

Best Practices Day Poster Summary

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Please note:

The following abstracts will have posters at the conference, but could not have the content published online:

- #5
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Rapid Podium Abstracts

Brain Injury / Neuro / Stroke

Title: WEIGHING IN: THE EFFECT OF BMI ON INPATIENT REHABILITATION OUTCOMES AFTER STROKE IN CANADA

Authors (Primary first): Armstrong, Rachel*; Wang, Hui; Dessureault, Liam

Affiliation of Primary Author: Canadian Institute for Health Information

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

Abstract:

Purpose: To determine the effects of Body Mass Index (BMI) on select inpatient rehabilitation (IR) outcomes following stroke using a large pan-Canadian data set (CIHI National Rehabilitation Reporting System).

Relevance: The BMI of patients may affect their ability to participate optimally in rehabilitation, or the ability of facilities to safely provide rehabilitation care. Recent studies examining the relationship between body mass index (BMI) and rehabilitative outcomes have yielded mixed and often contradicting findings.

Methods and Analysis: Episodes were divided into 5 BMI groups: underweight, normal, overweight, moderate obesity, and severe obesity. Regression models were used to analyze the effect of BMI group on LOS and being discharged back home. Both models adjusted for variables that were expected to influence IR outcomes (such as age, sex, stroke type, comorbidities, admission function, socio-economic status, and discharge destination). Functional change was assessed using the AlphaFIM® instrument scores at admission and discharge. Risk ratios and confidence limits were calculated and used to compare outcomes to those seen for the normal BMI group.

Study Sample or Initiative Scope: Stroke patients reported to the NRS as having completed inpatient rehabilitation between April 1, 2010, and March 31, 2013, (n = 14,197).

Findings: Underweight patients stayed longer to achieve the same functional gains and were less likely to be discharged back home. Compared to normal, moderately obese patients had slightly higher average discharge function scores and demonstrated the greatest odds of returning home. The overweight and severely obese BMI groups did not differ significantly from the normal BMI group in terms of discharge function score, LOS or likelihood of returning home.

Discussion: This analysis shows a small but measurable effect of BMI on select IR outcomes. Underweight patients demonstrated the poorest outcomes overall. Higher BMI groups were not associated with poorer IR outcomes when compared with the normal BMI group. The effects of BMI were independent of important clinical characteristics that are expected to affect IR outcomes.

Conclusions: Inpatient rehabilitation following stroke provided comparable increases in function regardless of admission BMI. Our findings suggest that targeted interventions in underweight individuals are needed to optimize inpatient rehabilitation care delivery and outcomes for this population.

Other

Title: "CATCH" - CARE AFTER THE CARE IN HOSPITAL

Authors (Primary first): Savvas, Aaisha; Curry, Amber*;

Affiliation of Primary Author: Rouge Valley Health System

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

Abstract:

Purpose: The CATCH program improves patient flow by reducing length of stay and readmission through a multidisciplinary approach in post discharge risk assessment and intervention. This enables patients to leave the hospital sooner and stay in the community.

Relevance: CATCH encompasses targeted reconditioning, assessment, education, medical follow up, and links to community programs. Intensive and immediate individualized discharge reconditioning and follow up is critical to continued participation in community programs which leads to the ability to stay safe at home longer (Pack, 2013).

Methods and Analysis: Program development was based on the principle that readmission and length of stay can be tied to inadequate support post discharge (AGO,2010). RVHS staff, physicians, CCAC and community members were consulted to provide insight on concerns related to discharge. Themes identified include: limited resources for adequate reconditioning; lack of medical follow up; and complex risk factors. CATCH was created by leveraging research, staff and physician expertise to address identified gaps (Packs,2013; Braverman,2011). Outcome measures include: patient satisfaction, functional measures, length of stay and readmission rate.

Study Sample or Initiative Scope: CATCH has three patient streams: neurological (recent CVAs), general medical and general surgical (patients at high risk for de-conditioning).

Findings: CATCH has received strong support through growing patient referrals and positive feedback. Improved physical outcome measures have been demonstrated for enhanced independence and safety at home. Physical outcome measures include: Berg Balance Scale, 2MWT, Timed Up and Go test, and the Patient Specific Functional Scale. A retrospective analysis on length of stay and readmission rate is underway.

Discussion: CATCH fills a gap in the continuum of care to promote independence and prevent readmissions. It illustrates the impact that immediate discharge support has on keeping patients safe at home through rehabilitation, medical and nursing intervention. CATCH transforms our current perceptions in how care should be provided by addressing social, medical and physical risk factors.

Conclusions: Length of stay and readmissions are indicators that highlight deficiency in the healthcare system. Inadequate discharge support contributes to a longer hospital stay, heightened risk of negative health outcomes and readmissions (AGO,2010). CATCH bridges the gap between hospital and community for a better transition home.

Senior Focused Care

Title: IMPROVING PATIENT OUTCOMES AND CARE TRANSITIONS THROUGH A SHORT STAY CONVALESCENT CARE PROGRAM AND RAI-HC ASSESSMENT EVALUATION

Authors (Primary first): Scott, Jennifer*, Central Community Care Access Centre; Taciuk, Debbie, Central Community Care Access Centre

Affiliation of Primary Author: Central Community Care Access Centre

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

Abstract:

Purpose: The Short Stay Convalescent Care (SSCC) program provides supportive care and rehabilitation in long-term care (LTC) homes, to give seniors who have had an acute health episode the time and services required to return to independent community living.

Relevance: The program has proven effective in delivering quality care, improved patient outcomes and value for the system. Use of RAI data ensures evidence-based care and validates programming effectiveness. Others can build on this success to implement and improve similar initiatives.

Methods and Analysis: The organization's SSCC program incorporates standardized evaluation measurement, using the Resident Assessment Instrument-Home Care (RAI-HC) assessment for pre-

admission and discharge comparisons. The organization's successes demonstrate a care model that offers value for patients and supports fiscal accountability within the health system. The SSCC beds also enhance care transitions as patients are able to meet their rehabilitation goals, recovering their strength, energy and independence prior to returning to the community.

Study Sample or Initiative Scope: As of Dec. 31, 2013, there are 109 SSCC beds in six long-term care homes in the region and approximately 3,000 patients have been through the program.

Findings: SSCC evaluation and RAI-HC assessment data demonstrate improved patient outcomes and care transitions. Improvements in activities of daily living, falls, depression and pain management contribute to better quality of life and outcomes. The Method for Assigning Priority Levels (MAPLe), which predicts the need for LTC placement, shows a lower risk upon discharge, validating that patients' needs can be met in the community post-discharge.

Discussion: The RAI-HC supports the patient's successful rehabilitation journey, during their care transitions to and from SSCC, documenting the changes along the way. This presentation will review the organization's patient profiles, and improved patient outcomes within this cost-effective program, demonstrating the value of the SSCC, and its importance in care transitions.

Conclusions: Since 2005, the SSCC program has consistently demonstrated significant results, improving functional abilities and reducing the risk for LTC placement. Use of RAI data to validate the effectiveness of programming also ensures sustainability in a changing health system and supports value for healthcare dollars spent.

Brain Injury / Neuro / Stroke

Title: DEFINING COMPLEXITY IN STROKE REHABILITATIVE PRACTICE

Authors (Primary first): Nelson, Michelle*, Bridgepoint Collaboratory for Research and Innovation, Ryerson University; Ronald, Kara, Bridgepoint Active Healthcare; Hanna, Elizabeth, Bridgepoint Active Healthcare; Calvert, Michael, Bridgepoint Active Healthcare; Hall, Stephen, Bri

Affiliation of Primary Author: Bridgepoint Collaboratory for Research and Innovation; Ryerson University

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

Abstract:

Purpose: The purpose of this study was: i) to understand how ‘patient complexity’ is defined and conceptualized by stroke rehabilitation clinical team members, and ii) to situate the findings within the extant conceptual literature on patient complexity.

Relevance: To date there is no widely utilized definition of ‘patient complexity’. Managing complex patients requires greater clinician effort, increased resources, and substantial family/community supports. If health care services are to meet the needs of these patients, a better understanding of the patient population is required.

Methods and Analysis: This study implemented an emergent, interpretive approach using qualitative methods. A purposeful sampling approach was utilized. Clinicians working on two dedicated stroke rehabilitation units were invited to participate. Data was collected through four focus groups. An interview guide was developed with key questions; however, participants were encouraged to provide information beyond the scope of the questions. Data were analyzed in an iterative format, which resulted in the simultaneous data collection/analysis process consistent with interpretive research approaches. Thematic analysis procedures were implemented.

Study Sample or Initiative Scope: 23 stroke rehabilitation clinicians (nurses, therapists and rehabilitation assistants) participated in this study.

Findings: Researchers identified five key elements of patient complexity: i) medical/functional issues, ii) socio-economic factors and iii) health system factors, iv) personal characteristics and v) family/social support. Patient complexity was predominantly attributed to the mismatch between the patient and the expected rehabilitation process or ‘flow’. Shorter length of stays and the inability to discharge patients was central to defining complexity.

Discussion: Study findings validate current definitions and conceptualizations of case and care complexity, and provide deeper insight into the operationalization of complexity definitions in stroke rehabilitation. The characteristics of complexity identified by participants were not unique to stroke patients supporting the development and utilization of a single unifying definition.

Conclusions: ‘Case’ and ‘care’ complexity are the norm in stroke rehabilitative practice, but are not specific to this context. Although the definition of complexity was not specific to stroke rehabilitation, the operationalization of the definition and application of the framework resulted in stroke specific elements.

Other

Title: TEN AT TEN - INJECTING FUN INTO FITNESS

Authors (Primary first): *Dietrich, Mary; Paolini, Mary

Affiliation of Primary Author: Trillium Health Partners (Credit Valley Hospital Site)

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

Abstract:

Purpose: Despite individual and group therapy program schedules, patients on rehabilitation units spend a large portion of their time in bed. We wanted to give patients a reason to get out of bed, and an easy way to increase their activity level.

Relevance: The 10 at 10 encourages interprofessional practice as nurses and allied health collaborate to transfer patients. Patients are able to practice mobility with assistance provided to ambulate/wheel to the care centre for the program. Staff, patients, and visitors participate together, positively influencing morale on the unit.

Methods and Analysis: Using the overhead paging system on the unit, staff, patients, and visitors are invited to participate in the 10 at 10. Staff work together to help people out of bed and either walk with assistance or transfer to their wheelchair to assemble around the patient care centre. The group moves to catchy music during a ten minute routine led by a different team member each weekday. The session ends with an inspirational thought for the day and announcements. Staff and patient surveys have favorably measured perceived benefits & motivation to participate in the 10 at 10.

Study Sample or Initiative Scope: Patient population: 14 slow stream rehab patients, 60% attendance; On average 2-3 family members and 4-8 staff also take part in the program daily.

Findings: Prior to introducing the 10 at 10, few patients were motivated to be out of bed by 10am and nurses shouldered much of the responsibility for getting patients into their wheelchairs in time for therapy. Now, the majority of patients are up in time to participate, and working collaboratively, staff are able to transfer and mobilize patients in ways that further encourage their independence. Surveys reveal high satisfaction with the program.

Discussion: The 10 at 10 is easy & inexpensive to introduce in a rehab setting. Though our numbers are small, our unit tends to have patients who require more assistance with their mobility than the regular stream, thus requiring more manpower to get them to the program. The inter-professional collaboration stimulated by this activity is beneficial, especially for the patient.

Conclusions: On the surface, this unassuming program seems like it is nothing more than a group exercise routine. However, in addition to the functional mobility, and stretching components involved in this session, the 10 at 10 has the added benefit of motivating patients to be out of bed and creating a sense of community on the unit.

Title: EVIDENCE-BASED PAYMENT REFORM IN POST-ACUTE CARE: PROMISES AND PITFALLS

Authors (Primary first): Hellsten, Erik*

Affiliation of Primary Author: Health Quality Ontario

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

Abstract:

Purpose: We examined the post-acute episode of care for stroke, hip fracture and primary hip and knee replacement patients in order to provide analysis and recommendations to inform the development of a new evidence-informed episode-based funding methodology.

Relevance: As new episode-based funding models emerge across Canada, many of these payment reforms are limited to a narrow focus on acute care. We describe unique challenges and opportunities for payment reform in post-acute care identified through our analysis of three patient populations associated with rehabilitation requirements.

Methods and Analysis: We used a novel analytic methodology combining primary data analysis, guideline synthesis, evidence reviews and expert consensus. For each patient population, we linked datasets to analyze trajectories of care across settings. Patient characteristics were modeled for association with cost and length of stay in order to inform recommendations on appropriate stratification and risk adjustment approaches. Practice recommendations were formulated using comparison of existing guidelines for their agreement or divergence in key topic areas and use of rapid systematic reviews for gaps or controversies in the evidence.

Study Sample or Initiative Scope: Patients presenting to Ontario hospitals with stroke (N=18989), hip fracture (N=12860), primary hip (N = 11620) and knee replacement (N=21466).

Findings: Analyses revealed substantial regional variation in use of post-acute discharge settings. Measures of functional status were found to be important predictors of hospital costs and length of stay. Evidence reviews for rehabilitation interventions presented some challenges such as an absence of rigorous randomized trials and heterogeneity across rehabilitation settings and models of care. We used expert consensus to overcome gaps in the evidence.

Discussion: The analyses and recommendations developed through this work support the shift to evidence-informed practices, policies and funding mechanisms spanning both acute and post-acute care, driving improved integration and the reduction of undesirable regional variation in eligibility, setting, intensity and duration of post-acute rehabilitative care.

Conclusions: Provider payment reforms can drive positive system change in post-acute rehabilitative care. However, in order to be successful, such reforms need to address the challenges of fragmented policies and providers, regional inequities in rehabilitative services, gaps in administrative data and uncertainty in the evidence.

Other

Title: EDUCATION AND PARTNERSHIPS: KEYS TO THE EXPANSION OF TIME - A COMMUNITY-BASED EXERCISE PROGRAM

Authors (Primary first): *Howe, Jo-Anne, Toronto Rehab-UHN, University of Toronto, Dept. of Physical Therapy; Tee, Alda; Brunton, Karen; Matthews, Julie; Salbach, Nancy.

Affiliation of Primary Author: Toronto Rehab-UHN; University of Toronto, Dept. of Physical Therapy

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

Abstract:

Purpose: Following the development of an effective partnership between a rehabilitation facility and community centers providing exercise for people with disabilities in Toronto, the purpose of this initiative was to increase access in the broader GTA.

Relevance: Many people live with balance, mobility and fitness deficits related to disabling conditions. To optimize health, ongoing physical activity is essential. Partnerships and education across organizations were the tools necessary to expand TIME, a valued community-based exercise program, providing access for many more people.

Methods and Analysis: Using a PDSA (Plan, Do Study, Act) approach, an environmental scan identified whether people with disability were included in the exercise programming of community providers in the central-north-east GTA and the factors which encouraged or threatened this inclusion. Education to the community centre staff on impairments and appropriate exercise ultimately resulted in collaboration and program implementation. Visits by physiotherapists to the programs not only evaluated program quality, using Observer Guidelines developed for this purpose, but also maintained support and communication with the fitness instructors.

Study Sample or Initiative Scope: Delivery of education in Port Hope, Barrie, Aurora, Whitby and Peterborough in 2011 to 2013 was attended by 169 fitness instructors and managers.

Findings: The environmental scan identified gaps in exercise programming for people with disability. Barriers included needs for education on how to lead exercises for people with movement challenges. Subsequent to the training, community centre managers were supported to launch 10 programs throughout the region. On program visits, the physiotherapists noted the safe delivery of the classes with participants challenged appropriately to their abilities.

Discussion: People living in the community with disability are at risk for inactivity and decline in health and independence. To increase capacity for safe and appropriate exercise, partnerships between health care and the community are necessary. Transitioning to the community could relieve pressure on the health care system, providing a sustainable solution for fitness maintenance.

Conclusions: This initiative demonstrates how inter-organizational partnerships and interprofessional education achieved the expansion of a community-based exercise program to a region which previously had limited access to exercise for disabled populations, putting people in motion who wouldn't otherwise have opportunity.

Student Abstracts

Brain Injury / Neuro / Stroke

Poster Number: 1

Title: MILD TRAUMATIC BRAIN INJURY IN A SINGLE MALE YOUTH ICE HOCKEY PLAYER: DESCRIBING THE RECOVERY OF SELF REPORTED SYMPTOMS, PHYSICAL FUNCTION AND COGNITION

Authors (Primary first): Verweel, Lee*(1,2); Dick, Talia(1); Reed, Nick (1,2); Keightley, Michelle (1)
(1) Holland Bloorview Kids Rehabilitation Hospital (2) Graduate Department of Rehabilitation, University of Toronto

Affiliation of Primary Author: Holland Bloorview Kids Rehabilitation Hospital; Graduate Department of Rehabilitation Science, University of Toronto.

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

Abstract:

Purpose: To describe the physical and neurocognitive performance of a single, typically developing 11-year-old male youth hockey player, pre and post mild traumatic brain injury (mTBI).

Relevance: Mild traumatic brain injury within the pediatric sport population is concerning due to its high prevalence and potential impact on neurological development. There is a lack of research exploring post-mTBI recovery specific to youth athletes and the appropriateness of the measures used to assess return to play.

Methods and Analysis: A case study approach was used to describe pre and post mTBI performance of an 11 year old male youth hockey player. Results were drawn from a larger longitudinal study describing pre and post mTBI performance specific to self-report of symptoms, physical function and cognition. Visual analysis was used to understand data gathered. Outcomes of interest included: Post-Concussion Symptom scale (PCS), Pegboard test, Stroop Color-Word test, and measures to assess average verbal working memory reaction time (avgVWMRT).

Study Sample or Initiative Scope: One single, typically developing 11 year old male youth hockey player is described in this study.

Findings: The individual observed sustained a mTBI during ice hockey participation and exhibited PCS, Pegboard, Stroop and avgVWMRT scores that were elevated from pre-mTBI baseline. PCS, Pegboard, and Stroop Color-Word test scores returned to baseline after 5 days; however, avgVWMRT remained elevated above baseline.

Discussion: Based on the findings of this case study, it is possible that some measures of post-concussion performance are more sensitive than others. Further research is needed to ensure that recovery protocol is inclusive of neurocognitive symptoms (i.e. working memory) that may be distinct from PCS scores and/or physical assessments.

Conclusions: Assessing readiness to return to play requires methods that ensure all the symptoms of mTBI have resolved. This study acts as a first step towards further exploration and discovery of post mTBI recovery specific to youth athletes.

Paediatrics

Poster Number: 2

Title: DEVELOPMENTAL AND GENDER INFLUENCES ON EXECUTIVE FUNCTION FOLLOWING CONCUSSION IN YOUTH ATHLETES

Authors (Primary first): Lax, Ilyse; Paniccia, Melissa; Agnihotri, Sabrina; Reed, Nick; Garmaise, Evan; Azadbakhsh, Mahdis; Ng, Justin; Keightley, Michelle

Affiliation of Primary Author: Department of Occupational Science and Occupational Therapy, University of Toronto

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

Abstract:

Purpose:

- 1) To develop athlete-specific normative data for measures of executive function
- 2) To investigate the effects of age, gender and concussion history on executive function in youth hockey players

Relevance: As youth athletes are more vulnerable and recover significantly slower from concussion than their adult counterparts, this study acts as the foundation for healthcare professionals to create return-to-play guidelines that are individualized to a youth athlete's functional recovery time.

Methods and Analysis: This three-year cross-sectional and longitudinal multiple cohort study examined data obtained from youth hockey players between 8-15 years of age. Post-Concussive Scale Revised (PCS) and a battery of four standardized neuropsychological assessments were administered to each participant annually as part of a pre-hockey season baseline assessment. For participants who incurred a concussion during the present study, the PCS was re-administered and the participant returned to

complete the same battery of neuropsychological assessments. Data was analyzed using a mixed-effects modeling approach.

Study Sample or Initiative Scope: A convenience sample of 211 youth hockey players between 8 to 15 years of age from hockey teams in the GTA was recruited across a three-year period.

Findings: Normative analyses revealed significant age and gender effects on measures of executive function. Multiple effects of concussion history on measures of cognitive flexibility ($F = 2.48$, $p = .03$) and psychomotor speed ($F = 2.59$, $p = .04$) were also found.

Discussion: This study provides foundational knowledge to better manage cognitive sequelae following sport-related concussion and enable return to play. Findings have functional implications for returning to daily activity as undetected neurocognitive impairments, especially with youth hockey players, put them at increased risk for re-injury and further cognitive impairments.

Conclusions: Neuropsychological assessment provides significant information to facilitate optimal clinical decision-making following sport-related concussion in youth. Age, gender and concussion history have profound effects on EF in youth athletes and these factors must be considered in the clinical management of concussion.

Paediatrics

Poster Number: 3

Title: CASE REPORT: RECOVERY FOLLOWING SPORTS-RELATED MILD TRAUMATIC BRAIN INJURY IN A YOUTH FEMALE HOCKEY PLAYER

Authors (Primary first): *Mah, Katie; Reed, Nick; Keightley, Michelle; Dick, Talia

Affiliation of Primary Author: Graduate Department of Rehabilitation Sciences, University of Toronto, Toronto, ON; Bloorview Research Institute, Holland Bloorview Kids Rehabilitation Hospital, Toronto, ON

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

Abstract:

Purpose: To describe the recovery of a 12 year old female hockey player who sustained mTBI during hockey play. Cognitive performance at pre and post-injury time intervals is described.

Relevance: To date, little is understood regarding how the pediatric brain responds to mTBI; this is particularly true regarding cognitive recovery. This is of interest at the clinical, research, and policy levels

as current pediatric return to play protocols may not provide sufficient time for cognitive recovery in all athletes.

Methods and Analysis: A case study was conducted to compare pre and post-injury performance within a single female youth hockey player. Assessment of post-concussive symptoms (the Post Concussion Scale-Revised) and working memory (WM; verbal and non-verbal reaction time) was completed at baseline (pre-injury), days 3 and 6 post-injury, and upon symptom resolution (day 22 post-injury). Additionally, a selective attention task (Stoop Colour-Word Test) was completed at baseline and upon symptom resolution. PCS-R scores and performance scores were graphed in Excel and visually compared for return to baseline.

Study Sample or Initiative Scope: A single 12 year old female competitive youth hockey player is presented.

Findings: Performance on the selective attention task returned to baseline at symptom resolution. In contrast, performance on the WM task (reaction time) did not return to baseline at symptom resolution. Performance on the selective attention task reflected a traditional assumption that cognitive recovery largely overlaps with symptom resolution; however, performance on the WM task (reaction time) did not reflect this assumption.

Discussion: WM allows a player to incorporate visual and spatial information (e.g., opposing player movement) into rapid decision making; a change in WM reaction time may result in a declined ability to respond to visual and spatial cues. Findings are relevant at the clinical (i.e., player performance/safety), research, and policy levels (i.e., need for new measures and protocols).

Conclusions: Current measures of cognitive performance may not offer the most accurate index of readiness to return to play. Future research is needed to explore measures of increased sensitivity and complexity to better inform cognitive recovery in youth following sport-related mTBI.

Other

Poster Number: 4

Title: HEAD AND TRUNK CONTROL WHILE WALKING IN OLDER ADULTS WITH TYPE 2 DIABETES MELLITUS: EFFECTS OF COGNITIVE LOADING AND TIME CONSTRAINTS

Authors (Primary first): Hewston, Patricia*, Queen's University; Deshpande, Nandini, Queen's University

Affiliation of Primary Author: Queen's University

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

Abstract:

Purpose: To examine the effects of cognitive loading and time constraints on head and trunk control while walking in older adults with Type 2 Diabetes Mellitus (T2DM) who did not report mobility disability.

Relevance: Investigations of cognitive loading while walking in older adults with T2DM has solely focused on biomechanical parameters of the lower limbs. To our knowledge, this is the first study to examine the effects of cognitive loading on upper body control in older adults with T2DM.

Methods and Analysis: An OPTOTRAK motion capture system tracked the position of 8 IRED markers placed on the body as participants walked along a 6-meter path at their comfortable or fastest pace. On randomly selected trials, a secondary cognitive task involved serial subtraction by 1's (SS1) or 3's (SS3). Outcome measures included peak-to-peak head and trunk roll and pitch angles (degrees), and walking speed (m/s). Cognitive performance was calculated as the total number of correct verbalized serial subtractions (VSS). Mixed factor ANOVAs were used to examine group differences during conditions of cognitive loading and time constraints.

Study Sample or Initiative Scope: Fifteen older adults with T2DM with no mobility disability (T2DM, Mage:71.40,SD=5.01) and 15 healthy controls (HC, Mage=73.73,SD=6.31) were recruited.

Findings: The ability to increase walking speed to the fastest pace reduced with higher cognitive loads, regardless of group ($p < 0.05$).

Discussion: In both T2DM and HC the ability to control the head and trunk segments became increasingly challenging with higher cognitive loads despite reductions in walking speed. Anterior-posterior trunk movement reduced with walking speed at low (SS1) but not high cognitive loads (SS3). Overall, T2DM walked slower than HC which is a cautious strategy to maintain balance.

Conclusions: Despite overall differences in walking speed, older adults with T2DM who did not report mobility disability had similar upper body control as HC during conditions of cognitive loading and time constraints during level-ground walking in a predictable environment.

Conference Abstracts

Cardiac / Pulmonary

Poster Number: 6

Title: EVERY BREATH YOU TAKE: SUCCESSFUL PULMONARY REHABILITATION PROGRAM FOR COPD IN THE RURAL SETTING

Authors (Primary first): *Milne, Ken; Pasut, Nicole; Callihoo, Michael; McCann, Aimee; Nicholson, Karyn; Snider, Shelley;

Affiliation of Primary Author: Schulich School of Medicine and Dentistry, Western University; Department of Epidemiology and Biostatistics, Schulich School of Medicine and Dentistry, Western University; South Huron Hospital, Exeter, ON; Gateway Rural Health Research Institute

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

Abstract:

Purpose: This study attempts to demonstrate that COPD can be managed effectively in the rural setting with a combination of community and home based programming.

Relevance: Chronic Obstructive Pulmonary Disease is the 4th leading cause of death in Canada. Comprehensive pulmonary rehabilitation programs have been proven successful in urban settings, however rural healthcare differs substantially from that offered in urban settings, potentially creating a new set of challenges.

Methods and Analysis: The study included rural COPD patients who were referred to a 12-week pulmonary rehabilitation program consisting of education, exercise, and optimization of pharmacotherapy. The program was delivered either in a community setting or in the patients' homes as appropriate. Assessments were scored using the comprehensive BODE (body mass index, obstruction, dyspnea, exercise capacity) index. Reassessments were performed following the 12-week program. Comparisons were made between baseline and post-program results to determine changes to measured values.

Study Sample or Initiative Scope: There were 30 participants enrolled in the rehabilitation program. The average age was 75.1 years with 53% female. Mean FEV1% predicted was 65.9%.

Findings: The initial mean BODE index was 3.46 (out of 10). Post-program assessment of the BODE index showed a statistically significant decrease of 0.88 ($p < 0.001$) indicating that the pulmonary rehabilitation program produced beneficial outcomes among the participants at twelve weeks. Overall, 20 of the 30 participants showed at least a one-point decrease in their post-treatment BODE score which meets the minimal clinically important difference threshold.

Discussion: Successful implementation of community-based rehabilitation would increase the availability of a previously scarce resource and may contribute to increased treatment adherence. Additionally, this may lead to a reduction in use of hospital-based rehabilitation resources as patients are better able to self-manage their disease thereby decreasing hospital admissions.

Conclusions: Results observed to date indicate that COPD can be effectively provided in a rural setting using a community and home-based pulmonary rehabilitation model. Furthermore, this program model is also capable of producing clinically important changes in various measures of health and physical function.

MSK

Poster Number: 7

Title: TOTAL HIP AND TOTAL KNEE REPLACEMENT INNOVATION: OUTCOME-BASED PATHWAYS TO PROMOTE QUALITY AND VALUE IN HOME CARE

Authors (Primary first): Baljit, Jacklyn*; Ezekiel, Helen; Rowe, Jennifer

Affiliation of Primary Author: OACCAC

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

Abstract:

Purpose: To develop a provincial approach to care through standardized outcome measures embedded in Outcome-Based Pathways. This model seeks to improve patient outcomes by increasing consistency of best practice and promoting quality and value in home care.

Relevance: A review of current practices in the home indicate that large variation exists for patients undergoing total joint replacement (TJR - therefore the need to standardize processes and outcomes to ensure quality evidence-based best practices are consistently available to patients across Ontario would be beneficial.

Methods and Analysis: Given the complexity of implementing an evidence-based TJR home based program, a joint sector Committee was formed in order to provide direction and guidance to the process. OBPs were developed using rigorous development cycles by a working group of community sector experts. Proof-of-concept testing of the TJR Outcome-Based Pathways began in 2012 and continues with the collaborating sector organizations across the province. Standardized education and implementation processes were deployed with an emphasis on: collaboration, consistency, communication, change management and cross-portfolio planning and resources.

Study Sample or Initiative Scope: Between November 2012 and January 2014 there have been over 2,640 patients that have had TJR OBPs ordered across 4 of the 14 local planning areas.

Findings: In its early implementation, the use of OBPs has seen sector-wide clinical transformation across multiple organizations, highlighting areas of excellence and promoting the development of continuous improvement processes using meaningful outcome indicators.

Discussion: Ongoing proof-of-concept testing and data analysis is recommended for further outcome-based care evaluation and improvement. As well, the OBP framework is being used with other relevant provincial rehabilitation populations through such initiatives such as patients with hip fracture and stroke.

Conclusions: (included in discussion section)

MSK

Poster Number: 8

Title: LATERAL BALANCE TRAINING AND HYDROTHERAPY REHABILITATION INTERVENTIONS AFTER TOTAL KNEE REPLACEMENT IMPROVES FUNCTIONAL MOBILITY

Authors (Primary first): Street, Brian* York University; Paré, Aili; Nguyen, David; Sergio, Lauren; Gage, William

Affiliation of Primary Author: York University

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

Abstract:

Purpose: The purpose of this project was to investigate whether a specific rehabilitation intervention designed to challenge side-to-side balance or a hydrotherapy protocol can improve balance control and function in patients after total knee replacement.

Relevance: Significant improvements in pain and function have been reported following total knee replacement; however, persistent balance impairments remain [1]. The results of this study may contribute to the clinical decision making process of physiotherapists' when designing rehabilitation options for this patient group.

Methods and Analysis: Patients were randomly assigned into three separate groups; standard course of therapy (STA), lateral balance intervention (BAL) + STA, and a hydrotherapy intervention (HYD) + STA. Participants completed the Berg Balance Scale (BBS) and Timed Up-and-Go (TUG) test at their initial outpatient appointment and then again 6 weeks later. Repeated measures analysis of variance was used to test for differences between group (STA, BAL, HYD) and at the two collection points, time (Initial, Final). Paired Students t-tests, with Bonferroni correction, were used to explore significant interaction or main effects differences.

Study Sample or Initiative Scope: 51 primary knee replacement patients (age: 65.5 ± 9.1 years, BMI: 31.6 ± 7.0 kg/m², Female: 42).

Findings: A significant interaction effect of group x time ($F_{2,48}=3.89$, $p=0.027$) confirmed that the BAL group had a significantly higher score for the BBS at the Final collection compared to the STA group ($p=0.024$). A significant interaction effect of group x time ($F_{2,48}=3.42$, $p=0.041$) revealed that the BAL and HYD groups had a significantly lower time on the TUG test at the Final collection compared to the STA group (p

Discussion: Although pain and function are improved with joint replacement surgery for sufferers of moderate and severe knee osteoarthritis, significant balance impairments persist, particularly in the lateral direction. The use of a lateral balance or hydrotherapy intervention regimen after surgery significantly improves balance and functional mobility testing over standard therapy.

Conclusions: Including an adjunct lateral balance or hydrotherapy regimen in a prescribed physiotherapy treatment plan can improve balance and mobility following total knee replacement.

MSK

Poster Number: 9

Title: FACTORS ASSOCIATED WITH RETURN-TO-WORK FOLLOWING WORK-RELATED FOOT AND ANKLE INJURIES

Authors (Primary first): Gandhi*, Rajiv, Altum Health - University Health Network; Yak, Amelie; Wong, Sandra; Veljkovic, Andrea; Lau, Johnny

Affiliation of Primary Author: Altum Health - University Health Network

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

Abstract:

Purpose: The purpose of this study was to find modifiable factors that are associated with return-to-work (RTW) among workers with foot and ankle injuries in Ontario, Canada.

Relevance: Sick leave following workplace foot and ankle injury is a major challenge as it is costly, negatively impacts workplace productivity and can lead to loss of self-esteem and stress in family relationships. Our study examined the association between modifiable factors and RTW among injured workers.

Methods and Analysis: Relevant covariates, including demographic data and functional scores were recorded for injured workers discharged between October 2010 and July 2013 from a multidisciplinary Foot and Ankle treatment program. Only clients that were not working at intake were included in our study. Our primary outcome, RTW, was assessed at 3 months follow-up. Logistic regression was used to identify those factors associated with a successful RTW.

Study Sample or Initiative Scope: Our study included 88 injured workers that participated in the Foot and Ankle treatment program with 73% male at a mean age of 47 years.

Findings: By 3 months post-treatment discharge 28 (32%) of the clients were able to RTW. Logistic regression revealed that a shorter time since injury was the only variable in our study that was significantly associated with RTW at 3 months follow-up ($P < 0.05$). Age, gender, level of education, LEFS, PCS and PHQ-9 scores at intake were not significantly associated with RTW.

Discussion: Time from injury to referral for treatment is a strong predictor of vocational outcome following treatment. Pain catastrophizing, depression and lower extremity functional scores were not significantly associated with RTW in this study sample.

Conclusions: Workers compensation boards should refer foot and ankle injured workers to treatment programs as early as possible to achieve a more successful RTW.

Poster Number: 10

Title: DESCRIPTION OF BREAST PATIENTS WITH UPPER EXTREMITY DYSFUNCTION ATTENDING A CONSULTATIVE REHABILITATION CLINIC

Authors (Primary first): Armstrong,Emma; Beatty,Kate; Jen Ferneyhough; Mecredy,Sarah; Udler,Liz; Chafranskaia,Aleksandra; Phan,Stephanie; Pam Catton; Jennifer Jones

Affiliation of Primary Author: Princess Margaret

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

Abstract:

Purpose: Describe demographics, clinical characteristics, interventions, and discharge destinations for breast cancer (BC) patients with upper extremity (UE) dysfunction referred to the consultative Function and Mobility Clinic (FMC) in 2008-2011.

Relevance: Retrospective chart review provided better understanding of the needs and characteristics of BC patients referred to the FMC at Princess Margaret Cancer Centre with upper extremity (UE) dysfunction and their trajectory of care provided on a consultative basis.

Methods and Analysis: Descriptive statistics were calculated for demographics, cancer treatment provided, function and mobility outcomes, interventions, number of follow-up visits and discharge destinations. To compare women discharged to self-manage in the community and women discharged to receive further clinical care independent samples t-tests compared means for pain intensity, Disability of Arm, Shoulder, and Hand (DASH) questionnaires scores and age while chi-square test evaluated relationship between level of independence, presence of return to work issues, and presence of psychosocial issues.

Study Sample or Initiative Scope: Cross sectional retrospective chart review of all patients who attended the Function and Mobility Clinic between 2008 and 2011 (n=219).

Findings: 83% of patients had reduced active range of motion on their affected side, 77% had difficulty with activities of daily living, 40% had severe pain and a sub-sample of the population that completed the DASH questionnaire had high levels of disability (46/93). Additionally, many patients reported return to work (38%) and psychosocial issues (38%). The most common intervention received was prescription of a home exercise program (81%).

Discussion: Women discharged for further care in the community showed significantly higher levels of pain and Disability of Arm, Shoulder, and Hand (DASH) questionnaires scores, more return to work issues and decreased independence with daily activities. Setting up consultative clinics at cancer centres may be an efficient way to provide much needed rehab services for BC patients

Conclusions: A subset of BC patients develop upper extremity (UE) dysfunction and require access to outpatient rehabilitation. Further research (i.e. follow-up phone calls) with help to determine if the needs of the population served by the PM consultative clinic are being met.

Oncology

Poster Number: 11

Title: A POPULATION BASED STUDY OF HOSPITALIZED PATIENTS WITH BRAIN TUMOURS: WHO RECEIVES OCCUPATIONAL THERAPY SERVICES AFTER DISCHARGE?

Authors (Primary first): Chan, Vincy; Xiong, Chen*; Colantonio, Angela;

Affiliation of Primary Author: University of Toronto

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

Abstract:

Purpose: Occupational therapy (OT) has the potential to reduce the impact of brain tumours and the side effects of treatments; however, there is currently little population-based information on access to OT services for this population.

Relevance: As survival rates of patients with brain tumours increase, a greater demand for OT services will be anticipated. This study identifies distinct trends and characteristics of patients with brain tumours that occupational therapists will have to recognize in order to be adequately prepared when working with these patients.

Methods and Analysis: This is a retrospective cohort study. Acute care data and data on access to OT services were obtained from the Discharge Abstract Database and the Home Care Reporting System respectively. Descriptive analyses were conducted to determine the demographic and clinical characteristics of patients that received OT services post-hospitalization including age, sex, Charlson Comorbidity Index score, psychiatric comorbidity, length of stay in acute care, number of alternate level of care days, number of special care days, discharge destination from acute care, and care delivery site after discharge from acute care.

Study Sample or Initiative Scope: Our study sample includes patients with brain tumours discharged alive and later received OT services between 2003/04 and 2008/09 in Ontario, Canada.

Findings: Between fiscal years 2004/05 and 2008/09, 3,199 patients with brain tumours received OT services, 12.4% had benign, 78.2% had malignant, and 9.4% had unspecified brain tumours. The majority of patients with benign brain tumours were females (65.1%) compared to 51.4% and 47.8% of patients with malignant brain tumours and unspecified brain tumours respectively. Lengths of stay and discharge destinations also differed among the brain tumour groups.

Discussion: Patients with benign, malignant, and unspecified brain tumours that received OT services after discharge from acute care have distinct characteristics. By providing a pioneering overview of these demographic and clinical characteristics, our study serves to inform the delivery and planning of OT services for this group of patients.

Conclusions: This is the first study, to the best of our knowledge, to include patients with benign and unspecified brain tumours, which are currently not tracked in Canada. Continual surveillance of patients with brain tumours is vital in developing best practices in OT for each tumour type and improving their quality of care.

Medically Complex / Special Needs

Poster Number: 13

Title: ENHANCED MOBILITY-FOCUSED PHYSIOTHERAPY FOLLOWING THORACIC SURGERY: A PROGRAM EVALUATION PROJECT

Authors (Primary first): *McCaughan, Magda; Mistry, Sajel;Osakabe, Nami; Takhar, Inderjeet; Murphy, Christina; DePaul, Vincent G;

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

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

Abstract:

Purpose: To evaluate the impact of an enhanced, post-surgical mobility-focused physiotherapy program for patients undergoing thoracic-surgery for lung cancer.

Relevance: An increasing number of patients undergo thoracic surgery for lung cancer. While proven to prolong life, there are inherent risks associated with surgery, including those related to immobility. Early mobilization has been associated with reduced post-op complications and improved functional outcomes.

Methods and Analysis: In this program evaluation project, an enhanced post-op physiotherapy (EPT) program was evaluated against standard post-op physiotherapy (SPT) (retrospective sample). In SPT, patients received one visit per day (respiratory and mobility care). In EPT patients received 2 visits, including 1 mobility-focused session. In the EPT group, data were collected on consecutive patients admitted for thoracic surgery, including time to independent ambulation, time to physiotherapy discharge, and time to hospital discharge. In the SPT group, data were collected using retrospective chart reviews.

Study Sample or Initiative Scope: A total of 227 ambulatory inpatients with lung cancer admitted for thoracic surgery. All patients were independently mobile prior to surgery.

Findings: The EPT group (4.6 days [S.D. 2.0] took significantly less time to achieve independent ambulation than SPT (5.77 d [S.D. 3.22])($p = 0.002$). For time to physiotherapy discharge, EPT was 5.65 d from admission (S.D 2.56) compared to 6.52 d (S.D 5.68) in SPT ($p = 0.121$). Mean hospital LOS for the EPT was 6.11 d (S.D. 2.97) and 6.83 d (S.D. 5.83) for the SPT group ($p = 0.235$). Between group differences were most evident in patients 65 years or older.

Discussion: In this initiative, a modest increase in physiotherapy staff resources allowed the provision of twice per day physiotherapy for patients who had undergone thoracic surgery. This simple, feasible approach to early and more frequent mobilization seemed to facilitate a more timely recovery of functional independence in this complex population.

Conclusions: In patients undergoing thoracic surgery, the addition of an enhanced, post-op, mobility-focused physiotherapy program was associated with a reduction in time to achieve independent ambulation, and a trend toward reduced time on physiotherapy caseload.

Paediatrics

Poster Number: 14

Title: “BRAIN STRAIN” FOLLOWING MILD TRAUMATIC BRAIN INJURY: A NEUROIMAGING INVESTIGATION OF DUAL-TASK PERFORMANCE IN YOUTH ATHLETES

Authors (Primary first): *Sinopoli, Katia J; Chen, Jen-Kai; Wells, Greg; Ptito, Alain; Taha, Tim; Keightley, Michelle L.

Affiliation of Primary Author: The Hospital for Sick Children, Department of Psychology, Division of Neurology

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

Abstract:

Purpose: To determine whether or not cognitively challenging youth athletes with mild traumatic brain injury (mTBI) would reveal underlying behavioural and neural abnormalities not previously detected using single-task paradigms.

Relevance: Much of what is known about the sequelae of mTBI is yielded from adult participants. Youth with mTBI who do not necessarily exhibit post-injury symptoms or neuropsychological impairment, may still experience decreased cognitive efficiency, which points to a need for more comprehensive assessment of dual-task performance.

Methods and Analysis: Male athletes aged 9-15 years with and without a history of mTBI 3-6 months prior to testing completed a working memory task both in isolation (single-task) and while completing a concurrent motor (dual-task). Neuroimaging correlates were recorded using functional magnetic resonance imaging. Both behavioral and fMRI analyses were used to test hypotheses.

Study Sample or Initiative Scope: The sample size included 13 boys with mTBI (mTBI group) and 14 boys without a history of mTBI (control group).

Findings: Although participants performed similarly during the single-task condition, youth with mTBI displayed abnormal activation in key working memory areas including the dorsolateral prefrontal cortex and parietal cortices. During the dual-task condition, youth with mTBI slowed their rate of responding to ensure accuracy. These participants also exhibited abnormal recruitment of brain structures involved in both working memory and dual-tasking.

Discussion: The dual-task paradigm can uncover functional impairments in youth with mTBI who are not symptomatic and do not exhibit neuropsychological dysfunction. The implications of these findings posit that mTBI in youth leads to decreased cognitive efficiency, which may lead to a need for greater allocation of cognitive resources at the brain level to maintain optimal performance.

Conclusions: Neural recruitment abnormalities were noted in both the single- and dual-task condition, which suggests mTBI-related disruptions in efficient cognitive control and allocation of processing resources. Even after a single, relatively “mild” injury, the way in which the brain processes and manipulates information is affected.

Spinal Cord Injury

Poster Number: 15

Title: TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION AND NEUROPATHIC PAIN FOLLOWING SPINAL CORD INJURY

Authors (Primary first): *McIntyre, Amanda; Rice, Danielle; Janzen, Shannon; Teasell, Robert *Lawson Health Research Institute, St. Joseph's Parkwood Hospital, London, Ontario

Affiliation of Primary Author: Lawson Health Research Institute

Abstract Category: Research in Rehabilitation (quantitative, qualitative or mixed methods); Systematic Literature Review

Abstract:

Purpose: Transcutaneous electrical nerve stimulation (TENS) is a promising new therapy for neuropathic pain (NP) after a spinal cord injury (SCI). Therefore, it was our objective to systematically review the effectiveness of TENS for treatment of NP after SCI.

Relevance: It has been reported that chronic pain post SCI exceeds a prevalence rate of 65%. Interventions aimed to reduced pain will ultimately improve one's quality of life.

Methods and Analysis: A key terms literacy search was conducted in the following electronic databases: PubMed, CINAHL, EMBASE, and Scopus. Studies published up to and including September 2013 were reviewed and evaluated based on the following criteria: 1) 3 participants; 2) 50% of participants had a SCI; and 3) participants received TENS for the treatment of NP. Author(s), publication year, inclusion/exclusion criteria, intervention protocol, outcome measure(s) and results were extracted from each study.

Study Sample or Initiative Scope: Three studies met inclusion criteria: a randomized controlled trial, a prospective controlled trial, and a pre-post study.

Findings: The effect of high (80Hz) or low (2-4 Hz) pulse frequency TENS on NP was examined among 29 participants (18 years). Compared to sham TENS, both high and low frequency TENS resulted in reported reduction in clinical pain intensity on the Visual Analogue Scale. However, low frequency TENS demonstrated greater effectiveness than high frequency TENS. Adverse effects, including discomfort/pain and local muscle spasms, were reported.

Discussion: Based on good, but limited, evidence, this review has demonstrated that TENS may be advantageous. While a clinically significant reduction in NP was noted, this finding was not statistically significant. To overcome this challenge, a greater number of studies with larger sample sizes and consistent data collection should be published.

Conclusions: TENS may be considered for treatment of NP post SCI.

Poster Number: 16

Title: THE LANDSCAPE OF SPINAL CORD INJURY RANDOMIZED CONTROLLED TRIALS

Authors (Primary first): *McIntyre, Amanda; Janzen, Shannon; Rice, Danielle; Iruthayarajah, Jerome; Eng, Janice; Teasell, Robert

Affiliation of Primary Author: Lawson Health Research Institute

Abstract Category: Systematic Literature Review

Abstract:

Purpose: To examine the number, sample size, and quality of all randomized controlled trials (RCTs) published in the spinal cord injury (SCI) literature from January 1970 to September 2013.

Relevance: This overview will uncover areas of research that are heavily represented or under-represented. Further, the strengths and weaknesses of interventions on a broad scale can be recognized. This type of analysis is invaluable for prioritizing future research and resources.

Methods and Analysis: The research databases PubMed, CINAHL, EMBASE, and Scopus were searched for articles in which (1) 50% of sample had a SCI; (2) the research design was a RCT; (3) it was published between January 1970 and September 2013; and (4) was written in English. Data on author(s), year of publication, country, sample size, primary intervention and outcome were abstracted and compiled in a central database. Using the Physiotherapy Evidence Database (PEDro) tool, a score of methodological quality was assigned. Data analysis was conducted using IBM Statistics SPSS (v. 20).

Study Sample or Initiative Scope: 325 RCTs met the inclusion criteria examining 24 topic areas; interventions for bladder management was the most frequently studied area.

Findings: The majority of the research originated from the United States (44.2%). Approximately 54% of all RCTs have been published over the past 10 years (2004-2013). Sample sizes ranged from 3 to 760 with the median sample size per study at MD=30 (IQR=37). Overall, the majority of studies were rated as having excellent methodological quality (38.0%) with a median PEDro score of MD=7 (IQR=3). There were no trends in sample sizes or PEDro scores over time.

Discussion: The majority of studies in the spinal cord injury literature have been published in the last decade and are predominately from North America. Compared to other neurological conditions, the number of published RCTs is low; that is, there are >1000 RCTs in the stroke literature. There has been little change in average sample size and methodological quality over time.

Conclusions: Overall there are too few RCTs published in the spinal cord injury literature. Despite methodological quality being fair, it has not improved over time, nor has the size of study samples.

Spinal Cord Injury

Poster Number: 17

Title: RANDOMIZED CONTROLLED TRIALS IN SPINAL CORD INJURY (SCI) HAVE GOOD METHODOLOGICAL QUALITY BUT ARE UNDERPOWERED

Authors (Primary first): McIntyre, Amanda*; Janzen, Shannon; Iruthayarajah, Jerome; Rice, Danielle; Eng, Janice; Teasell, Robert

Affiliation of Primary Author: Lawson Health Research Institute

Abstract Category: Systematic Literature Review

Abstract:

Purpose: To examine the methodological quality of all published randomized controlled trials (RCTs) in the SCI rehabilitation literature and determine the proportion of RCTs that were sufficiently powered to detect a moderate treatment effect.

Relevance: The methodological quality of a research study is critical to the usefulness and interpretation of the findings. Understanding the strengths and weaknesses of current studies provides direction for future researchers.

Methods and Analysis: PubMed, CINAHL, EMBASE, and Scopus were searched for studies in which (1) 50% of sample had a SCI; (2) RCT research design; (3) published between January 1970 and September 2013; and (4) English. Data on author(s), year of publication, sample size, and the PEDro score were compiled. The PEDro assesses the methodological quality based on 10 items. Score 8-10 are considered excellent, 6-7 good, 4-5 fair, and <4 poor. It was determined that to detect a moderate treatment effect of 0.5 with the significance level (alpha) set at 0.05 and power (1-beta) set at 0.8, a total sample size of 128 individuals was required.

Study Sample or Initiative Scope: The methodological quality of 325 SCI RCTs was assessed.

Findings: The methodological quality of 325 retrieved articles was assessed. The mean PEDro score was 6.45 ± 2.29 . Overall, 38.0% of RCTs were of excellent quality, 34.1% were good 21.2% were fair, and 6.7% were poor. With respect to sample size, only 24 RCTs (7.4%) included 128 participants and therefore, were sufficiently powered to detect a moderate treatment effect.

Discussion: The vast majority of RCTs in the SCI literature were of good or excellent quality; however, approximately one third of the studies were rated as fair or poor. However, it appears that a substantial portion of RCTs are underpowered.

Conclusions: To improve the methodological quality of future studies within SCI, individualized items on the PEDro should be analyzed to determine common weaknesses across studies. Furthermore, large trials are necessary to ensure our confidence in the effectiveness of rehabilitation interventions.

Brain Injury / Neuro / Stroke

Poster Number: 18

Title: REHABILITATION KNOWLEDGE TO ACTION PROJECT (REKAP): NARROWING THE GAP BETWEEN ACTUAL AND BEST PRACTICE IN NEUROREHABILITATION

Authors (Primary first): Janzen, Shannon*; McIntyre, Amanda; Mehta, Swati; Teasell, Robert

Affiliation of Primary Author: Lawson Health Research Institute

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

Abstract:

Purpose: This project aimed to assess the level of adherence to best practice recommendations on three rehabilitation units. A subsequent goal was to create and implement strategies to address identified care gaps.

Relevance: Outcomes in healthcare are optimized when clinical practices reflect the latest research findings. Despite the existence of numerous best practice recommendations and guidelines, a large number of patients do not receive care according to the evidence.

Methods and Analysis: Best practice recommendations that were objective and measurable were selected and compared to current practices through retrospective chart audits. Medical charts were independently reviewed by two researchers. Evidence-practice care gaps were identified on the stroke, acquired brain injury (ABI), and spinal cord injury (SCI) rehabilitation units. The research and clinical teams worked collaboratively to create and implement strategies to improve adherence to best practices. Six months post-implementation, the uptake of the strategies was evaluated using a second retrospective chart audit.

Study Sample or Initiative Scope: 322 patients admitted and discharged from inpatient rehabilitation with a primary diagnosis of ABI (n=102), SCI (n=100), or stroke (n=120).

Findings: Over 25 areas of practice were assessed in the initial audit. The evaluation audit (n=163 stroke; n=57 ABI) demonstrated improved adherence to best practice recommendations. Depression screening improved (5% vs. 40% stroke; 0% vs. 75% ABI), and the proportion of patients with at least one day with no blood pressure monitoring decreased (89% to 9%). Furthermore, agitation is now evaluated using a behavioural assessment tool.

Discussion: The existing challenge with research is the dissemination and application of findings within a real world setting. This project has started to address this issue locally. Through the adoption of best practice recommendations, it is predicted that the quality of care provided will improve and ultimately impact patient outcomes.

Conclusions: REKAP has served as a catalyst for clinical change on the rehabilitation units and within the hospital as a whole. The project now serves as a template for other centers. The remaining care gaps will continue to be addressed.

Brain Injury / Neuro / Stroke

Poster Number: 19

Title: Development of the Community Re-engagement Cue to Action Trigger Tool (CRCATT)

Authors (Primary first): McKellar, Jocelyne*, Toronto West Stroke Network; Cheung, Donna, South East Toronto Stroke Network

Affiliation of Primary Author: Toronto West Stroke Network

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

Abstract:

Purpose: To develop a patient-mediated trigger tool, Community Re-engagement Cue to Action Trigger Tool, for persons with stroke, using eight components of community re-engagement (CR) in order to facilitate a self-management approach to care.

Relevance: Persons with stroke are reluctant or do not know what questions to ask their healthcare team to facilitate recovery and re-engagement back into the community. Literature suggests that patients who ask questions are likely to elicit useful information that enhances self-efficacy, confidence and control over their care.

Methods and Analysis: The work builds on previous research evaluating the impact of a CR trigger tool designed for healthcare providers to facilitate discussions with persons with stroke. Following a review

by patient education departments, the tool was modified for persons with stroke including: larger font and layout, images, health literacy principles, and wording questions in the first person. It was subsequently reviewed by healthcare providers and persons with stroke to gauge its comprehensiveness. Results from this enquiry were positive and the tool was perceived to be useful in addressing and anticipating CR needs.

Study Sample or Initiative Scope: The tool was developed to be used by persons with stroke and their caregivers across the continuum.

Findings: A randomized control study was conducted to determine whether exposure to the CRCATT through a patient-mediated intervention, results in self reports of improved anticipation of needs and increased re-engagement in valued activities post-stroke. Results to be published.

Discussion: The CRCATT can be used to support re-engagement as it can facilitate persons with stroke to think about their overall needs, engage their healthcare providers by asking questions, and to take a self management approach to recovery.

Conclusions: The CRCATT can be an easy tool to use and implement for facilitating re-engagement in valued and meaningful activities for persons' with stroke.

Brain Injury / Neuro / Stroke

Poster Number: 20

Title: CAREGIVER SUPPORT GROUPS FACILITATES REHABILITATION

Authors (Primary first): Cuddy, Sally*; Spenst, Wendy;

Affiliation of Primary Author: Ottawa Hospital, Rehabilitation Centre, Robin Easey Centre

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

Abstract:

Purpose: The purpose of this exhibit is to illustrate how to implement a caregiver support group with the goal of enhancing rehabilitation outcomes. The integration of caregiver support groups allows for more comprehensive and effective treatment.

Relevance: Caregiver Support Groups facilitate communication among clients, caregivers and the rehabilitation team which translates into improved treatment engagement and overall outcomes.

Caregiver groups are known to decrease overall stress for participants leading to greater openness to change and improve emotional wellbeing.

Methods and Analysis: The following elements will be included; Group Development/Procedures/Format, Setting (Residential/Outreach Acquired Brain Injury Rehabilitation Facility) and Timing (Case Co-ordination) Pre and post Outcome Measures which include the Modified Caregiver Strain Index (Onega, 2003), Family Needs Questionnaire (Kreutzer& Marwitz,2000) and the General Self Efficacy Scale (Schwarzer&Jerusalem,1995) , Role and Function of Group Facilitator and the Necessary Approaches for Integration with the Rehabilitation Process.

Study Sample or Initiative Scope: There have been 53 caregiver group participants over approximately a two year period. This includes a family group and a spousal group.

Findings: Regular support group attendance allows participants to relate/identify with other members'situations. This increases awareness making them receptive to ABI education and compensatory strategies. Participation promotes integration of these strategies into their daily life while allowing them to share their challenges and losses, thus producing increased involvement in the client's treatment and reducing caregiver stress.

Discussion: The importance of involving family/caregivers in the rehabilitation process has been well substantiated throughout the literature, however what is not so well known is the integrative approach demonstrated in these initiatives. This group approach offers a cost efficient and therapeutically effective method of service delivery.

Conclusions: It is worthwhile to enhance awareness of the benefits of caregiver support groups as a natural vehicle in advancing integrated care through the encouragement of connections between clients,caregivers and the rehabilitation team, thereby creating a caring community.

Brain Injury / Neuro / Stroke

Poster Number: 21

Title: REHABILITATION TO COMMUNITY - STROKE TRANSITION PROGRAM

Authors (Primary first): Wood, Sherri*

Affiliation of Primary Author: Variety Village

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

Abstract:

Purpose: To develop a transition program to support individuals post-stroke in their community reintegration journey to community social, recreation and fitness.

Relevance: Supportive transition programs assist individuals in gaining confidence, required skills & knowledge to better access programs and services in their communities. Through transition programs individuals experience success & begin to regain a sense of independence and self. Promotes healthy lifestyle & decrease comorbidities.

Methods and Analysis: Data Collection - Background info : registration forms - Assessments : Baseline, midpoint and endpoint physical fitness assessments - Maintenance : membership and continued attendance/participation Sampling - Non probability sample based on the reliance on the availability of participants. - Participants were referred from their PT, OT, SW, RT at their rehabilitation facility.

Study Sample or Initiative Scope: 3 Programs : Spring/Fall 2013 21 participants (20 men: 1 woman) Aged 44-87 Post stroke (2004-2013) Rehabilitation at at GTA Rehab Facilities.

Findings: Attendance at program : avg 77% 8 ft up and go reduced time by average 33% 30 second chair stand increase sit to stand repetitions by avg 40% 6 min walk increased distance by avg 32% Sit and reach increased distance by avg 2inches Membership : 16 out of 21 (76% of participants) Maintenance (6 months avg - 8x/month).

Discussion: Participants indicated that they are more confident now in their abilities & they have learned that they can do more than they thought they could. The physical improvement results, as well as the qualitative results in discussions with participants emphasize the importance of this program in supportive transition planning for social, recreational & physical fitness program.

Conclusions: Stroke survivors need - Extra support in transitions : in person hand off between professionals - Social interaction & peer support - Encouragement to try things they believe they cannot do - Supportive & instructive techniques to proper exercise This framework will direct future community transition programs for all.

Brain Injury / Neuro / Stroke

Poster Number: 22

Title: PERTURBATION TRAINING: DESCRIBING AND EVALUATING A NOVEL APPROACH TO TRAINING RAPID BALANCE REACTIONS NECESSARY FOR FALLS PREVENTION

Authors (Primary first): *Poon, Vivien; dePaul, Vince; Biasin, Louis; Antunes, Irene; Baker, Elly; Bayley, Mark; McIlroy, William; Mansfield, Avril; Inness, Elizabeth

Affiliation of Primary Author: Toronto Rehabilitation Institute-UHN

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

Abstract:

Purpose: To describe the supporting evidence for, development, implementation and pilot evaluation of a novel, evidence-based, reactive balance training program in a clinical neurorehabilitation setting.

Relevance: Impaired balance and falls are common after stroke and brain injury. Typical balance training focuses on maintaining stability; however, responses to instability are predictive of fall risk. Novel balance perturbation training provides individualized, task-specific training to improve ability to recover from loss of balance.

Methods and Analysis: The program was developed through collaboration between researchers and neurorehabilitation physiotherapists. Training principles were guided by literature review of reactive balance training, exercise science, and motor learning. Training programs were tailored to address specific patient needs, identified by reactive balance control and sensorimotor assessments. Evaluation includes patient participation data (n=22), perceptions of both patients (n=14) and therapists (n=10) through questionnaire, and patient changes(n=14) in measures of reactive balance control.

Study Sample or Initiative Scope: Participants included in- and outpatients receiving neurorehabilitation for stroke or acquired brain injury.

Findings: On average, patients completed 5.4 training sessions. All patients indicated that they felt the program was safe and beneficial to improving their balance. All staff reported that the perturbation training program enhanced their clinical practice and they would use this intervention with future patients. Patients demonstrated significant decrease in the need for physical assistance to induced falls ($p=0.007$).

Discussion: Balance perturbation training was successfully implemented in a neurorehabilitation population with positive perceptions from patients and therapists and improved patient balance responses linked to fall risk. Perturbation training aims to better prepare patients for the balance and mobility challenges they might face after discharge including responses to loss of balance.

Conclusions: Perturbation training is a novel, clinical approach to retraining rapid balance responses necessary for falls prevention. Recommendations from the evaluation and feedback of this pilot will be incorporated into the program as it continues to be offered as part of routine clinical care for balance retraining.

Poster Number: 23

Title: INTEGRATION OF STROKE SERVICES TO IMPROVE ACCESS TO INPATIENT REHAB FOR OUR SICKEST PATIENTS

Authors (Primary first): Breaton, Jennifer; Perkins, Emmi;

Affiliation of Primary Author: Grand River Hospital

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

Abstract:

Purpose: Evidence shows that patients with the most severe strokes can make significant functional gains from early access to intense rehab services. The aim of our project was increase the proportion of patients with severe strokes discharged to rehab to 50%.

Relevance: Historically, patients in our WWLHIN have not had equitable access to early and intensive rehab services, a practice shown to produce better outcomes. We proposed a reduction of 1429 acute ALC conservable bed days in year 1 related to improved flow and access in an integrated stroke program.

Methods and Analysis: A variety of QI tools were used to understand the problem (Fishbone diagram, 5 whys, control charts and process flow maps). After analyzing the problem, three significant system interventions were selected to improve access to inpatient rehab: i) Adoption of a Banding Model of Care to support the flow of stroke patients to the most appropriate rehab destination ii) development of a centralized inpatient rehab referral process to support the automatic flow of stroke patients to inpatient rehab on Day 5 or Day 7 and iii) elimination of the 'application' for inpatient stroke rehab services.

Study Sample or Initiative Scope: There are 800 stroke patients a year in Waterloo Wellington across the integrated stroke program which includes 2 acute and three rehab sites.

Findings: After six months we have observed fluctuating performance resulting from shifts in referral patterns. We are hopeful that more significant improvements will be observed once more recent data is obtained that will reflect outcomes resulting from all three interventions. Improved patient flow has resulted in a significant reduction of Acute ALC days (data to come).

Discussion: Diligent monitoring, education and evaluation are ongoing as the change in practice needs to be sustainable. Real time evaluation of system capacity, bed utilization and occupancy and wait list management is required to ensure that by solving one problem we do not create a new one!

Conclusions: If we meet our targets, in one year, we could enable 65 more people to go home. Meeting target length of stay for stroke patients eliminates 1200 acute hospital days. Ensuring stroke patients receive rehab in the most appropriate, lowest resource-intensive level of rehab care could save 1600 inpatient rehab hospital days.

Brain Injury / Neuro / Stroke

Poster Number: 24

Title: DEVELOPMENT AND IMPLEMENTATION OF A CLINICAL PRACTICE GUIDELINE FOR REHABILITATION OF ADULTS WITH MODERATE TO SEVERE TRAUMATIC BRAIN INJURY

Authors (Primary first): Bayley, Mark*, Toronto Rehabilitation Institute/University Health Network; Kagan, Corinne; Truchon, Catherine; Swaine, Bonnie; Lamontagne, Marie-Eve; Marshall, Shawn; Kua, Ailene; Allaire, Anne-Sophie

Affiliation of Primary Author: Toronto Rehabilitation Institute/University Health Network

Abstract Category: Knowledge Transfer and Exchange Initiative

Abstract:

Purpose: Develop/adapt Clinical Practice Guidelines (CPGs) to bridge research-clinical practice gap for Traumatic Brain Injury (TBI) rehabilitation. Improve quality/consistency of care provided by healthcare professionals to optimize patient health outcomes.

Relevance: The literature about rehabilitation after TBI continues to expand. Successful implementation of CPGs are contingent not only on a methodologically rigorous development process, but also on adaptation to the local context, understanding clinicians needs and providing tools to facilitate implementation and measure outcomes.

Methods and Analysis: The project involves the following six stages planned over a three-year period: (1) scoping review and quality evaluation of existing CPGs, (2) formal survey of end-users' (clinicians and managers) needs and expectations, (3) synthesis of all existing information (CPGs, literature review, survey) (4) coordination of a consensus process amongst experts, (5) adaptation of the recommendations and production of the guideline, (6) selection of measures of CPG adherence and (7) implementation of the CPG in clinical settings.

Study Sample or Initiative Scope: Researchers in Ontario and Quebec will coordinate this project that will engage national and international experts.

Findings: Phase 1 (Scoping review) & 2 (Survey) will inform the development process of the CPG to address the needs/priorities of target users, while considering the strengths/limits of the scientific evidence. Published CPG evaluations show variability in development quality while the survey highlights need for specific recommendations for clinicians. These preliminary steps will help in preparing clinical settings for the strategic implementation phase.

Discussion: This will be the first bilingual CPG adapted for TBI rehabilitation care in Canada and will provide guidance to clinicians and funders as to the best practices. The survey will assist guideline implementers in understanding the barriers and facilitators to implementation of the guideline.

Conclusions: This research/practice will support stakeholders to enhance rehabilitation practice by providing a locally relevant, evidence-informed CPG. This guideline will benefit from a better understanding of end-users' needs, evaluation of previously published CPGs and provision of tools/indicators for successful implementation.

Brain Injury / Neuro / Stroke

Poster Number: 25

Title: ENHANCING THE REHABILITATION EXPERIENCE WITH VOLUNTEERS TRAINED IN SUPPORTED CONVERSATION FOR ADULTS WITH APHASIA™(SCA™) .

Authors (Primary first): Kubilius, Barbra*

Affiliation of Primary Author: Hamilton Health Sciences

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

Abstract:

Purpose: The author hypothesized that volunteers trained as conversation partners with SCA would enhance the rehabilitation experience for stroke patients with aphasia in a Restorative Care program in a Complex Continuing Care (CCC) setting.

Relevance: Although community-based programs such as the Aphasia Institute have successfully used volunteers trained in SCA, this has not been tried with an inpatient population. SLP resources are limited in rehab and CCC. This volunteer model may provide a meaningful complement to goal-directed SLP therapy.

Methods and Analysis: A quality improvement was completed over 1 year. 14 volunteers were recruited and trained in a 3 hour SCA workshop by a SLP. Several volunteers completed an additional 2 day training program in partnership with the Aphasia Institute. Typically, 5 volunteers were in place each week. Along with goal-directed SLP therapy, patients with post-stroke communication disorders received 1-2 hours per week of additional meaningful conversation. Evaluation included satisfaction surveys for the patient and the volunteers, Measure of skill in Supported Conversation (MSC) and Measure of Participation in Conversation (MPC).

Study Sample or Initiative Scope: Approximately 30 stroke patients on a 44 bed Restorative Care program participated over the course of 1 year. Trained volunteer visiting continues.

Findings: Positive outcomes include: Meaningful Conversation -patients rated the experience highly on an aphasia-friendly survey. Meaningful Volunteerism- as indicated by ratings of the SCA experience in an online survey. Volunteers improved SCA skills through training and experience (MSC) and enabled patients with aphasia to participate meaningfully in conversation as rated by the MPC. Some patients who refused therapy engaged in volunteer visits.

Discussion: Kagan et al (2001) demonstrated that volunteers trained in SCA were more effective than untrained volunteers and had a positive impact on measures of social and message exchange. Training and support tools (patient profiles, conversation guide) provide volunteers with a high level of independence and allow for a sustainable model of volunteer support during active rehab.

Conclusions: Patients find conversations with volunteers trained in SCA to be meaningful and useful. Volunteer visits provide increased opportunities for communication which can be therapeutic and beneficial for patients with aphasia, thereby enhancing the rehabilitation experience.

Brain Injury / Neuro / Stroke

Poster Number: 26

Title: MANAGING TRANSITIONS POST STROKE: THE ROLE OF THE COMMUNITY STROKE NAVIGATOR.

Authors (Primary first): Williams, Stacey*; Lesko, Dana; Traetto, Maggie

Affiliation of Primary Author: West GTA Stroke Network

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

Abstract:

Purpose: The purpose of this poster is to describe the Community Stroke Navigator role. Future research will evaluate the impact of a Community Stroke Navigator on depression/anxiety, community reintegration and caregiver strain.

Relevance: Community linkage, regular follow up and ongoing education enables successful transition post stroke . The goal of the Community Stroke Navigator is to incorporate best practice interventions to assist with successful community reintegration.

Methods and Analysis: An environmental scan and literature review were completed to create the role. The program was developed to include initial contact with stroke survivors prior to discharge from hospital and follow up at 6 weeks, 6 months and 1 year. During the follow-up a comprehensive interview was completed and outcome measures were administered including the Hospital Anxiety and Depression Scale, Caregiver Strain Index and Return to Normal Living Index. Based on assessment findings, a personalized care plan was developed including interventions of case coordination, support, coaching, linkage to community resources and education.

Study Sample or Initiative Scope: 50 clients with a mean AlphaFIM® of 83 were enrolled in the program. The average age was 70.5 years and 61% experienced an ischemic stroke.

Findings: Clients enrolled in the Community Stroke Navigator program received a minimum of three contacts within the first three months with an average contact lasting approximately 60 minutes. Community Stroke Navigation in this phase facilitated the seamless delivery of service by ensuring effective transfers of care. Preliminary client feedback supports the benefit of the Community Stroke Navigator role.

Discussion: The West GTA Stroke Network Community Stroke Navigator is a model of health system navigation for a complex population. The Community Stroke Navigator role incorporates best practice and through the development of a personalized care plan assists the client to achieve community reintegration.

Conclusions: Early results suggest that clients are satisfied with Community Stroke Navigator involvement and interventions. This innovative program adds to the growing body of evidence outlining the benefit of health system navigation.

Poster Number: 27

Title: DOES EVERY MINUTE COUNT? EXPLORING THERAPY INTENSITY IN RANDOMIZED CONTROLLED TRIALS ON POST STROKE UNILATERAL NEGLECT

Authors (Primary first): Hussein, Norhayati* ; McIntyre, Amanda; Rice, Danielle; Madady, Mona; Allen, Laura; Teasell, Robert

Affiliation of Primary Author: Department of Physical Medicine and Rehabilitation, Western University, London, Ontario; Parkwood Hospital, St Joseph's Healthcare, London, Ontario; Cheras Rehabilitation Hospital, Ministry of Health, Kuala Lumpur, Malaysia

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

Abstract:

Purpose: To study trends in therapy intensity for unilateral neglect post stroke and identify the association between cumulative duration of treatment (CDT) and therapy effectiveness.

Relevance: High intensity and task specificity form the focus in stroke rehabilitation. Cognitive rehabilitation for unilateral neglect is domain-specific and fulfils the principle of task specificity. However, treatment intensity and dose-response relationships have not been adequately studied.

Methods and Analysis: Randomized controlled trials (RCTs) on interventions for unilateral neglect published from 1990 to 2013 were included. Data on intensity were obtained for treatment length (weeks), frequency of treatment sessions and session duration (minutes). Total CDT was determined for each intervention. Immediate and long-term improvement of neglect and function were dichotomized into positive/negative outcomes based on a statistical significant of $p < 0.05$.

Study Sample or Initiative Scope: Twenty-seven RCTs were included.

Findings: Data on intensity were reported in 88.9% of RCTs on treatment length, 81.5% on frequency of sessions and 74.1% on duration per session. Some RCTs (18.5%) did not report adequate data to determine the total cumulative duration of treatment. Median duration per session was 55 mins (IQR:30.0-71.3). The median number of treatment sessions was 17.5 (IQR:9.3-20.0) with a median treatment length of 4 weeks (IQR:2.9-5.7).

Discussion: Wide variability existed for CDT with median of 900 min (IQR:517.5-1200.0). While the majority of RCTs (63%) reported immediate improvement in neglect, less than 15% had a positive outcome in long-term neglect or functional improvement. No significant association existed between CDT with immediate or long-term improvement of neglect and function.

Conclusions: Therapy intensity for unilateral neglect varied considerably by the type of intervention. The duration of treatment may contribute to the inability to demonstrate change in neglect and function. Improved compliance on reporting details of therapy intensity is necessary to identify any substantial dose-response relationships.

Brain Injury / Neuro / Stroke

Poster Number: 28

Title: STANDING UP FOR STROKE PATIENTS WITH DYSPHAGIA!

Authors (Primary first): Mascio, Melissa, Speech Language Pathologist; Paulson, Kalen* Speech Language Pathologist(no longer employed at Joseph Brant Hospital)

Affiliation of Primary Author: Joseph Brant Hospital

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

Abstract:

Purpose: To standardize swallowing screening by utilizing the STAND tool for all admitted stroke patients to reduce the risk of complications of aspiration and develop a way to initiate food, fluids and medications in a timely, standardized and safe way.

Relevance: This initiative is of interest at the practice and organizational levels of rehabilitation by improving the safety and quality of life of our stroke patients, identifying at risk patients earlier, implementing timely treatment plans, reducing costs associated with treating aspiration pneumonia, and reducing length of stay.

Methods and Analysis: The methods involved were group education of primary RNs/RPNs in both formal presentation and a learning fair style. The presentations were 15-45 minutes in length consisting of both content and a hands on component with a stroke patients and/or a mock patient exercise. A training video also concluded the presentation. The materials consisted of power point presentation slides, training video, water and applesauce samples, copy of the screening tool, research information on the study of the Screening Tool for Acute Neurological Dysphagia (STAND) tool. The principles were quality, safety, innovation, best practice.

Study Sample or Initiative Scope: Since November 2012, 122 RNs/RPNS have been educated on the use of the STAND tool across the health care centre.

Findings: To date, we have found that the nurses are utilizing the tool inconsistently, however they do find the tool when used to be useful in initiating food, fluids, and medications in a timely and standardized manner. We have found those patients who are screened are much safer during their stay. We have also found that the screening tool has assisted the SLP service in identifying more appropriate referrals and allowed us to work more efficiently.

Discussion: The practical applications for rehabilitation are that all admissions to rehabilitation or reactivation programs be screened for swallowing difficulty prior to receiving foods/fluids and/or medications especially for those patients admitted in the acute rehab phase of their continuum of care. Screening for dysphagia is best practice and should be implemented at all levels.

Conclusions: Screening upon admission: 1. reduces harm to the patient, 2. reduces costs to the health care centre, 3. improves patients' quality of life, 4. improves efficiency of caseload management for SLP staff.

Brain Injury / Neuro / Stroke

Poster Number: 29

Title: COLLABORATIVE TREATMENT USING AN IPAD: A CASE PRESENTATION OF A CLIENT WITH SEVERE APHASIA AND APRAXIA

Authors (Primary first): D'Aversa, Daniela; *Matsuo, Patty;

Affiliation of Primary Author: Trillium Health Partners, Mississauga Hospital

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

Abstract:

Purpose: This poster outlines the role of OT, SLP and family and how the integration of knowledge through collaboration created an approach to intervention that was more effective than what could have been achieved with a single profession.

Relevance: Client goals delve across knowledge domains of clinicians. This case highlights collaboration between the OT, SLP and family. From the perspective of the WHO's classification of disability, this case demonstrated progress in client participation, by way of a communication device, despite no change in impairment.

Methods and Analysis: This case presentation outlines a family centred approach to therapy to achieve a functional goal for a client with a severe communication impairment. This poster will outline the role

of each of the team members, including client and spouse, and how the collaboration of knowledge created an approach to intervention that was more effective than work with speech-language pathology alone. Impairment was measured through standardized profession specific assessment while participation was measured through progress toward participation goal attainment.

Study Sample or Initiative Scope: This poster outlines collaboration of OT, SLP, and family to achieve increased functional communication using an iPad.

Findings: A clinician's assessment of a client's abilities is limited by his scope of specific knowledge and expertise. The integrated knowledge and expertise of clinicians and families working together to address a client's goal creates an intervention approach that is more successful than a "silo" approach. Gains in client participation are better realized through a collaborative interprofessional approach in therapy.

Discussion: Further study: How does a collaborative interprofessional approach to rehabilitation compare with a multi-disciplinary approach to increase client participation? How can clinicians use common tech devices such as iPads, smartphones, computers and tablets in interprofessional neurorehab?

Conclusions: The integrated knowledge and expertise of OT, SLP and the family were necessary to overcome the impairments in language, cognition, motor planning/coordination and visual-perception for this client to be able to increase participation in life through communication.

Brain Injury / Neuro / Stroke

Poster Number: 30

Title: GIVE EVERYONE A CHANCE! ASSISTING CLINICIANS IN THE CONTINUUM OF TIA/STROKE CARE TO ENCOURAGE PATIENT ATTENDANCE IN CARDIOVASCULAR REHAB IN ORDER TO FURTHER TRIAGE OPTIMAL PATIENT SECONDARY PREVENTION PARTICIPATION BASED ON THEIR MOBILITY STATUS

Authors (Primary first): Fair, Terry; Matthews, Julie*; Murray, Judy; Tee, Alda

Affiliation of Primary Author: Mackenzie Health; Southlake Regional Health Centre; Central East Stroke Network, Royal Victoria Regional Health Centre

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

Abstract:

Purpose: Following hospital discharge, few TIA/stroke patients are referred for secondary prevention services. At Southlake 37% who attend the Stroke Prevention Clinic(SPC) join cardiovascular rehabilitation programs (CVRP) or other chronic disease services.

Relevance: TIA/stroke patients are susceptible to subsequent vascular events which often lead to increased disability. CVRP can address health behaviour modification following stroke rehabilitation to maintain the gains achieved in recovery of functional abilities as well as provide support to reduce modifiable risk factors.

Methods and Analysis: Most stroke patients should participate in supervised exercise such as CVRP if they are at risk of falls or injury or have other comorbidities. Our initiative encourages healthcare providers throughout the stroke care continuum to facilitate patient attendance in CVRP in order to obtain appropriate ongoing programming. Patients who attend the introductory class at CVRP will meet 1:1 with the program coordinator or community liaison to discuss program options, suitability and problem-solve barriers to attendance.

Study Sample or Initiative Scope: At least 100 patients from SPC with insight and functional communication, decision-making capability, and varying levels of ambulatory status.

Findings: With this relatively new initiative, patients previously excluded from group-based CVRP now have options that allow them to choose appropriate exercise therapy for their level of mobility. All patients can attend education classes when they are ready. If participation in community-based programming leads to improved mobility, the patient can seek new referral to CVRP.

Discussion: Practical applications include the creation of an algorithm to improve CVRP triage. Proper triage may lead to greater satisfaction for patients and healthcare providers as well as improve utilization of Ministry-funded initiatives and resources, with the end goal of improved patient outcomes including decreased hospitalizations for stroke-related events.

Conclusions: Regardless of their abilities post TIA/stroke, patients should all be encouraged to attend CVRP to allow knowledgeable staff to triage the patient, direct them to appropriate services, and continue to influence health behaviour modification.

Brain Injury / Neuro / Stroke

Poster Number: 31

Title: MISSISSAUGA HALTON CCAC MILD STROKE PROGRAM : COLLABORATION BETWEEN SECTORS

Authors (Primary first): McLaughlin, Diane; Hewitt, Katherine

Affiliation of Primary Author: Mississauga Halton Community Care Access Centre

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

Abstract:

Purpose: The overall goal of the Mild Stroke Program is timely, intensive, specialized community-based rehabilitation for mild stroke patients transitioning from hospital to home.

Relevance: The Mild Stroke Program was developed in partnership with the Mississauga Halton LHIN, hospitals, community service providers and the West GTA Stroke Network because best practice guidelines indicate that patients with mild stroke can be discharged to the community to receive rehab services.

Methods and Analysis: Key elements of the program included: Timely identification by hospital of these inpatients; timely referral and service provision of rehab in the community; intense rehab in the community; collaboration between the key partners: Mississauga Halton hospitals; Mississauga Halton CCAC; Service Providers; and the West GTA Stroke Network. Criteria for admission to the program was a score of 80 or higher on the Alpha FIM Instrument. Analysis included measurement of the key elements, and subsequent recommendations for future consideration.

Study Sample or Initiative Scope: From June 2012 to September 2013, 87 patients were discharged from the program.

Findings: For the 87 patients discharged, the average number of units of service delivered were 10 per patient, with an average length of stay in the community of 66 days. The cost for these patients was \$99,308. Service provision was timely, with the first visit in the community delivered in 3 days. Trust between sectors was evident. The Alpha FIM score of 80 for admission will be revisited.

Discussion: Partners and patients expressed their satisfaction with the program, through a follow-up questionnaire. The opportunity for collaboration between sectors was an element that was embraced enthusiastically. As we consider the right care at the right time in the right place, the Mild Stroke Program can provide valuable insight regarding intensity and timeliness of rehab.

Conclusions: The Mild Stroke Program was developed to address transition from hospital to home. It will continue to be delivered and serves as a foundation for the future work that will occur with Stroke Outcome Based Care. It also is an example of the commitment to rehabilitation that is now more prevalent in the community sector.

Poster Number: 32

Title: THE ENHANCED FITNESS GROUP: PROMOTING AEROBIC FITNESS AFTER DISCHARGE FROM STROKE REHABILITATION

Authors (Primary first): Poon, Vivien*; Knorr, Svetlana; Biasin, Louis; Mileris, Ramona; Bayley, Mark; Zee, Joanne; Mansfield, Avril; Inness, Elizabeth;

Affiliation of Primary Author: Toronto Rehab/University Health Network

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

Abstract:

Purpose: To describe the Enhanced Fitness Group (EFG) program for stroke outpatients that incorporates regular aerobic exercise with progressive self-management and education to facilitate continued physical activity after discharge from rehabilitation.

Relevance: Stroke rehabilitation best practice guidelines recommend inclusion of aerobic fitness with maintenance activity post-discharge. Self-efficacy is a known predictor of exercise behavior. The EFG equips individuals with the skills and self-efficacy required to facilitate long-term changes in exercise behavior.

Methods and Analysis: The EFG was developed in consultation with expert clinicians and scientists after review of current literature. Interactive education modules were created to build confidence in exercising and goal setting; to learn to perform, monitor and progress exercise independently; to overcome fear of adverse events; and to foster the development of individualized plans to incorporate exercise into everyday life. The group program is delivered over six weeks by physiotherapists as an adjunct to routine physiotherapy. It consists of aerobic training three times weekly and discussion-based sessions once weekly.

Study Sample or Initiative Scope: EFG targets individuals of any mobility level transitioning from stroke inpatient rehabilitation to community with a goal to exercise post-discharge.

Findings: Sixteen clients have completed the group to date. Preliminary program evaluation findings reflect overall progress in aerobic training performance. Feedback from 9 graduates indicates that 97.8% rated the group highly beneficial and 100% would recommend the program to others. On a series of self-efficacy questions about staying active after discharge, mean confidence level was 87.7%.

Discussion: With combined access to aerobic training and interactive education modules, the EFG program appears to prepare clients for staying physically active following discharge into the community. Additional research is ongoing to determine if this translates to maintenance of physical activity, specifically aerobic training, in the community.

Conclusions: The EFG serves as an innovative model of care that combines fitness programming with progressive self-management strategies within rehabilitation to promote self-directed physical activity after rehabilitation.

Brain Injury / Neuro / Stroke

Poster Number: 33

Title: PROJECTING THE IMPACT OF THE COMMUNITY STROKE REHABILITATION TEAMS: A COST-EFFECTIVENESS ANALYSIS

Authors (Primary first): Allen, Laura* Western; Richardson, Marina; Meyer, Matthew; Ure, David; Willems, Deborah; Teasell, Robert

Affiliation of Primary Author: Department of Epidemiology and Biostatistics, Western University; Lawson Health Research Institute

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

Abstract:

Purpose: Our aim was to determine the long-term cost-effectiveness of a multidisciplinary home-based rehabilitation program for patients recovering from stroke.

Relevance: Rehabilitation after discharge from hospital is important for continued recovery after stroke. Outpatient rehabilitation, whether provided in the hospital or the home, has been found to be effective in improving outcomes post stroke. Evidence for the cost-effectiveness of these programs is more limited.

Methods and Analysis: This study was based on data collected from a prospective, Canadian-based, economic evaluation of an existing community stroke rehabilitation program (intervention group) and from literature derived sources (control group). A 35-year Markov Model was used to compare cost and utility outcomes between the two groups. Utility values for the intervention group were derived from the EuroQol-5D at baseline, 6 month and 12 month follow-up. Health service utilization costs were approximated using the Health and Social Services Utilization Survey. Control group costs and utilities were derived from peer-reviewed literature.

Study Sample or Initiative Scope: 164 patients were recruited for the intervention group. The mean age was 66.7(SD 12.8) years (57.9% male) with a median time post stroke of 62 days.

Findings: The Incremental Cost Effectiveness Ratio (ICER) was \$25,692 CAD per quality adjusted life year. Using Monte Carlo micro-simulations at a willingness to pay threshold of \$50,000 CAD, more than 75% of the iterations were cost-effective in favour of the intervention group.

Discussion: Our data suggest that the multidisciplinary, home-based stroke rehabilitation program modeled in this analysis is a cost-effective model of care over the long term.

Conclusions: Future studies should assess the long-term cost-effectiveness of community-based stroke rehabilitation programs using equivalent prospectively recruited control groups.

Brain Injury / Neuro / Stroke

Poster Number: 34

Title: COMPARING THE PSYCHOMETRIC PROPERTIES OF THE STROKE IMPACT SCALE AND THE EUROQOL-5D IN A COMMUNITY-BASED STROKE REHABILITATION SETTING

Authors (Primary first): Richardson, Marina*; Allen, Laura; Meyer, Matthew; Teasell, Robert

Affiliation of Primary Author: Lawson Health Research Institute

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

Abstract:

Purpose: Our aim was to explore the psychometric properties of the EQ-5D and the SIS in a sample of patients recovering from stroke within the context of a multidisciplinary, home-based, stroke rehabilitation program.

Relevance: The EuroQol (EQ-5D) and the Stroke Impact Scale (SIS) are common outcome measurement tools used to assess the quality of life of persons recovering from stroke. Currently, there is no consensus regarding which tool should be used in a community-based stroke rehabilitation setting.

Methods and Analysis: Patients were recruited from an existing home-based stroke rehabilitation program. The EQ-5D and SIS were administered at admission to the program and at 6 month and 12 month follow-up. The internal consistency of the individual items of the SIS and EQ-5D were assessed

using cronbach's alpha. Construct validity was compared between the two scales using spearman correlations (spearman's rho), and responsiveness was evaluated by assessing ceiling effects.

Study Sample or Initiative Scope: 164 patients completed the baseline assessment, 108 at 6 month follow-up, and 37 at 12 months. Mean age was 66.7 (SD 12.8) years and 57.9% were male.

Findings: The internal consistency of the SIS was excellent in all domains (alpha=0.813-0.970). The EQ-5D had adequate to excellent internal consistency ($\hat{\rho}$ =0.706-0.812). Ceiling effects ranged from 2.4% to 37.8% for the SIS, while the Visual Analogue Scale (VAS) of the EQ-5D had lower ceiling effects than the EQ-5D index score. Compared to each domain of the SIS, the EQ-5D index and VAS scores had variable construct validity (spearman's rho=0.13-0.77).

Discussion: Both the EQ-5D and the SIS have demonstrated evidence of reliability and validity across time points in a community-based rehabilitation setting.

Conclusions: Given the ceiling effects reported in this study, the ability of the EQ-5D and the SIS to detect clinically meaningful change should be explored further.

Brain Injury / Neuro / Stroke

Poster Number: 35

Title: COMPARISON OF AT-FAULT AND NO-FAULT MOTOR VEHICLE ACCIDENT (MVA) INSURANCE IN ACCESS TO BENEFITS FOR CLAIMANTS SUSTAINING TRAUMATIC BRAIN INJURY (TBI)

Authors (Primary first): Tasker, Lee*

Affiliation of Primary Author: Lee Tasker Counselling Inc.

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

Abstract:

Purpose: TBI can require life-long care. MVA accidents are a leading cause of TBI. Yet, there is a dearth of studies on how the design of an MVA insurance system affects access to health care and, in turn, recovery for TBI claimants injured in car accidents.

Relevance: This is the first study to examine differences in access to health care benefits by comparing essential features of an MVA insurance system (e.g. cost, degree of opposition, and time it takes to get benefits) by TBI severity. Results can inform policy makers, health care providers, insurers, lawyers, and claimants/families.

Methods and Analysis: Data contained in TBI claims files was analysed using a mixed methods approach. Documents were reviewed to identify variables, key factors and players, and other relevant data. Data was entered onto display sheets so that dependent measures could be scored and comparative analyses be made. Data was analysed in parts using parametric, non-parametric, and descriptive techniques to first determine the significant quantitative differences between the systems and TBI severity on the dependent measures; and then to qualitatively analyse key factors and players to help explain the quantitative results found in part one.

Study Sample or Initiative Scope: Two insurance companies in Alberta participated. 57 TBI claims files were reviewed: 35 at-fault and 22 no-fault claims by 24 mild and 33 moderate/severe TBI.

Findings: Significant differences were found between: 1) at-fault and no-fault systems on measures of adversarialness (degree of opposition) and cost, both were higher in the at-fault system; and 2) mild and mod/severe TBI groups on measures of cost and recovery, both were higher and longer for the mod/severe TBI group. The type and amount of health care accessed affected cost, and a claimant's pre-accident health was associated with higher adversarialness between claimant and insurer.

Discussion: Few guidelines exist on managing MVA TBI insurance claims. These results provide statistics on the types and costs of health care for TBI claimants and other key factors that influence how claims are managed (and who gets involved). As well, results support the notion that most claimants prefer to sue for pain and suffering than to access benefits in a no-fault system.

Conclusions: 1) Adversarialness could be reduced if TBI claimants and their lawyers would disclose relevant pre-accident health information in a timely manner; 2) To reduce cost, Ontario's no-fault system should consider providing a one-lump settlement for pain and suffering to avoid claimants from suing in the at-fault system.

Brain Injury / Neuro / Stroke

Poster Number: 36

Title: DISTRICT STROKE CENTRE UTILIZATION OF THE ONTARIO TELEHEALTH NETWORK TO MAINTAIN BEST PRACTICE STANDARDS FOR IN-PATIENT STROKE EDUCATION IN COMMUNITY PARTNER HOSPITALS

Authors (Primary first): Sadler, Gabrielle; Bosiljevac, Linda; Hill, Cindy; White, Jennifer*Peterborough Regional Health Centre

Affiliation of Primary Author: Peterborough Regional Health centre

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

Abstract:

Purpose: To explore an effective solution to the provision of district-wide group patient and family/caregiver stroke education in our district through OTN.

Relevance: In the HKPR District, there are 5 hospital sites providing stroke care. In a district-wide stroke best practice needs assessment conducted in 2012, none of the acute care community hospitals outside of PRHC were offering ongoing, formalized, in-patient group stroke education for patients and their families/caregivers.

Methods and Analysis: In the fall of 2012, PRHC extended their Stroke In-patient/caregiver education series to Ross Memorial Hospital using the Ontario Telemedicine Network. The sessions consist of the following topics referenced from the Heart and Stroke Foundation of Canada: Understanding Strokes, Cognition and Perception, Physical Changes, Dietary Changes for Secondary Prevention, Communication and Swallowing and Emotional Changes. The pilot ran from October 22 - November 3rd 2012, 1 day per week for 6 weeks from 1100-1200. A site facilitator at RMH conducted patient satisfaction surveys after each session.

Study Sample or Initiative Scope: There were a total of 82 participant visits: 63 patients and 19 family/caregivers at both sites (35 at PRHC and 47 at RMH).

Findings: Some patients and family members at RMH commented that they had to “get used to” the telemedicine modality; however, overall, the group agreed that they were satisfied with the form of the education, they were comfortable with the method of delivery, and they had an opportunity to participate. The OTN Facilitator at RMH thought that the education sessions were valuable to their patients and expressed interest in continuing with the program.

Discussion: After the pilot, PRHC opened up the stroke education series to the other district hospitals, and made the sessions available to students and novice staff. Currently, 3 district sites regularly attend the education sessions. From April - December 2013, we have hosted 42 events and provided education for 225 patients, family, students and staff.

Conclusions: OTN is a useful medium to utilize existing clinical resources for the delivery of best practice stroke education to support community hospitals, where lower patient volumes and resource utilization prevent the provision of group education for stroke patients and their families.

Poster Number: 41

Title: FROM DATA TO DAILY PRACTICE: STRATEGIES AND TOOLS TO APPLY THE CANADIAN BEST PRACTICE RECOMMENDATIONS FOR STROKE CARE

Authors (Primary first): DiSotto-Monastero*, Marie; Bishev, Mila; Donaghy, Siobhan; Saporta, Adam; Shaffer, Jennifer.

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

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

Abstract:

Purpose: To effectively support the implementation of the Canadian Best Practice Recommendations for Stroke Care (CBPRSC) through data identification, collection and analysis.

Relevance: The organization is required to implement quality based procedures (QBP) for stroke care. Addressing population needs, and responding to increased demand for inpatient/outpatient programs for stroke care, it is prudent to address access to best practices in stroke care in an efficient and fiscally responsible manner.

Methods and Analysis: An interprofessional team was gathered comprised of operations, professional practice and clinical decision support. Following a review of the CBPRSC and the QBP requirements, implementation was planned in both inpatient and outpatient stroke rehab programs. A review of the inpatient rehab experience was conducted using LEAN methodology. Performance indicators were determined and definitions/formulas for each were created. Reports were developed to support clinical decision making. A review of admission criteria and a process for redirecting mild stroke referrals from the inpatient to outpatient program were created.

Study Sample or Initiative Scope: During fiscal year 2012, approximately 200 patients were treated in each of the inpatient and outpatient adult stroke rehabilitation programs.

Findings: Through the implementation of data identification, collection, and analysis, the organization has effectively applied the standards of classification for the inpatient stroke population to an outpatient context and has been able to generate daily data reports that integrate severity and length of stay for inpatients. Data has helped to identify gaps and potential resource requirements.

Discussion: Identifying data sources and effectively analyzing them is helpful in driving practice change, however, it can be challenging to meet the needs based on the resources available. We have identified

recommendations for additional resources to support implementation of the CBPRSC. Opportunities for enhanced data quality through staff refresher training were also identified.

Conclusions: Collecting, analyzing, and applying high quality data with an interprofessional context, across the continuum of care, can help to support practice change and case costing. This will in turn support quality based funding.

Brain Injury / Neuro / Stroke

Poster Number: 42

Title: EFFICACY OF TENS FOR MANAGEMENT OF CHRONIC NEUROPATHIC PAIN IN PEOPLE WITH MULTIPLE SCLEROSIS: A SYSTEMATIC REVIEW AND META-ANALYSIS

Authors (Primary first): Sawant Anuradha*; Dadurka Kelly; Kremenchutzky Marcelo; Overend Tom;

Affiliation of Primary Author: London Health Sciences Center

Abstract Category: Systematic Literature Review

Abstract:

Purpose: The purpose was to evaluate the efficacy of transcutaneous electrical nerve stimulation(TENS) for management of chronic neuropathic pain(CNP) in people with multiple sclerosis (MS); to evaluate the differences in efficacy, if any, by frequency of TENS.

Relevance: Pharmacotherapy is somewhat effective in management of CNP, but can be associated with undesirable side effects. TENS is a non-pharmacological therapy that can be used for CNP management without the side effects of pharmacological interventions. There is no consensus on the efficacy of TENS for effective management of CNP.

Methods and Analysis: Relevant electronic databases were searched from their inception using appropriate search terms to identify case-control(CC) or randomized controlled trials (RCTs) utilizing TENS for management of CNP in MS. Studies, included in the review, were combined in a meta analysis. Data was analyzed to evaluate the impact of frequency of TENS or the outcome tool used to measure pain on the main results. A standardized mean difference (SMD) and 95% confidence interval (CI) of efficacy of TENS intervention were computed using a random effects model. The resulting evidence was graded in accordance to the GRADE system.

Study Sample or Initiative Scope: Studies (CC and RCTs) published in English recruiting adult MS participants treated for CNP with TENS were included. Crossover RCTs were excluded.

Findings: Eleven effect sizes were extracted from four studies; three studies utilized hi and low-frequency TENS in separate subgroups of participants and one study used conventional TENS. The SMD between the intervention and control group was 0.28; $p=0.037$. The frequency of TENS or outcome used to measure pain had no effect on study results. These findings are consistent with GRADE 2 level of evidence, i.e. TENS intervention to address CNP is desirable.

Discussion: The results of this study indicate a small but significant effect of TENS for management of CNP in people with MS. These findings support use of TENS as intervention. However, these results require to be interpreted with caution as they were drawn from a total of 179 participants distributed across seven subgroups in four studies. Further research is required.

Conclusions: TENS is effective for management of CNP in people with MS. We recommend TENS be considered as an initial intervention prior to or in conjunction with pharmacological therapy. Clinicians must establish presence of CNP prior to implementation of TENS; frequency of TENS used for intervention can be based on patient tolerance.

Brain Injury / Neuro / Stroke

Poster Number: 43

Title: WHY WOULD YOU DO THAT? ENABLED MOVEMENT TRAINING IN CHRONIC CEREBELLAR STROKE: A CASE STUDY

Authors (Primary first): Heiden, Eric*; Nativ, Avi *

Affiliation of Primary Author: NeuroGym Rehabilitation

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

Abstract:

Purpose: Ataxia and a lack of protective balance reactions limit gait and functional movement after cerebellar stroke. Enabled movement training is an approach to motor skill rehabilitation that provides therapists with the means to create training situation

Relevance: Protective reactions are an essential part of functional balance and safe ambulation. Protective balance reactions are impaired or absent in many individuals with chronic stroke - limiting mobility and independence. Enabled movement training is a safe and effective means of developing functional balance reactions.

Methods and Analysis: The case of an 87 year old male with chronic cerebellar stroke is followed over the course of five years. Interceptive reactions (kicking, throwing, and catching) running, jumping and hopping movements were trained in an enabled environment - a mobile support system that allows balance reactions to be practiced safely with minimal interference. Outcome measures including six minute walk distance, Timed Up and Go, 10m walk time, and single leg stance time are discussed in terms of quantitative and qualitative (gait mechanics and use of assistive devices) data.

Study Sample or Initiative Scope: A case example of an individual with chronic cerebellar stroke.

Findings: Enabled mobility training was introduced after two years of a conventional approach to balance and mobility training. In two years of conventional balance training (strengthening, gait training with an assistive device and parallel bars) there was little change in balance measures. After three years of enabled movement training (running, jumping, throwing, catching) balance and gait measures have improved significantly.

Discussion: Enabled movement training offers a significant departure from conventional approaches to balance training, allowing high level skills to be attempted successfully and safely. Enabled mobility training can be used to build functional balance reactions. High level mobility training can be done safely and effectively for a patient with chronic stroke and advanced age.

Conclusions: Intensive mobility training with enabled movement technology - in this case example a mobile adjustable body weight support frame - can be used to develop protective balance reactions in chronic stroke. This type of training offers an avenue for improving functional balance that has previously been difficult to achieve.

Other

Poster Number: 44

Title: INTENSIVE MOBILITY TRAINING PROGRAM WITH ENABLING TECHNOLOGY REDUCES STAY DAYS IN CONVALESCENT CARE

Authors (Primary first): Heiden, Eric*; Nativ, Avi; Jankowski, Agnes *

Affiliation of Primary Author: NeuroGym Rehabilitation

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

Abstract:

Purpose: Research in brain plasticity and motor learning suggests that enabled movement training can lead to improved rehabilitation outcomes. Intensive mobility training with enabling technology may improve outcomes and reduce stay days in convalescent care.

Relevance: Enabled movement training is a promising means to improve strength, endurance, balance and functional mobility. Intensive mobility training with enabled movement technology can help convalescent care patients to return to functional mobility sooner and ensure patients are discharged into the community safely.

Methods and Analysis: Methodology and equipment for enabled movement training was established at Hawthorne Place Care Centre’s 28-bed Convalescent Care program. 42 patients received enabled movement training over a period of four months. Patients in this group were evaluated using the Elderly Mobility scale and Tinetti Balance Test. A retrospective sample of 28 patients who passed through the same Convalescent Care Program in the previous four months was used for comparison. The two groups were compared for average length of stay and discharge location.

Study Sample or Initiative Scope: A total of 70 patients discharged from the Hawthorne Place Convalescent Care Program were evaluated over a period of 8 months.

Findings: Patients receiving enabled movement training improved or maintained their functional measures (90% of patients showed improvement, 10% maintained). The average length of stay for patients receiving enabled movement training was 55 days, compared to 77 days for the patients who did not receive enabled movement training.

Discussion: Enabled movement technology, including progressive sit to stand training, body weight supported gait and balance training, and computerized biofeedback training have been shown independently to improve rehabilitation outcomes. An intensive mobility training program utilizing these tools in a Convalescent Care environment leads to improved mobility outcomes and a shorter length of stay.

Conclusions: Implementing an intensive program of mobility training with enabling technology can reduce the length of stay in Convalescent Care programs with a very high rate of improvement in functional mobility.

Other

Poster Number: 45

Title: EFFECT OF FLUID LOSS FOLLOWING HEMODIALYSIS ON TIBIALIS ANTERIOR MUSCLE STRENGTH: A PILOT STUDY

Authors (Primary first): Sawant Anuradha*, House Andrew A, Overend Tom, Lindsay Robert, Bartha Robert, Gati Joseph

Affiliation of Primary Author: London Health Sciences Center

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

Abstract:

Purpose: The purpose of this study was to investigate the effects of fluid loss following hemodialysis (HD) on tibialis anterior (TA) strength and size in people with end-stage renal disease (ESRD) on chronic HD.

Relevance: Establishing the effect of fluctuating extracellular fluid (ECF) volume on muscle strength in people with ESRD/HD is essential, as inadequate hydration of muscles impacts their strength and endurance. However HD-related fluid volume depletion has not been linked to poor response to exercises or muscle weakness in HD people.

Methods and Analysis: ECF in TA was measured using magnetic resonance imaging (MRI) acquired transverse relaxation time constants (T2) for the calf segment before and six hours following HD in participants on HD and on two occasions for the healthy participants. Maximum voluntary isometric contraction (MVIC) strength of TA was measured using an isometric dynamometer (ankle at 25° plantar flexion in gravity-eliminated plane). The effect of fluid loss following HD on ECF (T2) and TA strength between and within groups was compared using independent and paired sample t tests. Significance was assumed at $p < 0.05$.

Study Sample or Initiative Scope: Healthy adults (18) and HD (17) volunteers able to provide informed consent, have MRI and strength test and no neurological disorder were recruited.

Findings: Following HD, MVIC strength (1.54 Nm, $p < 0.05$) and T2 of TA 2.38 ms, $p < 0.05$ were reduced in participants on HD. In comparison with the control group pre- and post-HD, mean MVIC strength of TA was significantly lower in the HD group by 9.76 and 11.16 Nm ($p < 0.005$), respectively. The mean ECF volumes of TA were higher in the HD group with MRI T2 time constants significantly prolonged by 9.07 ms and 6.83 ms ($p < 0.001$) before and after HD, respectively.

Discussion: The results of this study show a small but significant decline in the peak MVIC strength of TA following HD session. Shortened T2 after HD suggests volume contraction of TA muscle. Comparisons of MVIC and T2 with the healthy participants confirm earlier reports of TA muscle weakness and persistent expansion of ECF in HD population.

Conclusions: Participants receiving HD had decreased strength following this treatment. This could be related to loss of ECF/ICF in the TA together with suggestions of volume contraction. Since exercises are

known to alter fluid dynamics allowing retention of ICF, intra-dialytic exercises may be beneficial. Further reserach is required.

Other

Poster Number: 46

Title: PROMOTING BEST PRACTICES IN DIABETES MANAGEMENT: AN INSULIN PEN CONVERSION PROJECT

Authors (Primary first): Brydges, Evelyn*; D'Hondt, Allison; Barnard, Michelle; Coker, Esther;

Affiliation of Primary Author: Hamilton Health Sciences

Presentation Format: POSTER PRESENTATION HORIZONTAL

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

Abstract:

Purpose: Does the administration of insulin using insulin pens, versus syringe and vial, increase staff and patient safety and satisfaction in a complex, restorative care environment?

Relevance: Insulin is cited by the Institute for Safe Medication Practices as one of the top five high risk medications causing sentinel events in hospitals. Therefore, having safety initiatives in place to mitigate risk is important at the organizational level. The prevalence of diabetes in this complex care hospital was 27%.

Methods and Analysis: Best practices in insulin administration and medication safety were assessed first. Second, data from the hospital were analyzed including needle stick injuries and medication errors related to insulin. Literature was consulted to determine patient preference, ease of use, and the facilitation of patient learning around injection technique. An education plan was developed for the nursing staff and facilitated by advanced practice nurses. The evaluation of the initiative was multi-faceted, and included staff and patient satisfaction, cost analysis, safety occurrences, and medication errors related to insulin.

Study Sample or Initiative Scope: The initiative occurred at a 220 bed Complex Care Hospital. Approximately 225 nurses received education and training to administer the insulin.

Findings: Data is currently being collected and analyzed, therefore, results are pending at this time. It is hypothesized that the conversion to insulin pens will contribute to increased patient and nursing staff

satisfaction, decreased medication errors related to insulin administration, and decreased costs to the organization.

Discussion: Using insulin pens in rehabilitation settings offers a number of benefits such as increased patient satisfaction and comfort, continuity of care for patients discharged on insulin, ample opportunity for education, and decreased risk for insulin related errors. Insulin pens have the potential for increased patient safety during their hospital stay and the discharge process.

Conclusions: Insulin pens may contribute to fewer insulin related errors, decreased intramuscular injections, and decreased risk of needle stick injury. Insulin pens are preferred by most patients and their use in restorative care can help to facilitate safe discharges.

Other

Poster Number: 47

Title: A SPECIALIZED MOBILE REHABILITATION TEAM IN AN ACUTE CARE HOSPITAL

Authors (Primary first): Miller, Toba*; Daigle, Sherry; Boudrias, Yvon; Kuznik, Tina; Leibovitch, Randy; Marino, Josie; Shalla, Debbie

Affiliation of Primary Author: The Ottawa Hospital Rehabilitation Centre

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

Abstract:

Purpose: Patients with complex health care needs can experience a progressive functional decline during long hospitalizations. A three month initiative was held bringing highly skilled rehabilitation professionals in the acute care setting.

Relevance: A multidisciplinary Mobile Rehabilitation Team (MRT) shifted traditional intensive rehabilitation services on the patients' care trajectories. Acute care treatment and specialization occurred concurrently. Then, when ready, patients were admitted to the specialized rehabilitation unit.

Methods and Analysis: Approval was obtained from senior administrators to redistribute rehabilitation services. The MRT lead by a manager consisted of a nurse, a physiotherapist, an occupational therapist, with support as needed from a social worker and psychologist. Early planning included a search of the literature, feedback from key stakeholders, development of procedures and addressing the logistical issues of working across a multi-site hospital. Care was taken to ensure that there was no duplication of rehabilitation activities while attempting to solve gaps in patient centred services.

Study Sample or Initiative Scope: Adult patients screened for rehabilitation, stable and able to tolerate daily or every second day 60 minute therapy sessions were referred to MRT.

Findings: The evaluation consisted of quantitative and qualitative measures. Patients aged from 18-80 years. Statistics were collected on the first 16 patients enrolled in the initiative. Information was analyzed about average length of stay and FIM score changes. Patient and clinician satisfaction surveys were used to determine satisfaction and areas for improvement. Psychiatrists provided essential feedback on structure, processes, and outcomes.

Discussion: Compared to similar patients, MRT patients had a decreased average length of stay of 32%. This allowed more patients to access specialty rehabilitation inpatient services. Yet, all MRT patients showed improved functional scores and were able to return to their previous living arrangements in the community. This initiative used existing resources, so there was no added cost

Conclusions: MRT allowed treatment for acute illnesses and provision of rehabilitation services to occur in parallel, produced patient functional gains, and decreased length of stay.

Other

Poster Number: 48

Title: SURVEY OF OCCUPATIONAL THERAPISTS AND PHYSIOTHERAPISTS REGARDING THE REHABILITATION CARE OF PATIENTS WITH MORBID OBESITY AND MOBILITY LIMITATIONS

Authors (Primary first): Bovell, Nancy*; Baldissarelli, Mitchell; Lachance, Phillip; Phang, Hoong; Valadares, Robin; DePaul, Vincent G;

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

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

Abstract:

Purpose: To describe the experiences, perceptions, and needs of occupational therapist and physiotherapists related to their provision of safe, effective rehabilitation to hospitalized individuals with morbid obesity and mobility limitations.

Relevance: As obesity rates rise, more individuals with morbid obesity present with comorbid health conditions resulting in hospitalization. Many of these patients experience concurrent mobility

limitations and are referred to occupational therapy and physiotherapy to help facilitate functional recovery and community reintegration.

Methods and Analysis: A web-based survey of occupational therapists (OTs) and physiotherapists (PTs) was conducted in the spring of 2012. Participants were recruited from acute and rehabilitation facilities through professional practice leaders at hospitals in Hamilton, Ontario. The survey consisted of 23 questions encompassing 6 domains: demographics, past experience, self-efficacy, environment and equipment; knowledge and training needs. Responses to questions (5 point Likert scale) were summarized using frequencies and means. Comments and other text-based comments were summarized into themes.

Study Sample or Initiative Scope: The survey was distributed to 151 OTs and PTs currently working in acute, rehab or complex care in Hamilton.

Findings: A total of 98 therapists completed the survey (40 OT, 58 PT). Only 28% of participants rated their experiences working with this population as 'typically' or 'consistently positive'. Reported challenges included: 1) equipment (85%), 2) mobility training (64%), 3) space (59%), and 4) discharge planning (58%). Average overall confidence to provide safe, effective care was 3.2/5; with lowest rates for stairs (2.5), toileting (2.6), and ADLs (2.8).

Discussion: These results highlight challenges faced by therapists in their efforts to provide safe and effective care to this patient population. This survey has informed the development of an electronic bariatric resource manual, and supported the development of bariatric specific processes in complex care, and the work of a recently-formed corporate bariatric equipment committee.

Conclusions: Based on this survey, challenges related to equipment, space, skills, and confidence, significantly limit the ability of occupational therapists and physiotherapists to provide safe and effective hospital-based rehabilitation care to patients with morbid obesity and mobility limitations.

Other

Poster Number: 49

Title: THE MORE (MAXIMIZING OPPORTUNITIES FOR REHAB EVENTS) PROJECT

Authors (Primary first): Joachimides, Jennifer; Filinski, Julia

Affiliation of Primary Author: Providence Healthcare

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

Abstract:

Purpose: Best practice indicates activity is critical to recovery. The purpose of this project was to provide additional therapy opportunities outside of traditional therapy time, to maximize patient engagement and improve patient satisfaction and outcomes.

Relevance: This innovation was needed to provide additional therapy opportunities for patients throughout the day. These opportunities facilitate faster recovery, timely discharge and optimize patient outcomes. This innovation is an excellent return on investment, as it requires no extra resources to provide additional therapy.

Methods and Analysis: This project consists of a combination of LEAN initiatives (The Rehab Events Project and the Rehab Moments Project). Unit specific Kaizen teams were formed to develop, implement and evaluate creative strategies to increase patient engagement during their rehab stay. A personalized patient schedule was developed to increase patient awareness of opportunities to take part in self-directed activities. A method for better utilization of Rehab Assistants was created which provided additional face-to-face therapy, allowing patients opportunities to practice the specific activities they need to do to return home.

Study Sample or Initiative Scope: Both initiatives were trialed on a 33 bed inpatient rehab unit and were subsequently spread to other units within the facility.

Findings: Implementation of the Personalized Schedule resulted in 95% of all patients having a personalized weekly schedule and 81% of patients participating in at least one self-directed rehab activity 3 times a week or more. Implementation of the Rehab Moments Initiative on 5 units over 4 weeks resulted in an extra 2435 minutes (40.5 hours) of focused rehab activity for patients overall.

Discussion: The MORE Project directly supports best practice of maximizing the engagement of patients in a 24 hour rehab model. As a result of the MORE Project, patients have a consistent way of knowing what they should be doing throughout their stay. They also have greater opportunities to participate in goal directed activities to prepare for discharge.

Conclusions: Maximizing rehabilitation potential and providing more direct patient care is best practice in promoting recovery from illness. The MORE Project has engaged the patient, family and interprofessional team in more rehab focused activities fostering excellent patient care without any additional cost to the institution.

Poster Number: 50

Title: USING DIGITAL TECHNOLOGY (MOBILE APP) TO HELP PATIENTS SUFFERING FROM ACUTE OR CHRONIC PAIN UNDERSTAND THEIR PAIN, BETTER MANAGE THEIR PAIN WITH MEDICATION (SPECIFICALLY, OPIOIDS) AND OTHER WAYS, IN PARTNERSHIP WITH THEIR HEALTH CARE PROFESSIONAL

Authors (Primary first): Furlan, Andrea*. Toronto Rehabilitation Institute (UHN)

Affiliation of Primary Author: Toronto Rehab - UHN

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

Abstract:

Purpose: There is no App for patients which both guides patients on managing their pain and on managing and/or switching opioids. Our app covers both. Existing Apps are either opioid-switching or conversion calculators, or general Apps for pain.

Relevance: Improve patient outcomes and patient safety. Especially for patients with pain condition potentially responsive to opioid, who are low risk for opioid overdose/ addiction, but who refuse because of unfounded fear; and high risk patients eager to try opioids without considering other alternatives, risks, or adverse effects.

Methods and Analysis: Qualitative study on a patient population at Toronto Rehab, on how patients learn about and make decisions on opioids and pain management. Wide consultation (internally at Toronto Rehab) and externally by independent consultant (in a non-rehab health setting) on draft App content (beta-testing) and accompanying brochure.

Study Sample or Initiative Scope: The App is helpful for rehab patients who are suffering from either chronic or acute pain, and is focused on the safe use of opioids.

Findings: We intend to conduct an evaluation of the use of the App in the near future. Findings from qualitative research will be presented. Preliminary results from the use of App will be shared.

Discussion: The App facilitates pain management as a two-way exercise. It empowers patients to be joint decision-makers in managing their pain and the use of medication (& other strategies) to reduce their pain. Has potential to improve clinical practice, patient involvement, and system improvement: balancing the power/knowledge between patients and health care professionals.

Conclusions: We are testing and intend to evaluate the use of the App as a digital technology solution to improve patient understanding & decision-making on pain (jointly with health care professional). Although developed in the rehab environment, we have independent validation for its applicability in other non-rehab health settings.

Other

Poster Number: 53

Title: WHAT ARE THE PHYSICAL, FUNCTIONAL AND SOCIAL CONSEQUENCES OF LIVING WITH OCCUPATIONAL CONTACT DERMATITIS OF THE HAND?

Authors (Primary first): Chung, Angela*; Dugal-Tessier; Etienne*; Escorcía, Egda*; Li, Kathy*; Smuskowitz, Lisa*; Switzer-McIntyre, Sharon; Gomez, Pilar; Holness, D Linn

Affiliation of Primary Author: Department of Physical Therapy, UoT

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

Abstract:

Purpose: The purpose of this study was to enrich our understanding of the physical, functional and social impact using qualitative techniques.

Relevance: Detailed accounts of patients' experiences living with Contact Dermatitis (CD) of the hand and their perceptions of their disability are not reported in the available literature. CD of the hand negatively influences patients' upper extremity function, employment, mental health, and quality of life.

Methods and Analysis: Following ethics approval, descriptive data was collected through six semi-structured interviews with patients with moderate to severe occupational contact dermatitis. Interviews were transcribed verbatim and coded using NVivo 8.0. Analyses focused on themes regarding physical impairment, activity limitation, and participation restriction, as well as personal and environmental factors that influence their condition and perception of disability.

Study Sample or Initiative Scope: Recruited 6 participants presenting with moderate to severe hand dermatitis

Findings: The most prominent themes were the chronic episodic nature of the disease, difficulty with self-care activities, self-management, 'trial and error' strategies to manage the condition, coping with social isolation, inability to work, negative self-perceptions and perceived stigmas.

Discussion: Patients with occupational CD of the hand experience disability in all sectors of their lives, which have previously been overlooked. Disability leads to isolation from physical and social activity, which contributes to further musculoskeletal de-conditioning and mental health issues.

Conclusions: This study confirms that individuals with moderate to severe CD experience severe disability, which impacts physical function, ADLs, work and social engagements. As a result, they suffer from physical and social isolation, and describe depressive moods. It highlights their struggles with the disease and its management.

Other

Poster Number: 54

Title: EVALUATING THE UTILITY OF COMPUTER TRAINING TO AMELIORATE SPEED OF PROCESSING AND IMPROVE EXECUTIVE FUNCTIONING IN ADULTS WITH WHITE MATTER DISEASE

Authors (Primary first): Bonnicks, Alisia; Nalder, Emily; Clark, Amanda; Dawson, Deirdre.

Affiliation of Primary Author: Rotman Research Institute, Baycrest

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

Abstract:

Purpose: Computer-based speed of processing (SoP) training has demonstrated benefits in speeded and executive tests in adults of normal cognition. The current study aims to determine if adults with white matter disease (WMD) show similar improvements.

Relevance: Many older adults have white matter changes, which may be due to the ageing process or lifestyle factors (e.g., smoking). WMD can engender slower SoP and executive dysfunction. SoP is an important executive function therefore investigating methods that could improve SoP may benefit adults with WMD in their rehabilitation.

Methods and Analysis: This ongoing pilot randomized trial uses a pre-post test waitlist control design where community dwelling individuals with WMD are randomly assigned to a treatment or waitlist control arm. Participants undergo three testing sessions of neuropsychological tests targeting executive functioning and processing speed. Participants complete either one or two testing sessions prior to training, depending on their arm. The treatment consists of 10 1-hour training sessions with DriveSharp which uses visual processing activities graded based on an individual's performance to improve mental flexibility and divided attention.

Study Sample or Initiative Scope: 1 individual with WMD and 1 with TIA completed the training. Participants are fluent in English without severe aphasia or major psychiatric illnesses.

Findings: Preliminary results indicate that participants show signs of improvement after the training program. There were increases in the raw scores of neuropsychological tests such as the Trail Making Test, Digit Symbol, and the delayed recall of HVLT. Moreover, less time was spent completing the Timed IADL, a task measuring processing speed. Further analysis will determine the significance of these scores and whether they have lasting effects.

Discussion: These preliminary findings provide rationale for future research with larger samples and a control treatment arm that could better establish the efficacy of the program. If DriveSharp proves to be effective, it could increase the intensity of rehabilitation by allowing participants to complete the training activities outside direct therapy hours.

Conclusions: Preliminary data suggests computer-based SoP training may be effective in improving executive deficits in older adults with WMD. Future research is still required and if results are substantiated, the effectiveness of DriveSharp could be further examined in other populations needing rehabilitation for executive dysfunction.

Other

Poster Number: 55

Title: WATERLOO WELLINGTON'S REGIONAL REHABILITATIVE CARE SYSTEM

Authors (Primary first): Emmi Perkins

Affiliation of Primary Author: St. Joseph's Health Centre Guelph

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

Abstract:

Purpose: A Waterloo Wellington Rehab Services Review identified many opportunities to improve the quality&coordination of rehabilitative care services. The main reason for this initiative is to support the development of a regional rehabilitative care program.

Relevance: This initiative is of interest at the provincial health system level as other regions are embarking on similar regionalization initiatives and as the Rehabilitative Care Alliance works to develop provincial standardization within the provincial rehabilitative care system.

Methods and Analysis: Methods: The WWLHIN funded a 2-year initiative to support the implementation of the recommendations from the Rehab Services Review. This initiative included the development of a regional leadership structure, organization of best practice clinical services around population-specific streams of care and integration with community services. Finally, an evaluation and accountability framework was developed to support quality improvement and performance monitoring within the WW rehabilitative care system.

Study Sample or Initiative Scope: Sizing & siting of rehabilitative care services acute, inpatient, ambulatory/outpatient, home/community, primary care, LTC & community services

Findings: As the two year initiative concludes in June 2014, the following outcomes have been completed: development of a leadership structure and evaluation scorecard, formal integration of stroke services, development of 7 cross continuum, integrated rehabilitative care pathways, development of a process to support transitions across the continuum.

Discussion: This initiative can serve to inform other regions that are undertaking a similar process. As QBP funding shifts its focus to the post-acute sector of the health care system, the role of the rehabilitative care system in achieving patient outcome targets must be optimized in order to ensure successful transformation of the health care system.

Conclusions: The current focus on rehabilitative care to support health care system goals is presenting an unparalleled opportunity for our sector. This initiative demonstrates one LHIN's approach to developing, implementing and evaluating its rehabilitative care system to leverage this important opportunity.

Other

Poster Number: 56

Title: CALCIUM AND VITAMIN D TO PROMOTE BONE HEALTH AND MUSCLE STRENGTH: HOW MUCH IS APPROPRIATE AND HOW MUCH IS TOO MUCH?

Authors (Primary first): Wilk, Heidi

Affiliation of Primary Author: Toronto Rehab, University Health Network

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

Abstract:

Purpose: Review evidence for appropriate calcium and vitamin D supplementation. Both nutrients have a synergistic relationship. Vitamin D contributes to muscle strength to prevent falls and calcium promotes bone health to reduce fracture risk.

Relevance: Recommending appropriate supplementation requires review of potential adverse effects of over zealous supplementation. Vitamin D toxicity is rare. High dose calcium supplementation above the upper tolerable limit may increase risk of gastrointestinal disturbances, renal calculi and cardiovascular events.

Methods and Analysis: This project reviewed the evidence for vitamin D and calcium supplementation to optimize bone health and muscle strength to help prevent falls and fractures. A review of Interprofessional guidelines for osteoporosis concluded that the Canadian guidelines for prevention and treatment of osteoporosis provide appropriate dose recommendations for vitamin D and calcium.

Study Sample or Initiative Scope: Inpatients aged 50 and older at Toronto Rehab, UHN. Exclusion criteria: patients with renal disease or who are undergoing active cancer treatment.

Findings: Strong evidence supports daily supplementation of vitamin D (800-1000 IU) to enhance bone health and muscle function to decrease falls risk. Calcium requirements (1200 mg), met through diet alone or a combination of diet and supplements, serves to strengthen bones and reduces fracture risk after a fall. Prescription supplementation for repletion (e.g. booster dosing) of vitamin D at Toronto Rehab still requires further review.

Discussion: Mid project we discovered that some tube fed patients receiving large volumes of formula and/or other supplements exceeded the calcium requirements. In one clinical program, the admission order sheet included potentially excessive calcium doses. This was raised at pharmacy and therapeutic committee and a tool was made to help clinicians to order appropriate calcium doses.

Conclusions: Vitamin D requirements cannot be met from diet alone. Individual assessment is required to determine the need for calcium supplementation. Interprofessional collaboration was key to the success of this initiative, especially for implementation of change in clinical practice.

Other

Poster Number: 57

Title: BEDSIDE INTERDISCIPLINARY GOAL DEVELOPMENT ROUNDS ON A GENERAL REHABILITATION UNIT

Authors (Primary first): *Sadler, Gabrielle; Bosiljevac, Linda;

Affiliation of Primary Author: Ross Memorial Hospital

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

Abstract:

Purpose: Patients and families should be directing their rehabilitation journey. By bringing interdisciplinary goals rounds to the bedside, patients direct their goal setting and discharge planning. Bedside weekly goals are posted to ensure team consistency.

Relevance: According to the Canadian Stroke Best Practice Recommendations, teams should conduct at least 1 formal interprofessional meeting per week to identify problems, set goals, monitor progress and provide discharge support. With the current focus on patient engagement, inclusion of the patient and family would be beneficial.

Methods and Analysis: The bedside goals rounds occur once per week. Families are encouraged to attend and are informed of the rounds by the Clinical Resource Nurse on admission, in the admission package and poster in the patient room. The team, including the Manager, Clinical Resource Nurse, Nurse, PT, OT and CCAC meet with each patient and family for 5 minutes. Met goals are celebrated, new goals are set and discharge plans are discussed each week. A laptop and printer are used to print a sheet with weekly goals, education sessions, discharge plan and EDD. If there are further concerns, the SW follows the team to meet with families.

Study Sample or Initiative Scope: 16 bed General Rehabilitation Unit in a community hospital. Average age of 70.6 yrs. Largest RCGs - Orthopaedic conditions and Stroke.

Findings: As we have only rolled out this initiative in Nov 2013, our outcomes are not yet conclusive. However, patients and families report that they are feeling included as part of the team and are less anxious regarding discharge. There is a noted reduction in the need for team care conferences to support discharges. Staff feel that "everyone is on the same page", especially with the utilization of the bedside weekly goals sheet.

Discussion: By engaging patients and their families, they are more motivated to meet their goals and become better equipped for discharge home. We will continue to monitor LOS for a potential reduction. The rounds are also building a better cohesive team approach to care. With process improvement, we plan to spread the initiative other units such as Functional Enhancement.

Conclusions: Inclusion of patients and their families in weekly goal setting and discharge planning have improved patient engagement and motivation, reduced the need for resource intensive care conferences and improved interdisciplinary team cohesiveness. Bedside Goals Rounds are an efficient way to facilitate weekly team meetings.

Poster Number: 58

Title: DEVELOPMENT AND TESTING OF A SCREENING TOOL FOR ALLIED HEALTH REFERRALS

Authors (Primary first): Brice-Leddy, Lisa

Affiliation of Primary Author: Trillium Health Partners

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

Abstract:

Purpose: Our purpose was to develop and test a screening tool for our inter-professional (IP) team to use during bullet rounds, in order to identify patients who require physiotherapy (PT) and occupational therapy (OT) service.

Relevance: In the acute medicine program, PTs and OTs were experiencing huge caseload volumes. Establishing criteria for referral defines which patients will benefit most from therapeutic intervention - ensuring the right care is delivered at the right time by the right person.

Methods and Analysis: Referral criteria tool was developed using an external scan, internal documents and extensive consultation with OT and PT staff. Tool was trialed during daily bullet rounds on each medicine unit over a 3 week period. The tool was used to guide discussion within the IP team related to who required referral to OT and/or PT. Feedback from test process was used to refine the tool (content and format). On each team one person remained blind to traditional physician referrals and tracked referrals generated by the IP team. We then compared referrals generated by the IP team with referrals generated by physicians.

Study Sample or Initiative Scope: Tested process across all medicine units and gathered feedback from each IP team - related to the process and the tool itself.

Findings: Inter-professional teams generated 25% fewer referrals than physicians (121/161). The team disagreed with 44% of physician referrals (7% were considered late, 25% did not meet criteria and 12% the team felt they did not have enough information to decide). Teams reported enhanced understanding of roles and increased involvement with the functional goals and discharge plans of patients.

Discussion: IP teams have the skills required to determine which patients require the expert services of OT and/or PT. Allowing the team to decide which patients should be given priority as well as when

patients require the service appears to be more responsive to the needs of the patients, and promotes enhanced collaboration among the IP team.

Conclusions: The IP team is capable of choosing which patients are most appropriate for referral (to OT and PT), as well as when the service should be provided. The team based process, facilitated by the referral tool resulted in enhanced IP team role clarity and encouraged team participation in patients goals and discharge planning.

Other

Poster Number: 59

Title: EVALUATING THE USE OF A LOGIC MODEL FOR THE IMPLEMENTATION OF THE ERIE-ST. CLAIR (ESC) LOCAL HEALTH INTEGRATION NETWORK REHABILITATION NETWORK STRATEGIC PLAN

Authors (Primary first): Snobelen, Nancy; Crvenkovski, Pete; Helgerman, Shane; Johnson, Helen; Knowler, Andrea; Lucas, Vicki; Norton, John; Reddam, Janet; Willems, Deb; Zimmer, Laurie;

Affiliation of Primary Author: Chatham-Kent Health Alliance

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

Abstract:

Purpose: Did the Logic Model (Strategy Map and Balanced Indicators) facilitate the implementation of the strategic plan and development of clinical outcomes and system performance to: 1. Improve health 2. Enhance patient experience 3. Reduce cost of care?

Relevance: Key to Health Systems Funding Reform is VALUE. Rehabilitation as a critical enabler ensures value by maximizing psychosocial and physical function, delivering a positive experience, and optimizing resources. Logic models create a Strategy Map and Balanced Indicators to evaluate quality, outcomes, performance and value.

Methods and Analysis: Rehabilitation and health system performance experts crafted a Logic Model for clinical improvement and system performance evaluation. The Logic Model was based on the ESC LHIN Rehabilitation Network Strategic Plan. Quality dimensions aligned with the ESC LHIN Integrated Health Service plan. Key Indicators were selected and defined using best evidence, e.g., Ontario Stroke Network Report Card, Bone & Joint Hip Fracture Toolkit, Quality Based Procedures Handbooks, and consensus discussions. Data was extracted from the Intellihealth repository. Data was visually displayed using Microsoft Excel- Conditional Formatting.

Study Sample or Initiative Scope: Key performance indicators selected for System Performance, Stroke, Hip Fracture and Geriatric Rehabilitation for 5 quarters starting fiscal 12/13.

Findings: Leveraging the Logic Model was challenging due to the abundance of data and indicators and the need to prioritize. The Strategy Map was used by the team to select 18 rehabilitation system-level, 24 Stroke, 17 Hip Fracture and 16 Geriatric key performance indicators and targets. Access to a dedicated decision support analyst, Intellihealth data and data-sharing agreements was required to develop and populate the data accurately and expeditiously.

Discussion: The Logic model facilitated implementation of our Strategic Plan yet did not provide a definitive link of action to outcome. Clinical results and system performance measures visually displayed were complementary to practice and system-level evidence-based decision-making. Missing definitions and data, e.g., outpatient/community services, prevented a fulsome evaluation.

Conclusions: For rehabilitation services, using a Logic Model(Strategy Map/Balanced indicators) is beneficial for implementing a strategic plan. A cross-sector clinical and system-level Logic Model facilitates evidence-based decision- making to improve practice, patient experience and cost; and ensures value in our complex system.

Other

Poster Number: 60

Title: "FIND REHAB RESOURCES" APP FOR CLINICIANS WORKING IN THE REHABILITATION SECTOR

Authors (Primary first): Dr. Gaetan Tardif

Affiliation of Primary Author: Toronto Rehab

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

Abstract:

Purpose: Following on the success of the UHN "FIND CANCER RESOURCES" app, we have produced a "FIND REHAB RESOURCES" app for use by clinicians in the rehab sector, giving quick access to best practice guidelines and standards; medical dictionary, & e-resources.

Relevance: At the practice level, clinicians will be able to look up critical information in seconds/minutes, and also share with their patients. Organizationally, we hope the app will support consistent best practices and quality of care.

Methods and Analysis: We conducted a survey of clinicians at Toronto Rehab (100 responses) from various programs (brain, cardiac, MSK) and professions (physicians, OTs, PTs, nurses). They advised that "best practices guidelines and standards" & "patient education materials" were their top two needs, in terms of info they would like to access via an app by ipad or iphone or android. The other areas they would like quick access to information on are: "patient resources", "anatomy", "medication", "exercise images" and "medical dictionary". So we are responding directly to clinician needs and have produced a FIND REHAB RESOURCES APP

Study Sample or Initiative Scope: The scope of our initiative is the clinicians at Toronto Rehab (as potential users), but the app can be used by clinicians elsewhere, working in rehab.

Findings: We intend to evaluate the use of the app as time passes e.g. through Google Analytics and app statistics.

Discussion: The effect of having our app is the ability to support best practice clinical work, and to also support patient understanding (clinicians can share with patients what they see on the app) of their treatment/care.

Conclusions: Supporting clinical work using digital technology has merit, and we should innovate and use digital technologies as much as possible to support clinical work and patient understanding of their treatment/care. [Request: we will need a TABLE next to our poster, to put a couple of ipads, so that we can DEMONSTRATE the app.]

Other

Poster Number: 61

Title: APPLICABILITY OF SYMPTOM VALIDITY TESTING TO OCCUPATIONAL THERAPY PRACTICE

Authors (Primary first): Fleming, Angela, Rutledge, Lynn*, Reel, Kevin

Affiliation of Primary Author: GDRS, University of Toronto

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

Abstract:

Purpose: Since 2009, symptom validity tests (SVTs) have become part of the minimum standard of practice for cognitive/psychological assessment within the field of neuropsychology. Routine use of these tests ought to be considered by occupational therapists.

Relevance: The use of SVTs in occupational therapy (OT) may: provide evidence-based, validated data to support assessment and treatment; identify when drawing conclusions cannot be supported; assist with research to further the profession; and increase the credibility of OT in the eyes of other professions and funding sources.

Methods and Analysis: A meta-analytic review of the effect of financial incentives on recovery after closed head injury demonstrated a moderate overall effect size of 0.47, which was statistically significant and clinically meaningful (Binder & Rohling, 1996). The authors suggested study participants would have had fewer symptoms and the symptoms of others would have been eliminated in the absence of financial compensation. As a pilot project, OTs were trained and licensed in the use of the Medical Symptom Validity Test, and the Non Verbal-MSVT (based on the Word Memory Test : a highly researched SVT). OTs receive ongoing mentorship.

Study Sample or Initiative Scope: Thirty-six consecutive clients (19 men; 17 women; ages 9-86 yrs, mean 37.4) referred for medico-legal assessment were included in the pilot project.

Findings: 42% of clients administered the MSVT failed the test. 54% of clients administered the NV-MSVT failed the test. Overall failure rate of 48%. Mean scores were similar to other international peer-reviewed studies across professions and in medico-legal situations. Failure pattern similar to patterns previously reported.

Discussion: For OT assessors in medico-legal or compensatory practice, a finding of failure on symptom validity measures must be recognized as invalidating findings from any other formal measures administered within the same assessment. Given that, an occupational therapist should not base recommendations or conclusions on data premised on voluntary effort on the part of the client.

Conclusions: Occupational therapists working in the realm of medico-legal or compensatory practice should integrate SVTs into their practice for clear and significant reasons. There are, however, certain ethical questions pertaining to accountability, consent and transparency which remain to be discussed and researched further.

Senior – Focused Care

Poster Number: 62

Title: ENABLING SEXUALITY AND SEXUAL EXPRESSION IN DEMENTIA CARE - A COMPLEX BEST PRACTICE TO EMBRACE EX-PLISSIT-LY - WITH COMFORT AND TO THE LIMIT OF COMPETENCE

Authors (Primary first): Reel*, Kevin, University of Toronto; Davidson, Sylvia

Affiliation of Primary Author: Mackenzie Health

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

Abstract:

Purpose: Sexual expression in dementia care and potential incapacity is profoundly complex. This presentation will consider comfort zone and scope of competence and offer an approach to deciding how far you can go in addressing issues of sexual expression.

Relevance: It is likely that staff encounter issues to do with sexual expression from time to time. The added complexities of the context of dementia care and potential incapacity can understandably result in avoidance of the issue altogether. This session aims to offer simple framework for addressing your comfort and competence.

Methods and Analysis: The sensitive issues wrapped up responding to issues of sexuality are explored, emphasizing that much of the ‘yuck factor’ associated with them is our own responsibility. Client-centred care demands we manage that ‘yuck factor’ as well as possible. The Ex-PLISSIT model is offered as one tool for helping understanding our reactions and to stretch our own limits. The model enables staff to take a step wise approach to offering support: identifying when they may be beyond their scope even if they may still be within their own comfort zone.

Study Sample or Initiative Scope: Based on our own practice, we’re sharing observations, insights and tools we’ve found to be useful in educating other staff.

Findings: We have found that having a first discussion, or a few, amongst staff helps people identify their own discomfort with engaging with clients around issues of sexuality and sexual expression. These discussions open up the debate and foster insights into why sexuality may well be a very integral part of a person’s rehabilitation. The added complexity of dementia makes the discomfort with the topic grow.

Discussion: By exploring the idea of capacity for sexual decision making, some very murky areas become a bit clearer. The distinction between comfort and competence is valuable, as well as the Ex-PLISSIT framework. The complexity and the discomfort persist, but they are framed more manageably.

Conclusions: In pursuit of holistic client-centred care, rehabilitation staff ought to be explicitly addressing the enablement of sexual expression in clients living with dementia. The Ex-PLISSIT framework assists with this sometimes demanding task.

Senior – Focused Care

Poster Number: 63

Title: IMPLEMENTATION OF THE MOBILITY GOAL ATTAINMENT SCALE ON A COMPLEX CONTINUING CARE UNIT: BASELINE FINDINGS AND EXPERIENCES

Authors (Primary first): Simchovich, Gabi; Simchovich, Natanel; Hohmann, Maya; Berall, Anna; Mendelson, Debbie; Davidson, Sylvia; Karuza, Jurgis; Katz, Paul; *Naglie, Gary;

Affiliation of Primary Author: Baycrest Health Sciences

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

Abstract:

Purpose: The primary objective of this study is to evaluate the impact of the Mobility Goal Attainment Scale (GAS) on patient physical activity and social engagement on a Complex Continuing Care (CCC) unit.

Relevance: Given the increased recognition of the role of rehabilitation in CCC to improve function and prevent risks associated with bedridden patients, the need to both promote and measure mobility has become a priority. This study will identify whether the Mobility GAS had a greater effect on physical activity than the usual care.

Methods and Analysis: The impact of the Mobility GAS will be evaluated using a prospective cohort study. Mobility GAS data will be triangulated with observational data (time series audit) and Personal Support Worker (PSW) reports of daily mobility. Data will be collected during a pre-intervention period (12 weeks) and post intervention period (48 weeks). Patient physical and psychosocial characteristics will be collected quarterly using MDS 2.0. Data analysis will include descriptive statistics in addition to a linear mixed effects model to accommodate measures at multiple time points on the same individual.

Study Sample or Initiative Scope: 34 patients were recruited at baseline (mean age 76 ± 10.7 , 70% female). 1 patient died and 3 were discharged during the pre-intervention phase.

Findings: Baseline findings revealed a complex population with noticeable variety in mobility levels. PSW reports on day shifts over 3 weeks showed 14 subjects stayed in bed all day on 75% or more of shifts.

Time series data show 10 patients were mobilized (out of bed) on 0 : 10% of observations and 6 subjects were mobilized on at least 60% of observations. Mobility GAS goal attainment is currently being monitored in the post-intervention phase.

Discussion: Due to the variation in subject mobility and health status, GAS goals have been set for improvement or maintenance of mobility. Challenges to date include subject retention and accurate documentation of mobility using a time series audit. Practical applications of the study include informing future implementation of the Mobility GAS to improve or maintain patient mobility.

Conclusions: In a CCC population, we have introduced the Mobility GAS tool to measure mobility gains and maintenance. Additional sources of data are beneficial to validate Mobility GAS results. Heterogeneous CCC populations will require sensitive measures to capture mobility in patients with varying levels of ability.

Senior – Focused Care

Poster Number: 64

Title: DEVELOPING STRATEGIES TOWARD BEST PRACTICE CARE FOR PATIENTS WITH HIP FRACTURE THROUGH THE USE OF LINKED HEALTH CARE DATA IN ESC LHIN.

Authors (Primary first): *Johnson, Helen; Knowler, Andrea; Snobelen, Nancy; Crvenkovski, Pete; Norton, John; Helgerman, Shane; Wilson, Cindy; Heron, Kelly; Dupuis, Danielle.

Affiliation of Primary Author: Chatham-Kent Health Alliance

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

Abstract:

Purpose: The 2012 ESC LHIN Rehabilitation Strategic Plan targeted implementation of best practice care for patients with hip fracture across the care continuum. Accurate data was needed to quantify levels of adherence to best practices, and identify gaps.

Relevance: Reducing practice variations and ensuring appropriate availability of rehabilitative care services are crucial in maximizing patient care outcomes, patient experience, and optimizing system resources. Linked health system data can facilitate identification of key areas of focus for change management activities.

Methods and Analysis: The Ministry of Health's database repository, Intellihealth, was accessed to obtain the data collected during the journey of the hip fracture patient across the care continuum. The

discharge abstract database (DAD) was first queried for all patients who presented with a hip fracture within each of the ESC hospitals for fiscal year 2012-13. The datasets for other care settings, such as rehabilitation, were then downloaded. Using the encrypted health card number of the patient in the DAD, linkages were made across these other sectors. It was then possible to answer important questions that span across care settings.

Study Sample or Initiative Scope: A LHIN-wide Hip Fracture Best Practices Working Group is coordinating improvement initiatives, with a sub-group in each geographical LHIN area.

Findings: Total hip fracture admissions increased 7% from year prior. System performance compared to the 2011-12 provincial orthopedic scorecard changed in some regions. Clear directions were identified for improvement initiatives. A dedicated decision support analyst was essential to acquire necessary data. Linked data illustrates system outcomes across sectors. Credible system data is crucial to stimulate improvement initiatives at the front-line level.

Discussion: This work facilitated evaluation of system performance in hip fracture care against best practice targets. Length of stay and alternate level of care days revealed potential gaps in system capacity such as availability of inpatient rehab beds. Some patient outcomes such as return home, and areas where further data gathering and analysis are required were also identified.

Conclusions: Health system data is critical to evaluate services against best practices. For patients with hip fracture, care journeys cross several sectors. Linked data can most appropriately monitor system performance. Community sector data is less available and further work is needed to adequately assess long term patient outcomes.

Senior – Focused Care

Poster Number: 65

Title: EVALUATION OF BONE Fit™ WORKSHOPS

Authors (Primary first): Laprade, Judi*; Beauchamp, Barbara; Jain, Ravi; Khan, Sarah;

Affiliation of Primary Author: Osteoporosis Canada

Abstract Category: Knowledge Transfer and Exchange Initiative

Abstract:

Purpose: This research study evaluates the efficacy of Osteoporosis Canada’s Bone Fit™ workshops as a knowledge translation tool in clinical & community exercise practices. Bone Fit™ is an evidence-informed exercise training program for health professionals.

Relevance: This study will determine if Bone Fit™ trained professionals changed their knowledge, practice and attitudes towards osteoporosis, fracture risks and safe exercises, ultimately impacting individuals with or at risk for osteoporotic fractures.

Methods and Analysis: In 2013, 41 successfully trained Bone Fit™ professionals were surveyed with a post-training questionnaire. The questionnaire included: 3 Assessment & Screening questions 6 Confidence questions 7 Knowledge application questions.

Study Sample or Initiative Scope: The survey was only applicable for those working in a clinical setting overseeing people at risk of osteoporosis.

Findings: Of the 41 individuals surveyed, 85% practice in clinical settings & 15% practice in fitness settings. Post-workshop, there was a significant improvement in confidence levels. Over 50% of Bone Fit™ trained professionals are confident in: Adapting activities of daily living /prescribing exercises. Advising clients on sport participation. Assessing people with osteoporosis.

Discussion: 68% of participants implemented significant changes to their practice. Examples include: “I provide more education on exercises that maintain bone mass, & modify risk positions. Recommendations for improving knowledge transfer process: Review Bone Mineral Density tests to understand results. Provide examples on best practices in rehabilitation for post fracture care.

Conclusions: Bone Fit™ empowers exercise professionals with the knowledge and tools to effectively modify/design safe exercises for people with osteoporosis. The next steps are a long-term research study to determine if changes in knowledge, practice and attitudes are maintained over time amongst trained health professionals.

Senior – Focused Care

Poster Number: 66

Title: IS COGNITIVE IMPAIRMENT A BARRIER TO FUNCTIONAL RECOVERY?: RESULTS FROM A GERIATRIC REHABILITATION UNIT

Authors (Primary first): *Mackenzie, Rob; Hunter, Susan; LimFat, Guillaume; Montero-Odasso, Manuel*

Affiliation of Primary Author: St. Joseph's Health Care London, Parkwood Hospital

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

Abstract:

Purpose: The purpose of this study is to evaluate the effect of cognitive impairment on functional recovery during inpatient geriatric rehabilitation.

Relevance: The number of people in the general population living with dementia is expected to increase dramatically in the coming years as the population ages. (CAS 2010) This change will impact health care service utilization and services meant to facilitate and keep older adults living independently longer in the community.

Methods and Analysis: The sample consists of 997 consecutive patients admitted to Parkwood Hospital's geriatric rehabilitation unit. Information was obtained from medical charts and the National Rehabilitation Reporting System. Data collection included: MMSE, Montreal Cognitive Assessment, Geriatric Depression Scale, rehabilitation details, medications, laboratory measures, demographics, admission diagnosis, and comorbidities. Rehabilitation success will be determined by comparing admission and discharge scores of Functional Independence Measure, Berg Balance Scale, Timed Up & Go Test, 2 Minute Walk Test, and Maximum Walk.

Study Sample or Initiative Scope: The sample consists of 997 consecutive patients (65 years old) admitted to Parkwood Hospital's geriatric rehabilitation unit.

Findings: Preliminary findings (approximately 600 patients), suggest there is no significant difference between the different cognitive quartiles (based on MMSE scores) on the rehabilitation parameters (BERG balance, TUG, 2 min walk, and max walk).

Discussion: These findings support the idea that cognition alone does not seem to affect rehabilitation outcomes. This is an important finding as the number of elderly persons with cognitive impairment will continue to increase as our population ages. Access to rehabilitation will be an important strategy to keep this population living independently in the community as long as possible.

Conclusions: Cognition alone does not seem to affect rehabilitation outcomes in a general geriatric rehabilitation setting. Access to geriatric rehabilitation should be a key strategy to address functional decline in older adults with cognitive impairment.

Poster Number: 67

Title: PUTTING IT INTO PRACTICE: IMPLEMENTING A FALL PREVENTION BEST PRACTICE INITIATIVE IN THE HOME CARE SETTING

Authors (Primary first): Sidhu K.; *McKay S. VHA Home HealthCare

Affiliation of Primary Author: VHA Home HealthCare

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

Abstract:

Purpose: This project investigates the clinical uptake of a comprehensive fall risk management best practice initiative into routine care delivery of health providers in the home care setting.

Relevance: The home and community care sector is an important component of fall prevention across the continuum of care; attention to implementing fall prevention initiatives amongst community-based practitioners is a critical component of the aging at home strategy that is endorsed and desired by many.

Methods and Analysis: The best practice initiative included an evidenced-based review of multiple fall risk factors and education on using new community-specific fall risk and treatment tools. Training was delivered across the organization to a multi-disciplinary group of home health care providers including nurses, rehabilitation therapists, and personal support supervisors.

Study Sample or Initiative Scope: Ongoing support was provided by the implementation team, clinical designates, and best practice champions to OT & PT providers in 2 CCAC's.

Findings: Preliminary, post-training results demonstrate that the fall best practice program is being utilized by OT and PT home health providers. Documentation regarding evidence-based fall risk factor assessment and treatments is present in clinical records. Review of 116 OT & 101 PT discharge charts indicates an increase in documentation for assessment and intervention from ~ 30% (baseline) to >90% post implementation.

Discussion: Feedback from the rehabilitation service providers involved has been captured to identify opportunities to improve the process (forms, education session & support). These feedback have influenced the ongoing implementation with our nursing and personal support teams.

Conclusions: Fall best practice tools can be integrated into practice patterns of home health care providers with training and continued support for users. Further investigation needs to be conducted to determine the sustainability and continued application of such initiatives.

Senior – Focused Care

Poster Number: 68

Title: DEMOGRAPHIC PROFILES OF NEWLY IMPLEMENTED COMMUNITY BASED EXERCISE AND FALLS PREVENTION CLASSES

Authors (Primary first): Mendelson, Debbie (Anita)* (Baycrest); Cullen, Dianne; Jones, Nancy; Smyth, Sheila.

Affiliation of Primary Author: Baycrest

Abstract Category: Knowledge Transfer and Exchange Initiative

Abstract:

Purpose: To provide an overview of the implementation and demographic profiles of newly implemented Community Exercise (CE) and Falls Prevention Classes (FP).

Relevance: In April 2013 the Ministry of Health and Long Term Care announced changes to the funding model for physiotherapy services across the province. As part of the reform, funding was provided to deliver CE and FP in community settings including retirement homes and other congregating living buildings.

Methods and Analysis: Participants for the CE and FP were identified in a number of ways - self identified, through CCAC service providers and retirement home staff. Screening for the CE and FP included baseline demographic information, relevant medical conditions, mobility and frailty measures. Screening battery included Timed Up and Go(TUG), functional reach, timed stands, Tinetti balance scale, gait speed and clinical frailty scale(CFS). Attendances were also collected. CE are an open class conducted twice weekly by a fitness instructor. FP are held 1x/week by a physiotherapist and include interactive education and exercise.

Study Sample or Initiative Scope: Our agency implemented CE in 4 retirement homes and 3 community housing buildings (n=330). The FP were implemented at the 4 retirement homes (n=36).

Findings: Screening for the CE revealed a heterogeneous population within and across sites. Community housing CE participants had an average age of 75.1, TUG of 12.4, CFS of 3.5 with 12% reporting falls in

past year. The retirement homes CE participants had an average age of 84.1, TUG of 14.6, CFS of 4.8 with 47.1% reported falls. The FP group was more homogenous with an average age of 86.8, TUG of 29.5, CFS of 5.3 and higher incidence of falls (83%).

Discussion: Exercise and falls prevention programming in the community is a key MOH initiative, ensuring seniors have the opportunity to maintain functional independence. The content and structure of programs must be designed to safely support seniors while maximizing outcomes. Understanding the characteristics of this population is integral to accomplishing this objective.

Conclusions: The variability in characteristics of this population indicate a need for further study. Future directions include further defining participant needs, matching program criteria with needs and characteristics of participants, integrating these programs with the larger health care system and evaluating program effectiveness.

Senior – Focused Care

Poster Number: 69

Title: POST FALL HUDDLE- A QUALITY IMPROVEMENT INITIATIVE

Authors (Primary first): * Alidina, Karimah; Garley, Diane; Morey-Hollis, Melissa

Affiliation of Primary Author: Joseph Brant Hospital

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

Abstract:

Purpose: Falls management is one of the quality initiatives at our organization. The purpose of this review is to highlight the significance of introducing a post fall huddle as a strategy to analyze and manage falls.

Relevance: Analysis of an incident is an integral component of patient safety and quality improvement. Utilizing the components of the Canadian Incident Analysis Framework, the authors designed a post-fall huddle as a guideline to analyze the incident (fall) with a goal to promote a culture of safety and enhance safety and quality.

Methods and Analysis: The healthcare team utilizes rL Solutions Risk Monitor Pro: Online Occurrence Reporting tool to voluntarily report any adverse event. Guided by the Canadian Incident Analysis Framework, a structured process to initiate a post-fall huddle was initiated. Inter-professional team members participate in post-fall huddles. The huddle took place within 24 hours of falls and allowed in-

depth discussions around potential causative factors and interventions to reduce the risk of recurrent falls. The effectiveness of this strategy will be analyzed by comparing number of falls during the pre and post intervention.

Study Sample or Initiative Scope: Rehabilitation and Complex Care patients who had a fall

Findings: Results of introducing post-falls huddles as a quality improvement initiative will be discussed in relation to the reported number of falls and injuries before and after implementation of the huddles. Perspectives from the inter-disciplinary team will also be sought and reported in terms of the subjective experience of participating in the huddle, its impact on quality outcomes and its utility as a measure to mitigate future falls risk.

Discussion: Post-fall huddle is guided by the Canadian Incident Analysis Framework that allows the inter-disciplinary teams to identify how and why a fall may have occurred, and what can be done to reduce the risk of recurrent falls. Preliminary results will guide the author(s) discussion on the effectiveness of this strategy to support a falls prevention and management program.

Conclusions: The introduction of post-fall huddles may provide an opportunity to healthcare teams to illuminate contributing factors for falls, enabling customized interventions to prevent falls recurrence.

Senior – Focused Care

Poster Number: 70

Title: SUCCESSFULLY ENGAGING PATIENTS AND THEIR FAMILIES TO TAKE AN ACTIVE ROLE IN PREVENTING DELIRIUM AND FUNCTIONAL DECLINE AMONG VULNERABLE SENIORS IN A COMMUNITY HOSPITAL: HOW TO MAKE THE HOSPITAL A MORE ACTIVE PLACE FOR SENIORS.

Authors (Primary first): Schelfhaut, Helen*; Theben, Janine; Coughlin, Shirley; Power, Shannon

Affiliation of Primary Author: Halton Healthcare Services

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

Abstract:

Purpose: This initiative builds clinical staff capabilities in the areas of management of delirium and functional decline through engaging senior patients and caregivers as active partners in prevention while in hospital.

Relevance: Delirium is a common, costly, and often unrecognized medical condition. Up to half of cases are reportedly preventable. Delirium meets criteria for an indicator of quality of hospital care, as it is often associated with negative outcomes. Functional decline affects half of those in hospital and can occur as early as day 2.

Methods and Analysis: In collaboration with Trillium Health Partners, four clinical staff and a leader from HHS were seconded to the project. Six nursing units were selected by both lacking a structured program to activate patients/caregivers and having a high reported incidence of delirium. Education was provided to frontline staff, who in turn, educated patients and caregivers via a brochure. Participants were also provided with an activity log, outlining the use of practical interventions directed at mitigating 6 known risk factors for cognitive and functional decline: physical and mental exercise, eating, drinking and sleeping well.

Study Sample or Initiative Scope: Patient criteria: over age 70 with at least one risk factor for delirium and functional decline such as immobility or psychoactive medication use.

Findings: Almost 200 staff members were educated in a total of 54 training sessions across the units, representing 88% of available staff. 210 patients/caregivers received education and 95% of these participated in prevention activities. Patients/caregivers reported high levels of satisfaction and self-efficacy to perform the activities on the logs. 70% of staff surveyed reported the resources were 'extremely' or 'very helpful' for their senior patients.

Discussion: Delirium and functional decline are serious, common and preventable iatrogenic complications of hospitalization. This project utilized simple tools to empower patients and caregivers to take an active role in the prevention of both. Next steps would include applying metrics to evaluate the reduction of rates of delirium and functional decline.

Conclusions: The Delirium and Functional Decline Prevention Project was highly successful in developing sustainable education material to prevent the incidence of delirium and functional decline. Further highlights include significant leadership development and improved work satisfaction among the project and frontline clinical staff.

Senior – Focused Care

Poster Number: 71

Title: MOBILITY IS THE BEST MEDICINE!

Authors (Primary first): deHueck, Amy; Spanjevic, Lily

Affiliation of Primary Author: Joseph Brant Hospital

Presentation Format: POSTER PRESENTATION HORIZONTAL

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

Abstract:

Purpose: Risk for deconditioning is well documented in the literature, however early mobility interventions can mitigate this risk. With the surge of frail elderly admissions, it is imperative that mobility is continued throughout their hospital stay.

Relevance: Mobility has been identified as a priority issue in the hospital and by the RGP. Deconditioning and bedrest can cause many detrimental effects. Rehab begins on admission to the ED, and it is imperative that patients be mobilized earlier. Mobility requires an interprofessional approach and family engagement.

Methods and Analysis: This project is an expansion of a successful pilot project done in Medicine in 2009 which includes: mobility algorithm, competencies for mobilization and deconditioning risk assessment. Through chart reviews and stakeholder feedback, we were able to enhance the 2009 work and broaden the scope to other units in the hospital. Pre/post surveys were done to elicit staff perceptions of barriers/facilitators to mobility and potential solutions. Staff were inserviced on the fundamentals of mobility assessment and interventions, how to engage challenging patients and documentation. Pre/post chart audits were completed.

Study Sample or Initiative Scope: All staff in ED, ICU and additional medical unit received education and training. All patients were screened for early mobility interventions.

Findings: High satisfaction level reported from staff participants during the training session. All staff identified mobility as an important clinical issue and were engaged in finding solutions. Data collection currently in progress and will be reported at the conference.

Discussion: The shift in focus of rehab needs to start in emergency department. Due to bed flow issues, patients could wait several days in the ED; mobility needs to be considered the 5th vital sign. Patients and family need to be engaged right from admission to participate in mobility treatment. It is possible without incurring additional costs and time to prevent deconditioning.

Conclusions: A total change in culture can evolve in highly acute hospital settings. With appropriate leadership, corporate support, staff, patient and family engagement, a change in practice is feasible. Ongoing support and re-engagement also helps in sustainability, better outcomes and community reintegration.