

## Poster Abstracts

<b>Poster #</b>	<b>01</b>
<b>Title:</b>	ENHANCING COMMUNITY BASED REHABILITATION THERAPY SERVICES FOR STROKE SURVIVORS: A JOINT INITIATIVE OF THE COMMUNITY CARE ACCESS CENTRE (CCAC), STROKE NETWORK AND LOCAL HEALTH INTEGRATION NETWORK (LHIN) OF SOUTH EAST ONTARIO
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**PURPOSE:** Intensive rehabilitation service post-stroke is critical to maximizing outcomes and improving inpatient flow. Our 2004 pilot demonstrated improved patient outcomes through enhanced community rehabilitation. This regional initiative evaluates health system implications of intensifying community-based stroke rehabilitation upon transition to home or LTC for those unable to access outpatient care.

**RELEVANCE:** In April, 2011, recognizing evaluation results and the critical role intensive rehabilitation plays in both improving outcomes and health system utilization, the LHIN committed to ongoing base funding to sustain this best practice standard in stroke care.

**METHODS AND ANALYSIS:** All eligible stroke survivors across the Southeast region have received timely enhanced community-based rehabilitation from an interprofessional team for two months post-discharge. Collaborative planning occurs across hospital-community sectors through discharge link meetings. Comparative analysis investigates health system measures pre and post service implementation. CCAC service consent is obtained.

**STUDY SAMPLE/INITIATIVE SCOPE:** Since February, 2009, over 590 eligible stroke survivors have participated in this project/program.

**RESULTS/FINDINGS:** The mean number of community therapy visits now averages 12 per client versus provincial benchmark at 6.8. Since implementation, Occupational Therapy and Physiotherapy visits doubled and tripled respectively for patients discharged from inpatient rehabilitation. Frequency of service for Social Work increased from 11% to 28%. System improvements for those receiving enhanced rehabilitation included: Decreases in hospital length of stay of 15.7 days (without negative impact on functional independence); and decreased emergency visit rates and one-year readmission rates. Average community rehabilitation wait times improved from 44 days pre-implementation to currently 4.36 days.

**DISCUSSION:** The provision of timely intensive stroke rehabilitation services upon transition to the community has a positive impact on health system utilization. These findings add to the previous pilot findings of improved stroke survivor functional outcomes. Ongoing comparative cost analysis is recommended for implementation of innovative outpatient and community rehabilitation programs.

**CONCLUSIONS:** Intensification of community therapy visits improves health system utilization and client outcomes.



**Presentation #** 02

**Title:** KEYS TO DECISION MAKING – PROVIDING SERVICES FOR SCHOOL AGED CHILDREN AND YOUTH, ACROSS VARIED CONTEXTS, BASED ON CONSISTENT PRINCIPLES AND CURRENT EVIDENCE

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**PURPOSE:** Participants will learn about: 1. Engaging therapists across a broad geography with varied practices to create a consistent provincial approach; 2. Keys to Decision Making content and resources.

**BACKGROUND:** Keys to Decision Making (The Keys) was developed by occupational therapists, physiotherapists, speech language pathologists, operational leaders, parents and service partners. It encourages a person centred, strength-based look at life beyond the class and therapy rooms, while building interprofessional practice, leadership and responsibility. Supporting evidence is based on: 115 surveys and interviews with experienced rehabilitation professionals; 75 interviews with educators in Alberta schools; parent input gathered through surveys and focus groups; a literature summary.

**RELEVANCE:** The Keys encourage therapists to explore their current practices and provides strong support to the principles outlined in the World Health Organization’s, International Classification of Functioning, Disability and Health and provides concrete strategies for consistently considering the following factors: i) Child and Family Voice and Choice: Emphasis is on listening to the stories, perspectives and priorities of children and families; fully involving them in decision making and service delivery; ii) Functional Assessment of Meaningful Goals: All aspects of intervention are strength based and focused on increasing clients’ involvement in relationships and activities important to them; iii) Environment and Supports: Services build on existing resources and promote the creation of environments that support success for all children; iv) Collaboration and Capacity Building: By strengthening relationships and partnerships, families and teams learn from one another and develop shared vision; v) Transition and Discharge Planning: Planning for successful transition and discharge from the start supports children, families and partners to be involved, informed and ready to face the challenges of moving forward.

**CONCLUSION:** These ideas may seem obvious and intuitive. The Keys support individuals and teams to embed concepts more consistently and thoroughly into practice.



<b>Presentation #</b>	<b>03</b>
<b>Title:</b>	ENGAGING PATIENTS AND FAMILIES TO DEVELOP SAFETY INDICATORS FOR REHABILITATION
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**PURPOSE:** This project aimed to engage patients, families, leaders and staff in the development of patient safety indicators relevant for rehabilitation settings.

**RELEVANCE:** Most hospitals measure safety in terms of adverse events such as falls and pressure ulcers. While important, this approach offers a limited view of safety in rehabilitation and does not necessarily reflect the goals and priorities important to stakeholders, including patients, who may have broader perspectives of safety. In order to enhance safe and effective person-centred care, we need to have a clearer understanding of what is most relevant to patients in order to measure and ultimately improve these areas of care.

**METHODS AND ANALYSIS:** Focus groups (n=39) with patients, families, staff, and leaders identified 36 key safety issues to consider. A collaborative q-sort session with these stakeholders prioritized and brought consensus to the top safety issues, resulting in the development of nine safety indicators. Data for these indicators were collected over a 6-month period from patient satisfaction and care transition surveys and a staff survey on safety culture.

**STUDY SAMPLE/INITIATIVE SCOPE:** Former patients, family members, staff and leaders across the organization participated in focus groups and a consensus-building session. A unique “safety scorecard” was developed and piloted within one rehabilitation program to guide staff and leaders in local improvement efforts.

**FINDINGS:** Nine safety indicators emerged from the collaborative q-sort session. These indicators focus on areas related to communication, care transitions, coordination of care, staffing, safety culture, and the physical environment.

**DISCUSSION:** The indicators identified by key stakeholders represent those aspects of safety that are relevant and meaningful within rehabilitation settings. The safety scorecard developed as a result of this project will be used at the local program level to help determine areas of improvement based on the key stakeholder priorities.

**CONCLUSION:** This project represents a new level of engagement of patients and families to co-design measurement systems together with staff and leaders that best reflect their priorities for safe care. The safety scorecard developed in this project will help rehabilitation teams identify areas to improve the safety and quality of care.



**Presentation #** 04

**Title:** DEVELOPING A BEST PRACTICE MODEL FOR TELEMEDICINE USE IN EDUCATION ABOUT LIFE AFTER SPINAL CORD INJURY

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**SUMMARY:** Patient, client and family education are usually offered in large urban rehabilitation centres and community service organizations. Developing a best practice education model using telemedicine for people living outside of urban areas who have a spinal cord injury increases access to education and supports self management.

**RELEVANCE:** Thirty-three thousand people in Ontario live with a spinal cord injury (SCI). People with SCI living outside urban areas have reduced access to health care and related services. We need to respond to SCI consumer educational needs beyond face to face workshops. Telemedicine traditionally is used for medical consultations and large didactic forums. Using telemedicine for group based education co-facilitated by peer experts enables rehab professionals and community agencies to reach into rural areas.

**METHODS:** Elements of this model include: practical information, interactivity, creating a safe space, increased community education and meaningful evaluation. Evaluation protocols measure satisfaction, positive impact on daily life, ability to use information in a concrete way and self-reported feelings of safety. Host sites encourage user feedback through online and paper based questionnaires.

**SCOPE:** Our year long goal was for two telemedicine workshops in Ontario with six sites and 15 participants. The target population for these workshops includes people with SCI, health care providers and family/friends caregivers. Promotion will increase number of host sites and consumers with SCI.

**FINDINGS:** In two workshops 39 users in 9 sites were registered. Participants rate a 92% satisfaction level with the workshops. Workshops meet or exceed participant needs (77%). New regional service providers and a Family Health Team serving people with SCI connect to workshops. A participatory feedback mechanism is being utilized to ensure elements of the model are integrated and refined resulting in a better end product for the user.

**DISCUSSION:** It is possible to move telemedicine away from a one-way transfer of information to an interactive educational experience. Translating best practices in adult learning to a digital environment is relatively new in terms of research and theory.

**CONCLUSIONS:** Health care providers can extend the reach of their services and increase the knowledge of their client group by embedding adult education and peer facilitation into telemedicine workshops.

**Presentation #** 05  
**Title:** INTERPROFESSIONAL INNOVATION IN FALLS PREVENTION  
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**PURPOSE:** Falls among seniors cause 90% of hip fractures in the elderly. Although falls prevention programs have been put into place in hospital settings for years, many programs are unsuccessful in decreasing falls. The primary reason for the failure of such programs is a lack of interprofessional communication. We hypothesized that with the development of an innovative tool to enhance communication amongst team members and across shifts on an inpatient rehabilitation unit, we would reduce falls.

**RELEVANCE:** A significant part of the rehabilitation process is to enable and foster independence with activities of daily living; however, with this comes the risk of falling. Having a fall can drastically delay or even prevent successful rehabilitation.

**METHODS AND ANALYSIS:** Utilizing LEAN thinking, a falls prevention tool kit was designed for use on all inpatient units. This tool kit contained falls risk assessment documents and falls risk identifiers. Most importantly, the tool kit contained a 24-hour falls risk intervention card. This tool forced the function of communication across the interprofessional team and across shifts.

**INITIATIVE/SCOPE:** The falls prevention process was implemented on 6 inpatient rehabilitation units (242 beds) in the areas of stroke, orthopedic/amputee and geriatric rehabilitation.

**FINDINGS:** After one year, the falls prevention program was found to be successful. Falls rates on the implemented units decreased 23.7% (from 923 falls in 2010/2011 to 703 falls in 2011/2012).

**DISCUSSION:** The interprofessional falls intervention card and toolkit facilitated communication full circle from our occupational therapist (OT) and physiotherapist (PT), through to nursing and then back to OT/PT. The 24 hour falls risk/intervention card ensured that if a patient was at risk of falling, interventions would be put into place and communicated to the entire team, in person. Like many successful innovations, this is a simple process and tool, yet it has been highly effective in preventing falls.

**CONCLUSIONS:** Assessing and documenting falls risk in a chart is a traditional approach to falls prevention that often yields poor results. To make a significant impact on preventing falls, there needs to be face to face communication between the relevant interprofessional team members. The intervention card and process developed for this quality project ensures communication does occur. This enables team care planning which reduces falls.



**Presentation #** 06

**Title:** A MOBILITY GOAL SETTING INITIATIVE IN COMPLEX CONTINUING CARE

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**Additional Authors:** Sylvia Davidson; Patricia Stephens; Sonia Noble; Mary Lou Ip

**PURPOSE:** To enhance and monitor client mobility using Goal Attainment Scaling (GAS) in the Complex Continuing Care (CCC) population. To evaluate the impact of this initiative on: clients, inter-professional care and goal attainment.

**RELEVANCE:** Impaired mobility is a major health concern in older adults impacting functional activities, falls risk, skin integrity, mood and overall quality of life. In particular, the CCC population is especially vulnerable. Effective management requires a comprehensive and inter-professional approach.

**INITIATIVE SCOPE:** A mobility goal setting initiative using GAS was implemented on all patients of two CCC units in order to enhance mobility with a client centred inter-professional focus.

**METHODS & ANALYSIS:** Implementation of GAS involved educational workshops on the importance of mobilization, principles of effective goal setting and proper use of GAS. Goal attainment results were collected on CCC clients over a nine month period. The impact on clients and inter-professional care was explored through case studies and discussion sessions with the inter-professional team.

**FINDINGS:** Over a nine month period a total of 146 goals were evaluated using GAS. Overall, 91.7% of goals were at least achieved: 25.3 were met, 31.5% somewhat exceeded, and 35.2% much exceeded; 5.5% of goals were somewhat less than achieved and 3.4% much less than achieved.

**DISCUSSION:** Enhanced team communication and collaboration around mobility, earlier identification of slow stream candidates and enhanced inter-professional involvement in daily transfers out of bed were examples of reported benefits. The inter-professional team also reported clients were out of bed more frequently and for longer durations leading to increased socialization, relationship building and a greater sense of community with clients, staff and family. New initiatives emerging from the GAS initiative include lunch club and chair fitness programs.

**CONCLUSIONS:** The mobility GAS initiative resulted in a positive impact on client activity levels and socialization. Practice change and innovative ways to support mobilization were key to success.



**Poster #** 07

**Title:** PARENTING NEEDS OF PARENTS WITH DISABILITIES WITH THEIR SCHOOL-AGE CHILDREN (GRADES 1-12)

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**PURPOSE:** The available literature on parents with disabilities focuses primarily on parenting needs for their infants and pre-schoolers. The purpose of this qualitative study was to examine the parenting needs of parents with disabilities who have or have raised school-aged children (Grade 1-12).

**RELEVANCE:** Through personal communication with Statistics Canada, it was found that currently no data exists regarding the number of parents with disabilities in Canada (Steve Jones; September 30, 2011). The lack of knowledge in this area leads to a gap in the literature regarding the needs of parents with disabilities with their school-aged child/children in Canada.

**METHODS/STUDY SAMPLE:** The social model of disability was used in the orientation to this project. This model acknowledges that parents with disabilities are active participants in their care and the care of their children (Chau et al, 2008). The parents who participated in the study met the following inclusion criteria: parent with a physical, cognitive or vision disability, fluent in English, willing and able to take part in a one to two hour in-depth personal interview and able to appreciate and understand the risks and benefits of the study in order to provide informed consent. A convenience sampling method was used. We conducted face-to-face interviews with eight parents with disabilities. Participants self-identified with the following disabilities: low vision, multiple sclerosis, spinal cord injury, muscular dystrophy, schizophrenia and post-polio syndrome. Participants were females who were between the ages 38-59 years. Based on interview response, we created a coding system and identified common themes.

**FINDINGS:** In our analysis we found that parents with disabilities identified four integral aspects of their parenting needs (Hseih, 2005). These were the need for: (1) accessibility: ease of use regarding transportation, school, communication and information and resources; (2) formal support: assistance provided through community service organizations; (3) informal support: assistance provided by partners, family and friends and (4) advocacy for support services.

**DISCUSSION/CONCLUSION:** Further research is warranted to include the perspective of fathers with disabilities who are raising school-age children. This study can assist physiotherapists and other health care professionals in enhancing their advocacy roles. This include influencing policy changes and facilitating increased access to specialized support services.



**Poster #** 08

**Title:** FAMILY PHYSICIANS' EXPERIENCES WITH AND PREFERENCES FOR BONE MINERAL DENSITY (BMD) REPORTS

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**Additional Authors:** Sonya Allin; Leslie Carlin; Susan Jaglal

**PURPOSE:** To explore family physicians' experiences with and preferences for bone mineral density (BMD) reports.

**RELEVANCE:** The emphasis of recent clinical practice guidelines for osteoporosis has shifted from diagnosis based on bone mineral density (BMD) to fracture risk. Because clinical practice guidelines recommend that fracture risk be used to guide treatment decisions, it is important to ensure that risk assessments are accurate. However, an accurate fracture risk assessment may be difficult to produce as it depends on information beyond BMD, including fracture and glucocorticoid history. In a 2008 sample of reports for Ontarians with verified histories of fragility fracture, over 50% did not include fracture history and under-estimated fracture risk as a result. In an effort to improve the accuracy of BMD reports, we are in the process of developing a standardized BMD report for Ontario.

**METHODS & ANALYSIS:** A descriptive qualitative approach was used and involved telephone interviews with family physicians. Study participants were recruited via an Ontario College of Family Physicians event on osteoporosis.

**STUDY SAMPLE:** Twenty-two family physicians were interviewed. All of the participating family physicians practiced in urban or sub-urban regions in Ontario. The average roster size of each physician was 1280, and the average number of BMD reports they reviewed in a week was four.

**FINDINGS:** Family physicians indicated a preference for fracture risk assessment as opposed to osteoporosis diagnosis in their reports. When a fracture risk assessment was made, family physicians wanted to know the specific factors that comprised the assessment rather than the assessment alone. Areas of uncertainty included treatment and follow-up care for patients assessed at moderate risk, if responsibility for risk assessment accuracy and subsequent treatment decisions should be given to the reading specialist or the family physician, and how to manage follow up care for those already on treatment.

**DISCUSSION:** Findings from this study will be incorporated into a BMD reporting template designed for use across Ontario.

**CONCLUSION:** A standardized BMD report that outlines the specific clinical risk factors used in making a fracture risk assessment is responsive to the needs of family physicians in Ontario and can help ensure more accurate and high quality BMD reports in the province.



**Poster #** 09

**Title:** A POPULATION BASED PERSPECTIVE OF OLDER ADULTS WITH ACQUIRED BRAIN INJURY: FUNCTIONAL INDEPENDENCE MEASURES AFTER INPATIENT REHABILITATION

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**Additional Authors:** Angela Colantonio; Brandon Zagorski; Daria Parsons

**PURPOSE:** To examine the profile of older adults with acquired brain injury (ABI) in inpatient rehabilitation and their functional outcomes.

**RELEVANCE:** Older adults are the fastest growing segment of the population and the highest rates of ABI are among older adults. As such, an increasing number of users of rehabilitation services may be this population.

**METHODS:** The Discharge Abstract Database and the National Rehabilitation Reporting System were used. Demographic and clinical characteristics and functional independence measure (FIM) scores were examined.

**STUDY SAMPLE:** Older adults aged 65 years and older admitted to inpatient rehabilitation from acute care with traumatic (TBI) or non-traumatic brain injury (nTBI) from 2003/04 to 2009/10 in Ontario were identified. During this period, there were 1,214 patients with a TBI diagnostic code and 1,530 patients with a nTBI diagnostic code admitted to inpatient rehabilitation from acute care.

**RESULTS:** From 2003/04 to 2009/10, the majority of older adults with TBI and nTBI stayed in inpatient rehabilitation for 25 days or longer (60.7% and 65.8% respectively). Older adults with TBI had significantly higher FIM scores than those with nTBI at admission and at discharge (p.05).

**CONCLUSION:** Older adults with TBI and nTBI make similar gains in inpatient rehabilitation. Differences in FIM scores between these two groups may be due to characteristics intrinsic to these patients. Lower initial functional ability on admission for nTBI patients and different clinical profiles has implications for clinical care.



**Poster #** 10

**Title:** INTEGRATED CARDIAC REHABILITATION: HOW DO POLYVASCULAR PATIENTS FARE?

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**Additional Authors:** Caroline Chessex; Judy Murray; Sherry Grace

**RELEVANCE:** The burden of non-communicable disease is increasing. Particularly, vascular diseases such as cardiac, stroke, renal disease as well as diabetes are a leading cause of morbidity. This highlights the importance of secondary prevention, and reduction of common underlying vascular risk factors such as high blood pressure, smoking, and obesity. Cardiac rehabilitation (CR) is a proven model of care to improve outcomes in cardiac patients, and preliminary evidence suggests these benefits are also observed in patients with stroke and diabetes.

**PURPOSE:** The objectives of this study were to compare patients whose primary CR indication was cardiac versus other or poly-vascular, with regard to risk factors, functional status, psychosocial well-being, and health behaviours. Post-CR exercise self-efficacy, barriers, and perceptions of chronic care were also compared between patient groups.

**METHODS:** As part of an ongoing CR program evaluation, new patients were approached to consider participating at one of 3 (1 academic, 2 community-based which promoted integrated chronic disease management) CR programs in Ontario, Canada. Consenting participants were requested to complete an online survey pre- and post-CR, and clinical data including risk factors and exercise test results were extracted from patient's charts at both time points. The surveys included the Duke Activity Status Index, Godin Leisure Time Exercise Questionnaire, Morisky Medication Adherence Survey, Patient Health Questionnaire-8, Cardiac Exercise Self-Efficacy Instrument, and Patient Assessment of Chronic Illness Care.

**RESULTS:** 243 (85% response rate) patients completed the pre-CR, and 123 (50.6% retention to date) completed the post-CR survey.

**FINDINGS:** Polyvascular patients (n=58; 23.9% were most often referred for diabetes (n=35; 60.3%) and stroke (n=19; 32.8%). Patients with cardiac disease were more often male, had significantly lower BMI, and higher TC/HDL ratio than polyvascular patients ( $p < 0.05$ ). There were no significant differences in degree of CR participation by indication. After considering pre-CR scores, cardiac patients significantly improved their HDL, stress test performance, exercise behaviour and medication adherence, and polyvascular patients significantly improved their stress test performance and medication adherence post-program ( $p < 0.05$ ).

**CONCLUSIONS:** This pragmatic examination of integrated chronic disease management provides preliminary support for the benefits of CR for other vascular patients.

**Poster #** 11  
**Title:** PREFERENCES FOR SINGLE-SEX CARDIAC REHABILITATION PROGRAM  
**Primary Author:** Christine Andraos  
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**Additional Authors:** Donna Stewart; Susan Abbey; Sherry Grace

**PURPOSE:** Cardiovascular disease is one of the leading causes of morbidity and mortality globally. Cardiac Rehabilitation (CR) programs are designed to aid patients with their recovery and prevent subsequent events. The objective of this study was to investigate sex differences in patient preference for single-sex CR, as well as degree of program participation and satisfaction.

**RELEVANCE:** Given that patient preference is an important factor influencing CR attendance, innovative models of CR care have been developed which may better meet women's needs, including women-only programs. This initiative is of interest due to the low numbers of females that attend CR programs.

**METHODS & ANALYSIS:** Patients were recruited from 12 coronary units in Ontario, Canada. Participants were mailed a follow-up survey 6 months later. Measures included CR enrolment (y/n), whether they would be more likely to enroll if a single-sex program was offered (y/n), degree of session adherence (1 to 5), and degree to which the CR program met their needs (1 not at all to 5 completely).

**STUDY SAMPLE:** 913 acute coronary syndrome patients (323 women or 35.4%; mean age =61.88).

**FINDINGS:** Overall, 98 (28.4%) men and 28 (17.8%) women enrolled in CR ( $\chi^2=6.41, p=.01$ ). When asked if they would be more likely to participate in CR if separate programs were offered for men and women, 24 (9.6%) men and 33 (24.4%) women responded affirmatively ( $\chi^2=15.32, p<.001$ ). Desire for single-sex programming was unrelated to session adherence (mean=3.40 $\pm$ 1.61;  $p=.62$ ) and program satisfaction (mean=3.78 $\pm$ 1.17;  $p=.41$ ) among those who enrolled. However there were trends toward greater participation ( $p=.07$ ) and satisfaction ( $p=.06$ ) among men when compared to women.

**DISCUSSION:** Women are grossly underrepresented in CR programs; therefore understanding the preferences of women would likely increase rates of adherence. Offering women-only classes may represent an important strategy to increase more than double women's participation rates.

**CONCLUSION:** This data suggests that a quarter of women with cardiovascular disease would be willing to participate in CR if single-sex programs were offered. Given that utilization rates of CR among women hover around 15%, offering such classes may represent an important strategy to increase women's participation. Future research is warranted to investigate whether offering women-only classes results in greater enrolment among women.



**Poster #** 12

**Title:** MINIMIZING ADMINISTRATION RISKS OF WARFARIN THROUGH TIMELY MANAGEMENT OF INR BLOODWORK: A COLLABORATIVE PILOT PROJECT BETWEEN COMPLEX CONTINUING CARE (CCC) AND REHAB PROGRAMS WITH PHARMACY AND LAB SERVICES.

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**PURPOSE:** The Institute of Safe Medication Practices of Canada (ISMP) can assist individual hospitals, healthcare systems, and group collaboratives to improve patient safety by reducing the incidence of errors associated with antithrombotic therapy (Institute of Safe Medication Practices, 2012). The process of the management and administration of Warfarin was identified as an area for improvement in Hospital.

**RELEVANCE:** Achieving safety outcomes of high risk medications such as Warfarin is critical in a geriatric population.

**METHODS/ ANALYSIS:** The LEAN methodology and the FMEA tool (failure mode effective analysis) and focus groups with frontline staff were used for conducting an environmental scan. Outcomes of the pilot project were conducted through audits measuring the percentage of INR specimens collected and received by the Laboratory before 1000 and 1700 hours.

**STUDY SAMPLE:** The participants of the focus group were nursing, pharmacy and staff from Lab services.

**FINDINGS:** CCC analysis of the INR specimen collected, before staff education: 38.3% of INR blood work was completed by 1000 hours and 100 % before 1300 hours. Post-education analysis of the INR specimen collected: 91% were completed before 1000 hours and 100% before 1300 hours. Rehab analysis of the INR specimen collected, before staff education: 63.4% of INR bloodwork were completed by 1000 hours and 88.3 % by 1300 hours. Post-education analysis of the INR specimen collected: 93.1% were completed before 1000 hours and 100% before 1300 hours.

**DISCUSSION:** Leveraged action and strategy for improvement across all hospital units. Communication, collaboration, and prioritization of tasks between nursing staff were beneficial in increasing awareness. All involved were aware of the processes involved in safe practices of handling warfarin from prescribing to administration.

**CONCLUSIONS:** All variables including patient access, resources, cost and steps involved were considered for this pilot. The potential cost/resources and steps involved in sending sample out after hours and to obtain results were identified. There is an ongoing need to educate staff in order to sustain change in practice. Piloting a process prior to full implementation is effective and efficient to ensure quality improvement.



**Poster #** 13

**Title:** PROMOTING COMMUNITY ACCESS TO POOL FACILITIES FOR PERSONS WITH DISABILITIES

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**Additional Authors:** Teri Czajka; Harriett Draaistra; Theresa Harper

**OBJECTIVE:** Persons with disabilities often find that once discharged from rehabilitation they are unable to participate in community pool services due to inaccessibility or lack of appropriate assistance. Many facilities are listed as being accessible while in actuality those with significant disabilities may find them not accessible or appropriate for their needs.

**RELEVANCE:** This project will help patients and staff gain knowledge to utilize community programs effectively and will facilitate a smooth transition into the community when patients are discharged from the Regional Rehabilitation Centre's pool therapy program.

**METHODS & ANALYSIS:** Contact was made with the City of Hamilton to arrange a staff visit to all community Pools in the area that have a warm water pool. A staff OTA/PTA made an arrangement to meet with personnel from the city of Hamilton. Pools with the temperature of 90 degrees or above were visited. Pools which have been retro fitted were visited. Pictures were taken and pool size and information were documented. Pre-determined questions were asked. Measurements of height and width of the area where individuals would need to change and transfer were taken (Lifts, benches, water wheel chairs).

**SAMPLE STUDY:** The staff OTA/PTA started with Community pools in our city and focused on warm water pools. In future we hope to move this project throughout the LHIN.

**FINDINGS:** Excellent contacts connected with the community operators to discuss barriers and programming that could be improved and that were made. Some changes were made by community pools as accessibility issues were brought to their attention during the visit. The collaboration was appreciated by both parties.

**CONCLUSION(S):** There is a need to link with community pools to promote accessible programs. Collaboration promotes initialization of programming suited to our clients with disabilities. In the future it would be beneficial to promote education of community pool staff to more fully meet the needs of persons with disabilities. Utilizing support workers to help with dressing and one on one need of more disabled consumers was explored. The project promoted excellent links in the community and allowed the rehabilitation pool therapy staff to become a resource for community pool staff. This partnership has the potential to continue to promote community programs for our adult disabled populations.

<b>Poster #</b>	<b>14</b>
<b>Title:</b>	PARTNERING TO FILL THE GAP: ESTABLISHING THE FIRST ADULT INTRATHECAL BACLOFEN PROGRAM IN THE GREATER TORONTO AREA (GTA)
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<b>Additional Authors:</b>	Mojgan Hodaie; Filomena Mazzella; Lily Yang; Joanne Zee

**PURPOSE:** In May 2005, the Ontario Health Technology Advisory Committee recommended to (1) increase access to ITB pumps for patients with severe spasticity who are resistant to oral anti-spasticity drugs or cannot tolerate the side effects; and (2) ensure a network of comprehensive care is available to permit continuity of care from childhood to adulthood (for ITB).

**RELEVANCE:** Despite 2005 OHTAC recommendations, there was no adult ITB program in the GTA. A paediatric program existed with no corresponding adult program to which clients could be transitioned.

**METHODS:** Two academic hospitals (acute care & rehabilitation) partnered to establish the first adult ITB program in the GTA. Initial consultation is completed in rehabilitation. Test dose trials and surgical pump implantations are performed in acute care. Pump programming and refills are overseen by rehabilitation. Paediatric clients are transitioned to adult care. An emergency response system addresses complications should they arise; including admitting patients to acute care as needed.

**INITIATIVE SCOPE:** The program provides ITB therapy for (1) adults with pre-existing pumps, (2) adults who require initial pump implantation, and (3) paediatric clients transitioning to adult care.

**FINDINGS:** As of November 2012, 17 individuals with existing pumps are managed; 15 individuals transitioned from paediatric care (12 implanted in Toronto, 3 implanted in Montreal) and two adults previously managed in London and Kingston. Twenty two individuals have been referred for initial assessment: spinal cord injury (n = 8), cerebral palsy (n = 5), acquired brain injury (n = 1), hereditary spastic paraplegia (n = 3), multiple sclerosis (n = 4), and other (n = 1). Outcomes: 10 deemed appropriate for test dose (6 completed to date), 3 declined assessment, 2 referred to Movement Disorders clinic for alternative therapies (e.g., deep brain stimulation), 4 not appropriate for ITB, 1 not interested, 1 undergoing compliance screening by social work, and 1 awaiting resolution of pressure ulcer. All clients undergoing test dose have responded favorably (one after a repeat trial with higher dose). Surgeries are pending.

**CONCLUSION:** A partnership between acute care & rehabilitation facilitated the development of the first adult ITB program in the GTA. The new program will ensure that a network of comprehensive care exists to permit access and continuity of care for patients requiring ITB therapy from childhood to adulthood.

<b>Poster #</b>	<b>15</b>
<b>Title:</b>	INCREASING TEAM FUNCTIONING, PATIENT CARE AND EVIDENCE INFORMED PRACTICE THROUGH JOURNAL CLUB
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**PURPOSE:** Bridgepoint Health’s nursing journal club, developed in response to an organizational shift, which resulted in a newly integrated team of nurses with different designations, expertise, and experience levels. Communication within the team and work relationships while improving care became a priority focus. In an effort to build team cohesion, the club was developed as a forum for discussion, professional development, analysis and knowledge sharing among nurses.

**RELEVANCE:** Given the exponential growth in published literature, a journal club can be an effective way to keep up with important developments and apply evidence to practice. It is a useful forum to improve practice, advance education, promote collaboration and learn from one another.

**METHOD & ANALYSIS:** A core group of participants decided to meet on the first Wednesday of every month. Participants rotate responsibility for choosing an article for review based on the group’s interests and lead the meeting. A standardized literature critique tool was adopted to help participants reflect on the article and stimulate dialogue.

**INITIATIVE SCOPE:** Participation is open to all nurses. Members include students, new graduates as well as more experienced nurses. Attendance at each meeting ranges from seven to fifteen participants.

**FINDINGS:** Analysis of demographic characteristics indicated a diverse membership with respect to years of experience and age. Results of an anonymous survey of members indicated that 100% of participants believed the journal club increased their knowledge, 91% reported enhanced relationships with peers, and 100% stated that the environment was respectful. Group observation, analysis of attendance, and the survey results all confirm that the journal club has been successful in addressing its intended purposes.

**DISCUSSION:** Subjects such as nurse-patient relationships, rehabilitation nursing, motivational interviewing, spiritual care, and sexuality assessment have been discussed, allowing nurses to reflect on current practice and how evidence-based research findings can enhance the quality of patient care.

**CONCLUSION:** The success of this journal club can be attributed to the members’ commitment, engagement and unwavering motivation of one another. Members participate in and facilitate discussions, offering leadership development opportunities and contributing to an empowering and satisfying work environment.



**Poster #** 16

**Title:** PAWS FOR THOUGHT: THE COMPLEMENTARY ROLE OF ANIMAL-ASSISTED THERAPY

**Primary Author:** Heather Crawford

**Affiliation of Primary Author:** Children’s Hospital of Eastern Ontario

**PURPOSE:** Medical advances and significant changes in health care services for children and youth comprise the new morbidity in pediatric hospital units (Wojtasik & White, 2009). Children of all ages are living with illnesses and surviving injuries that once had few treatment options or little chance of survival. The challenge of providing psychosocial and developmentally appropriate programs has created the opportunity to provide animal-assisted therapy (AAT) as a complementary modality for diverse pediatric populations. The purpose of this poster is to present the theoretical framework and current research to support the significance of AAT for surgery/trauma/rehabilitation patients.

**RELEVANCE:** Animal-assisted therapy is a complementary modality with the purpose of facilitating patient success in achieving therapeutic goals. Collaboration with families and inter-professional members ensures integrated programming and identification of relevant goals.

**METHODS:** Successful implementation of AAT required the following components: appropriate selection of community therapy dogs with specialized training and sociability skills, trained personnel, expert supervision and welfare, interdisciplinary cooperation, compliance with operational systems and policies, satisfaction of patients/ families.

**INITIAL SCOPE:** The benefits of AAT in patients’ pain, functional ability and coping responses have relevant application for surgical, trauma, rehabilitation patients on a tertiary care unit.

**FINDINGS:** Through engagement in this program, participants have enhanced opportunities for social, emotional, physical and psychological development, normalization of the hospital environment, integration of individual treatment goals, and diversion. The “touch” component of AAT therapy for children and youth facing injuries, illness and coping with uncertain treatment outcomes has significant implications for clinical practice.

**DISCUSSION:** Inclusion of AAT in programming enhances the treatment milieu and demonstrates an investment in the psychosocial adaptation and development of children facing illness, injury and treatment.

**CONCLUSION:** Therapeutic programs are implemented to meet the developmental, social and emotional needs of each complex care patient and family. Planning for a child’s identified needs with the inclusion of AAT, may positively influence the outcomes for that child.

**Poster #** 17

**Title:** MEETING THE REHABILITATION AND COMPLEX CONTINUING CARE NEEDS OF PEOPLE IN OUR REGION: A REVIEW OF THE CURRENT SYSTEM AND RECOMMENDATIONS FOR A FUTURE COMPREHENSIVE MODEL

**Primary Author:** Carol Halt

**Affiliation of Primary Author:** North East LHIN

**PURPOSE:** As part of overall systems planning & ED/ALC initiatives, we undertook to review the Rehabilitation (Rehab) & Complex Continuing Care (CCC) system with a long term goal of developing a comprehensive service delivery model.

**RELEVANCE:** This project is very relevant as it ultimately will make recommendations regarding a future regional model for Rehab & CCC based on equitable & timely access, best practices care delivery models & measurable quality patient outcomes. The project is aligned with the work of the MOH & LTC Rehab & CCC Expert Panel, recently legislated CCAC expanded role, the Walker Report 2011, and the provincial RM&R Project.

**METHODS:** A Stakeholder Group representing hub hospitals, CCAC, CCC & others was formed in 2011 to advise process, content, methodology, timelines, and to author a final report. Information was collected to determine current capacity, bed utilization, in & outpatient service volumes, patient criteria, service delivery models, LOS, referral processes & sources, waitlists & staffing resources. Our project focused primarily on stroke & MSK. Much more work is needed to review all that is encompassed within Rehab & CCC.

**FINDINGS:** Analysis of the survey revealed: lack of consistent definitions within the region & provincially; population demographics are a challenge; Rehab services concentrated in hub areas; unclear role of smaller hospitals; varying levels of best practice compliance; challenges with collection & analysis of Rehab data; lack of outpatient services impacting inpatient LOS, outcomes & access to resources; duplication, overlap, inconsistency & inefficiency in the care continuum; different internal & external referral processes; lack of understanding regarding referral processes; difference in wait times & unclear wait time targets; need for enhanced collaboration. The Report identified 17 recommendations, now being addressed by Steering. Phase 2 will focus on: evaluation & congruence with best practices; evaluation of potential capacity freed through implementation of best practices using provincial methodology; identification of consistent criteria, definitions & metrics; description of a potential service delivery model for Rehab & CCC; methodologies for siting and sizing of Rehab & CCC beds across the region; projection of future demand for in & outpatient Rehab services.

**CONCLUSIONS:** This work will be transferrable through a knowledge exchange and uptake process to other regions and stakeholders and may serve to inform a provincial model for Rehab and CCC.

**Poster #** 18

**Title:** SPEECH-LANGUAGE PATHOLOGY DIET TEXTURE MEDICAL DIRECTIVE: IMPACT ON ACCURACY AND TIMELINES OF DIET ORDER ENTRY

**Primary Author:** Carolyn Chalmers

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

**Additional Authors:** Nesanet Girma; Jennifer Barker; Louis Lui; Carol Heck

**PURPOSE:** To evaluate use, safety, and timeliness of a medical directive for Speech Language Pathologists (SLPs) to order/modify/discontinue a diet texture.

**RELEVANCE:** Medical directives for SLPs to order diet texture changes are common but the use, safety, and efficiencies of directives have not been studied.

**METHODS:** A medical directive for SLPs ordering diet textures was implemented in our academic, acute care hospital in August 2009. A survey of interprofessional staff perceptions of accuracy/timeliness of diet orders was conducted 1 month pre- and 1 year post-directive implementation. Also, chart audits were conducted to assess timeliness/accuracy of diet orders in the electronic patient record (EPR) for all SLP patients in 2008 (1 year pre-), Sept 2009 (1 month post-) and 2010 (1 year post-directive). T-tests were used to compare outcomes pre/post medical directive implementation. Significance was set at  $p < 0.05$ . Sample: 148 pre and 151 post surveys were returned. 1574 patient charts were audited. Diet orders were written on 98 (2008), 139 (2009), and 114 (2010) patients.

**FINDINGS:** While most survey questions had more positive responses post medical directive, SLPs and non SLPs had significantly different ratings for timeliness, time consumption and error rate. By 2010 (1 yr post directive) 98% of orders in the chart were written with the medical directive. Number of orders never entered correctly was significantly less post directive (16.3% vs. 8.9%). The amount of time to enter the diet texture was significantly decreased (pre 8.1 hrs, post 3.8 hrs). In 2010, 17.5% of patients SLP entered in EPR had therapeutic diet errors. The majority (8/10) occurred when SLP started a diet texture without a specified therapeutic diet order. An error in diet texture was noted for 1.8% of patients in 2010.

**DISCUSSION:** 1 yr post implementation, SLPs used the directive frequently. Orders were both more timely and more consistently entered but some errors were noted. In particular, sometimes a patient was started on a diet texture when the therapeutic diet was not specified in the orders. It was not possible to evaluate for these errors in the pre-directive period, as SLPs were not entering diets.

**CONCLUSION:** Overall, there was a positive impact from the introduction of the SLP medical directive and it continues to be used. Both an annual refresher course and competency quiz have been instituted to ensure compliance with the directive.

**Poster #** 19

**Title:** HELPING TO BELONG: IMPROVEMENTS IN COMMUNITY INTEGRATION, CHALLENGING BEHAVIOURS, AND FAMILY BURDEN FOR PERSONS LIVING WITH ACQUIRED BRAIN INJURY

**Primary Author:** Gary Gerber

**Affiliation of Primary Author:** West Park Healthcare Centre

**Additional Authors:** Kelly Gunnell; Janet Grange; Judy Gargaro

**PURPOSE & RELEVANCE:** Persons who have sustained an acquired brain injury (ABI) may experience social isolation and place significant burden on family members due to impairments and challenging behaviors that prevent them from living independently. We offer a day program for ABI survivors that focuses on skill-building and community outings, and provides case management, respite, and psychiatry consultation. ABI day programs help fill the void left after other rehabilitation services end, and provide survivors with opportunities to engage in a variety of activities.

**HYPOTHESIS:** We tested the hypothesis that participation in the day program would increase community integration, decrease challenging behaviours, family burden and health service utilization.

**METHODS:** Participants attend a day program two to three days per week for a six-month period and engage in social and educational activities, and community outings. We also provide community case management to clients and families, overnight respite, and consultation with a physiatrist. Forty-six participants and family members completed standardized measures of community integration, challenging behaviours, and family burden at the start, and the end of the six-month attendance. We examined health service utilization data for participants who completed data collection. The mean age of participants is 44 years, and the mean time since injury is 8.6 years. The sample is a mix of traumatic and non-traumatic ABI survivors, some of whom exhibit challenging behaviours.

**FINDINGS:** There was a significant increase in community integration and a decrease in both family burden, and challenging behaviours. Family members and participants were very satisfied with the program. There were no noticeable changes in utilization of healthcare services following enrollment in the day program. Participation in the day program helped reduce social isolation for ABI participants, reduced challenging behaviours, and reduced burden on family caregivers. ABI survivors, especially persons who exhibit challenging behaviours following injury may have life-long needs for specialized community programs.

**CONCLUSION:** A day program for ABI survivors that provides social, recreational, and skill-building activities, including frequent community outings, case management, respite care, and psychiatry consultation, produced measurable improvements in community integration, challenging behaviours, and decreased family burden.



**Poster #** 20

**Title:** PREDICTORS OF COMMUNITY INTEGRATION AND QUALITY OF LIFE FOLLOWING ACQUIRED BRAIN INJURY

**Primary Author:** Gary Gerber

**Affiliation of Primary Author:** West Park Healthcare Centre

**Additional Authors:** Judy Gargaro; Ruby Paner; Sally McMackin

**PURPOSE & RELEVANCE:** Maximizing community integration (CI) and quality of life (QOL) are the most important goals of brain injury rehabilitation. Little is known about factors that lead to optimal community integration and quality of life in persons with an acquired brain injury (ABI) following discharge from a healthcare facility. Understanding factors that predict better CI and QOL will provide direction for rehabilitation efforts in both facility-based and community settings.

**HYPOTEHSIS:** On the basis of previous research, we expect that physical status will predict both CI and QOL, and that CI and QOL will be correlated.

**METHODS:** We recruited a convenience sample of ABI clients receiving home care services. Participants completed questionnaires and ratings to assess physical and cognitive functioning, disability, and brain injury-specific health-related community integration and quality of life. The average age of the participants was 48 years, 60% were female, almost half were single, and about half were rated as having a memory problem in either short-term memory or procedural memory and as requiring a modified independent environment based on cognitive functioning on the Resident Assessment Instrument-Home Care (RAI-HC) from the Minimum Data Set Home Care. Fifty-seven percent of participants had completed some type of post-secondary education, and the largest category of injury was cardiovascular accident for 35% of respondents.

**FINDINGS:** There was a strong relationship between disability rating and degree of community integration; persons with less disability have greater community integration. There was no relationship between age, time since injury and quality of life, and community integration. It is likely that these findings that relate disability to community integration would be generalizable to other disability groups who require community rehabilitation services.

**CONCLUSIONS:** These results confirm the need for community-based services to work with clients to minimize the effect of disability by focusing on providing rehabilitation and training compensatory strategies.

**Poster #** 21

**Title:** QUALITY OF RECENT CLINICAL PRACTICE GUIDELINES FOR PERSONS WHO HAVE SUSTAINED MILD TRAUMATIC BRAIN INJURY

**Primary Author:** Kelly Weegar

**Affiliation of Primary Author:** Ottawa Hospital Research Institute

**Additional Authors:** Lindsay Berrigan; Mark Bayley; Diana Velikonja; Scott McCullagh; Donna Ouchterlony; Shawn Marshall

**PURPOSE:** A number of people who sustain a mild traumatic brain injury (mild TBI) experience subsequent post-concussion symptoms. While debate and argument have long plagued post concussion syndrome, research over the past decade has helped to clarify some of the areas of dispute, as well as develop and evaluate interventions. The purpose of the present study was to evaluate the quality of clinical practice guidelines (CPGs) made recently available for the care of persons with mild TBI and persistent symptoms.

**RELEVANCE:** Systematically developed practice recommendations can guide healthcare professionals toward appropriate identification and management of individuals with persistent symptoms following mild TBI.

**METHODS:** A minimum of six appraisers used the Appraisal of Guidelines for Research and Evaluation (AGREE II) instrument to evaluate ten CPGs identified in a systematic search of bibliographic databases and internet resources since 2008.

**STUDY SAMPLE:** A total of 39 appraisers each rated two of the ten CPGs identified. All appraisers had expertise in TBI, clinical treatment and/or guideline development. Appraisers were recruited so as to ensure adequate representation of (1) the various healthcare professions servicing the mild TBI population, (2) domain of expertise and (3) geographic location.

**FINDINGS:** High AGREE II scores were obtained for the domains Scope and Purpose and Clarity and Presentation in most guidelines. Conversely, lower scores were found for Rigour of Development, Stakeholder Involvement, Editorial Independence and Applicability. Very few recommendations addressed the care of persistent symptoms following mild TBI, with the exception of military guidelines.

**DISCUSSION:** While the number of guideline recommendations addressing mild TBI has increased considerably in recent years, there is still variability in the quality of guidelines. Overall, the CPGs reviewed score lower on Rigour of Development than CPGs for other medical conditions. Additionally, the present study found that even CPGs focused on mild TBI provided very little guidance for cases where symptoms do not remit spontaneously.

**CONCLUSION:** While research on post-concussion syndrome has increased as of late, there remains a clear need for updated, well-developed clinical guidance on the management of individuals who experience persistent symptoms following mild TBI.



**Poster #** 22

**Title:** A SYSTEMATIC REVIEW OF PROCESSES AND FACTORS IMPORTANT IN VOCATIONAL EVALUATION FOLLOWING BURN INJURY

**Primary Author:** Mary Stergiou-Kita

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

**Additional Authors:** Alisa Grigorovich

**PURPOSE:** A systematic literature review was undertaken to gather evidence to develop a guideline for vocational evaluation following burn injuries (BI). This review aimed to identify the key processes evaluators should follow and the key factors they should consider when completing such evaluations.

**RELEVANCE:** It is important that clinical practice be based on recent and relevant research evidence. A systematic literature review is therefore necessary for the purposes of developing a clinical practice guideline for vocational evaluation following burn injuries (BI).

**METHODS & ANALYSIS:** Steps outlined in Cochrane Handbook of Systematic Review were followed including: development of review question; search strategies and selection criteria; quality appraisal; data extraction; analysis & synthesis; drawing conclusions. Four databases (Pubmed, Medline, CINHAL, PsychInfo) and 14 websites were searched for relevant articles and studies (quantitative, qualitative), reviews and guidelines. Two reviewers independently completed reviews, performed quality assessments and extracted data into evidence tables. Then, using the ICF model and directed content analysis, key processes and factors were analyzed and synthesized across the evidence.

**FINDINGS:** A total of 138 articles were initially identified using the key words (e.g. burns, work). Studies, reviews and guidelines were retrieved if they focused on adults and discussed the processes relevant to vocational evaluation and/or factors associated with successful return to work (RTW) following a BI. Items were excluded if they did not address adults who had suffered a burn, the process of work or RTW, or challenges related to work after a BI. Using the above criteria 75 items were retrieved for full review. Fifty-six items remained after the quality appraisal. Results were integrated to develop the Evidence-based Framework for Vocational Evaluation Following Burn Injury.

**DISCUSSION:** This review and resulting framework translate research evidence into practice by identifying seven key domains relevant to vocational evaluation.

**CONCLUSIONS:** This research evidence and framework were used to develop the guideline's recommendations.

**Poster #** 23

**Title:** SLEEP DYSFUNCTION IN ONTARIO WORKERS WITH HEAD INJURY: PREVALENCE AND RELATIONSHIP WITH DISABILITY: PRELIMINARY FINDINGS

**Primary Author:** Tatyana Mollayeva

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

**Additional Authors:** Colin Shapiro; David Cassidy; Angela Colantonio

**PURPOSE:** The deleterious effects of poor sleep in persons who sustained head trauma have been reported for many years. Future progress depends on an improved understanding of the interaction between sleep loss and ability to regain functioning post injury, recognizing the interaction between sleep disturbance and disability.

**RELEVANCE:** Ensuring restful sleep is a critical component of head trauma rehabilitation

**METHODS & ANALYSIS:** Cross-sectional study. Clinical and biological parameters were evaluated. Sleep functioning was assessed by validated scales, in accordance with the ICSD 4; daytime sleepiness by ESS; fatigue by FSS; alertness by THAS. Psychological status was assessed by the HADS and PHQ-9; pain by the Pain visual analogue scale. Disability was evaluated by the CIQ and its subscales.

**FINDINGS:** We analyzed data of 25 Ontario workers with head trauma (15 males, 10 females; mean age  $48 \pm 10.5$ ). Fifty two percent worked shifts at the time of their injury: 7% - night shifts, 93% - rotating shifts. At the time of assessment, 60% of workers were on disability, 24% were working part-time, and 16% full time, with accommodations. Fatigue requiring further evaluation was found in 88%, daytime sleepiness in 52%, impaired alertness in 64%, pain in 96%, anxiety in 64%, depression in 96% of our participants. One or more sleep disorders were found in 100% of workers: insomnia in 96%, sleep disordered breathing in 72%, narcolepsy in 4%, RLS in 64% and in 66%, an irregular sleep schedule, with tendency to delay. Significant association was found between outcome of interest (CIQ, total score) and PHQ-9 total score ( $r = -0.55$ ,  $p = 0.005$ ) and ISS total score ( $r = -0.56$ ,  $p = 0.004$ ). Linear regression analysis revealed that ISS total score, after adjustment for gender, was independently associated with community reintegration, as measured by CIQ.

**DISCUSSION & CONCLUSIONS:** Sleep dysfunction rates are striking in Ontario workers with trauma to the head. Screening for sleep disorders and their causes in workers should be routine; positive findings call for detailed diagnosis. Management should acknowledge the multifactorial etiology of the sleep dysfunction, to alleviate the disability rates and enhance community reintegration. High rates of workers, who performed night and rotating shift at the time of their injury, may have implications for shift-work sleep disorder, which contributes to workplace safety.



**Poster #** 24

**Title:** TRAUMATIC BRAIN INJURY AND FALLS IN ONTARIO: WHERE AND HOW DO THEY HAPPEN?

**Primary Author:** Meera Kugadas

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

**Additional Authors:** Vincy Chan; Angela Colantonio; Brandon Zagorski; Daria Parsons

**OBJECTIVE:** To examine the rate traumatic brain injury (TBI) in the emergency department (ED) and acute care due to falls by age, falls subtypes, and Local Health Integration Network (LHIN) in Ontario. Rates of falls from TBI were compared with a broader set of “head injury” diagnostic codes from the Ontario Injury Data Report.

**RELEVANCE:** There is currently a paucity of detailed information on the type of falls resulting in TBI that occur across Ontario. A thorough analysis of specific mechanisms of falls and where they occur can inform prevention strategies.

**METHOD:** Patients admitted to Ontario EDs and acute care with a TBI diagnostic code resulting from falls were identified in the National Ambulatory Care Reporting System and Discharge Abstract Database, respectively.

**STUDY SAMPLE/INITIATIVE SCOPE:** From 2007/08 to 2009/10, there were 24,402 patients with a TBI diagnostic code in the ED due to falls and 24,402 patients with a TBI diagnostic code in acute care due to falls.

**FINDINGS:** From 2007/08 to 2009/10 in Ontario, the rate of TBI resulting from falls in the ED was 62.9 per 100,000 and the rate in acute care was 26.7 per 100,000. The highest rate of falls due to TBI in the ED was found in the South East LHIN (104.1 per 100,000) and for acute care, North East LHIN (33.1 per 100,000). The most common types of specified falls were slip/trip on same level and falls on stairs/steps. The rate of head injury from falls (provided by the Ontario Injury Data Report) was 4.2 to 27.2 times higher than the rate of TBI among children and youth and older adults.

**DISCUSSION/CONCLUSION:** Rates of TBI due to falls differ by age group, LHIN, and type of falls. The disparity in the rate of head injuries and TBI suggests that current rates of TBI are likely underestimates for particularly our youngest and oldest age groups. Inclusion of head codes to define TBI for prevention is recommended.

**Poster #** 25

**Title:** EVALUATING ACCESS TO APPROPRIATE CONCUSSION CARE IN ONTARIO

**Primary Author:** Charissa Levy

**Affiliation of Primary Author:** Toronto ABI Network

**Additional Authors:** Laura Langer; Katherine Grant; Nancy Boaro; John Rizos; Doug Maynard; Brenda Berry; Dorianne Sauve; Mark Bayley

**BACKGROUND/RELEVANCE:** Concussion/Mild Traumatic Brain Injury (mTBI) are very common and can result from motor vehicle crashes, falls, assaults, sports and recreational injuries, and other causes, and affects people of any age. Although most individuals recover, some experience ongoing and persistent symptoms affecting physical, cognitive and psychosocial function that require specialized treatment. Previously it was found that there are some inconsistencies in management of concussion across Ontario and access to specialist concussion care is variable.

**PURPOSE:** This study sought to identify clinics in Ontario that treat concussions and to determine the frequency of adult and pediatric concussions treated in Ontario and patterns of specialist referrals.

**METHODS:** Over 25 clinics that treat concussions were identified through extensive internet searches and utilization of LHIN Navigators and regional brain injury associations. These clinics were asked to participate in a telephone interview about the services they offer. The ICES database was used to determine number of concussions in Ontario seen by either a general practitioner or in an Emergency Room between 2008 – 2011 and their referral patterns and were analysed by LHIN. The locations of the identified clinics were then compared to the ICES LHIN data to determine if there is an appropriate service level to treat concussions in the area.

**FINDINGS:** Some parts of the province were found to have insufficient access to concussion treatment. This can cause a delay in accessing treatment, inappropriate concussions care or requiring a patient to travel for the appropriate treatment.

**CONCLUSION:** The analysis of concussions and referral patterns could help ensure that all Ontarians have equal access to appropriate care.

**Poster #** 26

**Title:** EVALUATING OUTCOMES IN THE DIABETES PILOT PROJECT: WILL ENROLMENT IN A CARDIAC REHAB PROGRAM REDUCE RISK FACTORS FOR HEART DISEASE?

**Primary Author:** Helen Schelfhaut

**Affiliation of Primary Author:** Halton Healthcare Services

**PURPOSE:** To evaluate the outcomes of the Diabetes Pilot Project as a primary prevention intervention by enrolling persons with diabetes in a Cardiac Rehab Program.

**RELEVANCE:** Persons with diabetes have the same rate of cardiac events as those with established coronary artery disease. Treatment with lifestyle modification and exercise is considered best practice to rehabilitate persons from a coronary event and provide secondary prevention. Treatment for persons with diabetes should therefore be similar, in order to lower the risk of developing heart disease and subsequent morbidity and mortality.

**METHOD :** The Cardiac Rehabilitation Program at Halton Healthcare Services offered patients with diabetes the opportunity to enrol in the 6 month program. Patients were referred by their family doctor and participated in a graded exercise test to ensure medical stability, evaluate baseline fitness level, and determine an appropriate training heart range. Participants were sent for bloodwork to determine their cholesterol profiles and fasting blood sugar (FBS). They then underwent a detailed intake assessment by a professional in the Cardiac Rehab Program to gather information on their past medical and social history, set patient-centred goals, and gather measurements of pulse, blood pressure, weight, height (for BMI calculation) and waist circumference (WC). Goals were re-visited and re-evaluated throughout the program and patients were encouraged to formulate action plans in order to increase the likelihood of success.

**STUDY SAMPLE:** Many participants presented with higher than target values for BMI, WC, FBS and abnormal lipid profiles. Many had below average fitness levels and a limited, or non-existent program of habitual exercise.

**FINDINGS:** In general, participants improved modestly in all parameters measured. On average, the group increased fitness levels by 1.16 METS (metabolic equivalents). An increase of 1.0 METS is correlated with longevity and better overall prognosis, including decreased risk of developing or progressing heart disease. On average, the participants displayed improved blood sugar control, decreased belly fat, lower weight and improved lipid profile by decreasing LDL and increasing HDL cholesterol.

**CONCLUSION:** The incorporation of persons with diabetes into an existing Cardiac Rehab Program is an efficient and effective means to educate and empower persons with diabetes for the purpose of primary prevention of heart disease.



**Poster #** 27

**Title:** FOR THE HEALTH OF OUR NURSES: A CALL FOR ACTION BY FRONTLINE REHABILITATION NURSING MANAGERS

**Primary Author:** Karen Conway

**Affiliation of Primary Author:** Grand River Hospital

**BACKGROUND/RELEVANCE:** Healthcare environments are ever-evolving and the demands placed on frontline nurses and their leaders are significant. Similar to other sectors within healthcare, the rehabilitation sector is expected to continue to evolve to better meet the needs of patients and the broader healthcare system. A failure to acknowledge and manage factors that influence the quality of worklife for frontline rehabilitation nurses undoubtedly affects the quality and cost of care provided. In fact, it has been argued that many healthcare work environments are unhealthy and feature healthcare workers who are struggling to deliver high quality healthcare. High rates of absenteeism and nursing turnover are symptoms of a lack of health in nursing work environments.

**PURPOSE:** This poster is a call for action by frontline nursing leaders that is intended to both inform them of the factors that contribute to the reduced health of work environments and offer inspiration as they fulfill their role in optimizing the quality of worklife, and ultimately, the quality of patient care. Nursing leaders are urged to commit to owning their accountability to achieving and sustaining quality of worklife and quality of patient care by adopting evidence based practices.

**METHODS/DISCUSSION:** This poster delivers an overview of several factors identified from a review of current literature that influence the health of nursing work environments. Transformational leadership, interprofessional collaborative practice, and specific quality of worklife performance management indicators are described as foundational building blocks necessary for optimizing health in the workplace.



**Poster #** 28

**Title:** THE DEVELOPMENT OF NOVEL VIRTUAL ENVIRONMENTS FOR ADULT REHABILITATION

**Primary Author:** Sue Balmer

**Affiliation of Primary Author:** The Ottawa Hospital Rehabilitation Centre

**Additional Authors:** Courtney Bridgewater

**PURPOSE:** The combination of Virtual Reality (VR), a treadmill and a moving platform is a novel modality for treatment in rehabilitation. This will describe the process to develop new VR environments.

**RELEVANCE:** The Computer Assisted Rehabilitation Environment (CAREN) system, developed by Motek Medical (Amsterdam, NE), has been successfully implemented to provide challenging, high level functional activities for a variety of diagnostic groups. Patients benefit from practicing realistic challenges, including terrain encountered on a daily basis in busy urban centers and in rural environments. This unique system combines VR with the ability to perturb gait and movement while challenging cognitive systems.

**METHODS & ANALYSIS:** The CAREN system is equipped with basic applications, however, new applications for the treatment of rehabilitation clients were needed. Using a Quality Improvement approach applications have been designed to address both the physical and cognitive aspects of rehabilitation. These include: simulating realistic terrain to challenge all aspects of balance control, introducing random events into the environment to challenge reaction time and reflexes, and navigating complex busy environments.

**INITIATIVE SCOPE:** 80 people with various diagnoses have used the system, including: Acquired Brain Injury, Spinal Cord Injury, Amputation and Complex Regional Pain Syndrome.

**FINDINGS:** New applications that allow the virtual environment to simulate various conditions such as day, night, storms and crowds, and other visual inputs were made. Also, the platform with 6 degrees of freedom was programmed to simulate rocky terrain, perturb gait for slips and trips along with maximizing the use of inclines, bank & roll, and vertical displacement. Data indicates excellent patient and clinician satisfaction and increased engagement. Utilization of the system shows good integration of the modality into clinical care.

**DISCUSSION:** Development of applications has provided a way to challenge both the motor and sensory systems in a way that was difficult to do with traditional rehabilitation methods.

**CONCLUSION:** The CAREN system has proved to be an excellent clinical tool in the rehabilitation setting. The system can be used at all stages of rehabilitation, from early intervention to address the initial impairments, to later stages of rehabilitation where participation in daily life is the goal.



**Poster #** 29

**Title:** USING SOCIAL MEDIA AND MOBILE APP TO IMPLEMENT A CLINICAL PRACTICE GUIDELINE OF OPIOIDS FOR CHRONIC PAIN

**Primary Author:** Andrea Furlan

**Affiliation of Primary Author:** Toronto Rehabilitation Institute – UHN

**BACKGROUND:** In May 2010, the Canadian Guideline for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain was released by the National Opioid Use Guideline Group.

**RELEVANCE:** The ultimate goal of the guideline is to promote safe and effective use of opioids for chronic non-cancer pain.

**PURPOSE:** The 164 page document containing 24 recommendations seem overwhelming to the busy physician. A tool was developed to disseminate and implement the guideline: The OPIOID MANAGER is designed to be used as a point of care tool for providers prescribing and dispensing opioids for chronic non-cancer pain. It condenses key elements from the Canadian Opioid Guideline and can be used as a chart insert.

**METHODS:** To facilitate the uptake of the tool OPIOID MANAGER, a series of initiatives were undertaken: posted on the guideline’s website, integration to various Electronic Medical Record (EMR) platforms, translation to other languages, explanatory video on YouTube, facebook page, twitter account, and development of an App for iOS platforms.

**FINDINGS:** The results will be presented related to the social media initiatives and mobile application: webpage views, YouTube views and comments, Facebook page likes/comments, Twitter followers/mentions, and App sales/reviews.

**CONCLUSIONS:** The challenges and benefits of investing time and resources into social media and mobile applications will be reviewed.

Due to unforeseen circumstances  
this poster is no longer available  
for display.



**Poster #** 30

**Title:** COLLABORATIVE CARROTS: LEADERSHIP STRATEGIES FOR CULTIVATING INTERPROFESSIONAL COLLABORATION THROUGH RECOGNITION

**Primary Author:** Siobhan Donaghy

**Affiliation of Primary Author:** Sunnybrook Health Sciences Centre – St. John’s Rehab

**Additional Authors:** Jennifer Shaffer; Gabrielle Bochynek; Katherine Nazimek

**PURPOSE:** To foster interprofessional collaboration, enhanced quality of work life for staff, and improved patient care, through the use of recognition strategies by the hospital's leadership team.

**RELEVANCE:** The hospital's Quality of Work Life (QWL) committee is an advisory body with representation from clinical and non-clinical as well as management and non-management staff. The mandate of the committee is to facilitate enhanced staff morale, productivity and quality of work life through the implementation of recognition strategies, occupational health & wellness programs, and staff education. In 2010, an online staff survey was administered, evaluating the programs offered through the hospital's QWL committee, and themes related to recognition were identified. Results demonstrated that staff valued health, wellness and corporate recognition programs, yet they indicated a desire for more acknowledgement and recognition of their daily work by their immediate manager.

**METHODS:** In 2011, the QWL committee embarked on a plan to enhance its existing staff recognition program, as it aligned with the hospital's development of an interprofessional model of care. Following a literature review, The Carrot Principle by Gostick & Elton (2009) was identified as a model on which to build recognition through the four basic areas of leadership, including goal setting, communication, trust and accountability.

**SCOPE:** The initiative addressed all levels of leadership in the organization, including clinical and non-clinical. The intent was to enhance the quality of work life and collaborative teamwork for all staff across the organization.

**FINDINGS:** An educational program was developed and delivered to the leadership team. Recognition 'tool kits' were also provided, including items such as thank you cards and gift vouchers for leaders to use with their teams. Elements of the recognition program continue to be embedded into other initiatives related to the development of an interprofessional model of care.

**CONCLUSION:** The principles of interprofessional care can be effectively cultivated and accelerated through leadership competencies which utilize recognition strategies, thereby enhancing collaborative teamwork, QWL for staff and improved patient care. Next steps are to implement refresher training for leaders and formally evaluate the effectiveness of the recognition program from the perspectives of staff and their leaders.



**Poster #** 31

**Title:** DEVELOPMENT OF A HOSPITAL-BASED MODEL OF INTERPROFESSIONAL CARE USING A PROJECT MANAGEMENT STRUCTURE

**Primary Author:** Siobhan Donaghy

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

**Additional Authors:** Jennifer Shaffer; Elizabeth Williamson

**PURPOSE:** The purpose of this initiative was to create a framework using project management principles which would guide the organization in developing an interprofessional model of care. The need for this was identified during a strategic planning process in 2011.

**RELEVANCE:** This initiative is relevant for any organization that is embarking on the development of a framework which would guide them in creating or enhancing their model of care.

**METHODS:** A steering team was struck by the organization to address the objective of creating an interprofessional model of care. The team included representatives from clinical staff as well as senior management, operational management, professional practice and education. A project management structure, in the form of a logic model, was selected as a tool to guide the development of specific short and long term objectives related to the model building process.

**INITIATIVE SCOPE:** The scope of this project was focused on the development of a model of care for adult rehabilitation. Participation in this project management process was interprofessional in nature, representing all clinical programs and professions across the organization.

**FINDINGS:** A literature review and environmental scan were conducted by the steering team, followed by the creation of a logic model illustration. A description of the component goals, objectives, associated activities and timelines were included in the work plan for the logic model.

**DISCUSSION/CONCLUSIONS:** As one of the components in the logical model was to provide staff with foundational concepts related to interprofessional care, an initial education session was presented. Next steps are to continue with the work plan and to pilot other component activities as outlined. The logic model has proven to be a useful project management tool for planning the development of an interprofessional model of care for adult rehabilitation.

**Poster #** 32

**Title:** A CLINICALLY FOCUSED TEAM APPROACH TO PRODUCT PROCUREMENT

**Primary Author:** Linda Norton

**Affiliation of Primary Author:** Shoppers Home Health Care

**Additional Authors:** Nancy Parslow; Naz Nourhaghighi; Mirck Balcy; Tracey Noftall; Debra Johnston; Sandra Tully; Petal Samuel; Carol Skanes; Stephanie Chadwick; Gary Beauchamp; Tracy Oliver

**PURPOSE:** Demonstrate the effectiveness of a multidisciplinary approach to procurement.

**RELEVANCE:** Most organizations are involved in product procurement. Establishing a clinically focused process ensures the needs of the patient population and facility are met in addition to reducing costs.

**METHODS & ANALYSIS:** A pressure ulcer prevalence evaluation and mattress inventory was conducted across all acute centres. Unit profiles describing the typical distribution of patients according to their risk of pressure ulcer development and mobility were constructed to help identify the current support surface needs.

**INITIATIVE SCOPE:** A pilot project spanning 3 sites of a large acute care metropolitan hospital utilized a patient centred , interprofessional team approach including representation from housekeeping, purchasing and an external consultant to identify procurement needs for equipment.

**FINDINGS:** During team meetings a discrepancy became apparent regarding the number of funded beds versus the number of physical beds within the organization, which assisted to clarify the scope of the project. Team members across departments gained an appreciation of each others' roles, the importance of a team approach to procurement and worked together to determine patient needs. Procurement requests shifted from product specific requests to generic categories which may result in a greater opportunity for competition.

**DISCUSSION:** Although the pressure ulcer risk and mobility status of the patient population varies widely between sites and units, it was possible to develop a picture of the needs across the entire hospital. Many support surfaces were being rented across the organization including 11 different models, with a total of over 9000 rental days in 2010. Opportunities for reconfiguring this mix of support surfaces were identified. Early mobilization programs and other programs result in care being provided outside the bed. The team recognized that the future procurement of other surfaces, such as geri-chairs, bedside chairs, cushions, and stretchers, would benefit from a similar team approach.

**CONCLUSION:** Establishing an interprofessional, cross department, cross facility team is one method to ensure that procurement decisions are clinically focused and within established budget. To optimize patient care, appropriate surfaces must be available. Involvement of a systematic team approach is one method to achieve this goal.



**Poster #** 33

**Title:** AN ARTHRITIS SELF-MANAGEMENT PROGRAM: OUTCOME EVALUATION AND THE RELATIONSHIP OF PAIN, SELF-EFFICACY AND GOAL ATTAINMENT

**Primary Author:** Anita Deborah Mendelson

**Affiliation of Primary Author:** Baycrest Geriatric Health Care System, University of Toronto

**Additional Authors:** Tina Wells-Rowse; Angela Chan

**PURPOSE:** To evaluate the impact of an arthritis self-management and exercise program on self-management behaviours, self efficacy, pain ratings, balance confidence, participation in exercise, and 2 minute walk distance. To examine the relationship between pain ratings, self-efficacy and goal attainment in this population.

**RELEVANCE:** Chronic pain and arthritis can impact an individual's quality of life. Self-management programs have demonstrated to be effective management in this population. In particular, self-efficacy and goal setting are key components of an effective program. An understanding of contributing factors and the relationship between pain, self-efficacy and goal attainment is important.

**METHODS & ANALYSIS:** As part of regular program delivery a battery of outcome measures are administered pre/post program. A retrospective review was conducted on outcome data of 10 recent arthritis programs. Wilcoxin tests were used to analyze pre/post data and correlational analysis was conducted on select variables of interest.

**INITIATIVE SCOPE:** A total of 109 individuals completed the arthritis program during this period. Participants had a mean age of 69.7 and living with their condition for 14.2 years.

**FINDINGS:** At program completion, participants showed statistically significant improvements in: time spent exercising, communication with physician, self -efficacy to manage condition, balance confidence, and 2 minute walk distance ( $p < 0.05$ ). Improvements in healthy lifestyle behaviours, ability to monitor condition, and skills to effectively self- manage were also reported. Correlational analysis revealed that pain ratings were related to self-efficacy and health interfering with daily activities, but not related to goal attainment at post program.

**DISCUSSION:** Pain is thought to impact an individual's ability to achieve their goals. In our post program evaluation pain ratings were not correlated with goal attainment, perhaps indicating adoption of coping strategies and/or problem solving skills in order to attain their goals.

**CONCLUSIONS:** Evaluation findings support the effectiveness of self-management programs in individuals with arthritis and chronic pain. Further understanding of factors contributing to goal attainment is required.



**Poster #** 34

**Title:** IDENTIFYING FACTORS INFLUENCING IMMEDIATE WEIGHT-BEARING AFTER HIP FRACTURE SURGERY: PERSPECTIVES OF CANADIAN ORTHOPAEDIC SURGEONS AND REHABILITATION THERAPISTS

**Primary Author:** Leslie Carlin

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

**Additional Authors:** Kathryn Sibley; Pia Kontos; Lauren Beaupre; Cy Frank; Richard Jenkinson; Hans Kreder; Rhona McGlasson; Susan Jaglal

**PURPOSE:** To explore barriers and facilitators to prescribing and implementing immediate weight-bearing (IWB) after hip fracture surgery, in order to develop a knowledge translation intervention increasing the practice across Canada.

**RELEVANCE:** Hip fractures are associated with excess mortality, admission to institutions, and high economic costs. IWB following surgical repair of hip fracture is linked to decreased mortality, fewer medical complications and improved functional recovery, and is considered best practice. However, IWB has yet to be systematically implemented in orthopaedic practice, which suggests a need for better understanding of the influences on weight-bearing (WB) orders.

**METHODS & ANALYSIS:** A descriptive qualitative approach involved semi-structured telephone interviews with surgeons and with rehabilitation therapists (RTs) to explore a) practices and points of view regarding WB prescription by the surgeons, and b) the implementation of the orders by RTs.

**STUDY SAMPLE:** 20 orthopaedic surgeons who perform hip fracture surgery in Canada and 8 RTs who treat hip fracture patients. Currently 70% of interviews are complete; the remainder will be finished by January 2013.

**FINDINGS:** Orthopaedic surgeons, while aware that IWB is the ideal post-operative prescription, describe competing considerations for patient care, including judgment about bone quality and concerns about patient ability to comply with WB orders. Surgeons also described the discouraging experience of seeing their repairs fail, and the impact of that experience on subsequent treatment decisions. Amount and quality of communication between RTs and surgeons varies, with preliminary analysis suggesting that the establishment of a 'care map' increases the amount of communication between the two groups. Surgeons report that prescription other than IWB tends to provoke queries from RTs. Finally, the issue of terminology for WB has been identified as an area that needs urgent attention, with terms such as 'toe-touch' and 'feather-weight-bearing' prompting particular concern. Interviews with the RTs covering similar topics will be discussed.

**DISCUSSION:** Outcomes from this research will inform the development of a survey instrument distributed to all orthopaedic surgeons in Canada to quantify WB practices.

**CONCLUSION:** Key messages include the necessity of strengthening effective communication links between surgeons and RTs in order to optimize recovery from hip fracture.

**Poster #** 35  
**Title:** DRIVING FOLLOWING ACUTE LOWER LIMB PAINFUL EVENTS  
**Primary Author:** Catherine P. Ho  
**Affiliation of Primary Author:** University of Toronto, Toronto Rehab  
**Additional Authors:** Andrea Furlan

**PURPOSE:** Driving is an essential aspect of daily life for many individuals. Orthopedic procedures or injuries can temporarily prevent patients from driving. The time duration until they can resume driving has significant implications on the patient, physician and society. There are a few guidelines about driving restrictions following acute lower limb events, however, the time duration varies among jurisdictions. We aimed to review the current guidelines and clinical studies available for acute lower limb injuries or interventions including total hip arthroplasties (THA) and total knee arthroplasties (TKA), knee arthroscopies, anterior cruciate ligament (ACL) reconstruction, and lower extremity fractures.

**METHODS:** A literature search was performed on PubMed and all papers that looked at driving in people undergoing lower extremity interventions or injuries were subsequently assessed by two authors.

**FINDINGS:** Current driving restrictions differ in length and conditions. Our review of literature found the following: Post-THA, driving restrictions vary from 4 to 8 weeks ; Post-TKA, driving restrictions vary from no driving abstinence to 6 weeks for left-sided procedures, and from 2 to 8 weeks for right-sided procedures; Post-knee arthroscopy, driving restrictions are for at least 1 week; Post-ACL reconstruction, driving restrictions are 2 weeks for left-sided procedures, and 4 to 6 weeks for right-sided procedures; Post-lower extremity fracture, there is general consensus that patients requiring immobilization should not be allowed to drive until they are pain-free and have full function of their limb. There is divided opinion as to whether or not left-sided immobilization should prevent patients from driving automatic vehicles; Post-right ankle fractures, driving restrictions vary from 4 to 9 weeks.

**CONCLUSION:** Given the importance of driving limitations for patients, their families and society, it is surprising that so little scientific evidence is available to guide these decisions. Further studies need to be done that measure other relevant parameters, have more frequent follow up assessments and separately test right and left-sided procedures. With the current limited data available to guide clinical judgment on when a patient can safely resume driving following a lower extremity injury, careful history and physical assessment is required to make decisions based on each individual.



**Poster #** 36

**Title:** PRE-HABILITATION: AN INNOVATIVE APPROACH TO ADDRESS THE REDUCED LENGTH OF STAY FOR ELECTIVE HIP AND KNEE REPLACEMENT PATIENTS

**Primary Author:** Meeta Gugnani

**Affiliation of Primary Author:** Rouge Valley Health System, Galit Liffshiz & Associates and University of Toronto

**Additional Authors:** Amber Curry; Diane Wiedmann; Dr. Fathi Abuzgaya; Dr. Hamdi Benfayed

**PURPOSE:** A reduced length of stay following elective hip and knee arthroplasty was the driving force for the creation of the pre-habilitation program - an innovative approach that focuses on achieving organizational and patient results.

**RELEVANCE:** This is an exemplary model of thinking outside the box to address the needs of our patients within an environment of constrained resources.

**METHODS & ANALYSIS:** Components of the pre-habilitation program include: progressive exercise routines, transfer technique training, home-accessibility questionnaire, functional goal setting using SMART goals and use of a self-tracking tool. Each component of the program is based on evidence and leading practices.

**INITIATIVE SCOPE:** The program is offered to all patients that are scheduled to undergo hip and knee replacement surgery at the hospital. The sessions run three times weekly over a six-week period prior to the surgery.

**FINDINGS:** The project has been recently implemented and has demonstrated favorable initial patient results. Outcomes that are being monitored include: length of inpatient stay for patients that underwent the pre-habilitation program versus not and a patient satisfaction survey.

**DISCUSSION:** An appropriately designed program involving cardiovascular, strength training and flexibility training activities can be a safe, tolerable and effective approach to improving muscle strength in patients prior to undergoing elective hip and knee replacements (Rooks et al., 2006). Patients are educated on the hurt versus harm principle to safely and effectively enhance their level of activity. The use of a home accessibility questionnaire ensures that the patients partner with rehabilitation team members in identifying barriers to discharge and implementing solutions to enhanced safety at home.

**CONCLUSIONS:** The premise is to engage patients in an exercise and transfer training program along with self-conditioning, whereby they set their own functional goals and track their progress to achieve a higher activity level pre-surgery for improved post-surgical outcomes. Patient engagement is central to achieving results. Program planning and logistics take an innovative approach that challenges the status quo and ensures strategic alignment with current health care trends.



**Poster #** 37

**Title:** COMMUNITY RE-INTEGRATION FOLLOWING A TOTAL JOINT REPLACEMENT: 'WHAT IT MEANS TO ME'

**Primary Author:** Mary Stergiou-Kita

**Affiliation of Primary Author:** St. John's Rehab, Sunnybrook Health Sciences

**Additional Authors:** Alisa Grigorovich

**PURPOSE:** To investigate community participation and re-integration following a total joint (hip or knee) replacement (TJR) to gain an understanding of the processes individuals engage in to enhance their participation and the meanings that they ascribe to community re-integration.

**RELEVANCE:** The knowledge gained will assist clinicians to focus on clients' most relevant community integration goals during the rehabilitation process. This in turn may enhance rehabilitation and community re-integration outcomes.

**METHODS & ANALYSIS:** 11 individuals who had undergone a TJR and received inpatient rehabilitation services at St. John's Rehab participated in semi-structured telephone interviews 3 months after discharge. Interviews were digitally recorded and transcribed verbatim. The interviews were analyzed using thematic analysis.

**FINDINGS:** Themes revealed a gradual process of re-integration with ongoing challenges with some elements of participation and satisfaction, including fatigue, pain and self-efficacy. Meaning was derived from engagement in meaningful activities, a sense of belonging in a community and through human interactions. On-going education regarding what to expect about the process of recovery, professional and community support to enable re-engagement in valuable occupations, and instrumental and emotional support were identified as factors relevant to successful re-integration.

**DISCUSSION:** The majority of research studies use quantitative tools to examine community re-integration and focus on measuring participation in activities. Our findings suggest that this may be only one element of community re-integration and that counting activities may not relate to what is relevant to the individual. Further, our findings suggest that improvement in overall fitness or pain level, which is the typical focus of rehabilitation strategies post TJR, may not be enough to ensure improved participation post-surgery. Future studies of community re-integration should also consider the value and meaning of community and re-integration to individuals themselves and the availability of on-going supports for individuals that that can assist them in meeting their identified goals.

**CONCLUSION:** This research evidence will be translated into recommendations to guide clinical practice and rehabilitation.



**Poster #** 38

**Title:** LESSON LEARNED IN PROVIDING CULTURALLY SENSITIVE CARE IN PEDIATRIC REHABILITATION

**Primary Author:** Sally Lindsay

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

**Additional Authors:** Chantal Desmarais; Gillian King; Sylvie Tetreault; Genevieve Pierart

**PURPOSE:** Family-centred care is widely acknowledged as the gold standard in pediatric rehabilitation. The family-centred approach requires that clinicians understand and appreciate clients' values, beliefs, and goals. Yet, this issue has not been extensively studied within pediatric rehabilitation.

**RELEVANCE:** Providing culturally sensitive care is important because disability is often perceived differently based on cultural beliefs, which can influence health behaviours, and health outcomes. Findings will help clinicians and decision-makers identify areas of improvement in providing culturally sensitive care and in helping clients and families access resources in Toronto and Quebec City.

**METHODS & ANALYSIS:** This project drew on qualitative in-depth interviews to explore clinicians' successes and challenges in providing culturally sensitive care to immigrant families raising a child with a disability.

**STUDY SAMPLE:** Interviews were conducted with a purposive sample of clinicians (19 Occupational Therapists and 17 Speech Language Pathologists) who had at least 2 years of experience in pediatric rehabilitation and at least 1 year of experience in providing care to immigrant families raising a child with a disability. The sample was drawn from two pediatric rehabilitation hospitals in Ontario and Quebec.

**FINDINGS:** Clinicians encountered several challenges in providing culturally sensitive care in pediatric rehabilitation including: (1) lack of training; (2) language barriers in working with interpreters; (3) differences from clients in beliefs about the priority of different types of therapy; (4) lack of time; (5) gender issues; and (6) helping clients to navigate the health care system. Clinicians had several strategies for overcoming such challenges which included: (1) team work and providing family-centred care; (2) advocating for families and connecting them to resources; (3) using visual support for explanations; (4) modifying therapy; and (5) using interpreters.

**DISCUSSION:** Improving clinicians' understanding of cultural differences and how to work with immigrant families can help to improve health outcomes and reduce health disparities.

**CONCLUSIONS:** Although Occupational Therapists and Speech Language Pathologists have developed several strategies for working with immigrant families raising a child with a disability, they report wanting more training, support and resources for providing culturally sensitive care.

**Poster #** 39

**Title:** SELF-MANAGEMENT INTERVENTIONS FOR YOUTH WITH PHYSICAL DISABILITIES

**Primary Author:** Sally Lindsay

**Affiliation of Primary Author:** Bloorview Research Institute, Holland Bloorview Kids Rehabilitation Hospital

**Additional Authors:** Shauna Kingsnorth; Carolyn Mcdougall; Heather Keating

**PURPOSE:** Childhood disability can negatively influence quality of life because disease courses are often unpredictable and many children’s symptoms result in social and physical restrictions. Given that most children with a disability now live well into adulthood, a better understanding of self-management interventions is needed so that the positive impact on health outcomes can be achieved.

**RELEVANCE:** This integrated KT project involved youth, families, and service providers. The findings shed light on best practices in pediatric self-management and will support practitioners, service organizations and decision-makers to design health promotion strategies for this vulnerable population.

**METHODS & ANALYSIS:** A systematic review of self-management intervention programs for school-age children / youth was conducted to assess the effective components of these interventions. Electronic searches were conducted and involved the following inclusion criteria: (1) a sample size of at least 5 and at least 50% of the sample has a physical disability; (2) school-age children with the majority of the sample or average age between 6-18 years of age; (3) an intentional structured self-management intervention targeting youth; (4) at least one quantifiable health outcome that is statistically evaluated; (5) higher than class IV on AAN appraisal classification. Two reviewers independently conducted the search and 4 reviewers were involved in applying the search criteria.

**INITIATIVE SCOPE:** Of the 2184 articles identified in the search, 6 met the criteria to be included in the review.

**FINDINGS:** Two of the studies had samples with spina bifida and four had juvenile arthritis. All of the interventions reported significant improvements in either overall self-management skills, or a specific health behaviour. The majority of the interventions ran several sessions for at least 3 months by a trained interventionist or clinician, involved parents, had one-to-one sessions and meetings, and homework activities.

**DISCUSSION:** Findings regarding best practices in the delivery of effective interventions is inconclusive. Self-management interventions should optimize parental involvement in encouraging self-management behaviours at different stages in their child’s development.

**CONCLUSIONS:** Despite significant evidence related to chronic illness there was a paucity of research findings related to self-management interventions targeting physical disability.



**Poster #** 40  
**Title:** PRESSURE ULCER PREVENTION: WHAT ARE WE MISSING?  
**Primary Author:** Linda Norton  
**Affiliation of Primary Author:** Shoppers Home Health Care  
**Additional Authors:** Patricia Coutts; Nancy Parslow; Laurie Goodman

**PURPOSE:** Explore the application of prevention of pressure ulcer evidence in the seated posture in non-traditional settings where care is provided outside the bed.

**RELEVANCE:** Approximately 26% of patients in the health care system have a pressure ulcer, 70% of which are preventable. To reduce costs, it's important that pressure ulcer prevention occurs in all aspects of the Canadian Health Care System, including where care is provided outside the bed.

**METHOD:** A literature review and discussion with clinical leaders in various settings was conducted to identify: what types of pressure ulcer prevention activities are occurring in settings where care is provided outside of a bed and what types of support surfaces are available?

**SCOPE:** The selection of surfaces has traditionally focused on bed surfaces rather than all surfaces the client uses including bedside and Geri chairs. Expanding this focus of pressure ulcer prevention is critically important as the focus of care shifts to the early mobilization of patients thereby providing care outside the bed.

**FINDINGS/DISCUSSION:** The clinical leaders reported the use of Geri- style reclining chairs as the primary positioning alternative to bed for clients. Specific studies related to the use of bedside or Geri chairs in relation to pressure ulcer prevention and management were not found. However high peak pressures and shearing injuries from inappropriate positioning in chairs are associated with pressure ulcer development and seating interventions aimed at prevention do make a difference.

**CONCLUSIONS:** There is a body of knowledge regarding support surfaces in a seated posture yet the use of Geri chairs for positioning is still common practice. Many of the Geri chairs are not based on seating principles and practices aimed at preventing pressure ulcers. Involvement of team members with an expertise in seating and mobility, may promote a reduction of pressure ulcers resulting from these settings.



**Poster #** 41  
**Title:** PREVENTION OF PRESSURE ULCERS IN A SEATED POSTURE  
**Primary Author:** Linda North  
**Affiliation of Primary Author:** Shoppers Home Health Care  
**Additional Authors:** Patricia Coutts; Nancy Parslow; Laurie Goodman

**PURPOSE:** To explore the application of seating principles, positioning and practices to these environments.

**RELEVANCE:** Seating principles and practices to prevent pressure ulcers have not been consistently applied in settings where care is provided outside of the bed e.g. day surgery, dialysis, etc. Patients receiving care in these settings may be on surfaces for several hours and may already be at risk for pressure ulcer development due to frailty, multiple co morbidities, immobility or other factors. Skin damage may not be detected until the client returns to the community.

**METHODS:** Principles of preventing pressure ulcers in the seated posture from the literature and clinical opinion leaders will be outlined, and compared to equipment and practices currently in use where care is provided outside the bed. Potential gaps and solutions will be identified.

**SCOPE:** This poster presentation examines the seating principles and practices that can be applied to settings where care is provided outside the bed.

**FINDINGS/DISCUSSION:** As a result of reading this poster, participants will have a greater awareness of the principles and practices related to sitting posture and positioning applicable in settings where care is provided outside the bed. Participants will also recognize the unique role possible for Occupational Therapists in this setting.

**CONCLUSIONS:** Patients who are treated in day surgery or dialysis settings may be receiving care outside the bed, and may be at risk of developing pressure ulcers. Although they are on these surfaces long enough to sustain skin damage, practices and equipment to prevent pressure ulcers may not be in place.



**Poster #** 42

**Title:** DEVELOPMENT OF A “WORKPLACE PRESCRIPTION” TO FACILITATE RETURN TO WORK FOR WORKERS WITH OCCUPATIONAL SKIN DISEASE

**Primary Author:** Marie-Claude Houle

**Affiliation of Primary Author:** Department of Occupational and Environmental Health and Keenan Research Centre in the Li Ka Shing Knowledge Institute, St Michael’s Hospital, Dalla Lana School of Public Health and Faculty of Medicine, University of Toronto

**Additional Authors:** Irena Kudla; Pilar Gomez; Aaron Thompson; Yuliya Velykoredko; D. Linn Holness

**PURPOSE:** To develop a “Workplace Prescription” (WP) that could be given to workers by the treating physician to take back to their workplaces.

**RELEVANCE:** Management of diseases caused by workplace exposures requires not only medical management but often also requires changes to the workplace to allow successful stay at work or return to work (RTW).

**STUDY SAMPLE:** 50 workers with skin disease and their respective employers.

**METHOD & ANALYSIS:** 1. Obtain information from workers and employers in different sectors regarding the key components of a workplace prescription, including an understanding of the possible different employer positions that might receive such information and their different needs. 2. Develop a prototype WP. 3. Obtain information from workers and employers regarding the prototype WP to develop the final version of the form.

**FINDINGS:** Using the workplace interventions identified and taking into consideration feedback from workers and employers, a prototype WP was developed and is being implemented.

**DISCUSSION:** This study is the first stage in the validation of the WP form. Future evaluation would be aimed at addressing issues related to predictive validity (i.e. determining if the WP actually improves return to work and constructs validity).

**CONCLUSION:** This project aims to address the gap in communication between the physician and employer concerning occupational skin disease. Information on primary prevention via a WP will have the added benefit of not only assisting the individual worker in the RTW process, but also providing a broader prevention message that will benefit co-workers and the workplace in general.

**Poster #** 43

**Title:** FACTORS RELATED TO PARTICIPATION IN PAID WORK AFTER ORGAN TRANSPLANTATION: PERCEPTIONS OF KIDNEY TRANSPLANT RECIPIENTS

**Primary Author:** Naz Nourhaghi

**Affiliation of Primary Author:** Toronto General Hospital, University Health Network

**Additional Authors:** Gillian Barrie; Carol Heck; Dr. Heather Ross

**PURPOSE:** Following solid organ transplantation, recipients often have difficulty returning to meaningful occupations, including paid employment. The purpose of this study was to identify factors perceived by transplant recipients as relating to employment after kidney transplantation, and to examine the profile of kidney transplant recipients at a major Canadian Transplant Center.

**RELEVANCE:** Following organ transplantation, attainment of and/or return to paid work constitutes a major psychosocial challenge impacting transplant recipients' quality of life. In addition to being a source of income, work is associated with one's sense of self-esteem and personal identity.

**METHODS:** Using the Organ Transplant Tracking Record, 611 kidney recipients with working graft function who had received their transplant from 2003 to 2008 at Toronto General Hospital were identified. Of these transplant recipients, 144 were randomly chosen to participate in the study. These recipients were mailed a questionnaire in November 2009.

**RESULTS:** Of the 60 returned questionnaires (42% response rate), the average respondent was 53 years old and the majority were male (68%). The rate of employment decreased from 68% pre- to 38% post-transplant. Retirement rates increased from 8% to 18%. Of those returning to work, the nature of job changed from heavy demands to sedentary work. There was a 20% increase in reliance on the Ontario Disability Support Program as a source of income. The majority rated their current physical and emotional wellness as good or better.

**DISCUSSION:** A lower percentage of recipients in this study were working post-transplant when compared to previous reports in the literature. This was attributable to both perceived job readiness and employer-related enablers. Most felt emotionally and physically ready to work after the transplant. Employer-related enablers included positive employer attitude towards medical history and employer agreement that recipients could take time off for medical appointments.

**CONCLUSIONS:** Respondents suggested the development of a program focused on working after transplantation and consulting with transplant recipients' employers to further enable successful re-integration into the workplace.



**Poster #** 44

**Title:** FACTORS ASSOCIATED WITH RETURN-TO-WORK FOLLOWING WORK-RELATED UPPER EXTREMITY INJURIES

**Primary Author:** Herbert P. von Schroeder

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

**Additional Authors:** Rajiv Gandhi; Amelie Yak; Sandra Wong; Shahriar Shams

**PURPOSE:** The purpose of this study was to find modifiable factors that are associated with return-to-work (RTW) among workers with upper extremity injuries in Ontario, Canada.

**RELEVANCE:** Sick leave following workplace upper extremity injury is a major challenge as it is costly and negatively impacts workplace productivity. Our study examined the association between modifiable factors and RTW among injured workers.

**METHODS & ANALYSIS:** Relevant covariates, including demographic data and functional scores were recorded for injured workers discharged between January 2010 and December 2011 from a multidisciplinary upper extremity treatment program. Our primary outcome, RTW, was assessed at 3 months follow-up. Bivariate analyses and logistic regression were used to identify those factors associated with a successful RTW.

**STUDY SAMPLE:** Of the injured workers who participated in the upper extremity treatment program, 224 patients met our inclusion criteria with 62% male at a mean age of 48 years. For the 132 patients who were not working at intake, 47 (36%) were able to RTW 3 months post-treatment.

**FINDINGS:** Bivariate analyses revealed that female gender, younger age, lower intake Pain Catastrophizing Score, QuickDASH and numerical pain scores, lack of depression, and use of RTW coordination services were significantly associated with a successful RTW outcome at 3 months post-treatment ( $P < 0.05$ ). Logistic regression revealed that female gender, a lower intake QuickDASH score and lack of depression were significant predictors of successful RTW ( $P < 0.05$ ).

**DISCUSSION:** Pain and depression are both factors that are associated with RTW following workplace upper extremity injury. Additionally, RTW coordinators appear to play an important role in improving work outcomes.

**CONCLUSIONS:** Based on this, an interdisciplinary approach that views the patient holistically should be implemented when treating this population.



**Poster #** 45

**Title:** HEARING LOSS SCREENING AND MANAGEMENT IN A SHORT STAY GERIATRIC REHABILITATION PROGRAM: AN INTERDISCIPLINARY COLLABORATION BETWEEN NURSING AND AUDIOLOGY

**Primary Author:** Marilyn Reed

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

**Additional Authors:** Catherine Low; Angela Chan

**PURPOSE:** The purpose of this study was to evaluate the validity and utility of a hearing screening tool for use by nurses to identify patients with hearing loss on admission to a geriatric short-stay rehab unit. Age-related hearing loss is “an invisible” handicap which is highly prevalent but frequently unaddressed. It can have a devastating effect on activities of daily living, participation in health care, socialization and QOL.

**RELEVANCE:** Hearing loss can also be mistaken for, and may exacerbate symptoms of, cognitive impairment and mood disorders. Patients, caregivers, and the health care system could benefit from its prompt identification and management.

**METHODS:** On admission, nurses completed a hearing screening questionnaire designed to alert the Communicative Disorders Assistant (CDA) to existing hearing loss and hearing aid use. For those identified with possible hearing loss, the CDA performed an otoscopic examination and hearing screening using a hand-held screener. Where appropriate, referrals were made for cerumen management or full hearing assessment. Hearing aids were cleaned and repaired as required. Staff was instructed re management of hearing aids and use of appropriate communication strategies.

**FINDINGS:** During a 60-day period, 44 screening tools were administered by nursing staff. 16 patients were identified by nursing staff as having difficulty hearing, some with hearing aids requiring attention. Follow-up by the CDA resulted in referral to Audiology or ENT for 9 newly-identified patients. The screening tool effectively identified a high prevalence of hearing loss among patients admitted to a short stay geriatric rehabilitation unit that might otherwise have been overlooked. Patients admitted with hearing aids required assistance with management in order to be able to use them to communicate effectively.

**DISCUSSION:** Since communication difficulties can adversely affect participation in rehab and health care outcomes, nursing best practice should include identification of hearing loss so that appropriate management strategies can be employed. This initiative demonstrated the need for a screening tool that is simple to use yet effective in identifying patients who require hearing intervention. Without such a tool, hearing problems may be overlooked or mistaken for other conditions.

**CONCLUSION:** Identification and management of hearing loss facilitates fuller participation in health care during patients’ hospital stay and may improve health care outcomes, thus supporting ‘aging at home’.



**Poster #** 46

**Title:** CONCEPTUAL MODEL OF AGING-RELATED KNOWLEDGE TRANSFER PROMOTING AND EVALUATING NICE POCKET TOOLS

**Primary Author:** Tal Spalter

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

**Additional Authors:** Sander Hitzig; Lynn McDonald

**BACKGROUND/OBJECTIVE:** The dual phenomena of global aging and increased longevity for individuals with disabilities necessitates that health providers and societies are prepared to support healthy aging and community living. In order to help address the core challenges of aging, The National Institute for the Care of the Elderly (NICE; [www.nicenet.ca](http://www.nicenet.ca)) has created over 100 evidence-based social pocket tools (PTs) on aging related subjects (e.g. caregiving, mental health) in both paper and digital forms. Whether the PTs are actually used appropriately or have any impact on improving the well-being of older adults is unknown. To address this issue, a collaborative initiative between academic and community partners is being undertaken to promote, sustain, and evaluate the PTs.

**METHODS/OVERVIEW:** The guiding framework for our implementation and evaluation of the PTs is the Conceptual Model of Knowledge Exchange (Meagher et al, 2008). The model highlights the main categories of actors, their roles and the likely flows of knowledge, expertise and influence between them. A core tenet is that meaningful knowledge transfer (KT) actually involves two-way communication requiring genuine interaction among all stakeholders.

**RESULTS:** With regards to KT of the PTs, several strategies will be implemented in collaboration with NICE community partners. This includes the use of social media (blog, twitter and Facebook); media campaign ([www.engaged.is](http://www.engaged.is)); academic dissemination activities; and out-reach activities to targeted stakeholders. Indicators of KT impact include regular exchanges with community partners, monitoring website traffic reports and hard-copy distributions of the PTs, and conducting a multi-phase evaluation process for the social PTs in four regions of Canada. This includes a comparison between the two methods of tool distribution as well as obtaining qualitative reports on the impact of the PTs for various stakeholders. The final stage will be to integrate the findings of these activities to modify the PTs and inform community partners.

**CONCLUSION:** Despite the growing popularity of KT in rehabilitation and other fields, there is a lack of evidence on the effectiveness of KT, and a need to develop better methods for assessing its impact. Hence, the described initiative serves as a theory driven model that offers rehabilitation professionals working with aging populations with practical approaches for assessing the impact of their own KT initiatives.

**Poster #** 47

**Title:** RELEASING MORE TIME TO CARE FOR GERIATRIC CLIENTS IN A SLOW STREAM REHAB SETTING: AN APPLICATION OF THE LEAN METHODOLOGY TO ENHANCE CARE DELIVERY

**Primary Author:** Elizabeth Villar-Guerrero

**Affiliation of Primary Author:** Baycrest

**Additional Authors:** Angela Chan; Lilibeth Jones-Lim; Karyn Agtarap-Rose; Christine Degan; Zeenat Jessa; Saramma John

**PURPOSE:** The More Time to Care was a pilot project initiative for nurses within a Slow Stream Rehab setting. The purpose of the initiative was to examine and redevelop processes that are inefficient and take nurses away from the bedside.

**RELEVANCE:** Within in the rehab setting, there was loss of valuable care provider time due to ineffective and inefficient supply systems, equipment issues, and multiple interruptions. Evidence suggests that more nursing time per patient results in better patient health and safety outcomes (Tucker & Spear, 2006).

**METHODS & ANALYSIS:** The concepts of LEAN methodology, time and motion studies, surveys, literature search, and monthly audits were applied.

**STUDY SAMPLE/INITIATIVE SCOPE:** Participants of the project were limited to nursing staff in the rehab unit. The project focused on the shift report and assignment process; and the medication room and cart inventory and replenishing process.

**FINDINGS:** Finding 1 (Patient Assignment): Results indicated that significant time was wasted performing redundant tasks and wasteful activities within the shift report and assignment delegation. A total of 40 minutes was spent in developing the assignment and shift reporting. Post-implementation showed nurses spent 20 minutes in developing and shift reporting. Finding 2 (Inventory Supplies): Survey results revealed a need to develop a new organizational and replenishing system in the medication room. Nurses were dissatisfied as 20 minutes of their time was spent on searching for supplies. Post-implementation, nurses gained an extra 15 minutes of their work time.

**DISCUSSION:** The rehab patient experience and performance measures indicated an increase in nursing time for direct essential patient care by 35 minutes. Project outcomes have been sustained as nurses took an initiative and leadership to participate to plan and implement the project. They have first-hand experience at knowing the issues of the unit, the culture of the unit and how to approach the staff for their input and feedback.

**CONCLUSIONS:** Support from management was important by allowing the project members to have time away from the bedside to work on the project and performing continual evaluation through audits. Engagement of nurses to identify the issues that impact their work is crucial. Through collaboration with the rehab nurses, they took accountability of the problem and embraced the solutions as an integral part of their practice.



**Poster #** 48

**Title:** THE NAVIGATOR ROLE - HELPING PATIENTS NAVIGATE THEIR STAY IN REHABILITATION AND DISCHARGE HOME

**Primary Author:** Marika Beaumont

**Affiliation of Primary Author:** Northumberland Hills Hospital

**Additional Authors:** Julie Morgan

**PURPOSE/RELEVANCE:** Our hospital undertook a recent LEAN program review of all the processes on a short stay general rehab unit. There was a desire to ensure our program was person focused, incorporated best practice and excellence in gerontology, teamwork and clinical leadership. With family involvement there was an identified need for a patient Navigator.

**SCOPE:** This team member would be the primary contact person for the patient and family. They are the liaison and point person in setting and reviewing the patient determined goal sheet, communicating the estimated discharge date and any issues pertaining to their stay on the unit. The Navigator will set the family meeting as required and will chair these meetings. The goal sheets are written in patient friendly language and are updated in weekly rounds. It is the role of the navigator to provide and review the updated goal sheet with the patient weekly. The patient set goal focused approach allows for all members of the team - patient, family and staff to be working towards the same outcomes. The navigator review process provides positive reinforcement, realistic reasons for altering dates of discharge and it ensures continued focus on the right issues. We have interdisciplinary navigators - OT, PT, RN and RPN as the core team as well as non-core members - Recreation Therapy, SLP and Clinical Nurse Specialist (as co-navigator).

**FINDINGS/CONCLUSIONS:** Sharing this role across disciplines builds teamwork, encourages professional growth, and recognizes the value of all team members. The staff has found the time demands of the role challenging but also feels it is of great benefit to the patient and their families. They have also found that they can focus on the additional challenges of only 3 patients on their caseload rather than feeling like they have to take on all issues for all of their patients. The patients and families report that they feel reassured knowing who to contact with questions and concerns. They feel more supported throughout their hospital stay.

Poster #

49

**Title:** CHARACTERISTICS OF PATIENTS ADMITTED TO A SLOW STREAM REHABILITATION UNIT

**Primary Author:** Paul Katz

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

**Additional Authors:** Gary Naglie; Jurgis Karuza; Angela Chan; Grace Leung; Anna Berall

**PURPOSE:** The purpose of this study is to describe the characteristics of patients admitted to a low intensity, long duration rehabilitation unit, otherwise known as a Slow Stream Rehabilitation (SSR) unit.

**RELEVANCE:** Slow Stream Rehabilitation is a new innovation and there is a lack of existing data about the types of patients admitted to such units and no agreed upon assessment tools and outcomes for such units.

**METHODS & ANALYSIS:** A tool kit, including both psychosocial and functional measures, was administered to patients on admission to a SSR unit at Baycrest over a period of a year. Descriptive statistics were used to characterize the patient sample.

**STUDY SAMPLE:** Ninety five patients were recruited. The mean age was 82 +7.87 years. Most of the patients were female (68.4%), widowed (45.3%) and had an average of 12 years of education.

**FINDINGS:** Initial analysis revealed a frail population with significant impairment in their ADLs: 20.5% requiring assistance and 5.5% dependent with feeding; 72.6% requiring assistance and 24.7% dependent with bathing; 68.5% requiring assistance and 21.9% dependent with dressing; and 47.2% requiring assistance and 28.1% dependent with toileting. The average score for the Berg Balance Scale was 8.86 placing these patients at high risk for falls. On admission, 26.1% of the patients were bedridden and 25.3% required help of another person to use a walker. Twenty five percent of the patients who were able to walk unassisted with an aid had an average walking speed of 24.34 m/sec. On admission the mean score on the Montreal Cognitive Assessment (MoCA) was 17.52 + 9.33 and only 17.1% of patients scored 26 or higher on the MoCA.

**DISCUSSION:** There is a paucity of information available that describes the patient population admitted to slow stream rehab programs. This study is an initial step in better characterizing the patient population.

**CONCLUSION:** Patients admitted to the SSR unit are very frail. They have high dependence in their basic activities of daily living, significantly impaired mobility and balance, and the majority of patients have some degree of cognitive impairment. This confirms that the SSR population represents a group with very high risk of institutionalization. Ongoing follow-up of this population will help identify the proportion of the patients who are successfully discharged home or to retirement homes and will identify subsets of patients that derive the most benefit from the SSR intervention.

**Poster #** 50

**Title:** OPTIMIZING PATIENT FLOW IN INPATIENT SPINAL CORD REHABILITATION

**Primary Author:** Heather Flett

**Affiliation of Primary Author:** Toronto Rehab

**Additional Authors:** Jennifer Yee; Kristina Guy; Joanne Zee; Anthony Burns

**OBJECTIVES:** To optimize patient flow in spinal cord rehab (SCR) by implementing strategies to reduce length of stay (LOS) and determining barriers to discharge.

**METHODS:** National comparator data (Canadian Institute for Health Information) were used to determine a program LOS target and establish LOS targets for specific spinal cord injury (SCI) Rehabilitation Patient Groups (RPG) based on diagnostic categories (trauma/non-trauma), admission motor Functional Independence Measure (FIM) score, and age. To understand the barriers to discharge, six categories of reasons for extending LOS were defined: (1) Continued need for inpatient SCR; (2) Community services not available; (3) Housing not available; (4) Equipment not obtained; (5) Service interruption due to change in health status; (6) Logistics. When target LOS was exceeded, specific reasons for extending LOS were recorded using these categories. A patient census tool tracked extensions to target LOS and the associated reasons for extension. Outcome metrics included: LOS, FIM change, FIM efficiency, and reasons for extending LOS.

**RESULTS:** 463 individuals were admitted for inpatient rehabilitation from March 1, 2010 to December 31, 2011. Overall program mean LOS was 68.8 days, an 18% reduction compared to the 2009/10 fiscal year. While LOS decreased, absolute FIM change and FIM efficiency increased by 16% and 28% respectively. For all four traumatic SCI RPGs, mean LOS was below target, however, mean LOS exceeded targets for four out of five non-traumatic RPGs. Reasons for extending LOS were recorded from April 1- December 31, 2011. Of the 139 individuals admitted during this timeframe, 50 individuals (36%) had a LOS above target with a total of 94 reasons for extending LOS. The most frequent reasons for extending LOS were: equipment not obtained (31%), continued need for inpatient SCR (27%), service interruption (17%), and discharge housing not available (16%). Individuals with non-traumatic SCI were more likely to have LOS extended particularly due to continued need for inpatient SCR.

**CONCLUSIONS:** The use of benchmarking to establish objective LOS targets and assist decision making has led to improved patient flow and efficiency: reduced program LOS, improved FIM change, and increased FIM efficiency. The systematic collection of data on discharge barriers has provided insight into individual patient needs and underlying system issues, which will inform future program efficiency initiatives.



**Poster #** 51

**Title:** PRESSURE ULCER PREVENTION BEST PRACTICE IMPLEMENTATION IN SPINAL CORD INJURY: THE LONDON EXPERIENCE

**Primary Author:** Stacey Guy

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

**Additional Authors:** Anna Kras-Dupuis; Dalton Wolfe; Jane Hsieh

**PURPOSE:** A community of practice (SCI-KMN) achieved consensus to apply implementation science principles to pressure ulcer risk assessment best practice - utilizing performance measures to evaluate implementation. The aim is to ensure this practice is planned and implemented with fidelity and sustainability. To achieve this, particular attention is paid to the key drivers, including data systems, performance assessment and improvement cycles (PDSA).

**RELEVANCE:** Quality improvement processes based on implementation science principles are necessary within rehabilitation care to facilitate improved patient outcomes.

**METHODS & ANALYSIS:** The site implementation team operationalized comprehensive risk assessment to include the SCIPUS tool, risk factors and an action plan. After establishing a coaching system and staff training, initial implementation began 1 June 2012. Multiple iterations of the tool and process occurred following the principles of PDSA methodology. Data systems were created and rigorous data collection is in place. Evaluation to inform process and practice, consists of a 16 item survey of all inpatient healthcare providers, and analysis of performance data.

**STUDY SAMPLE:** A team of 26 interdisciplinary healthcare providers.

**FINDINGS:** Data is analyzed at group level from first implementation of the practice to 31 October 2012. Rates of adherence to the assessment and reassessment of risk factors and action plans have continually improved throughout the project (up to 86%, and 78% respectively). Twenty-one healthcare providers completed the survey. All respondents understood process expectations; ratings for risk assessment tool ease of use were high (95%); respondents believe their section is completed in a timely fashion most of the time (95%); and 48% believe the tool influences practice. Barriers to carrying out this practice include not meeting a deadline due to a vacation, status of patient's health, and location of the tool.

**DISCUSSION/CONCLUSIONS:** The importance of real time data collection and timely feedback, to inform the improvement cycles should not be underestimated. Early and consistent engagement of the interdisciplinary team in developing both the content and the process for practice implementation has facilitated buy-in and greater adherence. Once appropriate systems are in place and staff follow the established process most of the time with fidelity, full implementation can be achieved.



**Poster #** 52

**Title:** IMPLEMENTING THE SPINAL CORD INJURY PRESSURE ULCER SCALE (SCIPUS) RISK ASSESSMENT SCALE

**Primary Author:** Carol Scovil

**Affiliation of Primary Author:** Toronto Rehab - UHN

**Additional Authors:** Heather Flett; Lan Nguyen; Diane Leber; Jacquie Brown; Anthony Burns

**INTRODUCTION:** Secondary health complications such as Pressure Ulcers (PU) after Spinal Cord Injury (SCI) affect rehabilitation outcomes, and remain a risk for individuals with SCI. We are participating in a 6-centre collaboration focusing on SCI Best Practices Implementation (BPI) to reduce secondary health complications. The first BPI focuses on PU prevention as 70% of pressure ulcers are preventable. Experts from the National Implementation Research Network (NIRN), University of North Carolina, are providing support to increase BPI effectiveness.

**METHODS:** A consensus-based approach was used to prioritize best practice recommendations for PU prevention and management. One practice identified was to conduct a comprehensive PU risk assessment (RA), using a validated RA tool. An existing RA measure, the Braden Scale, is widely used but is not specific to SCI. In contrast, the SCI PU scale (SCIPUS) is SCI specific, but has less-established psychometric properties.

**RESULTS:** Using the principles of implementation science, and support from NIRN, feedback was gathered from front-line staff, and a chart audit done to evaluate current Braden completion rates. The completion rate for the Braden was 29%, and staff perceived it as not specific to SCI population and of questionable utility. Audit results were used to engage and educate stakeholders (leadership and staff) and justify implementing the SCIPUS to replace the Braden. Implementing the SCIPUS required a change in institutional policy, including its ratification as an accepted RA measure, as well as approval of the form itself. In collaboration with other BPI sites, risk factor definitions were clarified and the SCIPUS reformatted. Content was preserved. The changes facilitated ease of completion and accommodated the time required for completion of admission bloodwork. A month of general education in PU prevention and management (to get buy-in and increase overall staff competency) was followed by required, practical SCIPUS training sessions for all nursing staff. SCIPUS “champions” were identified and trained on each unit, and provided ongoing coaching and support for each unit. Feedback and assessment will be facilitated through ongoing chart audits. A concurrent research project is also assessing the psychometric properties of the SCIPUS.

**CONCLUSIONS:** The BPI project provides a framework to effectively implement best practices for PU reduction, and lays the groundwork for future BPI in other areas.



**Poster #** 53

**Title:** BRIDGING THE INFORMATION GAP WITH PATIENT AND FAMILY RESOURCE CENTRES

**Primary Author:** Farrah Schwartz

**Affiliation of Primary Author:** Toronto Rehab, UHN & Department of Physical Therapy, University of Toronto

**Additional Authors:** Sandra Mills; Tory Bowman; Sheila Casemore

**PURPOSE:** Information in rehab helps facilitate recovery & integration back to community living. Healthcare & support services are often fragmented. People may lack information on healthcare & community resources.

**RELEVANCE:** Canadians are increasingly seeking out health information. In 2010, 64% of Canadians went online to find it. People are increasingly responsible for managing their own chronic health conditions and are in need of information & education. At the same time, 60% of Canadians have low health literacy skills which challenge them to find clear and understandable health information. By creating a link between healthcare consumers and trusted, patient-friendly resources, Patient and Family Resource Centres (PFRCs) can help bridge the gap between knowledge needs & information.

**METHODS & ANALYSIS:** Two PFRCs were opened at Toronto Rehab to address the information gap. Spinal Cord Connections (SCC) opened at Lyndhurst Centre in partnership with SCI Ontario in 2009 to provide information on spinal cord injuries. The SunLife PFRC opened in 2012 at University Centre to provide general information on rehab & health.

**INITIATIVE SCOPE:** A 2006 needs assessment among inpatients across Toronto Rehab indicated that many topics were of interest to patients and families, including prognosis, physical abilities, future treatment, research & preparing for home. Hospital staff was ranked as the most frequently used information source information. However, when patients are discharged from hospital, patients and families do not have ready access to health care providers. PFRCs can address these gaps.

**FINDINGS:** Both PFRCs continue to broaden their outreach to patients & families. Since opening in June, the SunLife PFRC has had 127 information requests and 430 visits. The SCC PFRC has had 1136 information requests since opening in April 2011. Both PFRCs provided 1771 service hours combined to consumers between April-November 2012.

**DISCUSSION:** PFRCs have increased access to user-centred information for patients & families at Toronto Rehab. People in the GTA can visit the PFRCs in person & anyone can phone or email information requests. People working in the rehab sector in Toronto & beyond can access services for reliable, user-friendly information. There are additional opportunities to increase community awareness of support from the PFRCs and to increase the networks of community partners so that we can refer to services available across Toronto & ON.



**Poster #** 54

**Title:** FACILITATING RETURN TO WORK AFTER STROKE: CREATION OF A WEB-BASED TOOLKIT

**Primary Author:** Paula Gilmore

**Affiliation of Primary Author:** Southwestern Ontario Stroke Network, London Health Sciences Centre

**Additional Authors:** John Barry; Jeff Blanchard; Shannon Howson; Martha Scott

**PURPOSE:** A web-based toolkit has been developed to assist stroke survivors, loved ones and health care professionals navigate the process of return to work after stroke.

**RELEVANCE:** 26% of stroke survivors are between the ages of 45-65 and in the prime of their working life however return to work rates after stroke are as low as 7%. The Southwestern Ontario Stroke Network completed forums with stroke survivors, their loved ones and community service providers to determine barriers to living fully after stroke. A priority identified in the forums was the need for return to work services. Stroke survivors and health care professionals need resources to help navigate the process of return to work.

**METHODS:** A working group of experts in vocational rehabilitation and stroke care, as well as stroke survivors, developed a web-based toolkit of resources to educate and navigate the complex system of return to work. An informal needs assessment was completed; consulting both stroke survivors and health care professionals to determine what resources might be useful. The resources have undergone an external review by health care professionals and stroke survivors.

**INITIATIVE SCOPE:** The target audience for the web-based toolkit is stroke survivors, loved ones and health care professionals, as well as anyone with a chronic disease wanting to explore return to work.

**FINDINGS:** A web-based toolkit has been developed as a self-management tool navigating users to resources based on their situation. Resources developed and integrated into the website include: a self assessment guide which focuses an individual's recovery efforts and informs him/her about their current ability to return to work, lists of organizations that provide return to work services, a document outlining government financial supports, a guide outlining questions to ask employers and insurers, a volunteering information pamphlet, and a literature review.

**DISCUSSION:** Return to work is often neglected in stroke survivors' rehabilitation even though employment is an important social role and not working has negative impacts on one's overall quality of life, health, finances, social isolation and self-efficacy. Stroke survivors should be empowered to evaluate their potential of returning to work and receive support from knowledgeable professionals.

**CONCLUSIONS:** This web-based toolkit will support stroke survivors and their health care professionals navigate the complex system of return to work.



**Poster #** 55  
**Title:** CURRENT STATE OF COMMUNITY STROKE RESOURCES IN ONTARIO  
**Primary Author:** Mark Bayley  
**Affiliation of Primary Author:** Toronto Rehabilitation Institute  
**Additional Authors:** Jill Cameron; Maria Huigbregts; Aura Kagan; Nancy Salbach; Robert Teasell; Anja Kovacevic; Olga Yaroslavtseva

**BACKGROUND:** Persons with stroke live on average 7 years after a stroke. These individuals have chronic health issues that could be ameliorated if they participate in community activities. Yet, community based resources for persons with stroke are limited.

**OBJECTIVES:** The objective of this project is to evaluate the extent to which currently available community stroke support programs follow evidence-based practices and are accessible to the residences of stroke survivors and identify barriers to best practice implementation.

**METHOD:** Program visibility was evaluated by assessing the programs marketing strategies, a survey of their outreach efforts, the referral process and recruitment materials. Program accessibility was evaluated by looking at the infrastructure necessary to enable people to attend the program. A Likert scale was used to rate the barriers to participation. Adherence to evidence based best practices was assessed during the course of the interview. Maps of stroke incidence and prevalence were created using data collected by ICES.

**RESULTS:** The project identified the neighbourhoods within each of the municipalities that have the highest prevalence of stroke survivors and examined the extent to which existing stroke resources are located in areas of highest stroke survivor prevalence. The project evaluated the visibility and accessibility of available community stroke resources and identified factors facilitating and impeding the implementation of best practices. The project assessed internal and external barriers to participation as well as successful strategies enabling stroke survivors and their caregivers to access the available resources.

**CONCLUSION:** The data suggest that many of the existing community programs have limited resources and do not always follow the evidence that exists for supporting individuals in the community. The program location does not always coincide with the areas of highest incidence and prevalence of stroke. Recommendations were made for improving the accessibility of the existing stroke community resources and best practice implementations.



**Poster #** 56

**Title:** THERAPY INTENSITY: THE EVIDENCE BEHIND THE ‘THREE HOURS OF THERAPY’ RECOMMENDATION FOR STROKE REHABILITATION

**Primary Author:** Deborah Willems

**Affiliation of Primary Author:** Southwestern Ontario Stroke Network

**Additional Authors:** Rebecca Fleck

**PURPOSE:** To present the evidence behind the ‘three hours of therapy’ recommendation for stroke rehabilitation; why is it a recommendation, and what does it mean for rehabilitation care providers?

**RELEVANCE:** The Canadian Best Practice Recommendations for Stroke Care (CBPRSC), recommendation 5.3.ii reads “Stroke patients should receive, through an individualized treatment plan, a minimum of three hours of direct task-specific therapy by the interprofessional stroke team for a minimum of five days per week” . As the Ontario Stroke Network and the Ministry of Health work together to embed this recommendation into Quality Based Funding for 2013, many facilities are interested in this recommendation, how it will be measured, and what it will mean for their organizations.

**METHODS & ANALYSIS:** A review of the literature contributing to the best practice recommendation for stroke rehabilitation (using the search terms therapy, duration, frequency and intensity) in MEDLINE and CINAHL was conducted. Furthermore, evaluations completed in US centres, which currently require three hours of therapy for stroke rehabilitation, are included.

**INITIATIVE SCOPE:** Canadian and international studies evaluating inpatient stroke rehabilitation intensity as it relates to outcomes.

**FINDINGS:** There is strong evidence of a dose-response relationship between therapy intensity, functional recovery and discharge to the community. There is evidence to indicate that patients who received total therapy times less than 3 hours per day had significantly lower total functional gains than those treated for greater than 3 hours per day; and that the core therapies of Physiotherapy, Occupational Therapy and Speech Language Pathology have been shown to be most sensitive to intensity.

**DISCUSSION:** Awareness of the evidence behind the ‘three hours of therapy’ recommendation for stroke rehabilitation will assist organizations to better understand therapy intensity and what impact it can have on patient outcomes and length of stay. This will be important as the province of Ontario moves towards Quality Based Funding for stroke care in 2013.

**CONCLUSIONS:** Implementation of CBPRSC 5.3.ii has the potential to make our health care system more effective and efficient. More importantly, for persons with stroke, the evidence indicates greater recovery and a greater probability of returning home.

**Poster #** 57

**Title:** FACILITATING A VIRTUAL WORKSHOP TO LEARN ABOUT GRASP: GRADED REPETITIVE ARM AND HAND SUPPLEMENTARY PROGRAM

**Primary Author:** Susan Bursey

**Affiliation of Primary Author:** NEO Stroke Network

**Additional Authors:** Pan Mancuso; Lorraine Durepos; Shelley Hawton

**BACKGROUND:** Travelling to large centres for continuing education workshops is expensive, time-consuming, weather dependent and logistically challenging for many therapists in our region. Videoconferencing technology enables time-strapped and under-resourced therapists/support staff to learn together from the comfort of a meeting room and click of a remote control. The 2010 Canadian Best Practice Recommendations for Stroke Care states: Therapists should provide a graded repetitive arm supplementary program for patients to increase activity on ward and at home (Early Level A; Late Level C). Education on the GRASP protocol had not been offered in our region to therapists working in stroke care.

**METHODS:** 16 sites participated in a two hour workshop presented by J.Harris, McMaster University, Hamilton, ON, a developer of the GRASP Program. GRASP kits with guides/manuals were assembled and shipped to each site prior to the workshop. First hour of the workshop oriented participants to the research behind GRASP, levels in the program and specific exercises. Second hour discussed potential barriers to implementation, success stories, and a question/answer period.

**RESULTS:** 86 Physiotherapists, Occupational Therapists and Rehabilitation Assistants participated. 60 participants (70%) returned evaluation surveys following the workshop. All respondents reported videoconference format was an effective way to facilitate awareness and understanding of the GRASP program. All indicated they will attempt to implement GRASP at their organizations. Barriers identified included therapists' lack of time; concerns re: infection control of kits; client motivation and cost to create more kits. A follow-up survey at 6 months showed that nearly all respondents saw continued use of GRASP in their facility.

**CONCLUSIONS:** GRASP was successfully introduced to our region through the use of a virtual workshop. The provision of kits, with manuals/guides, sent to participants in advance, was a key enabler to facilitate implementation of this best practice intervention. Next steps by the NEO Stroke Network will include ongoing management of and/or support for the identified barriers; continued promotion of the use of this post-stroke treatment to increase intensity of therapy and functional outcome; and finally, the commitment to keep therapists connected with new resources for GRASP (upcoming training videos ; French language manuals/exercise guides).