Kia ora

2017 was a successful year for our research centre, CHARR. We have highlighted some of those successes below, and hope you enjoy reading about them.

We were awarded our highest monetary value in research grants to date, over $2.5 million in funding support. In a signal of the importance of collaboration, many of these grants are with other Departments and Schools around the University, and in many cases with other Universities here in New Zealand and overseas. Regardless of the size of the funding received, these awards all contribute towards the growing profile of CHARR as a preeminent research Centre for Physiotherapy.

Our publication record continues to be not only impressive in quantity but also in quality with many staff publishing in leading rehabilitation journals. A review of the last 10 years of publication data showed 2017 to be our highest number of publications to date within 12 months (161).

Members of our team were recognized for their contributions to research. Notably, David Baxter was awarded the prestigious Inaugural Chaffer Medal from the Division for Health Sciences, University of Otago. The Chaffer Medical is a new annual award offered for the first time in 2017 by the Otago Postgraduate Medical Society for distinguished performance in health research. This is an impressive achievement, and we are very proud of Dave.

Our postgraduate programmes continues to be a vital part of CHARR and we were pleased to welcome four new PhD and Masters by Research candidates from New Zealand and around the world. Finally, we congratulate three of our PhD candidates, Lizhou Liu, Leon Mabire, and Aleksandra Macznik, who graduated in 2017.

If you would like any further information on any of our research, contact: physio.research@otago.ac.nz

Leigh Hale
Professor and Director, Centre for Health, Activity, and Rehabilitation Research

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Funding awards 2017

In 2017 CHARR staff, graduate and undergraduate students received a total of 25 grants as Primary Investigators, totalling over $2.5 million. Staff were also successful as co-investigators on a large number of grants.

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Title</th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Baxter (PI), Poonam Mehta, Ram Mani, Cath Smith</td>
<td>Ageing well with Chronic Pain</td>
<td>Lottery Health Research</td>
</tr>
<tr>
<td>David Baxter (Lead Mentor), Tobias Hoeta (Student), Ram Mani, Katrina Bryant</td>
<td>Evidence for pain assessment tools sensitive for Māori - a systematic review of literature</td>
<td>HRC Māori Summer studentship</td>
</tr>
<tr>
<td>David Baxter (Director)</td>
<td>Men’s Health</td>
<td>Men’s Health Priming Partnership</td>
</tr>
<tr>
<td>Lynne Clay (PI), Megan Webb (Student)</td>
<td>Physical activity and stroke</td>
<td>OMRF Summer Studentship</td>
</tr>
<tr>
<td>Hemakumar Devan (PI), Meredith Perry, Leigh Hale</td>
<td>Healthcare providers' attitudes towards recommending online pain self-management resources for people with persistent pain: a mixed method study</td>
<td>NZ Pain Society Cynthia Miller Research Grant</td>
</tr>
<tr>
<td>Hemakumar Devan (PI), Rebecca Grainger</td>
<td>Self-management apps for people with persistent pain: A systematic review</td>
<td>Arthritis New Zealand Summer Scholarship Research Grant</td>
</tr>
<tr>
<td>Hemakumar Devan (PI)</td>
<td>Conjoint Australia/New Zealand ASM in Sydney</td>
<td>NZ Pain Society Travel Grant</td>
</tr>
<tr>
<td>Dora Gosselin (PI, PhD candidate)</td>
<td>The impact of unpredictability on gait biomechanics and mobility based participation in children with cerebral palsy</td>
<td>Academy of Paediatric Physical Therapy grant</td>
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<tr>
<td>Name</td>
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<td>Abstract</td>
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<tr>
<td>Dora Gosselin (PI, PhD candidate)</td>
<td>Gait in Children with Cerebral Palsy: Differences in initiation, termination and change of direction</td>
<td>HPU RASP Quest Grant</td>
</tr>
<tr>
<td>Dora Gosselin (PI, PhD candidate)</td>
<td>Relationship Between Selective Voluntary Motor Control and the Ability to Respond to Unpredictability During Gait in Children with Cerebral Palsy: Influences on activity and participation</td>
<td>Neurodevelopmental Treatment Association Mini-Grant</td>
</tr>
<tr>
<td>Leigh Hale (PI), Chris Higgs, Ram Mani, Prasath Jayakaran, Jim Mann, Tim Stokes, Trudy Sullivan, Fiona Doolan-Noble, Andrew Gray</td>
<td>Community exercise for long-term management of diabetes and multimorbidity</td>
<td>HRC Project, Health Delivery Stream</td>
</tr>
<tr>
<td>Leigh Hale (Lead Mentor), Louise Jansen (Student), Chris Higgs, Prasath Jayakaran, Rose Richards</td>
<td>Acceptability for the treadmill 6 minute walk test for pacific peoples</td>
<td>HRC Pacific Summer studentship</td>
</tr>
<tr>
<td>Leigh Hale (PI), Lynne Clay, William Levack, Denise Taylor</td>
<td>Implementing and evaluating the Bridges Stroke Self-Management Programme into South Canterbury District Health Board stroke services: a case study</td>
<td>PNZ</td>
</tr>
<tr>
<td>Leigh Hale (PI), Divya Adhia</td>
<td>Continuous feedback model: a new model of paper evaluation that enables students as partners in curricular development</td>
<td>CALT</td>
</tr>
<tr>
<td>Claire Hargest (PI), Lynne Clay</td>
<td>A pedometer based walking programme for people with stroke: a feasibility study</td>
<td>Neuro Special Interest Group</td>
</tr>
<tr>
<td>Ewan Kennedy (PI), Maree Steel, Don Wilson, Louise Beckingsdale</td>
<td>INTERact: Embedding inter-professional education in student clinical placements</td>
<td>IPE grant</td>
</tr>
<tr>
<td>Ram Mani (PI), Dirk de Ridder</td>
<td>Central pain mechanisms in middle-aged and older adults with arthritis.</td>
<td>UORG</td>
</tr>
<tr>
<td>Steve Tumilty, David Baxter</td>
<td>Uptake and use of non-invasive ventilation in people with neuromuscular disorders: Users and caregivers’ experiences.</td>
<td>UORG</td>
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<tr>
<td>Meredith Perry (PI), Hemakumar Devan, Bernadette Jones, Tristram Ingram, Alister Neill</td>
<td>How children with disabilities perceive accessing and using parks and playgrounds?</td>
<td>Porirua City Council</td>
</tr>
<tr>
<td>Daniel Ribeiro (PI), Gisela Sole, Haxby Abbott</td>
<td>The effectiveness of tailored rehabilitation versus standard exercise programme for patients with shoulder pain: a feasibility randomized controlled trial.</td>
<td>HRC Feasibility</td>
</tr>
<tr>
<td>Daniel Ribeiro (PI), Haxby Abbott, Tony Blakely, Sarah Lamb</td>
<td>Process evaluation of trials: maximising the potential for implementation</td>
<td>HRC Hercus Fellowship</td>
</tr>
<tr>
<td>Daniel Ribeiro (PI)</td>
<td>Congress of the International Society of Biomechanics - Australia</td>
<td>MPPT Travel</td>
</tr>
<tr>
<td>Daniel Ribeiro (PI), Ben Browning (Student)</td>
<td>The effect of manual therapy on shoulder muscle activity</td>
<td>OMRF</td>
</tr>
<tr>
<td>Margot Skinner (PI) Sarah Rhodes, Ben Brockway, Debra Waters</td>
<td>Personalised physical activity and motivational text messaging in patients with obstructive sleep apnoea (OSA).</td>
<td>School of Physiotherapy Trust</td>
</tr>
<tr>
<td>Gisela Sole (PI), Daniel Ribeiro, Meredith Perry, Nicola Swain, Craig Wassinger</td>
<td>Feasibility of neuroscience-informed physiotherapy for persistent shoulder pain</td>
<td>Jack Thompson Arthritis Fund</td>
</tr>
<tr>
<td>Authors</td>
<td>Title</td>
<td>Grants</td>
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<tr>
<td>Gisela Sole (PI), Daniel Ribeiro, Meredith Perry, Nicola Swain, Craig Wassinger</td>
<td>My shoulder has a brain: Patient and physiotherapists’ perspectives of a psychologically-informed rehabilitation approach for shoulder pain</td>
<td>PNZ</td>
</tr>
<tr>
<td>Katrina Bryant (PI) Te Runanga ā Otākou, Leigh Hale and Debra Waters (Independent Advisors)</td>
<td>Taurite Tū: Development of falls prevention exercise programme for Māori</td>
<td>Ngā Kanohi Kitea Development Grant</td>
</tr>
<tr>
<td>Melanie Bussey (PI SPESS), Dan Ribeiro, Daniela Aldabe, Stephanie Madill</td>
<td>Does muscle coordination in the pelvic floor and trunk predict low back pain?</td>
<td>UORG</td>
</tr>
<tr>
<td>McKinlay, E. (PI), Coleman, K. (PI), Darlow, B. (AI), Davidson, R. (AI), Gray, B. (AI), Neser, H. (AI), Perry, M. (AI), Pullon, S. (AI), Wilson, C.</td>
<td>Long-term conditions management; Hauora Māori; Implications in prescribing.</td>
<td>Division of Health Sciences Interprofessional Education Support Innovation Fund</td>
</tr>
<tr>
<td>Neils Hammer (PI Anatomy), Melanie Bussey, Daniel Ribeiro, Daniela Aldabe, Stephanie Woodley,</td>
<td>The functional link between hip joint mechanoreceptors and neuromuscular control of hip muscles</td>
<td>Jack Thompson Arthritis Fund</td>
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<tr>
<td>Hilda Mulligan (NI), Mandy Wilkinson (NI)</td>
<td>Well Connected</td>
<td>HRC/MOH</td>
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<tr>
<td>Dr Yvonne Learmonth, Murdoch</td>
<td>Engaging the MS community to promote exercise</td>
<td>MS Research Australia</td>
</tr>
<tr>
<td>University, WA (PI), Cath Smith (Al Otago)</td>
<td>Aleksandra Mącznik (PI), Steve Tumilty (Al Otago)</td>
<td>Effectiveness of an injury prevention program in young pre-adolescent female athletes.</td>
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<tr>
<td>Stephanie Woodley (PI), John Sullivan (Al)</td>
<td>Exercise therapy for women with pregnancy-related pelvic girdle pain: a Delphi study.</td>
<td>PNZ</td>
</tr>
</tbody>
</table>
**CHARR research activities**

**CHARR Visitors 2017**

**Visiting academics**
- Dr Steve Dischiavi (High Point University)
- Associate Professor Paul McCrory (University of Melbourne)
- Prof Lorna Paul (Glasgow Caledonian University)
- Professor Bill Vicenzino (University of Queensland)
- Dr Mylene Aubertin (UQAM)

**Visiting students**
- Dora Gosselin (High Point University, Otago PhD Candidate)
- Rasmus Husted (PhD candidate, University of Copenhagen, Denmark)
- Lara Vlietstra (Masters candidate, Utrecht University and University Medical Centre Utrecht)

**CHARR Research events**

CHARR hosted and co-hosted a significant numbers of events in 2017 including:
- Sports concussion in kids: what every parent needs to know (March 2017)
- Research impact: realising the potential (November 2017)
- Pavements and paradigms: bringing community back into Mobilities (November 2017)
- CHARR seminar series 2017
- Other events:
  - WCPT World Congress (July 2017)
  - New Zealand Manipulative Physiotherapist conference (August 2017)
  - Making an impact: New Zealand Rehabilitation Conference (September 2017)
  - Southern Physiotherapy Symposium 8 (October 2017)
  - Disability Matters (November 2017)

**Research networks and themes**

- Ageing Well, National Science Challenge
- Collaboration Ageing Research Excellence (CARE) University of Otago Research Theme
- Pain@Otago, University of Otago Research Theme
PhD Candidates and topics
PhD Candidates (2017)

Primary Supervisor School of Physiotherapy

N=21

Alqarni, Abdullah
Knowledge translation of clinical assessment of pain mechanisms in to clinical practice.

Bell, Ricky
Huarahi Hauora – Identifying a pathway forward to wellness for Māori: an investigation of the association between BMI, body image and their relationship to improved health.

Buhler, Miranda
The impact of base of thumb osteoarthritis and the effectiveness of orthotic management

Calder, Ally
Access to Physical Activity for men following stroke

Dassanayake, Suranga
Risk of obstructive sleep apnoea in poorly controlled hypertension – a study of two population groups.

Donaldson, Gail
Does the use of silicon oil change the post-operative outcomes after Dupuytrens contracture release surgery?

Gosselin, Dora
Gait in Children with Cerebral Palsy: Differences in initiation, termination, and change of direction.

Emmerson, Alicia
Chronic pain in USA, focusing on experience of disadvantaged communities and undocumented patients

Falling, Carrie
Persistent musculoskeletal pain among individuals with immune-mediated chronic inflammatory conditions.

Hamel, Renne
Long-term impact of cardiovascular and respiratory deconditioning on physical activity intolerance in outpatient adults with moderate and severe traumatic brain injury.

Jafarian, Zohreh
Exploring the effect of shoulder passive mobilisation on shoulder function, pain and muscle activity levels in patients with shoulder disorders

Kaur Mandeep
Outcomes of ACL injuries

Manlapaz, Donald
The use of Nintendo Wii Fit™ in improving falls risk, balance and adherence to exercise in patients with Knee Osteoarthritis

Mesbah, Normala
Postural stability in older adults with early diagnosed Alzheimer’s disease

Rhodes, Sarah
Can physical activity intervention in combination with text messaging improve quality of life through increased functional exercise capacity and enhanced exercise self-efficacy in adults with obstructive sleep apnoea?
<table>
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<tr>
<th>Name</th>
<th>Title</th>
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<tbody>
<tr>
<td>Moran, Rob</td>
<td>Musculoskeletal injury prediction in high intensity strength and conditioning athletes</td>
</tr>
<tr>
<td>Ramsey, Codi</td>
<td>The influence of footwear on lower limb kinematics and kinetics during running: implications for the etiology of iliotibial band syndrome</td>
</tr>
<tr>
<td>Sampath, Kesava</td>
<td>Thoracic spinal manipulation and short-term changes in the activities of (1) hypothalamic-pituitary-adrenal (HPA) axis and Hypothalamic-pituitary-gonadal (HPG) axis (i.e. HPA-HPG axis) and (2) the sympathetic nervous system (SNS). Is that a potential viable treatment option for people with chronic pain?</td>
</tr>
<tr>
<td>Sangelaji, Bahram</td>
<td>Developing and testing an intervention to promote life-long exercise in people with MS</td>
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<tr>
<td>Spontelli Gisselman, Angela</td>
<td>The role of heart rate variability indices in prevention of musculoskeletal overuse injuries in collegiate athletes</td>
</tr>
<tr>
<td>Taylor, Karen</td>
<td>Evaluating the primary care and decision-making process for acute shoulder injuries in New Zealand</td>
</tr>
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</table>

**Secondary Supervisor School of Physiotherapy**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
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<tbody>
<tr>
<td>Jeremy Goh</td>
<td>A combined physical and cognitive intervention in Parkinson’s disease</td>
</tr>
<tr>
<td>Quick, Andrew</td>
<td>The influence of orthognathic therapy on mandibular motion</td>
</tr>
</tbody>
</table>
CHARR research outputs

2017 publications

Research Outputs

Journal


Other


Presentations


Kennedy, E. (2017, November). It's not all in your head: Persistent post-concussion symptoms can be neck-related. Invited presentation at the Southern Physiotherapy Symposium 8, Queenstown, New Zealand.


Mani, R. (2017, December). Integrating research on central pain mechanisms into clinical practice. Workshop presentation at the 1st Manipal International Physiotherapy Conference (MIPCON), Manipal, India.


Perry, M (2017) Parks for all: co-creating inclusive parks and play areas in Porirua, New Zealand, Research Impact: Realising our potential Conference. November 21-22


Smith, C. M., Tumilty, E., Walker, P., & Treharne, G. J. (2017, November). Urban spaces and 'Umwelt': How can we know that dog-walking spaces are therapeutic for the dog? Verbal presentation at the 8th New Zealand/Aotearoa Mobilities Symposium, Dunedin, New Zealand.


Sole, G. (2017, November). My shoulder has a brain: Responses of participants with rotator cuff-related pain to a neuroscience pain education session. Invited presentation at the Southern Physiotherapy Symposium 8, Queenstown, New Zealand.


**Department seminars**

**Chapple, CM** (2017, 12 September) Same time next week? What is the optimal frequency of manual therapy for people with knee osteoarthritis? Centre for Health, Activity, and Rehabilitation
Kennedy, E. (2017, February). How does the neck contribute to persistent post-concussion symptoms?. School of Physiotherapy, University of Otago, Dunedin, New Zealand. [Department Seminar].

Mani, R. (2017, May) Pro-nociceptive and anti-nociceptive pain mechanisms in middle-aged and older adults with chronic musculoskeletal pain. Centre for Health, Activity, and Rehabilitation Research, School of Physiotherapy, University of Otago, Dunedin, New Zealand. [Department Seminar].