Implementing Home-Based Videoconferencing in a Rural Stroke Early Supported Discharge (SESD) Setting

Melissa Sztym, Clinical Lead & OT, SESD

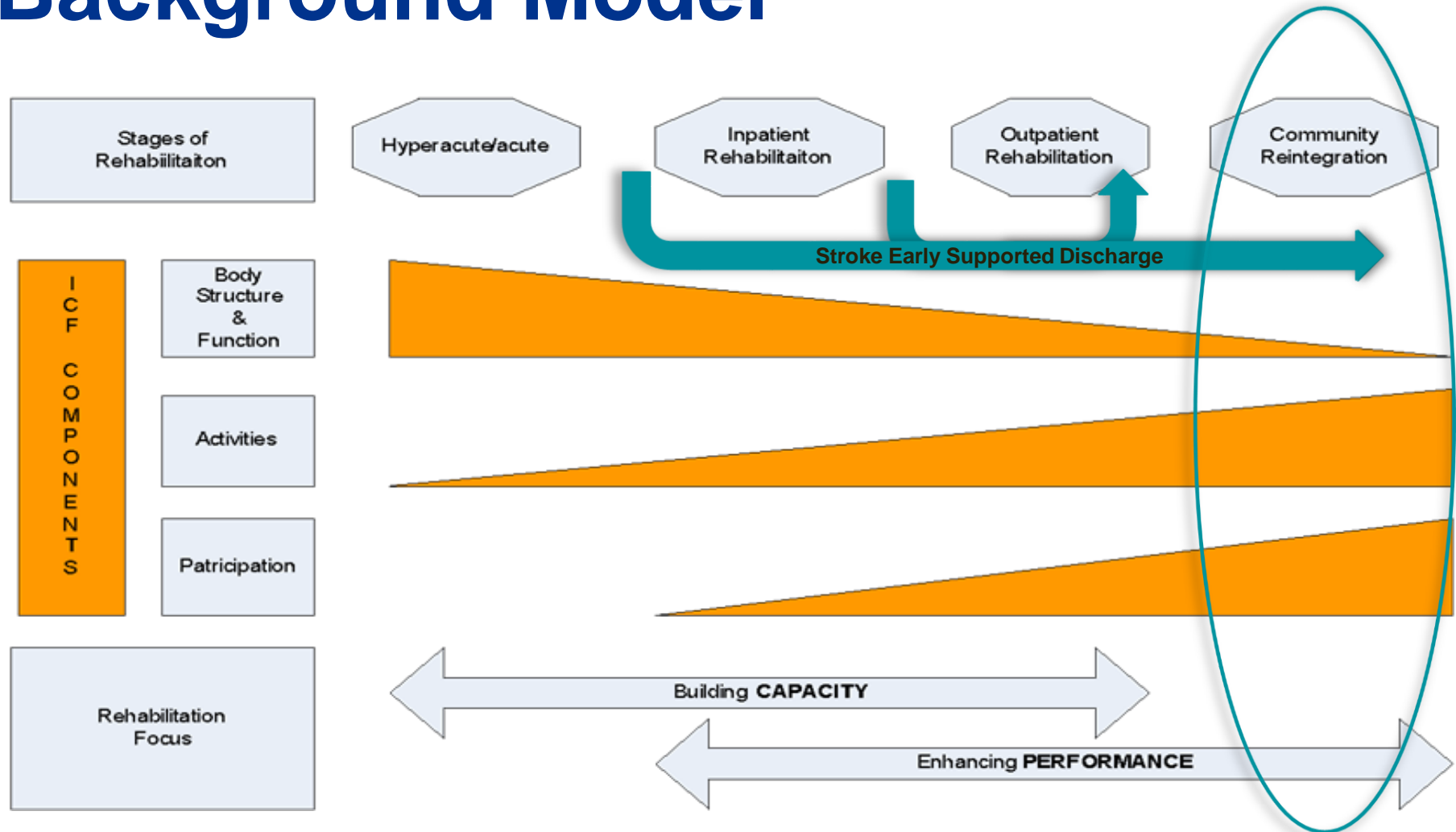**Melissa.Sztym@Covenanthealth.ca**

Objectives

- Review Stroke Early Supported Discharge Model of Care

- Describe how need for videoconferencing was identified

- Quality Improvement process to implementing clinical Skype-for-Business

- Practical implications of Skype-for-Business
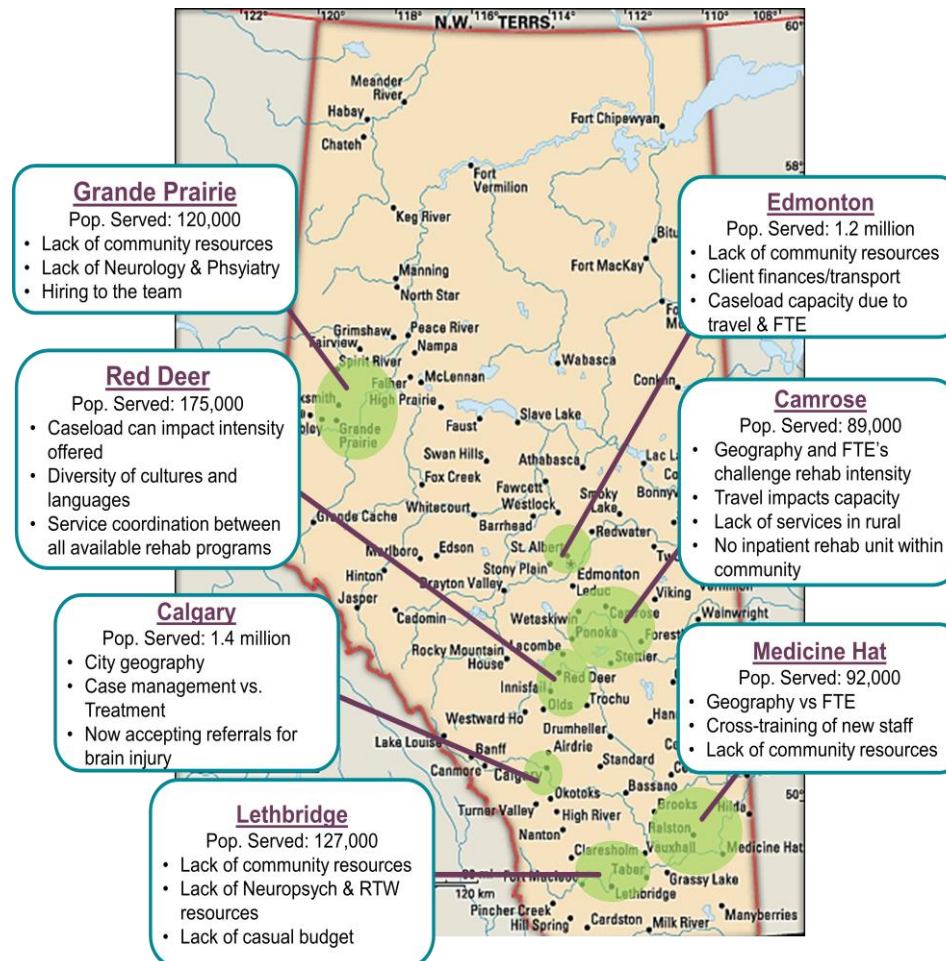
- Considerations for future work

Background Model

Provincial SESD Teams

Grande Prairie
Pop. Served: 120,000
- Lack of community resources
- Lack of Neurology & Phsyiatry
- Hiring to the team

Red Deer
Pop. Served: 175,000
- Caseload can impact intensity offered
- Diversity of cultures and languages
- Service coordination between all available rehab programs

Calgary
Pop. Served: 1.4 million
- City geography
- Case management vs. Treatment
- Now accepting referrals for brain injury

Lethbridge
Pop. Served: 127,000
- Lack of community resources
- Lack of Neuropsych & RTW resources
- Lack of casual budget

Edmonton
Pop. Served: 1.2 million
- Lack of community resources
- Client finances/transport
- Caseload capacity due to travel & FTE

Camrose
Pop. Served: 89,000
- Geography and FTE's challenge rehab intensity
- Travel impacts capacity
- Lack of services in rural
- No inpatient rehab unit within community

Medicine Hat
Pop. Served: 92,000
- Geography vs FTE
- Cross-training of new staff
- Lack of community resources

Adapted from: Falk, C., Woods, J., Sztym, M., Roberts, J., Lasiuk, K., Kennedy, K., Perry, K., Lehman, A., & Berndt, S. (2017). *One Size Does Not Fit All: The Evolution of ESD. 2017 Canadian Stroke Congress Poster Presentation.*

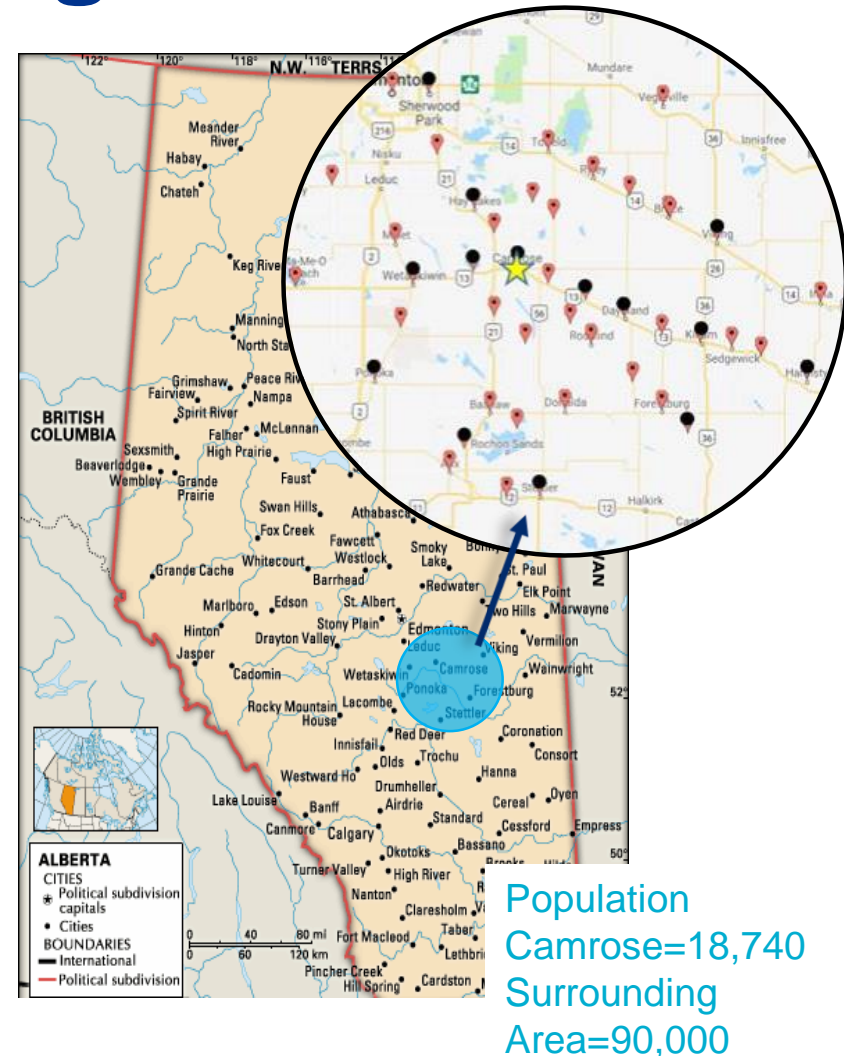# Camrose SESD Team

- SESD clinicians:
  - Team Lead 0.5 FTE
  - OT 0.6 FTE
  - PT 0.5 FTE
  - SLP 0.5 FTE
  - RecT 0.4 FTE
  - RN 0.4 FTE
  - SW 0.4 FTE
  - TA 2.0 FTEs
  - Clerk 0.5 FTE

- Travels up to 1 hour (100km) from Camrose, within the Central Zone

- Team was equipped mobile laptops & iPhone

Camrose SESD Program

- Monthly Travel = *7,000 – 15,000 km*

- Travel Impacts rehabilitation intensity & caseload capacity

- Low FTEs limit clinician capacity

- Figure depicts travel range and rural communities served

- 2016 Telehealth project set the stage for trialing Skype-for-Business

- Black markers show where in-home videoconferencing has been successful

Population Camrose=18,740 Surrounding Area=90,000

Adapted from: Sztym, M., Gillespie, D., Taeger, A., Lehman, A., Norris, C., Job McIntosh, C., Norton, D., Polutnik, D., & Walia, R. (2018). *Minimizing The Space Between Us: Alberta's Skype-for-Business an Effective Telerehabilitation Platform for Rural Stroke Survivors.* 2018 World Stroke Congress Oral Abstract Presentation.

Stroke Best Practice Guidelines

- In-home SESD services should be provided at the same intensity as inpatient rehabilitation services with a goal of 3 hours of therapy/day (evidence level B).

- Clinicians should consider the use of telemedicine in the care of patients post stroke (evidence level C).

- All rehabilitation disciplines should consider the use of telemedicine technology for patient assessment and clinical therapies (evidence level C).

- Home-based patient monitoring through web-based applications may be considered as an alternative to face-to-face clinic visits in instances where frequent patient monitoring is necessary…(evidence level C).

Policy Statements/Guidelines:

Advancing excellence in
occupational therapy

Promouvoir l'excellence
en ergothérapie

CAOT · ACE

CAOT Position Statement:
Tele-occupational therapy and e-occupational Therapy (2011)

It is the position of the Canadian Association of Occupational Therapists (CAOT) that the ongoing development of tele-occupational therapy and e-occupational therapy will promote opportunities for effective, efficient and accessible occupational therapy services, education and resources to all Canadians. CAOT recognizes that the growth and sustainability of tele-occupational therapy and e-occupational therapy are essential elements of being consisten

1. Collaborate with the profession and stakeholders to advance quality tele-occupational therapy and e-occupational therapy services in the public and private sectors throughout Canada. Stakeholders may include unions, government, employers, employees, members of the public.

2. Facilitate professional development activities and services to build capa   age in tele

AC SLP A

Alberta College of
Speech-Language Pathologists
and Audiologists
Hear. Speak. Connect.

Guideline

Telepractice

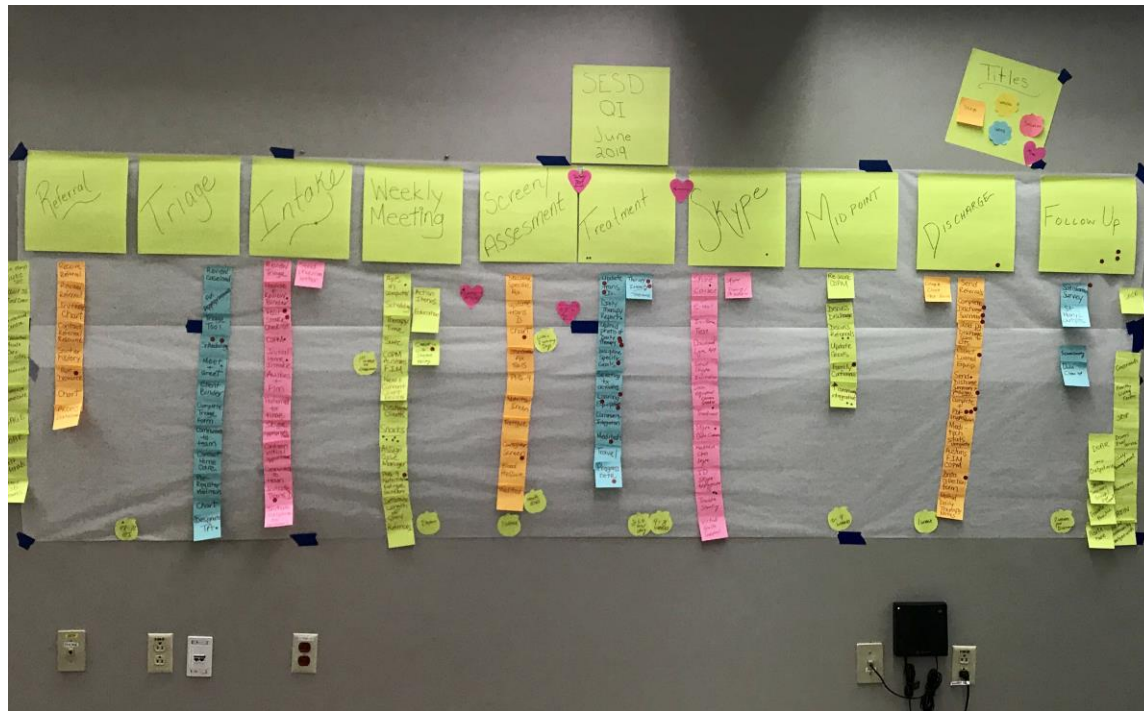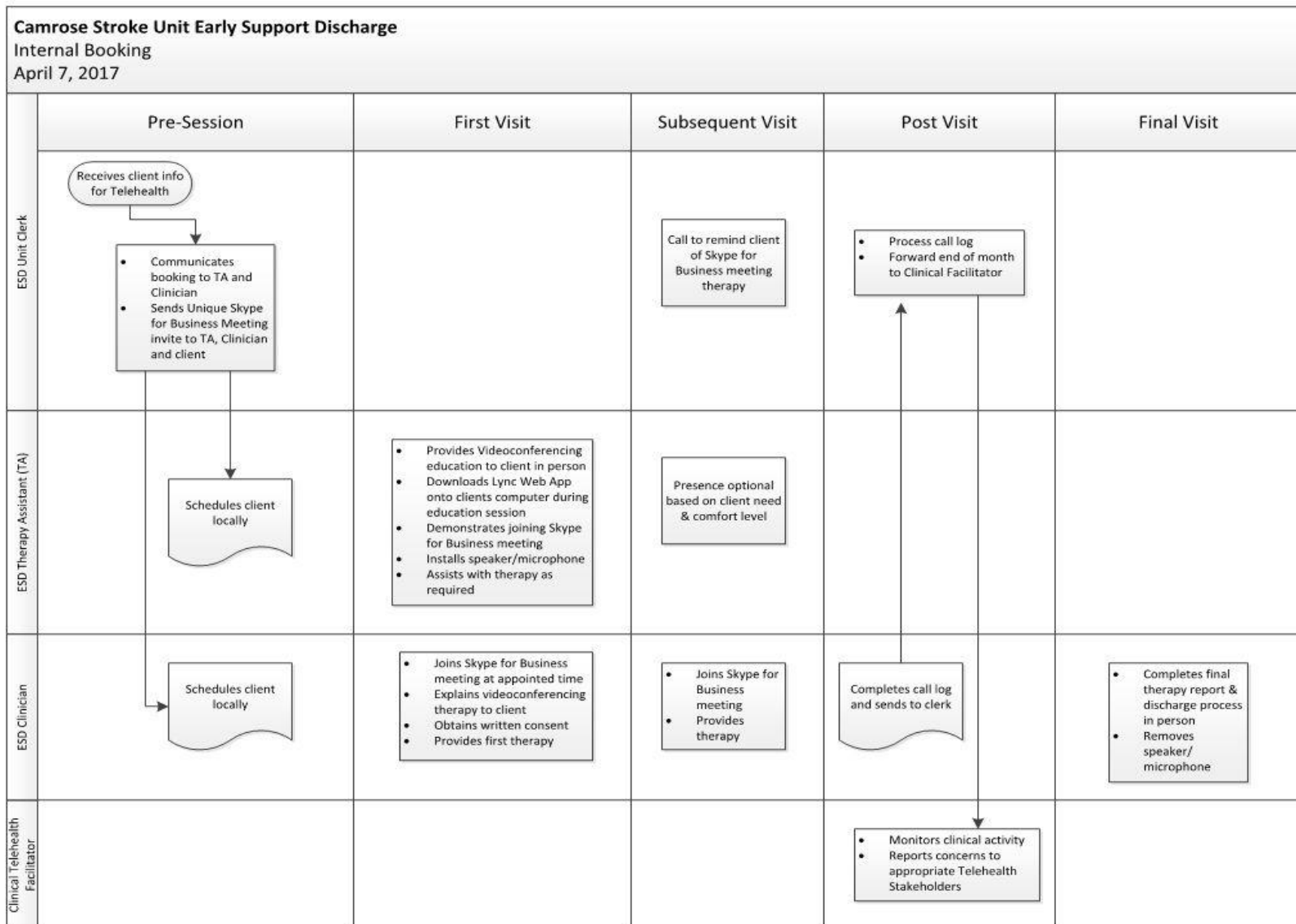**September 2009**
(Rev. Feburary 2011)

Physiotherapy Alberta
College+Association

Telerehabilitation Resource Guide
for Alberta Physiotherapists
April 2018

The remote delivery of physiotherapy interventions mediated by communication technologies is an area of practice that is rapidly expanding. When providers engage in the provision of telerehabilitation services, they are expected to be aware of and comply

LEAN Methodology

Therapy Intensity

COPM, FIM, & AusTOMs

Work to perfection

Specfiy Value

Travel Resources

Client & Clinician Satisfaction

Stakeholders Engaged

Training of Staff & Client Education

5 STEPS TO LEAN

Process Mapping to Perfect Procedures

Results Inform Value Stream Mapping

Eliminate Waste

Map the Value Stream

Equipment Testing

Consent & Confidentiality

Previous Telehealth Pilot Value Stream Mapping

Skype for Business Value Stream Mapping

Identify Waste

Travel Distance (KM)

Travel Time

Using in-home Videoconferencing

TA Skillset

Total Distance Travel

TA Time

Figure. Five steps to Lean. (Alberta Health Services, 2012)

Source: Sztym, M., Gillespie, D., Taeger, A., Lehman, A., Norris, C., Job McIntosh, C., Norton, D., Polutnik, D., & Walia, R. (2018). *Minimizing The Space Between Us: Alberta's Skype-for-Business an Effective Telerehabilitation Platform for Rural Stroke Survivors.* 2018 World Stroke Congress Oral Abstract Presentation

Camrose Stroke Unit Early Support Discharge
Internal Booking
April 7, 2017

	Pre-Session	First Visit	Subsequent Visit	Post Visit	Final Visit
ESD Unit Clerk	Receives client info for Telehealth • Communicates booking to TA and Clinician • Sends Unique Skype for Business Meeting invite to TA, Clinician and client		Call to remind client of Skype for Business meeting therapy	• Process call log • Forward end of month to Clinical Facilitator	
ESD Therapy Assistant (TA)	Schedules client locally	• Provides Videoconferencing education to client in person • Downloads Lync Web App onto clients computer during education session • Demonstrates joining Skype for Business meeting • Installs speaker/microphone • Assists with therapy as required	Presence optional based on client need & comfort level		
ESD Clinician	Schedules client locally	• Joins Skype for Business meeting at appointed time • Explains videoconferencing therapy to client • Obtains written consent • Provides first therapy	• Joins Skype for Business meeting • Provides therapy	Completes call log and sends to clerk	• Completes final therapy report & discharge process in person • Removes speaker/ microphone
Clinical Telehealth Facilitator				• Monitors clinical activity • Reports concerns to appropriate Telehealth Stakeholders	

Privacy Impact Assessment

Covenant
Health
Compassionate care led
by Catholic values

Privacy Impact Assessment

Camrose Early Supported Discharge Program

Clinical Videoconferencing

Covenant Health File No: CHP-2016-009

AHS Virtual Health Services

GUIDELINES FOR USING SKYPE FOR BUSINESS FOR CLINICAL SESSIONS:

Between AHS Clinicians and Patients

May 2017

Virtual Health
Client Screening Tool

This screening tool is a resource to determine if Skype for Business is an option for the client. Inclusion is based on technical requirement in addition to clinical considerations.

Technical Requirements

		Yes	No
1	Access to a computer with Windows 7 or higher (Windows XP is not compatible) To find your Windows version: Start Menu> search 'winver'>press enter and this will show you the version	☐	☐
2	Windows: has Internet Explorer 11 or higher (Edge will not work) or Google Chrome (up to date) To find your Internet Explorer version: Start Menu > All Programs > Internet Explorer > Help > About Internet Explorer To check status of Google Chrome: Start Menu > All Programs > Google Chrome > ⋮ > Help > About Internet Explorer	☐	☐
3	Client computer has a webcam	☐	☐
4	Computer with an internal microphone/speaker or combination microphone/headset (USB connection is recommended)	☐	☐
5	High speed internet (dial up will not work)	☐	☐
6	Client has access to valid email address	☐	☐
7	Quiet, private and well-lit space in which to participate in sessions	☐	☐
8	Engaged IT to perform technical trial to address potential firewall issues (i.e. external organizations such as schools)	☐	☐
9	Up to date software/security patch on computer	☐	☐

Virtual Health - Client Screening Tool | 2

Clinical Considerations

|		Yes	No
1	Client motivated to participate	☐	☐
2	Client is clinically stable	☐	☐
3	Cognitive barriers	☐	☐
4	Physical barriers	☐	☐
5	Client available during clinic hours	☐	☐
6	Client able to participate in a training and test session	☐	☐
7	Physical assessment required	☐	☐
8	Client has basic computer knowledge	☐	☐
9	Client is able to communicate effectively with the clinician	☐	☐
10	Client requires additional supports (i.e. family member present, translator)	☐	☐

Additional Notes and Comments:

Skype-for-Business Setup
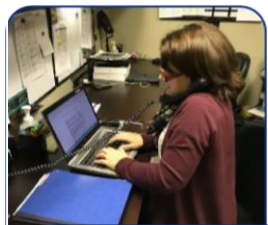
Preparation
- Triage & Screen
- Informed Consent
- Equipment Needs
- Scheduling
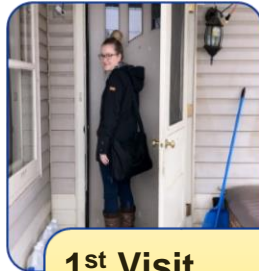
1st Visit
- In-home intake
- TA education
- Demonstration
- Practice
- Skype Appropriateness

Skype Rehab
- Augments in-home rehab
- Unique Skype links
- Skype Treatment Plan

Final Visit
- In-home discharge
- Discharge summary provided
- Feedback received

Wrap-Up
- Data collection
- Discharge Summary
- Virtual Health Team monitoring
- Satisfaction Surveys

Process Outcomes

DATA ELEMENT	TELEHEALTH (6 week pilot, n=25)	SKYPE-FOR-BUSINESS (July 2017- Sept 2018, n=95)
Travel Time Saved	1,890 min. / 31.5 hr.	8495min. / 141.58hr
Travel KM Saved	2,016 km	11,703 km
Travel Saved/ Session	55km/session	123.2km/session
Mileage Cost Avoidance	$1,089 (approx.)	$6,319.62 (approx.)

Source: Sztym, M., Gillespie, D., Taeger, A., Lehman, A., Norris, C., Job McIntosh, C., Norton, D., Polutnik, D., & Walia, R. (2018). *Minimizing The Space Between Us: Alberta's Skype-for-Business an Effective Telerehabilitation Platform for Rural Stroke Survivors.* 2018 World Stroke Congress Oral Abstract Presentation

Client Outcomes

F2F= Face-to-Face only
TH= Telehealth Real Presence Desktop Software
S4B= Skype-for-Business

DATA ELEMENT	COMPARISON
Ave. change in COPM Performance Score	F2F= 4.7 TH= 4.8 S4B=4.5
% AusTOMS Activity Limitation Scores Change ≥ 1	F2F= 93% TH= 100% S4B= 100%
Ave. FIM Change Scores	F2F= 3.8 TH= 3.5 S4B= 6

Source: Sztym, M., Gillespie, D., Taeger, A., Lehman, A., Norris, C., Job McIntosh, C., Norton, D., Polutnik, D., & Walia, R. (2018). *Minimizing The Space Between Us: Alberta's Skype-for-Business an Effective Telerehabilitation Platform for Rural Stroke Survivors.* 2018 World Stroke Congress Oral Abstract Presentation
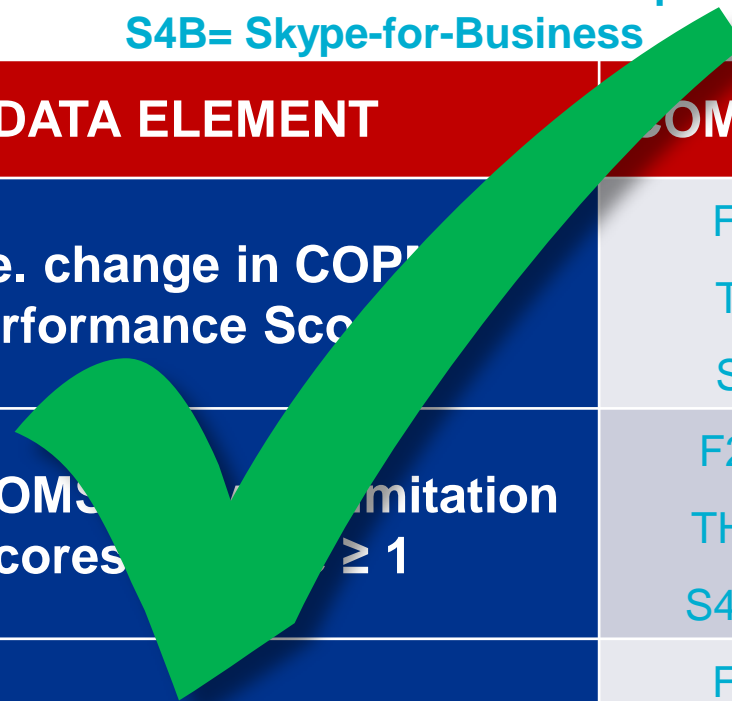
Client Satisfaction

Clinician Satisfaction

Clinician Skype Satisfaction Survey Responses (n=12):
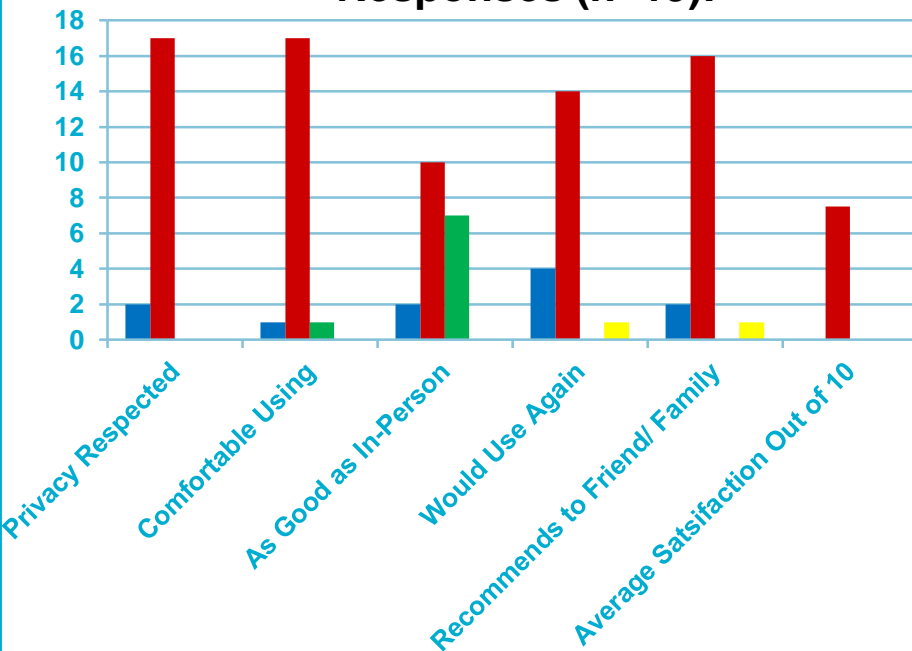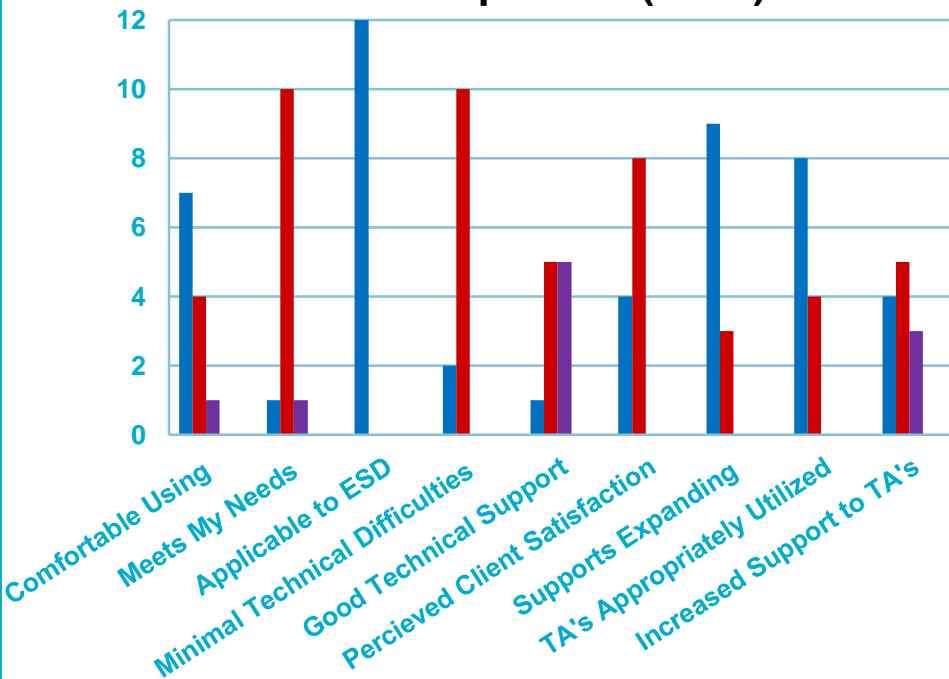
Clinician Telehealth Satisfaction Survey Responses (n=13):

Legend: Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree

Source: Sztym, M., Gillespie, D., Taeger, A., Lehman, A., Norris, C., Job McIntosh, C., Norton, D., Polutnik, D., & Walia, R. (2018). *Minimizing The Space Between Us: Alberta's Skype-for-Business an Effective Telerehabilitation Platform for Rural Stroke Survivors.* 2018 World Stroke Congress Oral Abstract Presentation
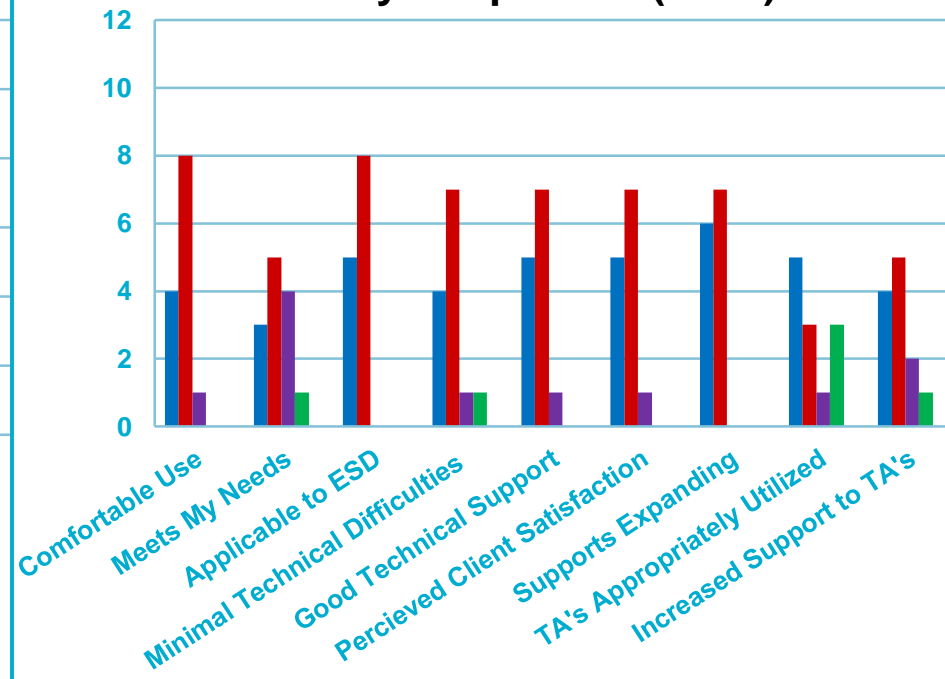
Team Benefits

- Increased staffing efficiencies due to travel time saved
- More client visits/day/clinician
- Able to see clients with little notice (i.e. BP concerns)
- Most interventions successful with TA assist
- Staff mentoring
- Vacation & Vacancy coverage
- Fewer cancelled sessions due to poor weather/ road conditions
- Access to specialized programs (i.e.- spasticity clinic)
- Enhancement of team involvement in care:
  - Team lead able to join client visits
  - More of team able to attend family/ discharge conferences

OT Experience

Successes

- Assessments/Screens
  - CMSA-U/E, REACH Scale, MOCA, ILS , Ax equipment, view splint

- Observation and Feedback
  - Kitchen tasks, transfers, writing, reading, visual perceptual tasks, u/e functional tasks, exercise programs, GRASP/fine motor,

- Education and Collaboration
  - Glenrose re: spasticity and FES, Homecare re: equipment

Future Considerations

- Document viewer to increase ease in viewing certain tasks (i.e. writing, visual perceptual tasks, reading)

- Remote camera zoom/pan

PT Experience

Successes

- Screening for PT needs.
- Client Communication: Goal planning, subjective history, Education, follow up, easy access to PT.
- Observation of gait and exercise program
- Progress exercise program
- Objective Assessments: BERG, dynamometer, antigravity strength, sit –stand/minute, gait
- TA support- able to observe and answer questions
- Lengthening PT service access

Challenges

- Clients requiring hands on assistance; need to be able manage camera remotely
- Hands on assessment- tone, passive ROM/end feel, strength, balance, coordination, palpation
- Manual therapy
- Pushing limits of balance
- Demonstrating exercises on Telehealth desktop need to be able to adjust camera angle

PT Experience

Telerehabilitation Assessment Method:
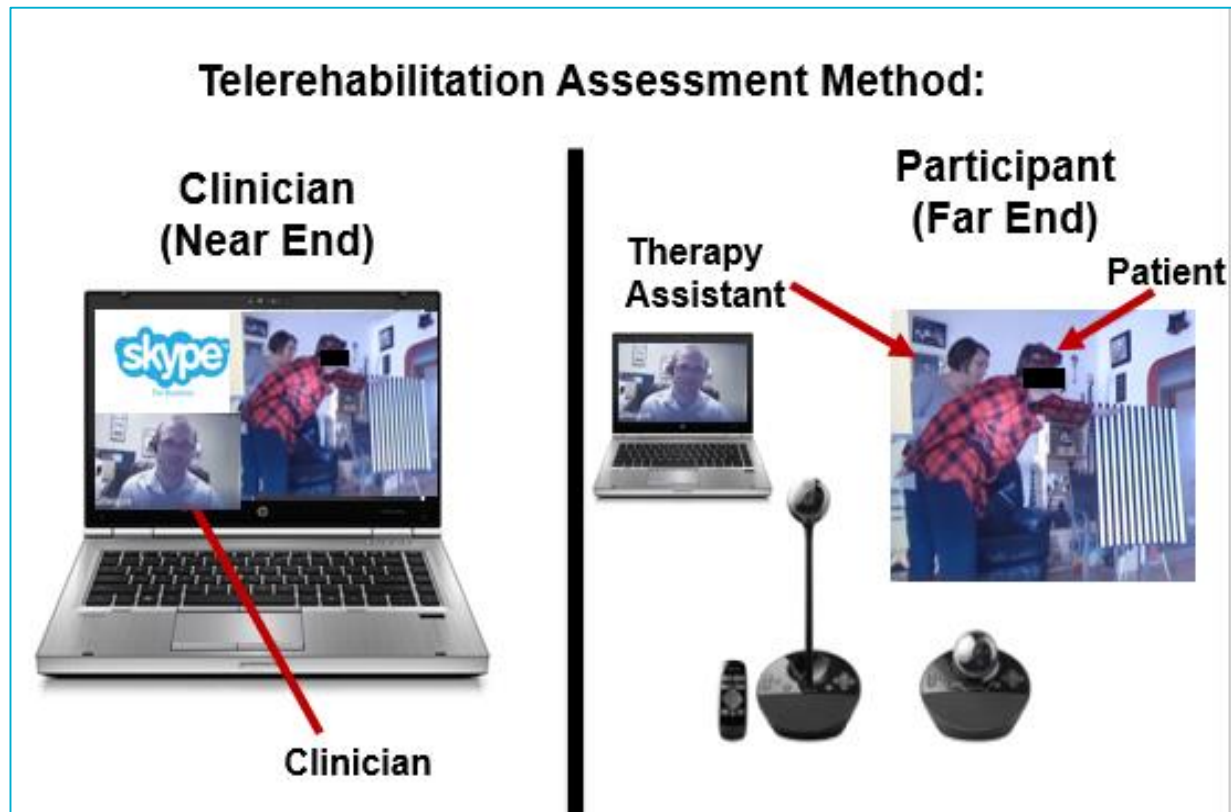
SLP Experience

Successes

- Able to do <u>most</u> formal and informal assessments, with TA assistance

- **After** initial in-home personal introduction to establish rapport and determine clients environment and specific needs, VC enabled continued treatment in all areas of communication deficits:

    - i.e.- expressive/receptive/pragmatic language Tx, dysphagia, dysarthria Tx, supportive communication for aphasia

- Opportunity for family members to attend and participate

- Opportunity for client/family/therapist/ TA to discuss progress or concerns about programming

- Supervision of TA or SLP -A

- TA assistance was critical for VC equipment monitoring, manipulating assessment and work materials , verifying responses

Challenges

- No suitable for clients with severe comprehension challenges

- Difficult to treat reading or agraphia unless specifically targeting typing

- If audio cuts out it can be hard to follow responses so always have a backup plan

RecT Experience

Successes

- Timely RecT screen

- Useful for providing support and feedback to TA's performing Tx

- Leisure education and follow up

Challenges

- More challenging to develop rapport with client

- Missed opportunity to identify leisure interests that may be observed or identified when in home

- Participation or involvement from family members

RN Experience

<u>Successes</u>

- Made follow-up visit more efficient and faster.

- Less wasted time

- Effective for assessing with camera edema, swelling and G-tube site

- Quick last minute medical questions regarding BP and medications

- Teaching and reinforcing stroke risk reduction education

<u>Challenges</u>

- More difficult to build rapport if haven't already seen client face-to-face

- Medication labels difficult to see at times

SW Experience

Successes

- Able to do Social Work Assessment

- Assist client with filling the forms.

- Quick Screening

Challenges

- Building rapport more easy in face to face sessions

- Face to face sessions easier with aphasia clients

TA Experience

Successes

- Able to assist with assessments

- Able to support clients with a variety of different exercises (ex. GRASP, fine motor kit, sit to stands)

- Equipment check/ bathtub transfer for homecare
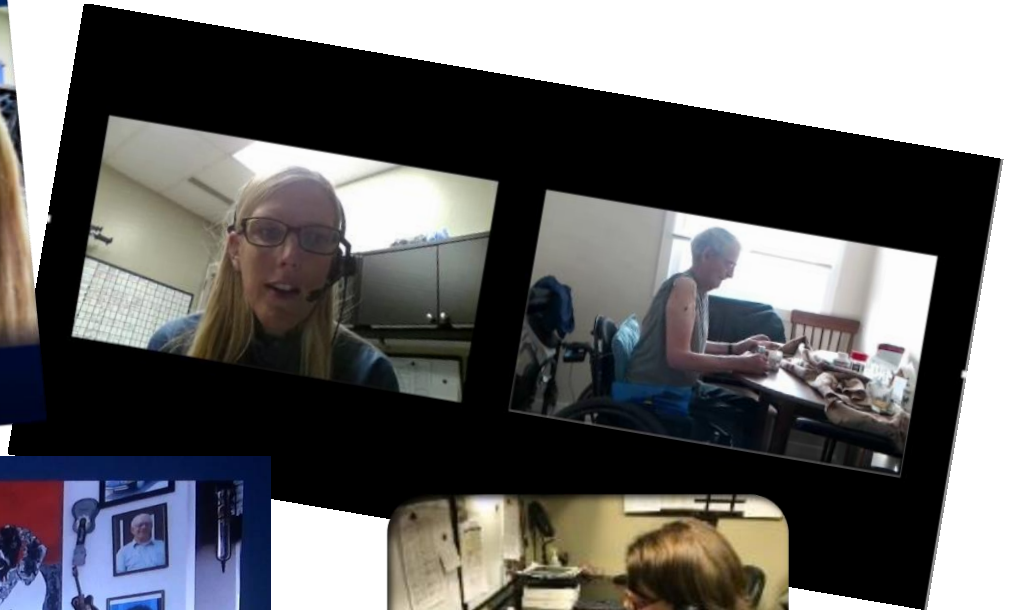
- Extra treatment sessions daily

Challenges

- Client placement/ safety, and being able to adjust camera at the same time

- Poor internet connection, or weak Wi-Fi signal

- Sound/picture quality

Future Practice?

Acknowledgments

- Covenant Health, St. Mary's Hospital Team

- Alberta Health Services, Cardiovascular Health & Stroke Strategic Clinical Network

- Alberta Health Services, Virtual Health Team

- Alberta Health Services, Digital Media Services

- Patient Partners

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