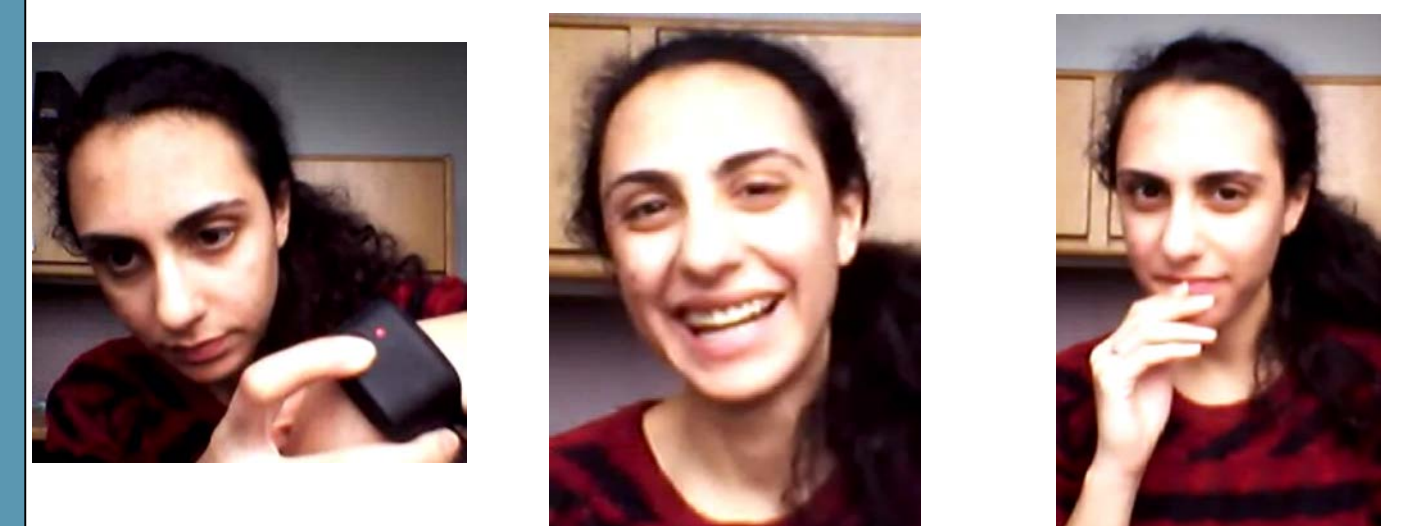
Psychophysiological Data

- Autonomic physiology is thought to relate to affective experience and can be unobtrusively measured without impeding the patient-clinician interaction using Empatica E4 sensors.
- We will explore 1) whether observed physiological changes are consistent with an affectively evocative conversation and 2) the variance of physiological responses, and the extent to which physiological states change during the tele-PC conversation.



Video/Audio Data

- Teleconsultations will be conducted and recorded via tablets provided by Maine Healthcare at Home and Health Recovery Solutions (HRS).
- Audio and video recordings will be analyzed in conjunction with psychophysiological data via machine learning.



Challenges

- Technology
 - Reliable connection from clinician computer to patient tablet
 - Reliable sensor data capture
 - Quality of audio and video recording
- Mode and timing of survey administration in this elderly patient population

Our partners

- Maine Healthcare at Home
 - MHCAH delivers high quality, home based health services by professionally trained nurses, therapists, and social workers, particularly for chronic disease management.
 - In partner with Health Recovery Solutions (HRS), MHCAH provides their patients with technology for quick access to healthcare providers.
- University of Vermont (Vermont Conversation Lab)
 - We are working in parallel with Dr. Robert Gramling and his team of researchers at UVM, who are conducting this study in cancer patients.

Acknowledgements/Contact Information

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