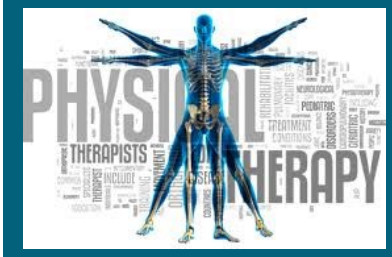

Physiotherapy

Professional Practice Leader (Charlton, West 5th):
Beverley Cole PT, BScPT, MSc, MBA

Number of Members of Discipline

Physiotherapists:	Charlton	26.1 FTE
	West 5th	1.0 FTE
Physiotherapy Assistants:	Charlton	9.6 FTE
	West 5th	1.0 FTE

Scope of Practice:

The practice of physiotherapy is the assessment of neuromuscular, musculoskeletal and cardio respiratory systems, the diagnosis of diseases or disorders associated with physical dysfunction, injury or pain and the treatment, rehabilitation and prevention or relief of physical dysfunction, injury or pain to develop, maintain, rehabilitate or augment function and promote mobility.

Clinical Practice Achievements

Quality & Safety

- Created, reviewed and updated assessment and treatment forms that have been approved through the corporate forms committee.
- Actively involved in falls prevention education and debriefing on various units including rehab, nephrology and medicine.
- Continued to review roles & skill mix with all PTs and PTAs attending a College of Physiotherapists Webinar on PTs and PTAs working together.
- Physiotherapy staff has provided in-services to staff on safe lifting, transfer and mobilization techniques.
- Reviewed processes to support and encourage department staff to attend and participate in Unit Safety Huddles.
- The PT Audit committee continues yearly audits to ensure that documentation standards are being met. Reflective practice audits and Transfer of Accountability is completed by the Physiotherapists and the Rehabilitation Assistants.
- Monthly Safety checks are performed in all areas as well as regular inventory checks.
- Physiotherapy staff is active members on all quality councils across the organization.
- Actively involved in patient communication board sustainability projects to promote ongoing use of patient communication boards in order to improve patient engagement.
- Created a mobility algorithm to enhance quality of care provided to respiratory patients on weekends
- Working collaboratively with the Thoracics team to create videos for a post-operative app that patients can access at home.

Change

- In response to the Stroke Network provincial initiative, the physiotherapy department has implemented the process for tracking Rehab Stroke Therapy Intensity. The physiotherapy department continues to participate in education forums aimed at maximizing the therapy intensity received by patients with stroke.
- Transition to targeted 2 day LOS for elective TJR patients. From Oct to Dec 2015, 67% of patients were discharged on or before POD2 and 84% on or before POD3. 3% of patients were transferred to in- patient Rehab.
- With the restructuring of units on the 7th floor of Mary Grace, consistency and quality of care was maintained as 13 Urology Beds were moved.
- The Day Therapy program amalgamated with the Chronic Disease management program as a strategy to help reduce wait times and improve efficiency.
- Staff positions in ICU and medicine have been reallocated to improve coverage across areas, enhance patient care and improve efficiency.

Community

- For National Physiotherapy Month, the department presented, in conjunction with McMaster University Physical Medicine and Rehabilitation Grand Rounds, Bronze Medal Paralympians at the Sochi Games 2014. Brad Bowden and Adam Dixon spoke about their road to becoming Elite Athletes.
- The physiotherapists working in respiratory areas helped re-develop the Unit 3 (cardiorespiratory) curriculum of the McMaster University Physiotherapy program.
- The Physiotherapy Department maintains strong links with the ICC program. The Physiotherapists met in the fall to establish consistent exercise sheets to be used for the total joint patients' home programs.
- M McCaughan continues to be the Hamilton District Ontario Physiotherapy Association President. In her role she networks with PTs throughout the district and Ontario – sharing information, presentation ideas, presentor information. This has also been a great opportunity to share information about the research going on in PT at St. Joseph's Healthcare – including the CYCLE project. This project was highlighted in March 2015 at OPA InterACTION and was recently highlighted in Physiotherapy Today – leading to phone calls from PTs from different provinces asking about more information.

Interconnection

- Weekend coverage teams have been revised to accommodate coverage for the SMART initiative
- MSK and Rehabilitation teams continue to collaborate on the Fractured Hip Initiative to try to ensure QBP standards are being met and the patients are transitioning appropriately from acute care to the next level of care.
- The physiotherapy department maintains strong links with the CCAC and other community partners to facilitate safe discharges and seamless transitions to the community
- Stroke Inservice – working on with SLP/OT to present to new Medical Residents
- During National Physiotherapy Month host an inter professional Pot Luck Lunch and education session

Academic Pursuits

Internal Teaching

- Resident orientation in ICU and medicine to the role of physiotherapy on these unitsIn-bed cycling Introduction in the ICU
- Outcome measures in the CYCLE Pilot RCT
- Orientation off new staff (including RNs, RPNs, PSWs, students from all disciplines, new grads) on all units across the organization to the role of physiotherapy and importance of mobility and mobilization techniques.
- Physiotherapists present the topic of mobility and mobilization techniques for Volunteer Services orientation as well as SAVE volunteer orientation approximately three times per year or as needed
- Physiotherapy staff support "Bring Your Kids to Work Day" by providing interactive sessions for the students in the Physiotherapy department and on Rehabilitation Units
- Physiotherapy staff provide job shadowing experiences to co-op students on all units
- Participated in the Celebrate Research Event at St. Joe's
- Concurrent Disorders biweekly Pain Management Group
- Cycling video (involved in filming) from Paris to Ancaster Bike Race
- Falls Prevention Education sessions– for all staff and patients on various units
- GPA Session Recharge – Allied Health
- GPA teaching St. Joseph's Homecare – PSW's
- Hip & Knee Pre-op Class – weekly
- Injury Prevention for Cool Runnings – Forensic running group
- Injury Prevention for Team Un Breakable (adult and youth groups) – outpatient mood disorders
- Injury Prevention for Urban Poling Group – outpatient mood disorders
- IPE – Inter professional Educational Facilitator for the School of Medicine and School of Rehabilitation Science at McMaster University
- McMaster Occupational Therapy Students – General Orientation & Education of OTA Role
- Move On – education of Staff & Volunteers
- Orientation – to new students Physio/ OTP/PTA
- Orientation to new staff in the department
- Poster Presentation – on Rehab Falls Prevention program at Hamilton Falls Prevention Symposium
- Pre-op Hip & Knee Classes
- Schizophrenia Units – different topics related to fitness/exercise

Clinical Teaching:

- The Physiotherapy Department supervised 35 McMaster University MSc PT students from Units 1 through 6. In addition we were clinical preceptors for 4 Physiotherapy Assistant students from Mohawk College and 1 from Niagara College.
- The Physiotherapy department strives to create a learning environment for each student that both challenges the student as well as helps them experience a variety of different clinical situations.

Formal Teaching

- Canadian Integrated Movement Behaviour Guidelines for Children and Youth Development and Consensus Meeting – Methodological Consulting
- CYCLE Pilot RCT – In-bed cycling teaching and outcome measure training – London Health Sciences Hospital, Hamilton General, The Juravinksi Hospital, St. Michael's Hospital Toronto, Ottawa General Hospital and Toronto General
- Invited Lecture – Technology Evaluation in the Elderly Network Conference – E-CYCLE – A pilot RCT of early in-bed cycling in mechanically ventilated patients
- Johns Hopkins University, Department of Physical Medicine and Rehabilitation – Adjunct Assistant Professor, Part-time
- McMaster University, School of Rehabilitation Science – Assistant Clinical Professors (adjunct) , Assistant Professor, Associate Clinical Professor , Clinical Instructors
- McMaster University, School of Rehabilitation Science Problem Based Learning Tutors, Clinical Skills Lab Tutors, Inter professional Education Tutors, OSCE Evaluators, Admission Interviewers

Scholarly Pursuits

Research

- The Physiotherapists on MSK are currently involved in a study assessing the benefits of Fascia-iliaca Nerve blocks for THR patients. The Physio role is to assess mobility POD 0 and POD1 and report results (distance and limiting factors) to the study nurse.
- The Incentive Spirometry study on Thoracics is led by Dr. Hanna – we are in the middle of the project at this time.
- Respiratory Weekend – addition of a Mobility Algorithm. We are ending data collection at the end of March 2016. Preliminary data shows that it is feasible to add mobility when it is specifically targeting respiratory improvement.
- Arm cycling training with St. Joseph's Healthcare PTs March 26 2015
- Completed Juravinski and General ICU bike install meetings (Jan 13/14, 2015; March 26/27, 2015)
- Abstract presented at 2015 Ontario Physiotherapy Association Meeting – TryCYCLE: The First Session of early in-bed cycling in mechanically ventilated patients. Authors: **Magda McCaughan MSc (PT), Alexander Molloy BSc, Daana Ajami MSc (PT), Laura Camposilvan BSc, Christina Murphy MSc (PT)**, France Clarke RRT, Melissa Shears, Deborah Cook MD, MSc, Michelle Kho PT, PhD
- Opened enrollment to CYCLE Pilot RCT at St Joseph's Healthcare, March 9 ,2015
- Recruitment presentation/meeting for CYCLE pilot RCT with St. Joseph's Healthcare PTs, March 5, 2015
- Abstract presented at 2015 Society of Critical Care Medicine meeting – TryCYCLE: Preliminary results of early in-bed cycling with mechanically ventilated patients Authors: **Michelle E Kho, Alexander J Molloy, Magda McCaughan, Daana Ajami, Christina Murphy, Laura Camposilvan,** France Clarke, and Deborah Cook

Students supported in Research

Meghan Barker, Jennifer Noad, and Theodora Nasopoulos.

- Supervisors: **Vince DePaul**, Kara Patterson (U of T) Knowledge, practices and perceptions of Canadian physiotherapists regarding the application of motor learning principles in neurorehabilitation – a survey study

Kate Benson, Alexandra Shimmell and Devonna Truong

- Supervisors: **Magen Dunkley, Vince DePaul**. Exploring the content and stability of mobility-related goals identified by older adult inpatients on a rehabilitation unit: a pilot study

Research Funding

- 2013 – 2016 (funded)

  Hamilton Health Sciences Research Strategic Initiatives

  Amount: $127 378.00

  Project: "Reducing the Burden of Stroke Research Program - Grant - Operating"

  Principal Investigators: Hart R

  Co-investigators: Healey J; Bosch J, Leong D; Pare D; Dokainish H; Pogue J; **DePaul VG**; Wishart L; Ferguson M; O'Donnell M; Sharma M; Connolly S; Nesathurai S; Oczkowski W

  Description: An interdisciplinary research program exploring activity- based stroke rehabilitation interventions as well as stroke prevention interventions.

  Status: Data collection completed. Analysis and write up in progress.

- 2015 (submitted)

  St. Joseph's Healthcare Hamilton, Professional Advisory Committee 2015

  2016 Allied Health Professional Research Award

  TITLE: Use of near-field communication and smart phone technology to quantify therapist-patient interactions in an inpatient environment: a pilot study

  Vince DePaul Co-principal Investigator with **Bashir Versi**. Acting as a Research Mentor to Mr. Bashir Versi, MSc PT Amount requested: $ 9031.25 Grant period: 1 year Status: in review

- **Kho ME**, Costigan FA. I SURVIVE: Validation of Key Physical Functional Outcome Measures in ICU Survivors Across the Recovery Trajectory. Interprofessional Research Award Program. St. Joseph's Healthcare, Hamilton, ON. $10,000.

Publications

Published Papers:

- Burns KEA, **Kho ME**. How to read and review a survey: a guide for readers and peer reviewers. Canadian Medical Association Journal. Published online February 17, 2015. doi: 10.1503/cmaj. 140545. PubMed PMID:25691790.

- Truong AD*, **Kho ME***, Brower RG, Feldman DR, Colantuoni E. Needham DM. Effects of Neuromuscular Electrical Stimulation (NMES) on Cytokines in Peripheral Blood for Healthy Participants: A prospective. Single-Binded Study. Submitted to: Clinical Physiology and Functional Imaging. *=co-first authors

- **Kho ME** Section Editor, Current Physical Medicine and Rehabilitation Reports. Outcome Measurement in Rehabilitation. Volume 3, Issue 4 (September 2015)

- Karen EA Burns, Jessica TY Wong, Leena Rizvi, Lori Hand, Deborah J Cook, Peter Dodek, Sangeeta Mehta, **Michelle E Kho**, Francois Lamontagne, Jan O Friedrich, Andrew J Seely, Laurent Brochard, Eddy Fan, Christine Leger, Fatma Rajwani, Julia Lee, Kevin Thorpe and Maureen O Meade. Parallel Pilot Trials of Screening Frequency for Liberation from Mechanical Ventilation the RELEASE Trial and SENIOR Trial Protocols. J Clin Trials 2015, 5:4.

- Richardson J, **DePaul V**, Officer A, Wilkins S, Letts L, Bosch J, Wishart L. Development and evaluation of Self-management and Task-oriented Approach to Rehabilitation Training (START) in the home: Case report. Phys Ther 2015;95:934-943. doi: 10.2522/ptj.20130617.

Submitted Papers:

- Unger J, **McCaugan M, Molloy AJ, Cole B, Kho ME**. Technology in Rehabilitation: In-bed cycling as a tool for rehabilitation in the intensive care unit. Physiotherapy Practice. 2016. In press.

- Chaput, Jean-Philippe; Poitras, Veronica; Gray, Casey; Carson, Valerie; Gruber, Reut; Olds, Timothy; Weiss, Shelly; Connor Gorber, Sarah; **Kho, Michelle**; Sampson, Margaret; Belanger, Kevin; Eryuzlu, Sheniz; Callender, Laura; Tremblay, Mark. Systematic review of the relationships between sleep duration and health indicators in school-aged children and youth. Submitted to Applied Physiology, Nutrition, and Metabolism. Manuscript ID: apnm-2015-0627.

- Saunders, Travis; Gray, Casey; Poitras, Veronica; Chaput, Jean-Philippe; Janssen, Ian; Katzmarzyk, Peter; Olds, Timothy; Connor Gorber, Sarah; **Kho, Michelle**; Sampson, Margaret; Tremblay, Mark; Carson, Valerie. Combinations of physical activity, sedentary behavior and sleep: relationships with health indicators in school-aged children and youth. Submitted to Applied Physiology, Nutrition, and Metabolism. Manuscript ID: apnm-2015-0626

- Carson, Valerie; Hunter, Stephen; Kuzik, Nicholas; Gray, Casey; Poitras, Veronica; Chaput, Jean-Philippe; Saunders, Travis; Katzmarzyk, Peter; Okely, Tony; Connor Gorber, Sarah; **Kho, Michelle**; Sampson, Margaret; Lee, Helena; Tremblay, Mark. Systematic review of sedentary behavior and health indicators in school-aged children and youth: an update. Submitted to Applied Physiology, Nutrition, and Metabolism. Manuscript ID: apnm-2015-0630

- Poitras, Veronica; Gray, Casey; Borghese, Michael; Carson, Valerie; Chaput, Jean-Philippe; Janssen, Ian; Katzmarzyk, Peter; Pate, Russell R.; Connor Gorber, Sarah; **Kho**, **Michelle**; Sampson, Margaret; Tremblay, Mark. Systematic review of the relationships between objectively-measured physical activity and health indicators in school-aged children and youth. Submitted to Applied Physiology, Nutrition, and Metabolism. Manuscript ID: apnm-2015-0663
- **Michelle E Kho, Alexander J Molloy, France Clarke, Daana Ajami, Magda McCaughan, Kristy Obrovac, Christina Murphy, Laura Camposilvan**, Margaret S Herridge, Karen KY Koo, Jill Rudkowski, Andrew JE Seeley, Jennifer M Zanni, Marina Mourtzakis, Thomas Piraino, Deborah J Cook and the Canadian Critical Care Trials Group. TryCYCLE: A prospective study of the safety and feasibility of early in-bed cycling in mechanically ventilated patients. Submitted to Chest. Manuscript ID: CHEST-15-2541. Minor revisions submitted December 11, 2015
- Doehring KA, Dorno S, Pakenham C, **Versi B, DePaul VG**. Knowledge, attitudes, and current practices of Canadian physiotherapists in the management and prevention of diabetes Physiotherapy Canada - Accepted ID: 3514
- Levac D, Glegg SMN, Sveistrup H, Colquhoun H, Miller P, Finestone H, **DePaul V,** Harris J, Velikonja D. Promoting therapists' use of motor learning strategies within virtual reality-based stroke rehabilitation Submitted to: Disability and Rehabilitation: Assistive Technology In review
- Levac D, Glegg SMN, Sveistrup H, Colquhoun H, Miller P, Finestone H, **DePaul V,** Harris J, Velikonja D. A knowledge translation intervention to enhance clinical application of a virtual reality system in stroke rehabilitation Submitted to: BMC Health Services Research November 2015 Resubmitted to: PLOS ONE January 2016
- **Michelle E Kho**, **Alexander J Molloy**, France Clarke**, Daana Ajami, Magda McCaughan**, **Kristy Obrovac, Christina Murphy, Laura Camposilvan**, Margaret S Herridge, Karen KY Koo, Jill Rudkowski Andrew JE Seely Jennifer M Zanni, Marina Mourtzakis, Thomas Piraino, Deborah J Cook, and the Canadian Critical Care Trials
- Group. TryCYCLE: A prospective study of the safety and feasibility of early in-bed cycling in mechanically ventilated patients. Submitted to Chest. Manuscript ID: CHEST-15-2541. Minor revisions submitted December 11, 2015.

Continuing Education:

- 3rd International Conference on Alzheimer's Disease & Dementia – speaker
- CBT Certification in Treatment of Anxiety & Depression
- Exploring the COPD Quality-Based Procedures Clinical Pathway – Clinical Education Session
- IDEAS Advanced Quality Improvement Project Submission
- Inter professional Care of Critically Ill Adults – from ICU to Community (Lecturer & Organizing Committee)
- Introductory Project Management Course , McMaster University
- Introductory Quality Improvement Program
- McMaster Pain Management Program
- Mental Health First Aid
- Shoulder Complex Part 1 & 2

Leadership

- President of the Hamilton District Ontario Physiotherapy Association
- M Kho and M McCaughan developed a new emerging role placement– a scientist-clinician role.
- This year the Respiratory Physiotherapy Team made an exceptional effort and helped rewrite McMaster University's Unit 3 Physiotherapy program (cardiorespiratory) as well as assisting in the majority of the Labs related to Cardiorespiratory Function. The physiotherapy staff working in respiratory areas won the PAC Team Leadership Award.
- The physiotherapy department is committed to helping students be the best they can be in a critical and highly acute environment. Placements on acute and critical care units that are offered are very challenging and so the team works closely with the school ensuring that students meet the standards that are expected in such an environment. Students are offered training in manual physiotherapy techniques, an opportunity to meet surgical patients pre-operatively, observe surgeries and follow the patient post-operatively as well. The team has also worked very closely with the McMaster University Physiotherapy Program giving feedback and recommendations for program improvement especially in a clinical setting. This past year, the team had an opportunity to work directly with the McMaster Physiotherapy program to re-develop the Cardiorespiratory Clinical Labs.
- A physiotherapist provides leadership and acts as resources on the Corporate Falls Committee
- Physiotherapy staff led the Falls tracking & debriefing on the Nephrology Unit.
- Physiotherapy staff is leaders in mobility and have designed and presented many in-services on lifting, transferring and mobility techniques for all staff, volunteers and new grads across the organization.

External Committees

- Members of the Rehabilitative Care Alliance for System Evaluation task and Advisory Groups, QBP Hip Fracture Task Group, QBP Total Joint Replacement Task group
- Regional Rehabilitation Network
- The Assess and Restore Working group.
- Hospital Liaison for the Ontario Physiotherapy Association's (OPA) Hospital Advisory Committee
- Examiners for the Canadian Alliance of PT regulators
- Auditors for the Ontario College of Physiotherapists
- 2015 Canadian Institutes of Health Research Knowledge Synthesis Competition, Phase 1 Grant Reviewer
- CPA Acupuncture Division: Research and Education Rep, Executive
- Advisory Board Member for APAPT-M Study
- Archives of Physical Med & Rehab – Peer Review of Manuscript & paper
- College of Physiotherapists of Ontario – Partners Network
- College of Physiotherapists – Quality Management Program assessor
- Hamilton District OPA Education Committee – member
- LHIP PT Leaders Group
- Ontario Respiratory Care Society – member
- OPA Hamilton District – Education Committee – President, secretary, treasurer, member
- Saint Elizabeth Rehab – Stand Up! Coordinator & instructor

External Presentations

- Ontario Physiotherapy Association InterACTION – poster presentation on TryCYCLE: the first session.
- American Critical Care Society Conference – poster presentation on TryCYCLE: feasibility and safety.
- **DePaul VG**, Chow F, Thomas K, Chan P, Azuma L, Poon V, Mansfield A, Patterson KK. Self-assessment of gait symmetry in individuals with unilateral stroke: A pilot study. P1-R-94. World Congress of the International Society of Posture and Gait, Seville, Spain, Jun 28 - Jul 2, 2015.
- **DePaul VG**, Campos C, Sivakumaran S, Knorr S, Mansfield A, Patterson KK. Validation of Actigraph GT3X activity monitor in individuals with recent stroke. P1-A-2. World Congress of the International Society of Posture and Gait, Seville, Spain, Jun 28 - Jul 2, 2015.
- **Kho, M**. ICU Rehab – Timing it Right. Critical Care Canada Forum. Toronto, ON.
- **Kho, M** .Rehab in the ICU. Critical Care Department Rounds. St. Michael's Hospital. Toronto, ON

Discipline Goals 2016

Quality & Safety

- To complete falls debriefing tools on our patients who have had falls within 48 hours of the incident
- To attend safety huddles on all units where possible
- Continue to meet fractured hip QBP standards including the mobility 7days a week and timely transfer to Rehab.
- Continue to clearly define hip restrictions or no hip restrictions on the hemi-arthroplasty and the anterior approach total hip arthroplasty patients. To review process and protocols with surgeons and residents to establish consistency on the digital order sets.

Change

- To align the organization of the GIM physiotherapy staff with the new structure of GIM to improve efficiency of care and improve communication between all staff by the end of 2016
- To integrate the role of physiotherapy on 7 Mary Grace as Urology and MSK amalgamate

Community

- To continue to be involved with the McMaster University Physiotherapy program by offering student placements, participating in clinical labs and problem based tutorials as well as OSCEs .

Interconnection

- To continue the fractured hip collaboration between 7 Mary Grace and 8 Rehab to ensure timely and safe transfer of appropriate patients to the Rehab Unit as a "Hip Pull". To support the use of the medical check list.

Research & Education

- To complete enrolment in the 60 patient, 7-centre CYCLE Pilot RCT
- To participate in a pilot study of a tailored home balance exercise program for reducing falls in older adults with COPD