TELEREHABILITATION:
CURRENT SERVICES AND THE BENEFITS OF TELEHEALTH IN PHYSICAL THERAPY

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- My comments are based on my own clinical experience as a physical therapist and do not represent the policy or views of the Department of Veterans Affairs.

Tele-PT Service Delivery model

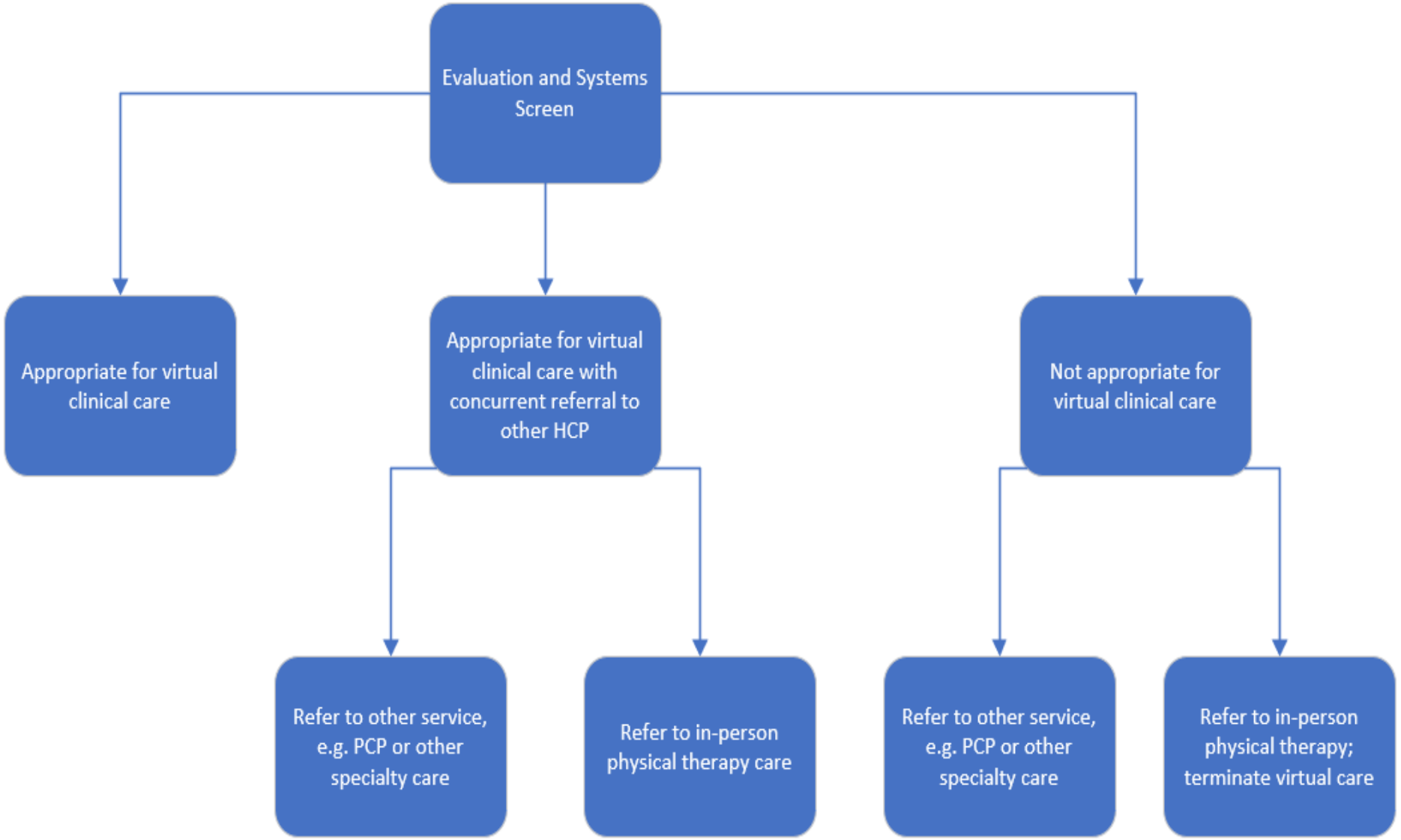
- Virtual care can be adapted to meet the changing needs of our Veterans. Applications may include the following:
  - A supplement to an in-person visit, both inpatient and outpatient.
  - A hybrid model of both virtual and in-person sessions.
  - Pre-admission training and education.
  - Post-transition to home follow up.
  - Interdisciplinary visits.
  - Group education classes.
  - Home exercise instruction, either 1:1 or exercise groups.
  - Assistive device assessment and training*.
  - Modality and self-care equipment assessment and training*.
  - Tele- Emergency Care consultation.

Telehealth Rehabilitation Applications

Who is appropriate for telerehabilitation?

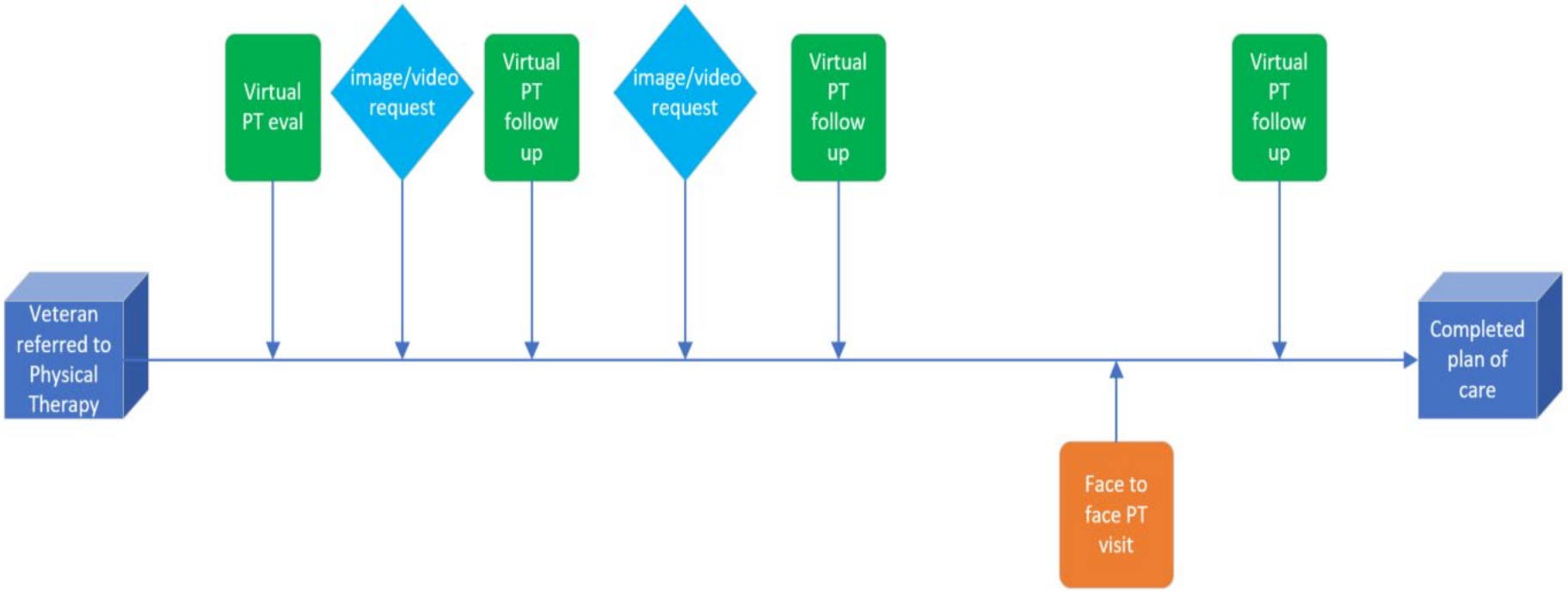
- Considerations include:
  - Client factors
    - complexity of condition; may include factors such as:
      - cognition,
      - insight to deficits, and
      - ability to follow commands.
  - Activity demands (complexity of activity).
  - Safety requirements in performance of tasks (includes the presence of a family member or caretaker)
  - Environment of care.
  - Complexity of the impairment/illness/disease and level of monitoring required.
  - When in-person, face-to-face treatment is necessary to receive maximum benefit or outcomes of care.

Telerehabilitation Physical Therapy



PT episode of care

- Multi-modal approach to meet our patient's needs



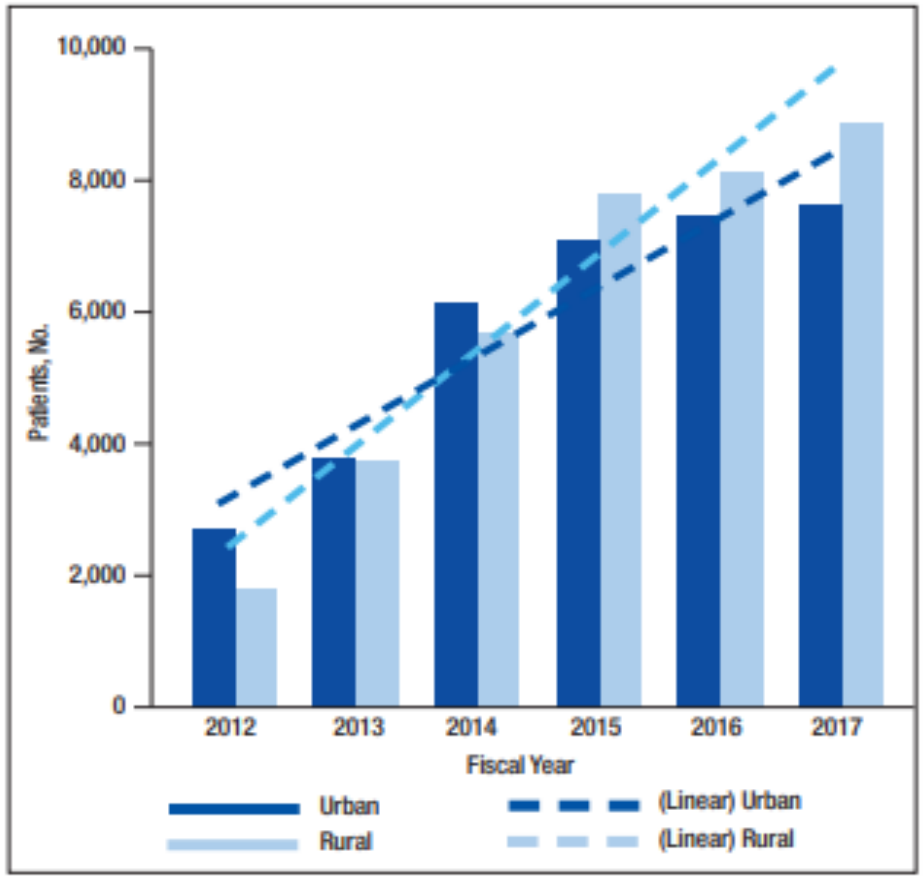
Telerehabilitation History & Trends

Rural Veterans Telerehabilitation Initiative

- Established 2009
- Funding from the VA Office of Rural Health.

ORH
VHA Office of Rural Health

FIGURE 3 Number of Unique Patients by Rurality



Cowper-Ripley, D. C., Jia, H., Wang, X., Freytes, I. M., Hale-Gallardo, J., Castaneda, G., … Romero, S. (2019). Trends in VA Telerehabilitation

U.S. Department of Veterans Affairs

VISN 22: Desert Pacific Healthcare Network

8 VA Healthcare System locations

- Greater Los Angeles
- Loma Linda
- Long Beach
- San Diego
- Northern Arizona
- Phoenix
- Southern Arizona
- New Mexico

60 Community Based Outpatient Clinics

- Telehealth clinical technicians (TCT)

VA HEALTH CARE | Defining EXCELLENCE in the 21st Century

MODES OF TELEREHABILITATION

- Synchronous Clinic to clinic
  - clinical video telehealth (CVT)
- Synchronous Clinic to home
  - VA Video Connect (VVC)
- Asynchronous
  - My VA Images

Benefits of Clinic-to-Clinic Connection

- **Provider**
  - Can more readily include family/caregivers in teaching/education
  - Attracts new patients
  - Reduces No-Shows
  - Telehealth technician support
  - Optimizes space of a smaller clinics

- **Veteran**
  - Convenient - Frequently occurs after working with primary care provider
  - Reduce resource burden (e.g. time - long commute)
  - Improved remote access to a specialist
  - Provides timely follow-up to facilitate carry-over
  - Co-Pay exempt

Clinic-to-Clinic Connection - Clinical Video Telehealth (CVT)

- Schools – one time education class
- Group exercise classes
- One-on-one appointment
  - Durable medical equipment assessment
  - Pain management and modulation treatment options
  - Follow-up from prior appointment
  - Guide primary care provider for specialized referral

Benefits of Video-to-Home Telehealth

- Improved access and reduced no shows
- Improve continuity of care
- Convenient
- Home Environment
  - Able to assess function and mobility in patient's home
  - Inclusion of family and caregivers
- Optimize use of resources
  - Co-Pay exempt
  - No transportation needed
  - Time

Video-to-Home Telehealth Services – VA Video Connect

"Anywhere to Anywhere"

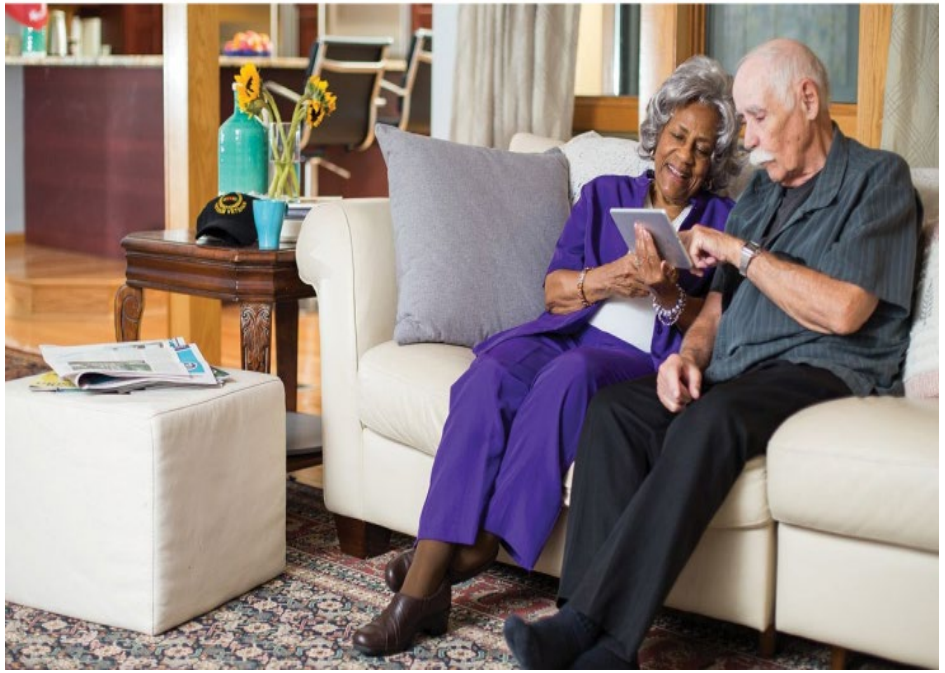
Video-to-Home Telehealth Services

- Specialty PT Providers available:
  - Amputee, Chronic Pain, Geriatrics, Orthopedic, Neurologic, Pelvic Health, and Vestibular
- PT Telehealth services:
  - AD training or retraining
  - Pain management or modality training
  - Home exercise program review or progression
  - Fall recovery in home and education
  - Post discharge follow-up (example: TKA)
  - Patient and family education
  - Consult with home primary care team

Asynchronous or Store and Forward Telehealth – My VA Images

My VA Images application

- Provider can request photos/videos
- View patient submissions
- Send messages about their photos/videos
- Write progress notes in electronic medical record (CPRS)
- Save media in the medical record



Benefits

- Veterans access health care remotely from home, saving them time and travel.
- High quality images, submitted securely, and at Veteran's convenience.
- Enhances flexibility in providing patient care.
- Review of images and follow-up with the patient when convenient for the Veteran and provider.

My VA Images

2024 APTA CPG on Telerehabilitation

Clinical Practice Guideline on telerehabilitation

- Developed by American Physical Therapy Association volunteer development group
  - International physical therapists and physiotherapist
  - Physician
  - Consumer
- Based on:
  - Systematic reviews of current scientific literature
  - Clinical information
  - Accepted approaches to telerehabilitation in physical therapist practice
- 7 recommendations to address: telerehabilitation in physical therapist practice
  - Impact of
  - Preparation for
  - Implementation of

Lee et al, 2024

APTA Telerehabilitation in Physical Therapist Practice Recommendations

1) Physical Therapists should recommend telerehabilitation or a hybrid model of care.

- Equivalent to in-person rehabilitation for acceptability and satisfaction
- Superior to in-person for adherence and attendance for certain health conditions
  - Adherence: Improved HEP and self-management strategies
  - Attendance superior except for RCTs in two areas:
    - Equivalent to in-person care
      - Hospital based pulmonary rehabilitation
      - Spinal cord injury rehab

Lee et al, 2024

2) Physical Therapists should discuss whether telerehabilitation is a cost-effective option compared with in-person care.

- Lower cost for THA, TKA, and chronic heart failure
  - when distance from home to clinic is greater than 30 km (18.64 miles)
    - Includes travel time for patients
- Awareness of barriers
  - Lack of insurance coverage for telerehabilitation
  - Complex payment policies
  - Lack of technology access

Lee et al, 2024

APTA Telerehabilitation in Physical Therapist Practice Recommendations

3) Physical Therapists should identify and work to reduce barriers and promote facilitators identified from *patient's perspectives and experiences* when planning and providing telerehabilitation.

- Facilitators
  - Better access
  - Increased schedule flexibility
  - Convenience
- Barriers
  - Certain health conditions
  - Severity levels
  - Technology literacy
  - Social demands

Lee et al, 2024

APTA Telerehabilitation in Physical Therapist Practice Recommendations

4) Physical Therapists should identify and work to reduce *clinician and organizational barriers and promote facilitators* to support the delivery of telerehabilitation services.

- Patient Facilitators (as perceived by PTs)
  - improved access (especially for long distances or difficulty leaving home)
  - Indirect cost savings (time off work, childcare, transportation costs)
  - Caregiver assistance
  - Strong internet and simple technology interfaces
- Patient Barriers (as perceived by PTs)
  - Equipment, internet connection issues
  - Inability to perform exercises without hands-on assistance
  - Low receptiveness to participation
  - Low health literacy and digital literacy
  - Cultural and social barriers

Lee et al, 2024

APTA Telerehabilitation in Physical Therapist Practice Recommendations

4 (cont.) Physical Therapists should identify and work to reduce *clinician and organizational barriers and promote facilitators* to support the delivery of telerehabilitation services.

- Provider facilitators (as perceived by PTs)
  - Clinical attitudes, skills & knowledge, setting, standardized assessment, support for care delivery
  - Clinicians who valued telerehabilitation and willing to provide
  - Knowledge of supporting technology
  - Environment where one could consult other clinicians
- Provider Barriers (as perceived by PTs)
  - Unable to perform comprehensive assessments requiring physical contact
  - Could not fully observe patients
  - Concern for lack of evidence for telerehabilitation
  - Technology: connectivity, user interfaces, lack of training
  - Increased workload and amount of unreimbursed time to prepare for sessions

Lee et al, 2024

APTA Telerehabilitation in Physical Therapist Practice Recommendations

5) When PTs perform components of examination via telerehabilitation they may use results to inform diagnosis with comparable accuracy to in-person visit for certain health conditions.

- Moderate concurrent validity between telerehabilitation and in-person assessments of adults with:
  - Low back pain
  - Musculoskeletal conditions
  - Parkinson's Disease
- Supports ROM, Straight leg raise, and pain with motion with LBP
- Evidence with consistent results supports using telerehabilitation for diagnosing patients with musculoskeletal conditions
  - Small, but adequate sample sizes <50 patients
  - Substantial to almost perfect agreements between telerehabilitation and in-person exam findings
    - Suggests reasonable utility across a range of populations

Lee et al, 2024

APTA Telerehabilitation in Physical Therapist Practice Recommendations

6) Physical Therapists should use telerehabilitation to achieve outcomes similar to in-person care for certain health conditions.

- No differences between telerehabilitation and in-person care for:
  - Congestive Heart Failure
  - Chronic Respiratory Disease
  - Parkinson's Disease
  - Stroke
- Improved outcomes for telerehabilitation relative to in-person care for THA/TKA
  - Improved stiffness on WOMAC
  - 6-minute walk scores

Lee et al, 2024

APTA Telerehabilitation in Physical Therapist Practice Recommendations

7) Physical Therapists should anticipate, prevent, manage, and document occurrences of adverse events specific to telerehabilitation as a mode of delivery.

- No evidence of increased frequency of adverse events
- No differences in rates between in-person and telerehabilitation

Lee et al, 2024

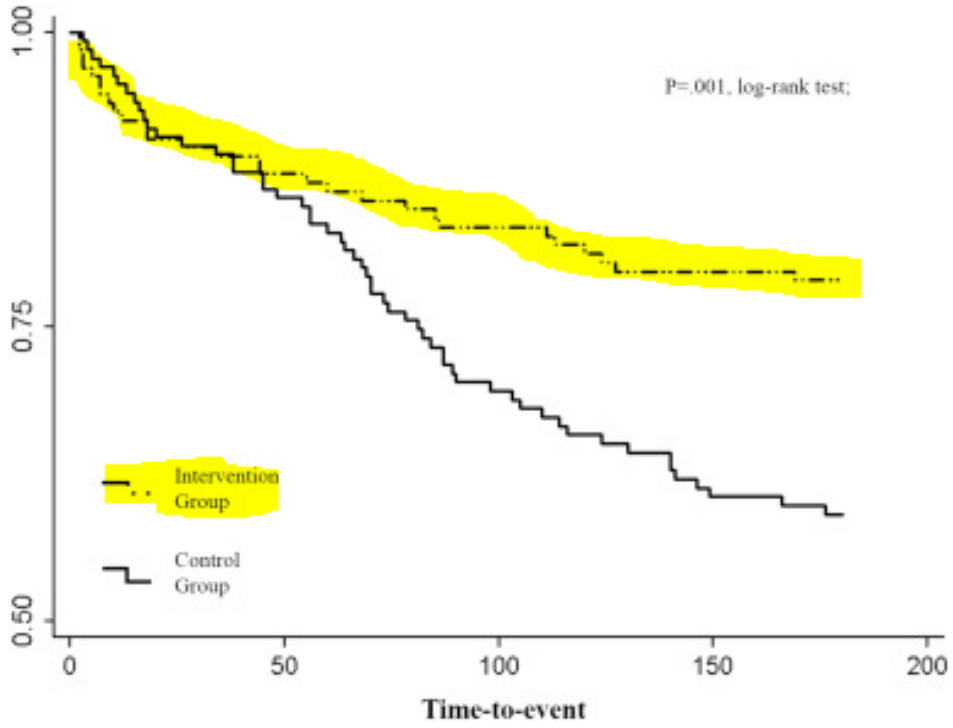
Fall Prevention Telehealth Program

Participants with 1 fall

- Telehealth group 20.6%
- Conventional 39.4%

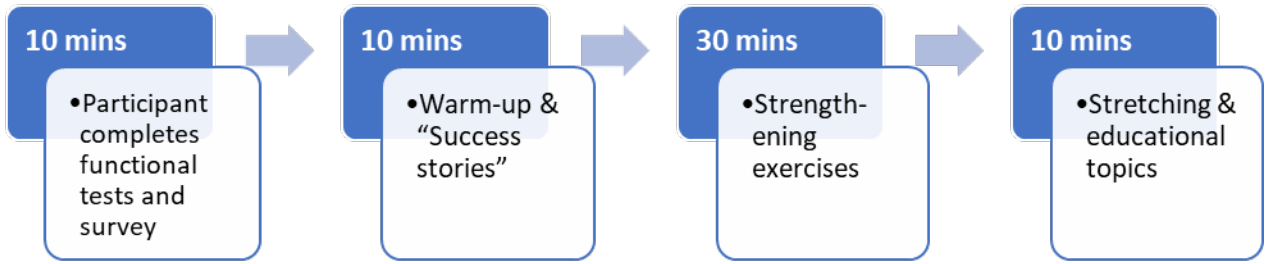
Participants with 2 or more falls

- Telehealth group 8%
- Conventional group 17%



Bernocchi et al., 2019

PT KNEE OSTEOARTHRITIS GROUP



Patient Outcome Measures

- **Qualtrics link sent by secure messaging prior to class or asked individually during class:**
  - **PROMIS Physical Function**
    - 4 item scale
  - **PROMIS Pain Interference**
    - 4 item scale
  - **Satisfaction/Ability to deal with knee pain**

i. How satisfied are you with the Group PT program from 0 (Not satisfied) to 10 (completely satisfied)?

ii. Compared to before you before you started the Group PT program, how would you rate your ability to deal with daily problems with knee function and pain now?

1. Much worse
2. A little worse
3. About the same
4. A little better
5. Much better

- **Completed at the beginning of class:**
- **Function Test**
  - 30 Second Chair Rise
- **Pain Scale**
  - What level pain did you experience while completing the chair rise test from 0 (No pain) to 10 (extreme pain)?

OUTCOMES

- The average patient satisfaction was 9.72, range 6-10, out of 10.

Patient Outcomes

Patient outcomes are calculated on patients that have been enrolled in Group PT for at least 21 days (3 weeks) and have attended at least 4 visits

Number of Chair Rise Repetitions in 30S

0 was entered if a patient did not attempt the chair rise

Measure	n	Mean	SD	Median	Min	Max
Number of Repetitions - 1st visit	13	13.31	6.13	12	6	30
Number of Repetitions - last visit	13	16.54	3.41	17	10	23
Number of Repetitions change (last - 1st visit)	13	2.62	6.17	4	-15	8

Maximum Pain During Chair Rise

Measure	n	Mean	SD	Median	Min	Max
Max pain during chair rise - 1st visit	13	4.23	2.77	4	0	9
Max pain during chair rise - last visit	13	2.77	1.92	3	0	6
Max pain during chair rise change (last - 1st visit)	13	-1.46	2.47	-1	-7	3

OUTCOMES

PROMIS Pain Interference

Lower scores are better

Clinically meaningful improvement for PROMIS Pain Interference t-scores for Knee OA: 2.35-2.4 (Lee et al., 2017)

Measure	n	Mean t-score	SD of t-scores	Median t-score	Min t-score	Max t-score
PROMIS Pain Interference - 1st visit	13	60.6	5.8	59.9	53.9	75.6
PROMIS Pain Interference - last visit	13	55.6	5.7	55.6	41.6	63.8
PROMIS Pain Interference change (last - 1st visit)	13	-4.8	3.8	-4.0	-13.1	0.0

PROMIS Physical Function

Higher scores are better

Clinically meaningful improvement for PROMIS Physical Function t-scores for Knee OA: 1.9-2.2 (Lee et al., 2017)

Measure	n	Mean t-score	SD of t-scores	Median t-score	Min t-score	Max t-score
PROMIS Physcial Function - 1st visit	13	38.8	6.6	36.7	31.9	57.0
PROMIS Physcial Function - last visit	13	43.4	8.5	41.9	33.2	57.0
PROMIS Physcial Function change (last - 1st visit)	13	4.4	5.4	4.0	0.0	17.8

“Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning.”

~Albert Einstein~

Thank you!