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Rapid Podium Presentation #1

Title: WHAT'S NEXT AFTER DISCHARGE? THE ROLE OF REHABILITATION PROFESSIONALS IN INCREASING ACCESS TO COMMUNITY-BASED EXERCISE

Authors (Primary First): Jo-Anne Howe, Jennifer Neirinckx, Karen Brunton, Nancy Salbach, Alda Tee, Julie Matthews, Donna Cheung

Affiliation of Primary Author: Toronto Rehabilitation Institute - UHN; Department of Physical Therapy, University of Toronto

Abstract Category: Rehabilitation-Related Best Practice Initiative or Organizational Innovation

SUMMARY

Purpose: People often make substantial improvements during rehabilitation. However, many are left with residual disability after discharge including balance and mobility deficits. These individuals are at risk for sedentary lifestyles with declines in functional ability, overall health status and a potential return to the healthcare system. Ongoing access to appropriate exercise to practice the mobility gained in rehab is essential to mitigate these risks. However, when Physiotherapists from UHN - Toronto Rehabilitation Institute searched for exercise programs to recommend to their clients after discharge, they realized that few exercise options exist in the community appropriate for people with balance and mobility challenges.

The Initiative: To address the gap, the Physiotherapists designed and launched Together In Movement and Exercise (TIME™) in 2007. The main features of the program included:

- Evidence-based, task-related exercise appropriate for people with balance and mobility impairments.
- Partnerships between Toronto Rehab and two local community centres to provide ongoing education and support of the fitness instructors who lead the exercise program
- Safety and feasibility established in a pilot study demonstrating statistically significant improvement in balance and walking capacity in people with stroke

The Role of Rehabilitation Professionals: A website and a comprehensive toolkit were developed to enable replication of the TIME™ model by rehabilitation networks and facilities, emphasizing how local rehabilitation professionals, usually Physiotherapists, are critical to implementing the program in their area. Their important roles include:

- Reaching out and forming partnerships with local community centres to implement TIME™ programs and foster sustainable exercise beyond hospital walls.
- Educating community fitness instructors to prepare them to lead the program safely and effectively, by providing theoretical and practical education.
- Mentoring instructors through periodic visits to the TIME™ class.
- Maintaining program integrity and quality by sustaining an ongoing relationship with the community centre.

Results and Conclusion: Since the launch in two community centres in Toronto in 2007, the program has expanded to more than 40 sites across Canada, with 31 sites in Ontario. About 20 rehab
professionals from healthcare facilities and networks such as the Ontario Stroke Network, provide support to the program in Ontario. By addressing the gap in access to exercise for people with disabilities, TIME™ has created new unique roles for rehab professionals. These roles are essential to promote ongoing health and well-being as individuals move back into the community.

2 http://wwwuhn.ca/TorontoRehab/PatientsFamilies/Clinois_Tests/TIME
Rapid Podium Presentation #2

**Title:** TRANSITIONING AN INPATIENT ADULT AMPUTEE REHABILITATION PROGRAM INTO A HYBRID MODEL OF AMBULATORY AND INPATIENT CARE

**Authors (Primary First):** Jutta Mueller, Sharon Grad, Teri Czajka, Mirela Anton, Janet Gillem, Debbie Lambert, Meredith Bourne, Kelly Minor, Kimberly Hardie, Kelly White, Kathie Elstone

**Affiliation of Primary Author:** Hamilton Health Sciences

**Abstract Category:** Rehabilitation-Related Best Practice Initiative or Organizational Innovation

**SUMMARY**

Adult amputee rehabilitation services are a critical component of a patient’s health care continuum. Some of these services, including the Hamilton Health Sciences adult amputee rehabilitation program, have faced changes in recent years in an environment of increasing demand and limited health care resources. In 2014, our adult amputee rehabilitation program moved from total inpatient care to a hybrid model of inpatient and ambulatory care. The goal of this hybrid model of care was to provide equal access to medical services and programming for every patient. The development and transition to the hybrid model of care took over 6 months.

A 70% reduction of inpatient beds was accomplished by transitioning these beds to an ambulatory model while providing the same level of care and responsiveness. During the development of the hybrid model of care we explored new procedures and collaborated with internal and external stakeholders. The change resulted in new processes for admissions, funding, waitlists, programming, data collection and partnerships. It was identified that preadmission communication as well as an enhanced database were required for the hybrid model of care.

Since July 2014, we have had over 100 patients admitted and discharged through this hybrid model of care. Data are collected on length of stay, wait times, patient satisfaction and patient functional outcomes helping to identify benefits and barriers. While providing the same programming, preliminary data reveal that the same volume of patients, patient satisfaction and functional outcomes have been maintained. Our admission wait times have improved while reducing costs. Additionally, there have been improved rates of payment for prosthetic devices and increased revenue generating opportunities. Next steps include methods to address patient attendance, transportation, resource overload and wait times for prosthetic funding.

An inpatient-ambulatory hybrid model of care can be applied to a number of adult rehabilitation populations. This type of model where patients experience the same programming, access to services and have similar outcomes can be sustainable.
Rapid Podium Presentation #3

Title: “REHAB...THEN WHAT?” – AN INTEGRATED REHAB TO COMMUNITY TRANSITION (RCT) PROGRAM

Authors (Primary First): Mandy Lau, Sherri Risto, Kimberly Mackenzie, Shane Risto, Valerie McWhinnie, Irene Nicolakis, Mary Scarborough, Jessica Anderson

Affiliation of Primary Author: Providence Healthcare

Abstract Category: Ideas, Inventions and Innovations that will Transform the Rehabilitation Mosaic

SUMMARY

Reintegration to social and leisure activities in the community after a medical event is crucial to recovery. This not only aligns with Stroke Best Practices, but also enables individuals of any population to reassume living as a “person” and not a “patient” following their course of rehabilitation. An integrated model across sectors, in this case – between rehab and the community, was piloted to demonstrate values of a transition program.

A Memorandum of Understanding was signed between Providence Healthcare (Providence) and Variety Village (VV), for Providence to fund a 6-week Rehab to Community Transition (RCT) program in the community at VV as a 1 year pilot. The RCT program is designed to provide education on nutrition, community resources, and an active exercise program at no cost to the participants. An integrated referral process and a “loop back” mechanism are in place to streamline referrals to and from Providence via Physiotherapy or Physiatrist consultation. Participants’ feedback is incorporated to modify the program content, while clinical and patient reported outcome measures are in place to demonstrate value and impact of the program.

From Nov 02, 2015 to Apr 1, 2016, we have run 3 RCT programs with a total of 52 participants attended, within which 33 participants attended >60% of the program. In addition to the consistent improvement in clinical outcomes across the participants from the 3 programs, (i.e. Functional Reach Test, 6-Minute-Walk-Test, Timed-Up-and-Go, and 30 second repetitive sit-to-stand Test), participants also reported progress towards self-identified goals. Participants reported greater level of confidence to remain active, and anticipated they would engage in higher level of activities in the next 6 months following the RCT program. These findings suggest a positive change in not only physical function, but also the participants’ perception of themselves and their abilities.

The success of this integration project and the RCT program challenges the system to look at the definition of health care differently. By partnering outside of the traditional health care sector and enabling individuals to become active participants of their health, we can positively influence and sustain health outcome and thus stretch the value of health care dollars. The RCT program also acts a bridge that opens up many opportunities for individuals needing a place to start to reintegrate into community living. This integrated model is an innovative approach to care beyond our walls by engaging like-minded partners.
This presentation will give an overview of the Chatham Kent Health Alliance’s (CKHA) Therapeutic Recreation (TR) four quadrant service model. The model adapts traditional medical models of health to a holistic approach to patient care, and aligns with Best Practices, and organizational values and mission.

The CKHA TR department is very small, serving 58 inpatient beds on rehab and continuing care units. These factors, in addition to increased patient complexities, necessitated the creation of a comprehensive tool and service delivery model that optimizes prioritization, maximizes the efficiencies of service delivery, reduces gaps in meeting patient needs, and integrates with other departments and community support resources fluidly. The tool was developed based on evidence-based facilitation techniques to better promote overall wellbeing and recovery, and improve patient and family centered care. Current best practices in rehab, dementia care, and stroke, as well as other TR service delivery models, relevant literature, and patient case studies were reviewed to develop the comprehensive model.

The model places patients into four quadrants of care based on their needs. The quadrants are: 1) Responsive Behaviours and Advanced Dementia Intervention and Transition Care Planning, 2) Coping, Adjusting and Isolation Risk Reduction, 3) Functional, Social, Leisure Skills Development, and 4) Social Support Network Development and Community Engagement and Transition.

The service model not only structures prioritization, care planning, and patient experience, but it assists in communicating the meaning and value of TR services in rehabilitation, collaboration, and patient care and flow. The model developed is successfully grounding practice in theory and using evidence-based practice to provide patient and family centered care.

The Therapeutic Recreation four quadrant model developed is a useful tool for Recreation Therapists for identifying and prioritizing patient needs, care planning, and optimizing efficiency of service delivery. The foundational philosophy of the model promotes ongoing individualized patient growth and skill maintenance on both rehab and continuing care units, and maximizes the unique Recreation Therapist skillset to best serve inter-professional collaboration, Best Practice, and patient and family experience.
Title: INNOVATIVE SERVICES FOR CLIENTS WITH PRIMARY PROGRESSIVE APHASIA (PPA)

Authors (Primary First): Regina Jokel, Jed Meltzer, Aneta Kielar

Affiliation of Primary Author: Baycrest

Abstract Category: Rehabilitation-Related Best Practice Initiative or Organizational Innovation

SUMMARY

PPA is a neurodegenerative disorder characterized by a slow and relentless dissolution of language in the presence of spared other cognitive skills, such as memory, attention and executive function, for the first several years after the onset. There is currently no cure and no publically funded services for PPA, yet the clinical studies published thus far speak favourably of gains from therapeutic interventions. Over a number of years, we have offered a variety of language interventions to individuals with PPA as part of experimental treatment approaches. They were focused on establishing most optimal factors facilitating re-learning of lost vocabulary in individual patients. While successful and theoretically important, those approaches reached only a limited number of people with PPA. Recently we designed a comprehensive approach that has the potential to assist concurrently a larger number of clients, and was both inexpensive and ecologically valid. In addition, it addressed the needs of both patients and caregivers. We offered a structured 10-week program with weekly meetings, whereby patients and caregivers spent one hour together on educational activities and one hour on activities specific to language stimulation for patients and caregiving issues, respectively. Language tasks included, but were not limited to games focused on word retrieval, oral presentations, and conversations on topics pre-determined by group members. The content of education sessions was also client-driven and included presentations on language and cognitive changes in PPA, patterns of progression, brain fitness, diet promoting brain health, current research in PPA, and others. Outcome measures administered before and after the program provided evidence for significant improvements in the level of knowledge, confidence, and preparedness, resulting in improved quality of life for both patients and caregivers. The successful outcomes of our program underscore the urgent need for easily accessible PPA services. Attendance at subsequent alumni meetings has been at 100% every time.
Title: PATIENT ORIENTED DISCHARGE SUMMARY (PODS): OPTIMIZING TRANSITIONS FROM INPATIENT SPINAL CORD INJURY REHABILITATION TO THE COMMUNITY

Authors (Primary First): Sandra Mills, Heather Flett, Shoshana Hahn-Goldberg, Anthony Simas, Joshua Forbes, Melanie Alappat

Affiliation of Primary Author: Toronto Rehabilitation Institute - UHN, Brain and Spinal Cord Rehabilitation Program Lyndhurst Centre

Abstract Category: Rehabilitation-Related Best Practice Initiative or Organizational Innovation

SUMMARY

Following the transition from inpatient rehabilitation to the community, people with spinal cord injury (SCI) often feel poorly prepared to self-manage their SCI-related health challenges. To address this issue, the Toronto Rehabilitation Institute – Lyndhurst Centre (LC) implemented a Patient Oriented Discharge Summary (PODS) program. PODS addresses the needs of people with spinal cord injury (SCI) transitioning from inpatient rehabilitation to the community in order to reduce their anxiety and increase confidence.

The goals of this workshop are to:

1. Develop an awareness of the spinal cord injury rehabilitation patient oriented discharge summary meeting (PODS);
2. Consider possible application of PODS to participants’ patient population.

During this presentation the original OpenLab research will be highlighted that laid the foundation for the original PODS template. This brief background will help to orient the participant to the original purpose and scope of the project. From here, this workshop will move into LC’s initiatives that led to identifying PODS as a necessity, followed by the strategies and processes that were used during the three month development phase of creating an SCI specific PODS. PODS in the SCI rehab environment was developed as a personalized self-management tool based on the domains of rehabilitative care for patients at Lyndhurst. The discharge summary provides information for the patient and/or family for the initial 2-4 weeks post discharge which can be a difficult transitional time. Workshop participants will be shown a PODS template that consists of medications, domains-based care plan, signs and symptoms and what to do in case of emergency, follow up appointments and a list of contacts.

The presentation team consists of the Advanced Practice Leader, Patient and Family Educator and two Patient Advisors who made up the project team through all phases of development.
30 Minute Concurrent Presentation- Session C

Title: POST STROKE COMMUNITY BASED EXERCISE GUIDELINES

Authors (Primary First): Gwen Brown

Affiliation of Primary Author: Stroke Network of Southeastern Ontario, Kingston General Hospital

Abstract Category: Rehabilitation-Related Best Practice Initiative or Organizational Innovation

SUMMARY

Purpose: Stroke survivors often struggle to access conventional community fitness programs because of ongoing physical and/or cognitive deficits. These Guidelines have been developed to support the adaptation of exercise programs to safely meet their needs.

Relevance: The Guidelines are intended to assist exercise providers in delivering safe, effective programs in a variety of community and other settings (e.g., Long Term Care, Retirement Homes, centres for seniors, fitness clubs, municipal recreation departments, and community centres) for persons living with the effects of stroke.

Methods and Analysis: The 2010 Guidelines provided a framework for the provision of exercise programs (stand alone or integrated) for people living with the effects of a mild to moderate stroke in the community and other settings. A review of these Guidelines was completed in December 2015 to ensure continued alignment with best practice, emerging research and expert opinion. The review was conducted by an interdisciplinary cross-sectoral working group representing expertise in stroke care and community exercise programming for people with stroke. Included in this process was a review of the draft document by an expert panel.

Study Sample or Initiative Scope: Designed for programs targeted at survivors of mild to moderate stroke but applicable to others with impaired mobility, balance and other challenges.

Findings: The Post Stroke Community Based Exercise Guidelines (2015) includes eight Guidelines each of which includes a rationale and recommendations to assist exercise providers in delivering safe and effective exercise programs in a variety of community and other settings for people living with the effects of a mild to moderate stroke. Guidelines include links to relevant tools and resources to support program implementation and sustainability.

Discussion: Best practice indicates people living with stroke derive benefit (physical and psychosocial) from exercise. However there is often a paucity of community-based programs that can meet the needs of this population. These Guidelines provide community exercise leaders with feasible, achievable approach to implementing stroke-friendly exercise programs based on best practice.

Conclusions: Survivors discharged from inpatient/rehab programs often struggle to transition to community programs that support lifelong recovery. It is imperative that there are community programs providing physical and psychosocial support. These Guidelines provide the framework for expanded programming and collaborative practice.
Title: TWO TEAMS BECOME ONE: ENHANCING TRANSITIONS ALONG THE CONTINUUM OF CARE IN AMPUTEE REHABILITATION

Authors (Primary First): Amanda Mayo; Siobhan Donaghy; Larry Robinson; Jennifer Shaffer; Cathy Pupo; Diana Goliss; Marie Disotto-Monastero

Affiliation of Primary Author: Sunnybrook Health Sciences Centre - St. John's Rehab

Abstract Category: Rehabilitation-Related Best Practice Initiative or Organizational Innovation

ABSTRACT

Purpose: Our purpose was to reduce wait times and enhance the patient experience during transitions from inpatient to outpatient rehabilitation.

Relevance: Transitions in patient care can be complex and challenging, with interruptions leading to worse functional outcomes. The GTA Rehab Network's guidelines for amputee care recommend a transition time of one week from inpatient to outpatient rehabilitation. In 2014, our wait times had increased to an average of 32.4 days.

Methods & Analysis: A collaborative interprofessional quality improvement project was initiated, with leaders from clinical operations, professional practice, education and decision support. With the vision of creating a streamlined, person-centred process for patients, a multi-faceted approach was facilitated by Organizational Development & Leadership. Focus groups and interviews were used to gather information about the current experience for patients and staff. Tools such as process mapping and appreciative inquiry allowed the teams to reflect on current state and explore possible opportunities for future enhancements.

Study Sample or Initiative Scope: This initiative focused on continuum patients, who were transitioning from inpatient to outpatient amputee rehabilitation within the organization.

Findings: A new transition process was launched, based on the themes and opportunities that emerged. Duplicate assessments were streamlined with a formalized hand-off process between the two teams. Interprofessional team rounds, care pathways, treatment models and scheduling processes were modified to better utilize resources and enhance team communication. Resulting wait times for this care transition were reduced from an average of 32.4 to 9.3 days.
Discussion: This initiative demonstrated the value of a facilitated, collaborative & multi-faceted approach to foster positive change and quality improvement in rehabilitation. It demonstrated the value of addressing interprofessional collaboration and person-centered care both within and across teams, to achieve program efficiencies while fostering a positive patient experience.

Conclusions: The quality and efficiency of rehab transitions can be effectively enhanced through collaborative, person-centred approaches to improvement. Future work will focus on further achieving our transition wait time goal of one week in amputee care. We also plan to apply this valuable process to other adult rehab populations.
Title: DOES SIZE MATTER? EXAMINING THE EFFECT OF OBESITY ON INPATIENT AMPUTATION REHABILITATION OUTCOMES

Authors (Primary First): Lilian Vivas; Tim Pauley; Steve Dilkas; Michael Devlin

Affiliation of Primary Author: West Park Healthcare Centre

Abstract Category: Research in Rehabilitation (quantitative, qualitative or mixed methods)

ABSTRACT

Purpose: This study investigated whether obesity impacted clinical outcomes of patients at discharge from inpatient amputation rehabilitation.

Relevance: The prevalence of lower extremity amputation was 1.6 million in 2005 in the US and is projected to double by 2050. In developed countries, obesity is reaching epidemic proportions and has doubled worldwide between 1980 and 2008. Evidence on the effect of obesity on post-rehabilitation outcomes in amputees is unclear.

Methods & Analysis: This was a retrospective chart review examining admissions for lower extremity amputation rehabilitation at a Regional Amputee Rehabilitation Program between December 2009 and June 2013. Discharge outcomes were predefined as the 2-minute walk test (2MWT), the L-test and the SIGAM (Special Interest Group in Amputee Medicine) score. For each outcome, analysis of variance was used to compared between each BMI group (underweight <18.4, normal between 18.5-24.9, overweight between 25.0-29.9, and obese greater or equal to 30) as a whole and by transtibial (TT), transfemoral (TF) and bilateral amputation (BA) sub-groups.

Study Sample or Initiative Scope: 282 patients with TT, TF or bilateral amputation who had completed inpatient rehabilitation.

Findings: Overall, compared to normal BMI category patients, underweight patients had significantly shorter 2MWT distances (78.9 vs. 52.2m, p .05 for both). When analysed by amputation type sub-groups, neither 2MWT, L-test time nor SIGAM scores differed between BMI categories (P>.05 for all).

Discussion: With the growing obesity epidemic, examining how obese patients fare during inpatient rehab can shape treatment goals. Though the weight-bearing nature of amputee rehab and prosthetic training may lead one to expect obese patients to have poorer clinical outcomes after rehabilitation, we demonstrated no impact of obesity on common amputee rehab outcomes measures.
Conclusions: Obesity does not appear to significantly impact inpatient amputation rehabilitation outcomes such as the 2MWT, L-test or SIGAM score. As such, obesity should not be a deciding factor as to whether a patient is offered rehabilitation.
Title: BALANCE CONFIDENCE AND ACTIVITY OF PATIENTS WITH TRANSTIBIAL AMPUTATION

Authors (Primary First): Tim Pauley; Alena Mandel; Kailan Paul; Ruby Paner; Michael Devlin; Steve Dilkas

Affiliation of Primary Author: West Park Healthcare Centre

Abstract Category: Research in Rehabilitation (quantitative, qualitative or mixed methods)

ABSTRACT

Purpose: To examine the relationship between balance confidence and community-based physical activity. We tested the null hypothesis that there is no relationship between self-perceived balance confidence and community-based physical activity.

Relevance: Individuals with a lower-extremity (LE) amputation demonstrate impaired physical activity following inpatient rehabilitation. This group also tends to demonstrate decreased balance confidence and increased falls, though it is unclear whether these factors are related causally to level of activity, or the direction thereof.

Methods & Analysis: Subjects completed the Activities-specific Balance Confidence scale (ABC) and wore a StepWatch Activity Monitor (SAM) for seven consecutive days in the community. Subjects were subsequently stratified as low (3,000 steps/d) activity groups.

Study Sample or Initiative Scope: Twenty-two community-dwelling patients with right or left unilateral, transtibial amputation who reported no falls in the past 6-months.

Findings: Balance confidence was significantly lower among the Low activity group (70.8 + 12.0 vs. 88.9 + 8.7; t(20)=3.97; p=.001). Further, correlation analysis revealed a positive correlation between ABC score and Step Total (r=0.55, p<.01).

Discussion: While outpatient clinicians routinely enquire about falls in the community among patients with LE amputation, these results emphasize the importance of contextualizing falls relative to activity level and balance confidence. Further research is required to understand this relationship and its directionality to better inform clinical intervention strategies.

Conclusions: It remains unclear whether reduced activity level is an antecedent to or consequence of lower balance confidence. Perhaps prolonged post-rehab inactivity undermines ones balance confidence; alternatively reduced confidence secondary to limb loss may result in the adoption of inactivity as a fall risk mitigation strategy.
ABSTRACT

Purpose: Quality improvement at the frontline of care continues to be a robust and exciting time in Ontario. However, an approach to improvement that formally integrates learning, implementation and evaluation may be novel for rehabilitation.

Relevance: We highlight three team-based quality improvement learning structures integrated into a change management hub for implementation within a large interprofessional rehabilitation team, that puts evidence into action with opportunities to engage patients and families beyond tokenistic approaches.

Methods & Analysis: This approach integrates a series of structures: 1) Daily team huddles focused on key safety issues; 2) Quality & Safety Learning Rounds that use complex patient cases to identify opportunities for learning and improvement; 3) Real-time patient advisory groups to better understand the patient experience of care; 4) Local QI groups provide venue for improvement while offering support and accountability. Our early evaluation involves both process and pre-post outcome measures including safety culture (AHRQ), staff engagement (EES), change management and confidence and knowledge in quality and safety.

Study Sample or Initiative Scope: This framework engages a large rehab team (n=110) and seeks to explicitly involve patients and families as key contributors to quality and safety.

Findings: Staff report that an integrated approach to quality drives learning and drive change within an accountability environment that strives to meet patients staff and program need. Staff are keen to hear patient feedback and engage in improvement opportunities, though express learning needs in the area of quality improvement. Leadership has also been key to model behaviours that support the relentless pursuit of quality.

Discussion: Combining opportunities to learn, implement and measure is an effective framework for discovering innovative ideas, spreading change and delivering high quality care. This evolving ecosystem
recognizes the pivotal role that clinical Microsystems play in care delivery to achieve better patient outcomes, better system performance and better professional development.

**Conclusions:** Driving sustainable change can be challenging. Our next steps are to develop formal linkages to other quality structures within the organization for enhanced collaboration, and build local capacity by engaging staff and patients in the process of improvement, focused on the principles of learning and high reliability.
**Poster Number:** 5

**Title:** FROM CODE WHITE TO ALL CLEAR: A COLLABORATIVE RESPONSE TO CHALLENGING BEHAVIOURS IN AN ACUTE INPATIENT CARDIOLOGY SETTING

**Authors (Primary First):** Zelia Souter; Linda Brubacher; Jessica Gilbert; Kristina Glofcheski; Moissei Zinguer

**Affiliation of Primary Author:** University Health Network

**Abstract Category:** Ideas, Inventions and Innovations that will Transform the Rehabilitation Mosaic

**ABSTRACT**

**Purpose:** To present an innovative approach that combines interprofessional expertise, collaboration, as well as behavioural support and rehabilitation for a client with acquired brain injury (ABI) in an acute care setting

**Relevance:** Interprofessional collaborative practice (ICP) leads to effective coordination of high quality care. Clients who present with ABI can be complex in their clinical presentation and needs. As a result they also can present with challenging behaviours. ICP is essential to facilitate optimal care and client recovery.

**Methods & Analysis:** Improvement processes were utilized to optimize the level of care provided to this population. These include: assessment of knowledge and acquisition of innovative clinical resources; rapid audit and feedback of new strategies; enhanced communication channels; and incorporation of family-centred engagement throughout the process. While not novel approaches, this journey demonstrated how their comprehensive application can strengthen client outcomes and staff cohesion. A SWOT analysis of the process will be shared with a focus on sustainability and application to other client populations.

**Study Sample or Initiative Scope:** Safety huddles were instituted with care providers to illicit challenges, learning needs and management approaches (n=15) to inform future practices.

**Findings:** Training of frontline staff to recognize and respond to the signs of escalating behaviours. Debriefing each Code White to ascertain triggers and adjust care plans to minimize risk to the client and providers, and to implement supportive, comfort measures with the client and family. Support and education with family members regarding behavioural challenges, and recovery pace/potential, while eliciting ongoing feedback from family.

**Discussion:** Collaboration and engagement of the interprofessional team, family, and external partners transformed the delivery of care to clients with complex behavioral requirements. Strategies that have
been employed form the basis for a new standard of care. For example, regular safety huddles, team debriefs, and partnerships with external providers.

**Conclusions:** In order to meet the complex needs of clients presenting with ABI, the interprofessional team was creative and resourceful in their collaboration to deliver optimal care. The result was a transformation in the outcome for the clients as well as for the health care team. The result positively impact future care delivery.
Title: SUCCESSFUL INTERPROFESSIONAL KNOWLEDGE TRANSLATION AND IMPLEMENTATION FOR TOR-BSST (TORONTO BEDSIDE SWALLOWING SCREENING TOOL) BEST PRACTICES IN STROKE CARE

Authors (Primary First): Tina Fernandes Chopra; Margit Labas-Weber; Nadia Pennella

Affiliation of Primary Author: North York General Hospital

Abstract Category: Knowledge Transfer and Exchange Initiative

ABSTRACT

Purpose: The goal of this project was to improve access to care and improve quality of life for acute stroke patients by training RHCPs to perform the TOR-BSST© on acute stroke patients, while meeting best practice guidelines for dysphagia care and stroke.

Relevance: As clinical practice guidelines continue to be under-utilized (Mia, Power & O'Halloran, 2015), effective implementation of best practices in stroke care is relevant to many organizations throughout the TSN and internationally. Strategies based on experience and retrospective review of statistical data are shared.

Methods & Analysis: An androgogical approach to knowledge transfer was utilized. Dysphagia screening was introduced to the team, in 2010, in anticipation of a formalized designated stroke unit. Education based on the Coordinated Stroke Strategy Dysphagia tools, used a didactic approach, simulation and supervised practice with a mentor. Additionally on-going evaluation ensured competency of skill. Patients who fail screening are referred to the SLP. A dysphagia policy was developed to sustain integrity of the process. Compliance and effectiveness was evaluated using statistical data, stakeholder feedback and discussion points.

Study Sample or Initiative Scope: Education was provided to a core group of eight screeners, (RNs & RDs) and to users of the TOR-BSST©, including MDs, Nurses and RDs.

Findings: The program has been successful in providing cost effective, high quality care to stroke patients. Over 70% of acute stroke patients are screened within 48 hours by nurses and RDs. Interprofessional collaboration and improved knowledge of each other’s roles is a key outcome. A committed team and constant review and adjustment of the methods as well as education and mentoring has contributed to the successful implementation of this process.

Discussion: The success of using this particular methodology to implement dysphagia screening can be used by other organizations for similar results. Teaching approaches provided through this educational
program, mentorship from experts while in the clinical arena and supportive documents such as a policy have provided a sustainable program for dysphagia best practices.

**Conclusions:** Successful implementation of TOR-BSST© screening is key to excellence in stroke care. Team collaboration and varied educational methodology promotes success. Initial investments in time and resources are worth long term benefits of the program. Senior leadership support is critical to the success of this initiative.
**Poster Number:** 7

**Title:** A KNOWLEDGE TRANSLATION INITIATIVE: EXAMINING THE SUSTAINABILITY OF CHANGE ON A STROKE REHABILITATION UNIT

**Authors (Primary First):** Shannon Janzen; Amanda McIntyre; Jerome Iruthayarajah; Julienne Vermeer; Eileen Britt; Robert Teasell

**Affiliation of Primary Author:** Lawson Health Research Institute, Parkwood Institute

**Abstract Category:** Knowledge Transfer and Exchange Initiative

**ABSTRACT**

**Purpose:** To assess the extent to which evidence-based care strategies, implemented in a previous knowledge translation project (Rehabilitation Knowledge to Action Project; REKAP), were sustained over time (≥1 year) after the research project had finished.

**Relevance:** Knowledge translation (KT) of research into clinical practice has been named a priority in stroke rehabilitation. REKAP was designed to assess clinical practices, prioritize care gaps, and modify clinician behaviour. REKAP improved guideline adherence during the study; however, the sustainability of these initiatives is unk

**Methods & Analysis:** REKAP identified areas where adherence to stroke guidelines on a rehabilitation unit were low. As a result, several KT initiatives were implemented. A retrospective chart audit was conducted to examine current clinical practice at least one year after REKAP had ended. Patient charts were reviewed independently by two researchers. All information pertaining to depression, benzodiazepine use, bladder management, and hypertension management was extracted. T-test and chi-square tests were conducted, as appropriate, to compare REKAP end date data to the follow-up.

**Study Sample or Initiative Scope:** Chart audits were conducted for 100 consecutive patients admitted to the inpatient stroke rehabilitation.

**Findings:** Continued improvements were shown between study end and follow-up in the screening of depression (46% versus 56%), and prescription of benzodiazepines (26% to 12.5%). The number of patients with at least one unmonitored blood pressure day declined from 89% at baseline to 9% at the end of the study; however, the follow-up rate was found to be 13.6%. Adherence to bladder management initiatives were not sustained.

**Discussion:** KT strategies that were targeted at a single discipline were found to be most successful. Further, strategies that were re-evaluated and modified more frequently throughout the research study were found to increase the sustainability of the initiative.
Conclusions: The REKAP project was shown to make sustained change in several critical areas of stroke care. There is a need to embed strategies for sustainability within all phases of the multifaceted, knowledge translation initiatives in order to make long-term changes to clinical practice.
Title: PLANNING PHASE FOR IMPLEMENTATION OF A CLINICAL PRACTICE GUIDELINE FOR THE REHABILITATION OF ADULTS WITH MODERATE TO SEVERE TRAUMATIC BRAIN INJURY IN QUEBEC AND ONTARIO

Authors (Primary First): Mark Bayley; Corinne Kagan; Catherine Truchon; Shawn Marshall; Bonnie Swaine; Marie-Eve Lamontagne; Ailene Kua; Anne-Sophie Allaire; Pascale Marier-Deschenes; David Caplan

Affiliation of Primary Author: Toronto Rehabilitation Institute - UHN

Abstract Category: Knowledge Transfer and Exchange Initiative

ABSTRACT

Purpose: Clinical Practice Guidelines (CPGs) can assist healthcare professionals and organizations to improve quality/consistency of care and optimize patient outcomes. This presentation describes planning for implementation of the CPG in clinical settings.

Relevance: CPGs can bridge the gap between research & practice, but only if they are implemented with concerted effort towards sustaining improvements. Working at site, practice and professional levels can lead to process improvements at local levels as well as broader improvements of evidence-informed care at system levels.

Methods & Analysis: The planning phase for implementation involved identifying key recommendations for implementation, identifying barriers/facilitators to implementation, development of knowledge transfer strategies & tools/indicators to monitor adherence. Implementation strategies were based on implementation evidence, results of user-survey on needs for CPG content/format/implementation, continued input with consensus conference expert panel & ongoing consultation/dialogue with key partners in rehab networks & Implementation Advisory Committee in Ontario & Quebec to guide/advise on key system issues/considerations for implementation.

Study Sample or Initiative Scope: About 500 individuals with clinical, research, policy, management, consumer, and knowledge translation expertise from Ontario & Quebec were involved.

Findings: Emphasis was placed on informing/standardizing practice/providing a practical, implementable guideline. Fundamental & priority recommendations were identified, with stakeholders in Ontario & Quebec selecting implementation priorities. Implementation planning/processes differs in each province (TBI services & governmental issues). Feasibility issues must be considered in deciding the scope of implementation (minimal vs maximal approaches).
Discussion: This will be the first bilingual TBI rehabilitation CPG to be implemented in Canada and will provide guidance to clinicians/funders as to best practices. This will improve quality/consistency of care, and optimize patient health outcomes by providing a rigorously developed evidence-informed guideline with recommendations and tools that are most useful to the end user.

Conclusions: Producing evidence and expert-informed clinical practice guidelines is not enough to change practice. Focused planning for implementation of key recommendations will help service providers to enhance TBI rehabilitation practice and improve the quality and consistency of care at provider, site and system levels.
Implementing Quality: Targeting Best Practice for Stroke Therapy Intensity

Deborah Willems; Jennifer Beal; Sheila Cook

London Health Sciences Centre

Knowledge Transfer and Exchange Initiative

Purpose: To share our experience and success factors in hosting a knowledge exchange (KE) event focused on sharing effective stroke rehabilitation initiatives amongst eight rehabilitation programs in Southwestern Ontario (SWO).

Relevance: Rehabilitation programs struggle to meet the Quality Based Procedures recommendations for stroke care to provide three hours/day of the core therapies. Yet many have come up with creative and innovative ways to make the inpatient rehabilitation environment more efficient and provide more direct therapy time.

Methods & Analysis: Evaluations of the KE day were completed and analyzed. Each rehabilitation program also created an action plan as part of the KE event. The stroke network followed up with the programs to evaluate the degree of implementation of their action plans.

Study Sample or Initiative Scope: 88 participants from eight inpatient rehabilitation programs within the South West and Erie St Clair LHINs attended the workshop.

Findings: 97% of participants indicated they had learned practical strategies to improve stroke rehabilitation intensity. 80% indicated confidence that their team would make progress on their action plan in the coming 4-6 months. The most positive aspects of the workshop cited the opportunity to hear from peer hospitals about how they had adapted and implemented change. In follow up, all 8 sites had implemented at least 1-2 of the actions their team identified.

Discussion: A change management approach was used to plan the KE workshop. Components included a patient's story, a presentation from a subject matter expert, a success story from a rehabilitation program outside the region, a KE fair and time for team action planning. The greatest benefits that workshop participants identified was hearing about other team's successes and challenges.

Conclusions: Evaluations and follow-up of a stroke rehabilitation KE workshop aimed at achieving best practice for stroke therapy intensity indicates that this approach has been successful in initiating positive change.
Purpose: The West Park Spasticity Program has grown over the last few years and we wanted to systematically evaluate the steps that led to the development and growth of the program.

Relevance: Spasticity is commonly seen after number of neurological conditions chief among them being stroke. The West Park Spasticity Program provides care to residents from across GTA and is one of the largest of its kind in North America.

Methods & Analysis: Assess the qualitative and quantitative elements associated with growth of the West Park Spasticity Program and describe the framework of the program.

Study Sample or Initiative Scope: Not applicable.

Findings: We identified three pillars of the program: 1) Clinic: Multidisciplinary care for a growing patient population; 2) Research: A strong collaboration between clinicians and researchers within and outside West Park in areas such as balance, exercise and pharmacologic aspects of spasticity care; 3) Education: We have mentored volunteers, medical students and residents, and PT and OT students that have benefited in advancement of the student learning.

Discussion: This descriptive assessment of the West Park Spasticity Program allows us to identify elements that are essential to growth of our program. These findings can help other programs across GTA to identify elements in their own program that can benefit their growth.

Conclusions: The three pillars - clinic, research, and education have contributed to the development of a self-sustaining program that benefits all participants such as patients, clinicians, students, and researchers.
Poster Number: 11

Title: A CLINICIAN DRIVEN QUALITY IMPROVEMENT INITIATIVE STRIVING TOWARD INCREASING REHAB INTENSITY FOR STROKE PATIENTS

Authors (Primary First): Betty Vukusic; Kristine Marttila; Danielle Pierce; Sarah Alexander; April Scanlon; Janine Theben

Affiliation of Primary Author: Trillium Health Partners

Abstract Category: Rehabilitation-Related Best Practice Initiative or Organizational Innovation

ABSTRACT

Purpose: As part of a quality improvement initiative allied health staff from a mixed inpatient rehab unit explored if changes to scheduling and use of therapy assistants could increase Rehab Intensity (RI) for stroke patients to align with best practice

Relevance: The value of intensive therapy is well known, however achieving it is difficult. This project highlights a change in process which led to improved RI without resource changes. The value that a small clinician led QI project can have on sustainable practice change is highlighted

Methods & Analysis: A PDSA (Plan Do Study Act) was used to test the change idea whereby therapy assistants with stroke specific training managed and treated an assigned caseload of stroke patients. This was in addition to regular OT, PT and SLP sessions. Therapy schedules, based on an electronic scheduling system, were accessible to all unit staff and stroke patients. PDSA measures were direct treatment minutes (manually tracked) and patient and staff satisfaction surveys (completed on paper). Average RI minutes were subsequently collected and compared at 2 weeks, 1 month and 10 months. FIM and LOS data were also examined retrospectively.

Study Sample or Initiative Scope: Initially, stroke pts (n=11) on an in-patient rehab unit needing OT/PT and SLP were included. At 10 mos, all CVA pts' RI data(n=19 pts) were analyzed

Findings: RI for stroke patients increased from an average of 60 to 106 minutes per day (77% increase). Despite ensuing staffing resource reductions, an average of 88 min/day was still being achieved at 10 months post implementation. 82% of patients reported they were happy with the amount of therapy they received and 78% percent of staff reported they felt patients were reaching their goals. Overall LOS was reduced and FIM efficiencies were improved

Discussion: When front-line clinicians are given education on QI models and tools, as well as the opportunity to use them, significant changes in service delivery can be achieved. Staff became more
aware of stroke best practices and rehab intensity was increased. Increasing RI minutes played a part in improved FIM efficiencies and ability to achieve LOS targets for stroke patients

**Conclusions:** By changing the practice of PTA/OTA/CDA, a significant increase in rehabilitation intensity for stroke patients was achieved which better aligned with best practices. There is great benefit to using QI models and tools by clinical teams in order to promote a more grass roots approach to the adoption of best practices
**Purpose:** Reducing communication barriers of Post-stroke Aphasia through partner conversation training in the home as a brief, cost effective intervention protocol, can reduce commonly associated isolation and depression, and increase life participation.

**Relevance:** For adults with post-stroke aphasia there are increasing gaps in in-home funded speech language pathology services following hospital rehabilitation impairment-based therapy which is time and cost limited, and does not address the chronic communication disability and its impact within a self-management framework.

**Methods & Analysis:** 4 people with aphasia, with no significant cognitive difficulties, living in the community with a committed Communication Partner were referred for the brief ‘communication accessibility intervention’ through the Niagara CCAC as part of a pilot project. The goal was to implement a brief, evidence-based intervention of communication partner training (Best Practice Guidelines) to increase communication for the person with Aphasia and their families/health workers/care partners and to evaluate the effectiveness/impact of this intervention through clinically relevant outcome measures pre and post training.

**Study Sample or Initiative Scope:** 4 people with post stroke aphasia; 2 males and 2 females, waitlisted for in-home speech therapy through Niagara CCAC, were referred for this pilot.

**Findings:** 4 people with post stroke aphasia participated with a communication partner. Each received on average 4 visits. 8 informal (family) and 15 formal communication partners were trained. 75% connected with community programs supporting community-integration. Improvement in the clients’ knowledge of aphasia, rating of their understanding ability, their Aphasia and their ability to engage in complex conversations was statistically significant.

**Discussion:** The importance of being able to have ways to communicate with others is an essential human need and people with aphasia experience communication barriers, often placing their competence in question. Change at the impairment level takes time, but does not replace the need to reinstate trained methods of communication to enable the person to share and to access information.
**Conclusions:** Current models of service delivery need to be reviewed in terms of overall impact. Funded models should meet best practices. Providing in-home brief conversation training sessions for people with aphasia using best practice Supported Conversation Training (SCATM) can influence overall improvements in the aphasia experience.
Purpose: Weekend therapy was introduced in a neuro-rehab program to increase rehabilitation access, program capacity and opportunities for therapy. An interprofessional task group was formed to identify relevant measures and creative approaches to evaluation.

Relevance: Assessment of program models often solely utilizes standard metrics for goal evaluation. The unique aspect of this evaluation was the process used to identify and address aspects of this practice change beyond goals, including quality of weekend therapy, effect on weekday therapy and perceptions of staff and patients.

Methods & Analysis: An initial analysis of the weekend therapy model at 3 months post implementation resulted in identification of six areas for evaluation beyond program goals including safety; quality of therapy; discharge readiness; continuity and intensity of therapy; and opportunities for staff and family engagement in the program development process. At the 1 year mark, a four pronged approach to evaluation was taken. This included staff surveys, patient surveys and interviews, one week of tracking each patient's therapeutic activity by treating staff and a metrics evaluation.

Study Sample or Initiative Scope: All staff on the three neurorehabilitation services participated in evaluation. Patients were interviewed about their experience with weekend therapy.

Findings: The goals of weekend therapy were mostly realized as measured by metrics. Main areas for improvement included: better communication to patients about weekend therapy, therapy programming development, evaluation of effectiveness of recreational therapy on Sundays, and restructuring of the model of staffing weekend therapy to decrease the disruption of Friday and Monday therapies and to ensure better consistency of care.

Discussion: The goals of weekend therapy were met, however, the weekend therapy model created additional work in transfer of care and challenged continuity of patient care and team communication. These issues were only identified by examining concerns of staff and patients about the weekend practices early after implementation and intentionally involving staff in their evaluation.
Conclusions: Effective evaluation of the weekend therapy model not only included measures of goals but also evaluated impact on practice and patient care. Involvement of the interprofessional team and patients in this evaluation process was essential to identify areas challenged by this model such as continuity and transfer of care.
Title: UTILIZING A ROBUST GOVERNANCE STRUCTURE AND INTERPROFESSIONAL ENGAGEMENT STRATEGY TO DRIVE BEST PRACTICES IN STROKE REHABILITATION AND ACHIEVE STROKE DISTINCTION

Authors (Primary First): Shelby Fisch; Pamela Rosano; Laura Macisaac; Judy Murray

Affiliation of Primary Author: Saint Elizabeth (Mackenzie Health)

Abstract Category: Rehabilitation-Related Best Practice Initiative or Organizational Innovation

ABSTRACT

Purpose: The hospital participated in Accreditation Canada’s Stroke Distinction. The intent was to use an inter-professional approach to discover gaps in practice, build on existing stroke best practices and to further its role as a leader in stroke care.

Relevance: The Stroke Distinction program bridges the gap between what is known about stroke care and what is applied. Distinction states that a prepared and proactive stroke rehab team that has clearly defined roles and responsibilities for delivering stroke services has better outcomes for patients, family and caregiver.

Methods & Analysis: Strategic engagement of executive and clinical leadership was a purposeful tactic. Based on a gap analysis, four cross hospital working groups were created to address processes, protocols, and policy related to metrics, acute and rehab care standards, patient and family education and community partnerships. Strategies to engage staff included daily stroke best practice information (Stroke of Genius), awareness campaigns, targeted education, and mock tracer sessions conducted by senior administrative and physician leaders.

Study Sample or Initiative Scope: Leaders and clinical team members from the stroke continuum were included in the planning and implementation of Stroke Distinction and best practices.

Findings: Acute and rehabilitation stroke distinction status was received in March 2013 and March 2015. The level of organizational engagement and preparedness was evident throughout the onsite survey and the surveyors reported that staff from across the organization were very aware of stroke best practices and were employing them in their day to day patient care.

Discussion: Achieving distinction standards across the continuum was challenging. Employing a robust governance structure including leadership and inter professional team members providing care to stroke patients was vital in its success. It is important to use strategies that will engage staff throughout the process including FAQs, huddles, real time audits and in-services.
Conclusions: Throughout distinction, this organization became a "stroke aware" hospital from emergency care to rehabilitation. Our success was a result of leadership engagement, engaged champions and staff, strategic partnerships, and an effective inter professional approach. This presentation will provide details of the journey.
Poster Number: 15

Title: COMPREHENSIVE OUTPATIENT REHABILITATION PROGRAM: A HOSPITAL-BASED STROKE OUTPATIENT REHABILITATION

Authors (Primary First): Danielle Rice; Shannon Janzen; Amanda McIntyre; Julianne Vermeer; Eileen Britt; Robert Teasell

Affiliation of Primary Author: Lawson Health Research Institute

Abstract Category: Research in Rehabilitation (quantitative, qualitative or mixed methods)

ABSTRACT

Purpose: To assess the effectiveness of a hospital-based interdisciplinary outpatient stroke rehabilitation program with respect to physical functioning, mobility and balance.

Relevance: Much of the current literature evaluates acute care and inpatient rehabilitation; however, many patients continue to experience impairments. Therefore, there is a need to evaluate outpatient services.

Methods & Analysis: Outcome measures from physiotherapy and occupational therapy sessions were available at intake and discharge from the program were extracted from the patients chart. Demographic data was also collected. A series of paired samples t-tests were performed to assess patient changes between time points for each outcome measure.

Study Sample or Initiative Scope: A total of 271 stroke patients met the inclusion criteria for analysis (56.1% male; mean age=62.9, SD=13.9 years).

Findings: Significant improvements were found between admission and discharge for the Functional Independence Measure, grip strength, Chedoke McMaster Stroke assessment, two-minute walk test, maximum walk test, Timed Up and Go, Berg Balance Scale and one-legged stance (p<0.003 for all).

Discussion: The findings indicate that an interdisciplinary rehabilitation program was effective at improving the physical functioning, mobility and balance of individuals after a stroke.

Conclusions: A hospital-based, stroke-specific rehabilitation program should be considered when patients continue to experience deficits after inpatient rehabilitation.
Title: EFFECT OF TIME POST STROKE ONSET ON ABILITY TO MAKE FUNCTIONAL GAINS IN INDIVIDUALS ACCESSING A HOME-BASED STROKE REHABILITATION PROGRAM

Authors (Primary First): Laura Allen; Amanda McIntyre; Shannon Janzen; Julianne Vermeer; David Ure; Robert Teasell

Affiliation of Primary Author: Lawson Health Research Institute

Abstract Category: Research in Rehabilitation (quantitative, qualitative or mixed methods)

ABSTRACT

Purpose: To determine if time post stroke onset (TPO) affects the ability of Community Stroke Rehabilitation Team (CSRT) clients to make functional gains.

Relevance: Evidence suggests that stroke survivors can produce improvements at several time points post stroke. However, most evidence is based on interventions in a hospital-based environment. CSRTs offer interdisciplinary, home-based rehabilitation to stroke survivors with ongoing rehabilitation needs.

Methods & Analysis: Data were obtained from the CSRT central administrative database (January 2009-September 2015). Demographic information and standardized outcome measure information were available at admission to the program, discharge, and follow-up. Linear regression analyses were completed on outcome score changes between time points to determine the effect of TPO (weeks) on functional improvement. Subgroup analysis was completed on three TPO categories (i.e., acute, post-acute, chronic) in a repeated measures ANCOVA to determine the ability to make/maintain gains. Models controlled for age, admission FIM score, therapy intensity.

Study Sample or Initiative Scope: In total, 1,502 individuals (53.5% male) accessing the CSRT program and receiving active therapy (>4 visits) were included in the analysis.

Findings: The mean age of the cohort was 70.0±3.2 years. Regression analyses revealed no significant impact of TPO on any outcome variables. In subgroup analysis, all groups improved significantly on the Functional Independence Measure and Stroke Impact Scale and maintained these gains at follow up.

Discussion: TPO was not shown to be a significant predictor of the ability to make gains with intervention from the CSRT program. Since all groups improved, this suggests that individuals are able to make improvements at all time points in the stroke recovery process.
**Conclusions:** Twenty hours of MyndMove™ therapy resulted in clinically meaningful upper extremity improvements in chronic patients suggesting that this is a possible treatment option for this group. Learnings from, and experience with this open-label trial will inform the development of a rigorous randomized control trial.
Poster Number: 18

Title: THE IMPACT OF HOME-BASED VIDEOCONFERENCING TECHNOLOGY FOR SPEECH LANGUAGE PATHOLOGY REHABILITATION AFTER STROKE

Authors (Primary First): Laura Allen; Julianne Vermeer; Jonathan Serrato; Ashna Jinah; David Ure; Crystal Branco; Robert Teasell

Affiliation of Primary Author: Lawson Health Research Institute, Parkwood Institute

Abstract Category: Research in Rehabilitation (quantitative, qualitative or mixed methods)

ABSTRACT

Purpose: To determine the clinical effectiveness of tele-rehabilitation Speech Language Pathology (SLP) services for clients within an existing home-based, community stroke rehabilitation program.

Relevance: The Community Stroke Rehabilitation Teams (CSRT) provide a multidisciplinary rehab service to patients in rural and remote locations that otherwise may not receive services after discharge. The introduction of a tele-rehab component aims to further enhance service delivery to these clients.

Methods & Analysis: Tele-rehabilitation for SLP services involving remote video-conferencing between clinicians and CSRT clients was evaluated using a pre-post, non-equivalent group design. Groups were recruited in two blocks: a pre-intervention control group and an experimental group. The intervention group received SLP rehabilitation via video-conferencing while also receiving regular face-to-face in-home visits. The control group received regular in-home visits only.

Study Sample or Initiative Scope: The study population consisted of a total of 69 participants, with 37 participants in the control group and 32 participants in the intervention group.

Findings: Study groups did not differ significantly on baseline demographic variables. On average, the control group received 5.2 (SD5.3) SLP visits, and the intervention group 5.6 (SD4.6) visits, including 1.3 (SD1.2) video-conference visits. The total number of visits and therapy minutes did not differ significantly between groups. Both groups showed improvements on study outcome measures, with no significant between-group differences.

Discussion: Both control and intervention groups exhibited improvements in outcome measures which suggests that SLP rehabilitation via video-conferencing may be an effective service delivery method for patients in remote and resource limited locations. Follow-up data collection of patient's progress and further cost effectiveness analysis will be necessary.
Conclusions: Continued rehabilitation for stroke patients discharged from hospital is beneficial for optimal recovery. Delivering rehabilitation using video conferencing allows patients in remote and rural locations access to effective SLP rehabilitation.
Purpose: The purpose was to evaluate the All About Stroke (AAS) education program in terms of change in patient/family proxy stroke knowledge, relationship to transition home, staff perception of program benefit and patient/proxy satisfaction.

Relevance: People in inpatient rehab following a stroke have educational needs along with questions about their future. However, few educational programs have been developed specifically for this group. The 5-session AAS program was developed by an interdisciplinary group of clinicians to fill this gap but has not been evaluated.

Methods & Analysis: A mixed methods program evaluation was conducted, including a modified version of the Stroke Knowledge Test delivered to eligible patients or family proxies at admission and discharge, follow-up interviews following discharge regarding transition to home and the role of patient education, an online staff survey, and patient satisfaction surveys for individual sessions. Stroke knowledge change was compared in those who attended 2 or more AAS sessions to those who attended 1 or less using an independent samples t-test. Conventional content analysis was used to examine the qualitative data.

Study Sample or Initiative Scope: All patients with stroke or a family member proxy were invited to participate, as were all clinical staff.

Findings: Admission and discharge data were available for 36 patients/proxies, and 22 did follow-up interviews. Attending 2 or more AAS sessions trended towards greater stroke knowledge, although the difference was not statistically significant. Interviews suggested attending AAS was linked to a good transition to home. Patients/families and staff qualitative data indicated AAS was important and should be strongly encouraged or mandatory.

Discussion: AAS is a unique stroke education program focused on the needs of those patients in inpatient rehabilitation and their family members. This was the first program evaluation of AAS and the findings support the continuation of the program with some modifications for better promotion and to engage a broader base of the health care team.
Conclusions: Both patients and health care professionals positively view AAS. Attending 2 or more AAS classes may improve stroke knowledge and a transition to home. Continuation of the program and further study is warranted.
Title: CORRELATES OF DEPRESSIVE SYMPTOMS IN STROKE PATIENTS IN A HOME-BASED REHABILITATION SETTING

Authors (Primary First): Julianne Vermeer; Amanda McIntyre; Shannon Janzen; Danielle Rice; Laura Allen; David Ure; Robert Teasell

Affiliation of Primary Author: Lawson Health Research Institute

Abstract Category: Research in Rehabilitation (quantitative, qualitative or mixed methods)

ABSTRACT

Purpose: To evaluate stroke patients who actively participated in the Community Stroke Rehabilitation Team (CSRT) program to determine variables that correlate with depressive symptoms in this population.

Relevance: Post-stroke depression has been shown to affect rehabilitation progress. Determining factors associated with depressive symptoms, and making clinicians aware of them, may promote successful rehabilitation and community reintegration.

Methods & Analysis: The CSRT program provides home-based rehabilitation for stroke patients who otherwise might not have access to outpatient services. A retrospective review was performed of patients who were provided rehabilitation by CSRT clinicians from January 1, 2009 until September 30, 2015. Logistic regression analysis was conducted to determine which demographic and outcome variables (Functional Independence Measure (FIMTM), Bakas Caregiving Outcomes Scale (BCOS), and Reintegration to Normal Living Index (RNLI)) were independently associated with depressive symptoms as defined by the Patient Health Questionnaire (PHQ-9) scores.

Study Sample or Initiative Scope: A total of 889 patients (53.2% male) with complete PHQ-2 and PHQ-9 assessments were included in the final analysis.

Findings: The mean age of the study population was 69.8±13.0 years. Based on PHQ-9 scores, 89.7% of patients presented with no or mild depressive symptoms (PHQ-9 10). Patients having moderate to severe depressive symptoms were more likely to have lower FIMTM, RNLI and BCOS admission scores and be younger (OR=0.986, OR=0.920, OR=0.956 and OR=0.957, respectively).

Discussion: Depressive symptoms were shown to occur among a number of individuals receiving home-based stroke rehabilitation. The factors correlated with depressive symptoms provide clinicians with a context with which to determine a rehabilitation plan specific to each patient. It also highlights the importance of monitoring a patient's progress using a holistic approach.
**Conclusions:** Given the impact that post-stroke depression has on rehabilitation, clinicians should consider functional status, community reintegration, caregiver burden, and age when monitoring and treating depression symptoms.
Title: PATIENT CENTERED GOAL-SETTING IN A HOSPITAL-BASED OUTPATIENT STROKE REHABILITATION CENTER.

Authors (Primary First): Danielle Rice; Amanda McIntyre; Magdalena Mirkowski; Shannon Janzen; Ricardo Viana; Robert Teasell

Affiliation of Primary Author: Lawson Health Research Institute, Parkwood Institute

Abstract Category: Research in Rehabilitation (quantitative, qualitative or mixed methods)

ABSTRACT

Purpose: To determine the type of goals that stroke patients intend to achieve during outpatient hospital-based rehabilitation and whether they were able to accurately predict goal accomplishment with respect to objective and quantifiable outcome measures.

Relevance: The benefits of goal-setting have been consistently demonstrated in the literature. Interestingly, patients' perceptions of their progress do not always reflect true achievements during therapy, as measured by standardized outcome measures.

Methods & Analysis: Patients rated their ability to perform goals at admission and discharge from rehabilitation. Goals were sorted into recurrent themes and International Classification of Functioning, Disability and Health (ICF) categories. We compared patients' satisfaction scores of goals on admission and discharge through paired t-tests and repeated measures ANOVA based on ICF category. Patients' satisfaction with their goals at discharge was then compared to an outcome measure scores obtained by a therapist.

Study Sample or Initiative Scope: A total of 286 stroke patients made at least one goal.

Findings: Patient goals concentrated on themes of improving hand function, mobility and cognition as well as ICF levels of impairment and activity limitation, after further categorization. Compared to activity- and participation-based goals, patients with impairment-based goals perceived greater satisfaction of goals at admission and discharge. Most patients (72.9%) accurately perceived their progress during rehabilitation.

Discussion: Within an outpatient stroke rehabilitation setting, patients set heterogeneous goals that were predominantly impairment-based.

Conclusions: The findings from this study may help to inform clinical care structure to ensure that stroke outpatient rehabilitation is adequately designed to help patients achieve their goals.
Title: AN EXAMINATION OF POST-STROKE INPATIENT REHABILITATION CLIENTS WHOSE REHABILITATION GOALS WERE NOT MET

Authors (Primary First): Liam Dessureault; Anne Michelle Martin; Pooneh Yousefi-Tehrani

Affiliation of Primary Author: Canadian Institute for Health Information

Abstract Category: Research in Rehabilitation (quantitative, qualitative or mixed methods)

ABSTRACT

Purpose: Upon admission to inpatient rehabilitation (IR), patients and clinicians work to formulate personalized goals. This analysis identifies group characteristics of stroke clients who did not meet expectations for their course of recovery during IR.

Relevance: Methods to improve prediction of clinical outcomes and response to IR may improve treatment planning and reduce time awaiting discharge from IR.

Methods & Analysis: Using data from the National Rehabilitation Reporting System (NRS), first-time stroke clients discharged over a 3-year period (2012-2014) were examined based on their reason for discharge from IR, and divided according to whether their rehabilitation goals were met or not met. Descriptive statistics were used to analyze outcomes by sex, age, FIM® function score on admission and FIM® change scores, discharge wait days and proportion of clients who returned home upon discharge.

Study Sample or Initiative Scope: Our sample size was 20,763 first time stroke patients out of which 1,906 clients did not meet their inpatient rehabilitation goals.

Findings: Clients who did not meet their inpatient rehabilitation goals were, on average, older and experienced a greater number of onset days and days waiting to be discharged. These patients had lower function scores at admission and lower functional gains during inpatient rehabilitation compared to patients who met their goals.

Discussion: Post-stroke inpatient rehabilitation goal setting tends to be less successful with older and functionally impaired clients. Greater average discharge wait time for these clients relates to unnecessary use of resources. Methods to better predict clinical outcomes and responses for this population would support clinicians' treatment planning.

Conclusions: Post-stroke inpatient rehabilitation goal setting tends to be less successful with older and functionally impaired clients. Methods to better predict clinical outcomes and responses for this population would support clinicians' treatment planning and reduce time awaiting discharge from IR.
Purpose: Enhance outcomes for patients with COPD by optimizing their health and quality of life; Lower admission/readmission rates for COPD in the hospital; Meet the QBP guidelines and recommendations for COPD best practices for evidenced-based outpatient rehab

Relevance: A leader in chronic disease management, the organization already offers outpatient cardiac rehab to enhance care and quality of life. To advance outcomes for patients with COPD, the hospital implemented an outpatient pulmonary rehab program to improve outcomes, reduce readmissions and improve the patient experience.

Methods & Analysis: A planning committee was utilized comprised of physicians, clinicians and leaders from across the organization. The planning team started with a scan of current practices including flow of COPD patients, referral patterns upon discharge, existing programs and quality measures. A program logic model (PLM) was utilized that reflects all stages in a patient's journey as they are discharged from hospital through to the utilization of the outpatient program. The program components are: Pre-intake; Education; Exercise; Lifestyles. System and program level measures are used that align with the QBP and hospital scorecard.

Study Sample or Initiative Scope: Patients with a diagnosis of COPD (QBP definition), are referred. Patients must be able to participate actively in any component of the program.

Findings: The outpatient program was implemented from Oct 2014 and up until Dec 2015 has had 91 patients referred from both hospital and physician offices. Approximately 75% of those referred completed the program intake and 50% participated in the program including education and exercise. Approximately 7% of all hospital discharged patients with a COPD diagnosis are referred to the program, and the remainder of referrals is from physician offices.

Discussion: An interprofessional approach including MDs, RTs and PTs involved in the planning is vital to implement a COPD outpatient program in which positive outcomes are achieved. This hospital
outpatient program has been successful in its implementation as it was integrated into an existing cardiovascular outpatient rehab program. A focus on education and exercise is imperative.

**Conclusions:** COPD QBP recommends evidenced-based outpatient pulmonary rehab 1 month post discharge including both exercise and disease management to assist in lowering readmission rates for COPD. Referrals to and initiation of the program are areas that need focus. With sound planning and processes successful outcomes can be achieved.
Poster Number: 24

Title: LOST IN TRANSITION: LESSONS LEARNED FROM THE BRIDGE TO HOME PROJECT

Authors (Primary First): Victoria Siu; Katherine Dittmann; Shawn Tracy; Katelyn Jutzi; Puja Bansal; Jason Nie

Affiliation of Primary Author: Bridgepoint Family Health Team; Bridgepoint Active Healthcare

Abstract Category: Ideas, Inventions and Innovations that will Transform the Rehabilitation Mosaic

ABSTRACT

Purpose: Our fragmented system is not meeting the needs of patients with complex chronic conditions. Longitudinal observation is required to identify specific gaps and barriers. This case series followed patient transitions across the continuum of care.

Relevance: Older adults with complex medical/social needs are high service utilizers. At present, ~5% of patients account for two-thirds of healthcare utilization in Ontario. The growth of this patient population in the rehab sector presents a pressing challenge for clinicians, organizations and policymakers.

Methods & Analysis: An interprofessional team was assembled for a one year demonstration project. Referral eligibility included those patients expected to discharge home from the medical-rehab program. The project team collaborated with the inpatient clinicians. Patients/caregivers participated in a discharge planning meeting with the team, during which the home discharge plan was discussed. After hospital discharge, the team followed the patients/caregivers in the community and identified gaps in care. Demographics, service utilization, caregiver strain, and team involvement were collected and analyzed.

Study Sample or Initiative Scope: Forty-seven patients discharged from medical-rehab. Mean age of 80.5 yrs. On average, patients had 10.6 chronic conditions and took 11.7 medications.

Findings: Patient complexity was extremely high in this cohort: 88% were moderately/severely frail; 100% were malnourished/at risk; 80% were on high risk medications; 75% had cognitive concerns, dementia or impairment; and 45% lived alone. The incidence of caregiver strain was notably high. Many patients experienced poor outcomes after discharge: 25% experienced a fall, 32% visited the ER or were re-admitted, and 11% died during the follow-up period.

Discussion: Our findings suggest the need to: align care plans with patient goals; enhance system navigation for patients with complex needs; address the needs of families/caregivers; and increase
capacity of rehab clinicians by promoting interprofessional teamwork. Further research is needed to identify optimal team structures to facilitate continuity across the continuum of care.

**Conclusions:** Overall, transition planning is disjointed and defective. The culture of silos in healthcare needs dismantling. Complex rehab patients require a single point of longterm contact across the continuum. This touchpoint is best supported by an interprofessional team, with patients and caregivers as key members of their own team.
**Poster Number:** 25

**Title:** EVALUATING INDIVIDUALIZED FALLS PREVENTION FOR CLIENTS WITH MEDICALLY COMPLEX CONDITIONS

**Authors (Primary First):** Teresa Chien; Melissa Goddard; Jessica Casey; Rachel Devitt; Julia Filinski

**Affiliation of Primary Author:** University of Toronto

**Abstract Category:** Research in Rehabilitation (quantitative, qualitative or mixed methods)

**ABSTRACT**

**Purpose:** The purpose of this study was to determine the effectiveness of an individualized falls prevention clinic for adults with medically complex needs.

**Relevance:** As medically complex clients (MCCs) are at an increased risk for falls, there is a need to address multifactorial influences on balance and mobility. An opportunity exists for individualized falls prevention care to address the high falls risk of MCCs of multiple age groups and to fill a gap within community services.

**Methods & Analysis:** For this study, a retrospective chart review with one group pre-test post-test design was used to compare balance and mobility outcome measures including Gait Speed, 30 Second Sit-to-Stand Test, Timed Up and Go and The Falls Efficacy Scale International. All consecutive participants discharged from the Falls Prevention Clinic between January 2014 to December 2014 were screened for this study. Paired t-test was used to determine outcome measure significance. Descriptive statistics and analysis of participant satisfaction surveys were completed.

**Study Sample or Initiative Scope:** There were 69 participants in the study. Average age was 77.6 ± 9.8 years. Average number of total diagnoses at admission was 8.6 ± 3.3 diagnoses.

**Findings:** All four outcome measures showed statistically significant improvement from admission to discharge suggesting improvements in functional performance and a decrease in concerns about falling. 97.9% of participants rated their overall experience at the clinic as very good or excellent. 93.8% agreed or strongly agreed that increased confidence in mobility at discharge was experienced, and 91.7% reported a reduction in concerns about falling.

**Discussion:** When compared with normative data, MCCs were still categorized as being at a high risk for falls. However, the improvements demonstrate how 1:1 therapy and an interprofessional approach can be effective tools when working with MCCs. More research on this population is needed to determine best practices.
Conclusions: This study demonstrates that an individualized, interprofessional therapy program was effective at improving outcomes related to balance, functional mobility and concerns about falling in the MCC population. Future research, best practice development and advocacy for the MCC population is warranted.
Title: “JOINED AT THE HIP” – A COLLABORATIVE APPROACH BETWEEN ACUTE SURGERY AND REHABILITATION TO BETTER MANAGE MEDICALLY COMPLEX HIP FRACTURES

Authors (Primary First): Jennifer Santos; Cathy Renaud; Julie Merhar

Affiliation of Primary Author: William Osler Health System

Abstract Category: Rehabilitation-Related Best Practice Initiative or Organizational Innovation

ABSTRACT

Purpose: An opportunity was identified for improved care for the medically complex hip fracture population by more efficiently transitioning patients requiring rehabilitation to an appropriate rehab program.

Relevance: Of the 20% of patients who were streamed to inpatient rehabilitation destinations, only 7% of those met the 7 day ALOS target. Access to rehab for medically complex patients was a challenge due to the nursing model of care in rehab, and concerns related to providing safe and effective care for medically complex patients.

Methods & Analysis: Complex hip fracture patients required inpatient rehab, but did not fit the typical admission criteria. A pilot project was developed: 7 rehab beds were dedicated to medically complex hip fracture patients; an additional RN around the clock was funded by the surgical program; patients were expected to transfer to rehab within 3-5 days post-op; and processes were developed to increase communication between surgery and rehab, including a summary of hip fracture patients & discharge barriers circulated weekly to stakeholders and the Rehab Flow Coordinator attending surgical rounds weekly to identify appropriate patients.

Study Sample or Initiative Scope: The pilot included 39 medically complex hip fracture patients admitted to rehabilitation from January 19 to August 31, 2015 (and ongoing to present).

Findings: Average acute surgery LOS decreased from a high of 17.1 days in April 2014 to 6 days in August 2015. Average inpatient rehab LOS for this population, at 27.8 days, was at QBP target of 28 days. Average FIM change = 21.3 which demonstrates meaningful functional improvement, decreased burden of care for caregivers, and shows that the rehab program is providing quality care. 85% (33/39) of patients were discharged back to the community.

Discussion: This pilot demonstrated that these complex patients did have potential for significant functional gains within a reasonable rehab LOS. Investing in the additional RN staffing to ensure a safe
and appropriate model of care was a cost-effective way to improve patient flow, enhance the performance of the surgical program, and optimize patient experience.

**Conclusions:** By partnering our acute surgery and rehab programs with a shared goal of decreasing acute LOS and improving system flow, we were able to obtain excellent results. Innovative solutions to challenges must be considered to meet organizational needs. When you see that successes are being achieved, continue to move the target!
Poster Number: 27

Title: A JOURNEY TO IMPROVED ACCESS TO ACUTE REHABILITATION FOR PATIENTS FOLLOWING HIP FRACTURE SURGERY

Authors (Primary First): Andrea Bishop; Claire Chaput

Affiliation of Primary Author: St. Joseph’s Healthcare Hamilton

Abstract Category: Rehabilitation-Related Best Practice Initiative or Organizational Innovation

ABSTRACT

Purpose: To increase access of hip fracture patients to the Acute Rehabilitation Program (Rehab) and to expedite admission to post-operative day (POD) five in accordance with best practice guidelines (BPG) (GTA Rehab Network, 2011).

Relevance: Since 2009 there had been an increase in total hip fracture patients with an increased acute care length of stay, hindering surgical bed flow. According to BPG hip fracture patients should be admitted to Rehab on POD 5 and existing processes and selection criteria were delaying or averting admission.

Methods & Analysis: An interdisciplinary approach was adopted with representation from surgical and rehabilitation programs to evaluate and improve current admission processes. An algorithm was developed which allowed for direct admission to Rehab on POD 5 for appropriate patients; avoiding the previous practice and time delay of referral and screening. Goals were identified and submitted to the unit’s Quality Council for quarterly review. The implementation team met regularly to evaluate uptake and results in order to make further recommendations.

Study Sample or Initiative Scope: The new process was initiated May 1, 2012 for all hip fracture patients admitted to the Acute Musculoskeletal Surgical Unit.

Findings: Some achievements in developing this initiative include: improved access to Rehab, decreased length of stay on acute care and improved collaboration between surgical and Rehab programs. Barriers to Rehab admission and discharge have also been discovered including: medical stability and cognitively impaired patients with hip precautions. Identifying these barriers has provided direction for future quality improvement initiatives.

Discussion: In developing and implementing this new process the organization has been able to more readily apply BPG and improve bed flow which aligns with recent changes to funding models. Accordingly, access to Rehab has improved. Moving forward the focus will be on medical stability of patients admitted to Rehab as well as the needs of our cognitively impaired population.
Conclusions: Previous admission processes on Rehab decreased access to timely admission for appropriate patients. Working with an interdisciplinary team across programs was successful in creating new admission processes that align with BPG, improved access to Rehab and decreased total hospital length of stay for hip fracture patients.
Poster Number: 28

Title: EVALUATING USABILITY: CLINICAL DOCUMENTATION SYSTEMS IN COMMUNITY CARE FOR REHAB

Authors (Primary First): Catherine Chater; Kartini Mistry

Affiliation of Primary Author: VHA Home Healthcare

Abstract Category: Rehabilitation-Related Best Practice Initiative or Organizational Innovation

ABSTRACT

Purpose: This study evaluates a clinical documentation system as part of an iterative development cycle demonstrating the value of early end-user engagement in designing quality-based systems.

Relevance: Despite the known benefits of electronic documentation, the implementation of these systems has faced numerous challenges including poor workflow integration and end user adoption which suggests inadequate investment into interface design and build of the software.

Methods & Analysis: A low-fidelity testing environment mimicking a community environment was setup, where clinicians used the system by going through a series of tasks that were identified as critical elements of their current workflow. Observational techniques, retrospective audio analysis and participant surveys were used to qualitatively evaluate the system according to predetermined usability criteria and best practices. Through the usability testing process key deficiencies pertaining to ease of use, safety and quality were identified which resulted in numerous system requirements.

Study Sample or Initiative Scope: During the usability evaluation, 10 participants matching both PT(3) and OT(7) user profiles, were asked to spend two hours with the application.

Findings: The usability study provided valuable information on the utilization patterns of Rehab providers in the community, the process of documenting as well as identified unique nuances of the point of care environment all of which would have been undiscovered had end users not been given the opportunity to participate.

Discussion: Service providers need to be provided with ample opportunities to contribute to and participant in the early stages of planning and development for electronic health records. This will help ensure high stakeholder support which in turn will positively affect the adoption and utilization of an electronic health record.

Conclusions: In conclusion, it is essential that Rehab Providers play an active role in the selection, design, deployment and evaluation of health IT solutions and advocate for solutions that integrate with their current workflow, practices and needs at the point of care.
Poster Number: 29

Title: WHAT SHOULD BE THE ROLE OF PHYSIATRISTS IN EARLY ACUTE CARE REHABILITATION? – CURRENT LITERATURE, MODELS OF CARE, AND THOUGHTS FOR THE FUTURE

Authors (Primary First): Lawrence Robinson; Alan Tam

Affiliation of Primary Author: Sunnybrook Health Sciences Centre

Abstract Category: Research in Rehabilitation (quantitative, qualitative or mixed methods)

ABSTRACT

Purpose: The benefit of early rehab has been established across multiple populations. We explore the literature regarding impact of physiatry acute care (pre-rehab) consultations on outcome.

Relevance: Physiatrists can help anticipate potential discharge barriers, prevent possible readmission and improve the chances of a successful discharge, helping healthcare institutions ensure patients the right care, in the setting at the right time.

Methods & Analysis: A comprehensive search of MEDLINE (1946 – Apr Week 3 2015) and EMBASE (2015 Week 19) databases was undertaken combining variations of the terms consultation, trauma, acute care and rehab physician. In total, seven relevant publications were identified, but only four described a PM&R consultation intervention. Two other papers were survey results of models of physiatric care, and one paper described a change in delivery of acute physiatry consultation service. Perspective/commentary publications on this subject were excluded.

Study Sample or Initiative Scope: We based the literature review on the four identified publications.

Findings: While the literature on early rehabilitation during acute care is limited, the few studies in this area have all demonstrated improvements in outcome measures with early physiatry consultation within each study's select population.

Discussion: This study highlights the need for physiatrists to establish a good working relationship with acute care services and be viewed as a valuable and reliable member of the medical team in providing ongoing care for patients during acute hospitalization.

Conclusions: A potential next step should prospectively compare early physiatry consultation with no consultation, examining the effect on relevant acute care and rehabilitation outcomes in patient populations commonly seen by physiatrists.
Poster Number: 30

Title: POSTURECOACH: A WEARABLE POSTURE COACHING SYSTEM FOR CAREGIVERS.

Authors (Primary First): Amanda Longfield; Mark Semple; Paul Holyoke,; Tara Kajaks; Emily King; Erik Prout; Pam Holliday; Theodoce Ortega; Daniel Ford; Tilak Dutta

Affiliation of Primary Author: Saint Elizabeth

Abstract Category: Ideas, Inventions and Innovations that will Transform the Rehabilitation Mosaic

ABSTRACT

Purpose: Our objective is to determine whether our wearable posture coaching system can change caregiver movement patterns in ways that will reduce the risk of back injury. We hypothesize there will be a reduction in spine flexion during caregiving tasks.

Relevance: Current back health education is not consistently effective and the rate of back injuries is high amongst health care workers. Prompt, specific feedback may improve training effectiveness. PostureCoach is a wearable device that vibrates to warn caregivers that their trunk bending or twisting exceeds a target threshold.

Methods & Analysis: A repeated measure cohort study is being used to test PostureCoach. Participants will wear PostureCoach during 3 sessions (baseline, training and retention) in which they will perform the same simulated caregiving activities. Vibration feedback will be turned on only during the training session. The system will log the amount of caregiver bending and twisting during all three sessions. A survey will also be used to obtain feedback on the device and will be analyzed to improve the design of PostureCoach. Repeated measures ANOVA will be used to compare the number of times the target threshold was exceeded.

Study Sample or Initiative Scope: Caregivers (N=10) will be recruited from a hospital.

Findings: Pilot data indicates that there is improvement in caregivers' postures after receiving the biofeedback during the training phase of the study. This feedback provides information to caregivers to assist them in self-identifying unsafe postures when completing patient handling and care related tasks. PostureCoach is expected to decrease the risk of back injury leading to longer term health benefits for caregivers.

Discussion: Posture Coach is a tool that can be used to help caregivers to self-identify safe postures and reduce their exposure to unsafe bending and twisting. It may be useful for training family caregivers, return to work, and in training and curricula for health care workers.
**Conclusions:** Better evidence-based tools are needed to inform best practices and assist caregivers in using safe postures during patient handling tasks. These tools need to be portable, autonomous, easy to use, received well by caregivers and unobtrusive so they can be successfully deployed in the field.
**Title:** A REHABILITATION FRAMEWORK TO IMPROVE ORGANIZATIONAL OPERATIONS WHILE PROMOTING SYSTEMS INTEGRATION AMONG REHABILITATION PARTNERS

**Authors (Primary First):** Raymond Kao

**Affiliation of Primary Author:** Mississauga Halton CCAC

**Abstract Category:** Rehabilitation-Related Best Practice Initiative or Organizational Innovation

**ABSTRACT**

**Purpose:** A diversity of in-home rehabilitation programming exists within the writer's region. A Rehabilitation framework was developed to: - Enhance Care Coordinator decision-making in selecting appropriate programs - Promote awareness among system partners

**Relevance:** The Rehabilitation Framework is a 1-page decision-support tool that provides an overview of rehabilitation programming and evaluative impact at the patient, organizational, and systems level. It promotes integration of care by providing awareness of in-home rehabilitation programming and emphasizing the care continuum.

**Methods & Analysis:** The Rehabilitation Framework was developed according to two of Bohmer (2010)'s principles for improving the quality of healthcare delivery: Managing the Care and Corralling Variability. The tool was developed and is being implemented into practice using steps from Graham et al. (2006)'s Knowledge-to-Action Cycle.

**Study Sample or Initiative Scope:** The framework was presented to 150 Care Coordinators. It will be presented to other regional stakeholders: acute-care, inpatient & outpatient rehab.

**Findings:** From a survey of 129 Care Coordinators, 96% rated the usefulness of the framework as either a 4 or 5, out of 5. 75% of Care Coordinators indicated that they are now very ready to use the skills learned from the framework. This survey will be extended to hospital partners. An evaluation will be conducted to assess for improvements in the appropriateness of patients referred to individual programs and the level of integration between sectors.

**Discussion:** The Rehabilitation Framework augments decision-making at the Care Coordination level and promotes transparency of rehabilitation programming offered within the home care sector. More consistent referrals to appropriate programs will follow, and transition points between the hospital and community sector will be built upon a more informed and collaborative approach.
Conclusions: The Rehabilitation Framework provides a necessary step towards improving the regional integration of rehabilitation services by facilitating more effective interdisciplinary collaboration. This will improve patient-centred care; strengthen consistency in referral practices; and contribute to more seamless transitions.
Poster Number: 32

Title: RETRAINING AND RECERTIFYING CLINICAL STAFF TO IMPROVE DATA QUALITY FOR NRS: A PILOT PROJECT

Authors (Primary First): Grace Liu; Marie DiSotto-Monastero; Mila Bishev

Affiliation of Primary Author: Sunnybrook Health Sciences Centre

Abstract Category: Knowledge Transfer and Exchange Initiative

ABSTRACT

Purpose: Clinical staff are responsible to complete the clinical data for the NRS and Functional Independence Measure (FIM®). The purpose was to retrain and recertify clinical staff to improve data quality for National Rehabilitation System (NRS).

Relevance: The NRS/FIM® data is submitted to the Canadian Institute for Health Information (CIHI) and is used to calculate case mix, Rehab Patient Grouping (RPG), which is used to determine inpatient rehab funding. The retraining and recertification was done on one inpatient unit as a pilot project.

Methods & Analysis: The methods/process undertaken were: 1. Review the FIM® and NRS standards, 2. Audit 12 charts for accuracy of scoring, 3. Create 7 case studies for training, and 4. Develop training package and resources. The retraining included the following: 1. Pre-test questionnaire (online), 2. 1.5 hour workshop for each profession, 3. Post-test recertification (Paper-based), and 4. Online Evaluation (Questionnaire).

Study Sample or Initiative Scope: Training was provided to 30 staff: Nurses, Team Coordinators, Occupational Therapists, Physiotherapists, and Speech Language Pathologist.

Findings: The target goal for recertification was to achieve a minimal 80% on two case studies for all professions. The goal of 80% was achieved, as the questionnaire scores improved from 71% Pre-Test to 87% Post-Test (average). Participant feedback was positive: 96% to 100% agreed to the following statements regarding 1) Confidence to complete the NRS, 2) Training is relevant and applicable, and 3) Training materials and case studies are useful.

Discussion: Through this knowledge transfer and exchange, the clinicians will improve data quality for NRS in clinical practice. The participants completed an evaluation and provided the following responses: It was a valuable learning experience, I found the presentation to be a great refresher, and It is important to complete NRS in a timely manner, as it impacts on funding.
Conclusions: As demonstrated in the results/evaluation from the clinicians, the retraining and recertification was valuable and important for clinical practice and reporting to CIHI. The project will improve the data quality of NRS/FIM® in determining RPG for inpatient rehabilitation.
Other (occupational skin disease)

Poster Number: 33

Title: SUCCESSFUL RETURN TO WORK FOR NURSES WITH HAND DERMATITIS

Authors (Primary First): Jennifer Chen; Pilar Gomez; Sandy Skotnicki; Joel DeKoven; D. Linn Holness

Affiliation of Primary Author: University of Alberta

Abstract Category: Rehabilitation-Related Best Practice Initiative or Organizational Innovation

ABSTRACT

Purpose: To review the impact of a RTW program on the work status of nurses with occupational hand dermatitis and identify successful intervention methods and strategies.

Relevance: Occupational skin disease is common in nurses. If the healthcare worker develops moderate to severe dermatitis, stay-at-work or return-to-work may be challenging.

Methods & Analysis: The study received Research Ethics Board approval. Nurses who received RTW services were identified and information related to their diagnosis and return to work was abstracted.

Study Sample or Initiative Scope: 18 nurses with irritant hand dermatitis received RTW services. A graduated RTW trial was implemented with optimized skin care and monitoring.

Findings: 18 nurses with irritant hand dermatitis received RTW services. 72% were performing paperwork duties when admitted to the RTW program, with others performing different roles or off work. A graduated RTW trial was commonly implemented with optimized skin care management and monitoring by physicians and the RTW Coordinator. Upon discharge, 78% had returned to their nursing roles with direct patient care and 17% had transitioned into non-patient care roles.

Discussion: A graduated return-to-work trial to reduce the cumulative irritant exposure is a crucial strategy to facilitate nurse patients' transition back to work in their nursing roles.

Conclusions: The communication interventions and components of this RTW program can be applied in practice for patients with hand dermatitis from all occupations.
**Paediatrics**

**Poster Number:** 34

**Title:** FACILITATING DECISION-MAKING THROUGH A SYSTEMATIC STRATEGY FOR OUTCOMES MEASUREMENT

**Authors (Primary First):** Joanne Maxwell; Kim Bradley; Keith Adamson; Sonia Pagura

**Affiliation of Primary Author:** Holland Bloorview Kids Rehabilitation Hospital.

**Abstract Category:** Rehabilitation-Related Best Practice Initiative or Organizational Innovation

**ABSTRACT**

**Purpose:** The use of outcome measures is essential to our ability to demonstrate that the efficacy of care, and is also an expectation of regulated health professionals. Yet, the consistent use of outcome measures remains a challenge across the health system.

**Relevance:** Clinicians know that outcome measurement is important, yet there remain barriers to consistent use of outcome measures in many settings. In an effort to improve the use of outcome measures in an urban pediatric rehabilitation hospital in Canada, an organizational Outcome Measurement Strategy was initiated in 2014.

**Methods & Analysis:** The first phase in the Outcomes Strategy was a needs analysis which included an on-line survey of outcome measurement use across all disciplines (N=116), a chart audit (N=100), and targeted interviews with practice councils, clinical teams, operational managers, organizational leaders, and client and family integrated care leadership. Next, the team worked with clinicians to identify outcome measures to be used in each service/program and establish when outcome measures are to be used, creation of electronic documentation tools to support capture and feedback loops for outcome data, and innovative educational tools.

**Study Sample or Initiative Scope:** More than 230 clinical staff representing 72 services were engaged in the outcome measurement strategy and over 70 documentation screens were built.

**Findings:** The needs analysis confirmed the inconsistent use of outcome tools, as well as a number of barriers to use including lack of effective tools and knowledge of tools. Following the needs analysis, project leads worked with clinicians to confirm outcome tools. Concurrently, a web-based wiki (WikiOutcomes) was developed to support sharing of knowledge and expertise and to provide a dynamic repository for information on outcome measurement.

**Discussion:** The outcomes strategy has improved awareness of the need for outcome measurement, and our capacity for measurement. It has also provided a legacy of tools such as WikiOutcomes to
support continued improvements. The consistent capture of outcome measurement data will allow for the generation of reliable data to inform decision-making at client, program and systems levels.

**Conclusions:** A key success factor was the authentic engagement of clinicians in the choice of outcome measurement tools. Intensive clinical engagement and genuine opportunities to be involved in decision-making about tool choices supported a gradual shift in culture towards a more positive perception of outcome measurement.
Poster Number: 35

Title: UNDERSTANDING TRANSITION TO REHABILITATION SERVICES: PARENTS' PERSPECTIVE ON THE EXPERIENCES AND NEEDS OF FAMILIES OF CHILDREN DIAGNOSED WITH CEREBRAL PALSY

Authors (Primary First): Marilyn Ballantyne; Aubrey Sozer; Taryn Orava; Stephanie Bernardo; Amy McPherson; Paige Church; Darcy Fehlings

Affiliation of Primary Author: Holland Bloorview Kids Rehabilitation Hospital

Abstract Category: Research in Rehabilitation (quantitative, qualitative or mixed methods)

ABSTRACT

Purpose: To describe the transitional needs and experiences of parents with preterm infants (< 37 weeks) diagnosed with cerebral palsy from neonatal to developmental/rehabilitation services (DRS) using qualitative, descriptive methods.

Relevance: This study will address a gap in the knowledge of parents' experiences transitioning from neonatal to DRS. Learnings can be applied to current systems so that families will have access to supportive and equitable care during transition with the objective of increasing quality of life.

Methods & Analysis: Phase 1: A scoping review was completed to examine parental transition experiences and needs. Phase 2: Purposeful and maximal sampling strategies were used to recruit 15 study participants. Semi-structured one-on-one interviews were completed with the participants. Interviews were audio-recorded, transcribed verbatim, and coded using NVivo 10 software. Data collection and thematic analyses were completed concurrently to allow shared analytic identification. A thematic codebook was developed and used by coders to ensure inter-coder reliability.

Study Sample or Initiative Scope: English-speaking parents of children born preterm with a confirmed diagnosis of CP that experienced a transition from neonatal services to DRS.

Findings: The scoping review found no literature specifically describing the neonatal services to DRS transition. Interviews identified the following; transiting care was regarded as anxiety provoking when CP diagnosis was poorly communicated, parents need more guidance and support during transitions, evaluations of the transition period improved with continuity of healthcare providers and were negatively affected by untimely access to suitable resources.

Discussion: Scoping review themes reiterated in interview analyses can be used to direct the structure of care during transition. Key messages include the requirement for timely care, reliable providers, increased social support, and stronger communication methods. This knowledge must be shared and applied by multidisciplinary partners.
Conclusions: Best practice research is necessary to guide care-plans during transition. A future healthcare symposium will initiate a systems approach to strengthen the practice of transition from neonatal services to DRS. Evidence-based outcomes will guide parents through transition with maximum support by practitioners.
Poster Number: 36

**Title:** THE PROVISION OF MOVING AND HANDLING EDUCATION TO PROMOTE CLIENT MOBILIZATION AND CLIENT CARE IN THE ACUTE CARE SETTING

**Authors (Primary First):** Jacklin Hanna; Simone Chin; Tamika DeCaire

**Affiliation of Primary Author:** North York General Hospital

**Abstract Category:** Research in Rehabilitation (quantitative, qualitative or mixed methods)

**ABSTRACT**

**Purpose:** In an effort to adopt a restorative philosophy in acute care, aligning with MOHLTC initiatives, a unit-based initiative was developed to improve competency in moving and handling skills with the objective of promoting increased client mobilization.

**Relevance:** Research shows that early mobilization during hospitalization is associated with positive outcomes for healthcare recipients including improved return to functional status (Schweickert, 2009) and decreased LOS (Morton, 2007). Promoting mobility within the unit is the initial step in shifting towards a restorative model.

**Methods & Analysis:** A presentation providing evidence on the benefits of regular mobilization was provided by Allied Health to nurses who then practiced moving and handling techniques with clients; this occurred over several weeks and is projected to reach 80% of nurses on the unit. Mobilization was defined as transferring to chair for meals with an initial focus on the lunch hour. Two weeks prior to project initiation, a direct observational approach was used to collect data; averages were calculated. Once education has reached the target number of nurses, observational data will be collected and analyzed using a comparison method.

**Study Sample or Initiative Scope:** Convenience sample. Given the preliminary nature of the initiative no exclusion criteria were set; participants included all clients on the unit.

**Findings:** During the initial data collection phase, approximately 32% (n=33) of clients were observed to be mobilized during the designated time compared to 68% which remained in bed. As the moving and handling champions continue to provide education, it is anticipated that there will be a positive increase in the number of clients who are observed to engage in regular mobilization as defined above.

**Discussion:** This initiative is intended to offer preliminary evidence to support a shift in practice towards a more restorative model and highlight the benefits of regular mobilization in acute care, which aligns with the MOHLTC mandate. The next steps will explore potential for further positive implications on a more organizational level such as decreasing hospital LOS.
Conclusions: In order to foster a more restorative and client-centered approach in acute care, it is vital to build competencies in moving and handling skills; it is anticipated that disseminating knowledge regarding these strategies will directly enhance client mobilization and client care with a potential for greater implications.
**Title:** PREFERENCES FOR ONLINE SELF-MANAGEMENT AMONG CANADIANS WITH SPINAL CORD INJURY

**Authors (Primary First):** Eric Wan; Sonya Allin; Susan Jaglal; Sarah Munce; John Shepherd; Lindsay Sleeth; Dalton Wolfe

**Affiliation of Primary Author:** University of Toronto

**Abstract Category:** Ideas, Inventions and Innovations that will Transform the Rehabilitation Mosaic

**ABSTRACT**

**Purpose:** This ongoing study seeks to understand preferences for functionality, format, and design of an online self-management application (optimized for use on mobile devices) among users with spinal cord injury (SCI).

**Relevance:** Self-management programs hold potential to help people with SCI manage secondary complications more independently. Existing programs, however, do not address SCI-specific concerns or constraints and are accordingly not popular in the SCI community. There is therefore a need to develop acceptable programs for users with SCI.

**Methods & Analysis:** Online focus groups to discuss designs for an initial prototype of an online self-management application. Features for the first iteration include: topic-specific self-management information, user-generated resource libraries, a Q & A section, and connections to trained self-management coaches. During focus group discussions, participants were shown screenshots of the proposed prototype and asked to provide feedback on its design and functionality. Initial participants were recruited through SCI Canada partner organizations; additional participants are currently being recruited from a Rick Hansen Institute database.

**Study Sample or Initiative Scope:** As of January, one focus group has been completed with six participants spanning four provinces; three more will be conducted in early 2016.

**Findings:** Participants have indicated similar preferences for the format and delivery of educational content, but diverse opinions as to the role of "experts" in content selection. Some users have explained that they will be looking to the application specifically for advice from medical experts and might not be inclined to contribute personal information. Others placed strong emphasis and value on content created directly by members of the SCI community.

**Discussion:** Discussion among focus group participants has illuminated patient preferences with respect to sharing and receiving information about self-management through an online resource. This is
relevant to other groups looking to support self-management of chronic conditions, or to engage patients using online tools.

**Conclusions:** Participants provided a range of preferences for an online self-management tool, including the educational content they felt it should hold, the role of experts on the site, and tools it might employ to promote user engagement. This work will inform the development of an effective and usable self-management application.
Title: CONTRIBUTING FACTORS TO PRESSURE ULCER INCIDENCE IN INPATIENT SPINAL CORD REHAB – AN IN-DEPTH EVALUATION AND APPLICATION OF 2.5 YEARS OF QUALITY IMPROVEMENT DATA

Authors (Primary First): Heather Flett; Carol Scovil; Trisha Domingo; Jude Delparte; Anthony Burns

Affiliation of Primary Author: Toronto Rehabilitation Institute - UHN

Abstract Category: Rehabilitation-Related Best Practice Initiative or Organizational Innovation

ABSTRACT

Purpose: To evaluate contributing factors to pressure ulcers development during inpatient spinal cord rehabilitation over 2.5 years and apply findings to quality improvement initiatives to reduce pressure ulcer incidence in this population.

Relevance: Pressure ulcers (PU) are a common complication after Spinal Cord Injury (SCI), and effect length of stay and rehabilitation outcomes. Understanding the factors that contributed to the development of PU during inpatient SCI rehabilitation, allows development of interventions to reduce the risk of PU in the future.

Methods & Analysis: The SCI Knowledge Mobilization Network (SCI KMN) is a pan-Canadian collaboration focusing on implementing best practices in SCI rehabilitation. A retrospective chart review was conducted as part of the SCI KMN PU prevention initiative. Patient demographics, PU location, severity, comorbidities, functional and mobility statuses were extracted from patient charts. Patients who developed a PU of stage 2 or greater during their rehabilitation stay were included in evaluation of factors related to of PU. Contributing risk factors themes were: reduced pressure relief or refusal to turn, equipment issues, moisture, transfers and moisture.

Study Sample or Initiative Scope: All patients admitted to an inpatient spinal cord rehabilitation facility from January 2012 - September 2014 (n = 765).

Findings: 63 patients developed 80 PU Stage ≥2, with an 8% incidence. Wounds locations: Coccyx/Sacrum n=31, Buttocks n=23, Foot/Ankle n=20, Other (back, hip, leg) n=6. Contributing factors were: reduced pressure relief or refusal to turn (63% of PU, 57% of reduced turning included pain factors), equipment issues (48% of PU, and 80% of foot/ankle PU), moisture (54% of coccyx, sacrum and buttocks PU), transfers (52% of buttocks PU).

Discussion: The results have led to the following actions to address PU incidence: 1) Ensure heel offloading boots provided to and monitored for all high risk patients; 2) Provide patient and clinician...
education to support patients who are not compliant with turning, address pain that affects repositioning and improve processes for escalating concerns about patient PU risks.

**Conclusions:** Understanding the factors in PU development in inpatient SCI rehab has allowed the development of interventions to reduce the risk of PU in the future. In addition, ongoing education of patients in appropriate use and monitoring of mattress, commode, wheelchair cushion and transfer board can continue to reduce PU incidence.
Poster Number: 39

Title: QUALITY IMPROVEMENT STRATEGIES TO ELIMINATE URINARY TRACT INFECTION (UTI) AMONG INPATIENTS DURING SPINAL CORD INJURY (SCI) REHABILITATION - INNOVATIONS INFLUENCING REHABILITATION

Authors (Primary First): Mohammad Alavinia; Maryam Omidvar; Tess Devji; Farnoosh Farahani; Heather Zimcik; Joanne Zee; Mark Bayley; Cathy Craven

Affiliation of Primary Author: University Health Network

Abstract Category: Research in Rehabilitation (quantitative, qualitative or mixed methods)

ABSTRACT

Purpose: This quality-improvement (QI) project aimed to reduce the incidence and severity of UTI among patients admitted for tertiary SCI rehabilitation.

Relevance: Urinary Tract Infections (UTI) are the most common health complication, while urinary sepsis is a frequent cause of service interruptions or transfer to acute care during inpatient Spinal Cord Injury (SCI) rehabilitation.

Methods & Analysis: Data regarding UTI symptom and diagnosis frequency were prospectively collected from 3 units for 5 months (August to December 2015). Prescribing physicians completed a sign and symptoms checklist after each written urine culture and sensitivity (C&S) order. Chart and laboratory audits were completed to confirm the frequency of UTI diagnosis. A Quality Control Chart was used to visualize the main focus for process improvements.

Study Sample or Initiative Scope: 118 adults with SCI or disease (C1-T 12 -AIS A-D) admitted for tertiary SCI rehabilitation

Findings: During study period among 118 admissions, 55 adults with SCI (C1-T 12 - AIS A-D) had urine sent for C&S based on sign and symptoms, among them 32 (58 %) were subsequently diagnosed with a UTI. Most common symptoms in descending order of frequency were foul smell, fever, changing color, and incontinence. Most UTIs (81 %) occurred in patients with 46% nurse-administered intermittent catheterizations.

Discussion: Clinical sign and symptoms are reliable predictors of hospital acquired UTI. The majority (53%) of UTI's were due to E-coli, and an additional 19% were due to E Coli with Grp-B-strep, Klebsiella, Proteus mirabilis, or Enterococcus, all treated with antibiotic (AB).
Conclusions: Subsequent QI strategies will address nursing best practices, including teaching with patients and families, Physician participation in AB stewardships, implementation of hand washing monitoring system, UTI reporting among staff during daily huddles and continued practice audits and tracking UTI incidence.
Purpose: To review the effectiveness of telerehabilitation in improving individuals’ global motor function, quality of life and community reintegration post stroke: a systematic review.

Relevance: Stroke rehabilitation therapy delivered through the use of telecommunication technology is helpful for providing quality stroke care to patients in remote locations who experience reduced access to rehabilitation services and require support from stroke experts.

Methods & Analysis: A systematic review of the literature was conducted from an extensive database search (AMED, PubMed/MEDLINE, EMBASE, CINAHL, ProQuest, and PsycINFO). Studies meeting the following inclusion criteria were selected: 1) >50% adults with stroke, 2) ≥3 participants, and 3) telerehabilitation was provided to target upper and lower extremity motor, functional, and psychosocial outcomes. Randomized controlled trials (RCTs) were assessed for quality using the PEDro score and levels of evidence were assigned using the modified Sackett scale. Demographic information and study characteristics were extracted from each article.

Study Sample or Initiative Scope: Four articles including one RCT (level 2), one prospective controlled trial (level 2), and two pre-post studies (level 4) met the inclusion criteria.

Findings: Results showed statistically significant improvements following delivery of telerehabilitation in the following outcome measures: balance (N=2), arm and hand motor performance (N=3), finger range of motion and tracking accuracy (N=1).

Discussion: Findings consistently indicated an improvement of upper limb motor function from stroke telerehabilitation. These findings also suggested that telerehabilitation approaches may offer opportunity for effective stroke rehabilitation for patients in remote and resource-scarce settings.
Conclusions: Randomized controlled trials and studies of other stroke interventions provided via
telerehabilitation should also be conducted to better support this intervention approach and
demonstrate the potential of this technology in a broader context.
Title: THE EFFICACY OF PLAYING MUSICAL INSTRUMENTS FOR UPPER LIMB REHABILITATION AMONG INDIVIDUALS WITH STROKE: A SYSTEMATIC REVIEW

Authors (Primary First): Josh Brar; Amanda McIntyre; Ashna Jinah; Jerome Iruthayarajah; Julianne Vermeer; Robert Teasell

Affiliation of Primary Author: Parkwood Institute

Abstract Category: Systematic Literature Review

ABSTRACT

Purpose: To conduct a systematic review on the playing of musical instruments as a form of upper limb rehabilitation in individuals with stroke and to assess its effectiveness in improving motor outcomes.

Relevance: Hemiparesis affects many individuals following a stroke. Currently, many interventions exist for the rehabilitation of the hemiparetic upper limb. The playing of musical instruments involves many aspects of these interventions and has been suggested to be an effective rehabilitation method.

Methods & Analysis: A literature search was conducted on several electronic databases using key terms for music, upper limb rehabilitation and stroke. Retrieved references were scanned and relevant citations not found during the search were included. All English articles published up to January 2016 were included if: 1) the study population was > 50% adult stroke patients; 2) the sample size was ≥3; 3) the intervention group received musical therapy using physical or virtual instruments; and 4) upper limb motor outcomes were evaluated. Patient characteristics, methodology, motor outcomes and results were extracted.

Study Sample or Initiative Scope: A total of 15 articles met the inclusion criteria consisting of 8 randomized controlled trials, 2 prospective controlled trials and 5 pre-post trials.

Findings: Five studies used a MIDI virtual piano and electronic drum set, four studies used only percussion instruments, three studies used only a keyboard, two studies used a mechanical virtual reality system and one study used the musical sonification of gross arm movements. Eight studies reported significant improvements on motor outcomes including the action research arm test (n=4), box and block test (n=4) and 9 hole pegboard test (n=4).

Discussion: Results showed that the playing of musical instruments was an effective method of upper limb rehabilitation following stroke. It is important to note that five studies demonstrating motor improvements provided musical therapy in conjunction with conventional rehabilitation therapy. Future studies should assess musical playing as a stand-alone treatment.
Conclusions: This study suggests that the playing of musical instruments may be an effective method of hemiplegic upper limb rehabilitation following stroke and should be considered by rehabilitation clinicians.
Title: THE EFFECT OF HIPPOThERAPY OR HORSEBACK RIDING SIMULATION THERAPY ON LOWER LIMB MOTOR FUNCTION IN STROKE PATIENTS: A SYSTEMATIC REVIEW.

Authors (Primary First): Ashna Jinah; Andreea Cotoi; Amanda McIntyre; Robert Teasell

Affiliation of Primary Author: Lawson Health Research Institute

Abstract Category: Systematic Literature Review

ABSTRACT

Purpose: The purpose of this study is to evaluate the effectiveness of hippotherapy (i.e., horseback riding intervention) in improving gait, balance, and postural control in a stroke rehabilitation population.

Relevance: Multi-directional movement from a horse's gait invokes stimulatory effects onto individual's upper motor neurons from proprioceptive sensory input. Extensive literature surrounding hippotherapy focuses on neurological disorders in children; however, there may be a potential use for hippotherapy in adults impaired by stroke.

Methods & Analysis: A systematic review of the literature was performed using key terms such as ‘stroke’, ‘hippotherapy’, and ‘motor recovery’ from an extensive database search (i.e., PubMed/MEDLINE, EMBASE, ProQuest, and PsycINFO). Studies were selected if they included an adult stroke population that received any type of hippotherapy (i.e., simulation versus actual) and reported on functional recovery. The PEDro scale was used to assess methodological quality of randomized controlled trials (RCTs). All studies were assigned a level of evidence using a modified Sackett scale. Information pertaining to participant and study characteristics

Study Sample or Initiative Scope: Seven studies met inclusion criteria including 3 RCTs (level 2), 3 prospective controlled trials (PCTs; level 2) and 1 pre-post study (level 4).

Findings: Five studies examined a hippotherapy simulator, one study examined real horse therapy, and one study did not specify the type. RCTs and PCTs compared hippotherapy to an active control group. Six studies reported statistically significant improvements in balance, with greater improvements in the experimental versus control group. Three out of four studies assessing gait reported statistically significant improvements.

Discussion: Findings demonstrated that hippotherapy was associated with an improvement in balance, gait and postural control. It is important to consider that there was inconsistent use of outcome measures, and that the RCTs were associated with a high risk of bias for allocation concealment and blinding procedures.
Conclusions: It appears that hippotherapy or horseback riding simulation training may be helpful to stroke patients undergoing rehabilitation; however, additional intervention studies and RCTs are warranted to endorse the effectiveness of this therapy.
ABSTRACT

Purpose: To conduct a systematic review and meta-analysis on the effectiveness of virtual reality (VR) interventions for improving balance in a chronic stroke population.

Relevance: VR is becoming a popular alternative to traditional upper and lower limb rehabilitation following a stroke. Its appeal is attributed to interventions being motivational and engaging for the user. However, no literature exists if these interventions are effective in improving balance for individuals with chronic stroke.

Methods & Analysis: A literature search of PUBMED, SCOPUS, CINAHL, EMBASE, Psycinfo and Web of Science databases were searched for all English articles published up to August 2015 that were randomized controlled trials assessing balance with VR in chronic stroke (≥6 months) participants. Pooled mean differences (MD) ± s.e. were calculated for the Berg Balance Scale (BBS) and the Timed Up and Go test (TUG). Results were pooled using a fixed or random effects model, as appropriate.

Study Sample or Initiative Scope: 20 studies were selected which assessed Nintendo® Wii Fit balance board (n=7), treadmill training and VR (n=7), and postural training using VR (n=6).

Findings: Overall, significant improvements were found for VR interventions evaluating the BBS (n=12; MD=2.94±0.57; p<0.001) and TUG (n=13; MD=2.49±0.57; p<0.001). Sub-analyses revealed postural VR interventions had a significant effect on BBS (n=5) and TUG (n=3) scores (BBS: MD=3.82±0.79; p<0.001 and TUG: MD=3.74±0.97; p<0.001). VR and treadmill training (n=5) had a significant effect on TUG scores (MD=2.15±0.89, p=0.016).

Discussion: Overall, there was a significantly greater improvement in balance when using VR interventions compared to conventional rehabilitation. The findings from our meta-analyses also suggest that the Nintendo® Wii Fit balance board may not be effective, although further confirmatory studies are necessary.
Conclusions: This study contributes further evidence to the effectiveness of VR interventions in balance rehabilitation among those with chronic stroke. Results should be interpreted with caution due to differences in therapy intensities and effect sizes within the included studies.
Purpose: To evaluate the effect of continuous theta burst stimulation (cTBS) on unilateral visual neglect in individuals with stroke.

Relevance: Visual neglect is known to be a strong predictor of poor functional independence in stroke patients. Non-invasive brain stimulation such as cTBS applied over the contralesional hemisphere, has been suggested to reduce neglect symptomatology following a stroke.

Methods & Analysis: Studies were generated by conducting a comprehensive search in the following databases: Scopus, PubMed, ProQuest, PsycINFO, AMED, Embase, and CINAHL. Studies consisting of an adult stroke population that received cTBS for treating neglect severity were included for analysis. Study design, population characteristics, and outcome measures were extracted from each study. Methodological quality of randomized controlled studies (RCTs) was scored using the PEDro tool, and a level of evidence was assigned to all studies using a modified Sackett scale.

Study Sample or Initiative Scope: Eight studies met inclusion: four RCTs (level 1B), two prospective controlled trials (level 2), one pre-post (level 4) and one case study (level 5).

Findings: In seven studies, cTBS was found to significantly improve neglect severity on at least one of the following outcome measures: the star cancellation test (N=3), the behavioral inattention test (N=2), the random shape cancellation test (N=2), the line bisection test (N=2), the Bird cancellation task (N=1), the Vienna Test System (N=2), and the Catherine Bergego Scale (N=1). One case study indicated a clinical improvement.

Discussion: Relative to sham stimulation, cTBS was shown to reduce unilateral spatial neglect in individuals with stroke.
Conclusions: Although these findings support the use of cTBS as a potential therapy, additional RCTs and intervention studies with larger sample sizes are required to establish stronger grounds for adapting cTBS in rehabilitation practices.
Purpose: To evaluate the effectiveness of theta burst stimulation (TBS) in improving upper limb motor functioning among individuals with stroke.

Relevance: After a stroke, corticospinal excitability to the lesioned hemisphere decreases largely due to inhibitory signals from the contralesional hemisphere. Non-invasive brain stimulation such as TBS has been suggested to promote hemispheric equilibrium and recovery of impaired function.

Methods & Analysis: A literature search was conducted using the following electronic databases: PubMed, Scopus, Embase, PsycINFO, ProQuest, AMED, and CINAHL. Studies meeting the following inclusion criteria were included: (1) published in English, (2) adults (>18 years) post stroke, and (3) the use of TBS targeting the upper extremity cortical region. For each study the following data was extracted: patient characteristics, treatment, study design, outcome measures, and results. Randomized controlled trials (RCTs) were scored using the PEDro tool. All studies were assigned a level of evidence according to a modified Sackett scale.

Study Sample or Initiative Scope: Nine studies met inclusion, including three RCTs (level 2B), four prospective controlled trials (level 2), and two pre-post studies (level 4).

Findings: Four studies evaluated intermittent TBS (iTBS), two evaluated continuous TBS (cTBS), and three examined both protocols. Overall, findings regarding iTBS were inconclusive as four studies reported conflicting findings and two studies demonstrated improvements on only some of the outcomes measured. Four of five studies reported no significant change in upper extremity function after cTBS.

Discussion: Compared to sham stimulation, contralesional cTBS was not shown to improve upper limb motor function among individuals post stroke. However, ipsilateral iTBS demonstrated improvement of upper limbs in two of six studies.
Conclusions: Due to the large variability in the outcomes used, the low study samples, and the moderate-to-low methodological quality of the studies, there is insufficient data available to provide a concluding statement regarding cTBS or iTBS as a rehabilitative therapy for upper motor function.
Poster Number: 46

Title: EXPLORING THE EXPERIENCES OF OCCUPATIONAL THERAPISTS (OTS) WHO PARTICIPATED IN A MOTIVATIONAL INTERVIEWSING (MI) COMMUNITY OF PRACTICE (COP)

Authors (Primary First): Rose Gan; Hannah Albrechtsons

Affiliation of Primary Author: University of Toronto

Abstract Category: Rehabilitation-Related Best Practice Initiative or Organizational Innovation

ABSTRACT

Purpose: This project aims to explore the perspectives of occupational therapists (OTs) following a 13-session Community of Practice (CoP) series to determine whether the CoP impacted competency in using Motivational Interviewing (MI).

Relevance: Acquiring knowledge of the experience of a CoP in developing MI competency will facilitate in improving and standardizing the training process for OTs who utilize MI in their practice. The identification of the most effective means of MI training for OTs will allow for improved care and outcomes for clients in the future.

Methods & Analysis: The data will be obtained through the following three focus groups: a group of OTs who attended the CoP regularly, a group who did not attend the CoP regularly and a group for the co-chairs and facilitators. During the focus groups, the researchers will guide facilitated discussions exploring OT experiences in using MI during and following the CoP series. Descriptive qualitative content analysis will be conducted to identify themes within the data collected.

Study Sample or Initiative Scope: The intended sample size is 10-12 OT participants working in a large mental health hospital affiliated with the university.

Findings: Researchers will gain insight into the experiences of OTs who participated in the CoP. The results of this study will provide information about the role of a CoP in developing competency in using MI, which will contribute to current knowledge of CoPs. By gaining insight into the experiences of learning MI techniques, this research will facilitate in understanding how future CoPs can be strengthened to better support OTs who use MI.

Discussion: The OT participants will have the opportunity to collaborate and reflect on their experiences with MI following a CoP. The findings will be beneficial in understanding the utility of CoP training in developing competency in using MI. The identification of the most effective training technique for learning MI will facilitate best practice for therapists in the future.
Conclusions: This research is important to determine the role of the CoP in enhancing competency in MI for OTs, which is information that may be applied to increase the effectiveness of future CoPs and to enhance learning of MI in OT.
Senior-Focused Care

Poster Number: 47

Title: THE COGNITIVE PERFORMANCE TEST: A DISCONNECT IN PRACTICE OR PURPOSE?

Authors (Primary First): Mallory Rotman; Rachel Emonts; Sylvia Davidson

Affiliation of Primary Author: University of Toronto

Abstract Category: Research in Rehabilitation (quantitative, qualitative or mixed methods)

ABSTRACT

Purpose: What are the perspectives of occupational therapists on the challenges they are experiencing, and strategies they are utilizing when assessing older adults using a common performance-based assessment, the Cognitive Performance Test (CPT) in practice?

Relevance: Occupational therapists (OTs) use performance-based assessments to assess clients' capacity and provide recommendations for supports. Exploring the perspectives on the challenges faced when using the CPT may allow for the emergence of possible strategies to further develop clinical competence in assessing older adults.

Methods & Analysis: This study will use a qualitative descriptive design to describe and understand participants' unique perspectives and experiences associated with using the CPT in practice. Participants will view and score a previously video recorded CPT administration, and participate in an audio-recorded semi-structured focus group. The focus group discussion will be transcribed verbatim and using multiple analyst triangulations, the transcribed discussions will undergo thematic analysis to uncover and refine themes.

Study Sample or Initiative Scope: Eight to 10 OTs from an urban geriatric hospital, who have utilized the CPT in practice, will participate in the focus group discussions.

Findings: The projected findings of this study will illuminate OTs' perspectives of the challenges of using the CPT. An in depth analysis aims to identify therapists' understanding of the tool, strategies for administering and scoring the tool and solutions to address other identified challenges associated with the CPT's use.

Discussion: The results of this study aim to promote more effective use of performance-based assessments, which are extremely valuable in assessing client occupational capacity and providing best clinical recommendations. The knowledge gained from this study will be used to inform and enhance occupational therapy practice for clinicians utilizing the CPT with older adults.
Conclusions: Findings from this study will contribute to the body of qualitative literature on the use of performance-based assessments. This will support the ongoing efforts of rehabilitation professionals to choose appropriate tools and use best evidence in practice while assessing clients.