



Government of **Western Australia**  
Child and Adolescent Health Service



# **Kids Rehab WA Research**

## **2020-21**

### **Year in Review**



# Kids Rehab WA

## Mission

Kids Rehab WA is a state-wide, integrated tertiary clinical, research, education and training unit at Perth Children’s Hospital, Western Australia. Kids Rehab WA offers inter-disciplinary services to children and adolescents in Western Australia with acquired or congenital neurological impairments. Kids Rehab WA offers research informed and infused services to children and youth with acquired or congenital neurological impairments to improve functional outcomes, which are unique to this state. The research program exists to:

- Generate, evaluate and translate research findings.
- Build capacity in the field by training the next generation of clinicians and clinical researchers.

Kids Rehab WA recognises that the experiences of clinicians, patients and the community play a critical role in promoting the health, development and wellbeing of the community. As such, they play a critical role in shaping research.

## Objectives

<b>Collaboration</b>	<ul style="list-style-type: none"><li>•Collaborative relationships are nurtured within Kids Rehab and with external stakeholders; local, state, national and international</li></ul>
<b>Relevance</b>	<ul style="list-style-type: none"><li>•Research that responds to and directly contributes to the development of clinical guidelines relevant to paediatric rehabilitation is created, evaluated and shared</li></ul>
<b>Excellence</b>	<ul style="list-style-type: none"><li>•Research is of highest ethical and scientific standard, and contributes to the advancement of knowledge and translation to relevant policy and practice</li></ul>
<b>Sustainability</b>	<ul style="list-style-type: none"><li>•To develop capacity in Paediatric Rehabilitation professionals through the development of research-practice partnerships.</li></ul>
<b>Embedding</b>	<ul style="list-style-type: none"><li>•Research activities are integrated as a core function within Kids Rehab WA to improve outcomes for children and youth</li></ul>



## Ethics and Governance

Research is conducted in accordance with the national research ethics (National Health and Medical Research Council's *National Statement on Ethical Conduct in Human Research (2007)* and the *Australian Code for the Responsible Conduct of Research (2018)*); in compliance with the WA Health Research Governance Framework.

## Integrated Clinical Programs

CAHS Kids Rehab WA Department is a clinically integrated research unit with an established consumer reference group and clinical database, ensuring we support the basic principles of the current CAHS research plan; that research is embedded as a core aspect of CAHS mission and practice. The Kids Rehab WA Research Program conducts clinical research along the broad continuum of paediatric rehabilitation care. Kids Rehab WA provides the sole state-wide rehabilitation service to Western Australian children and has established comprehensive follow up for patients and links with the community, providing a unique opportunity for both research and knowledge translation.



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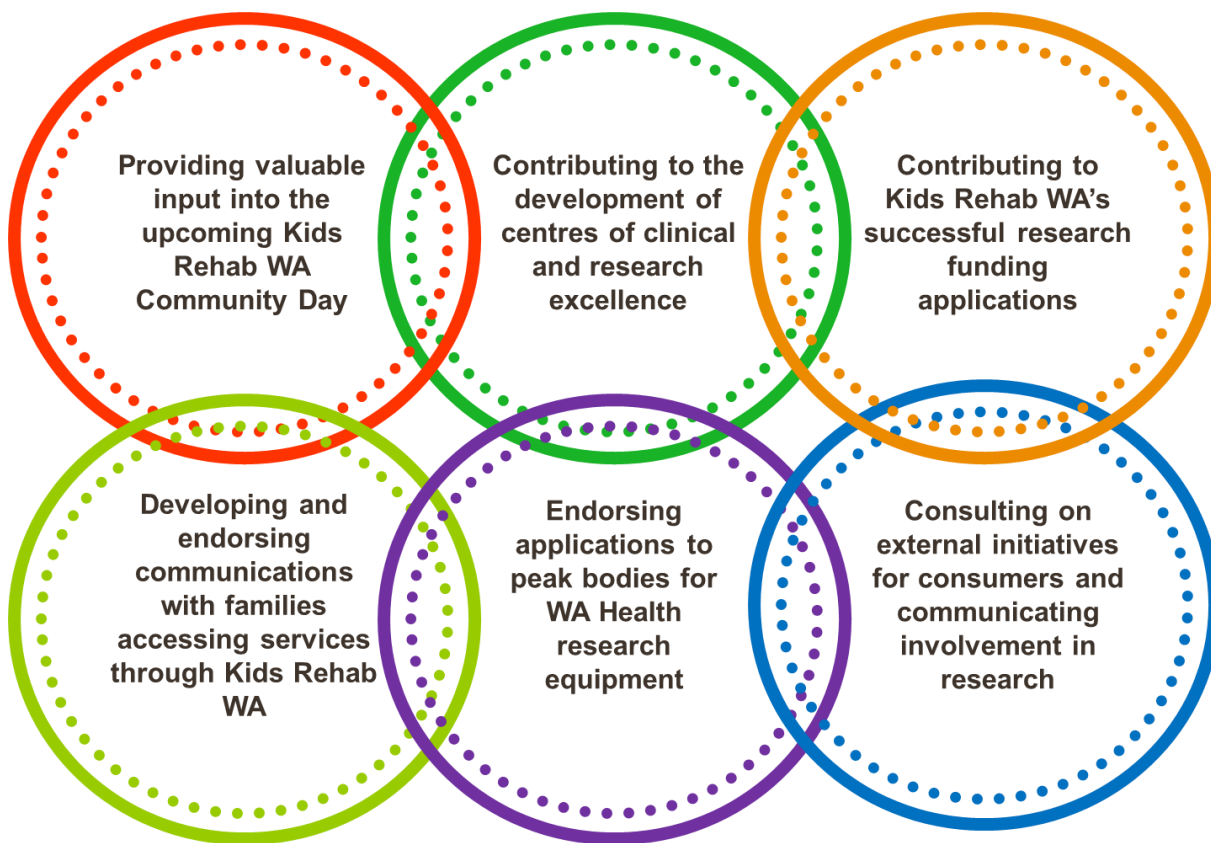
Accountability

# Kids Rehab WA Consumer Reference Group

The Kids Rehab WA Consumer Reference Group was established in 2017 to inform the development of a sub-acute care unit as part of Kids Rehab WA at Perth Children’s Hospital. The Consumer Reference Group is made up of young people and parents of children who have accessed (or are still accessing) Kids Rehab services. After their valuable contribution to the development of the sub-acute care unit, the Consumer Reference Group has evolved and continues to meet regularly throughout the year. Their role is to:

- Act as a liaison between consumers, community organisations and the department (Kids Rehab WA)
- Advocate to the Kids Rehab WA Department on behalf of consumers and the community
- Direct and guide research and service development and implementation

The Consumer Reference Group has contributed to priority setting for clinical services and research within our department, and just some of their specific achievements are:



# Paediatric Rehabilitation Information System (PRIS)

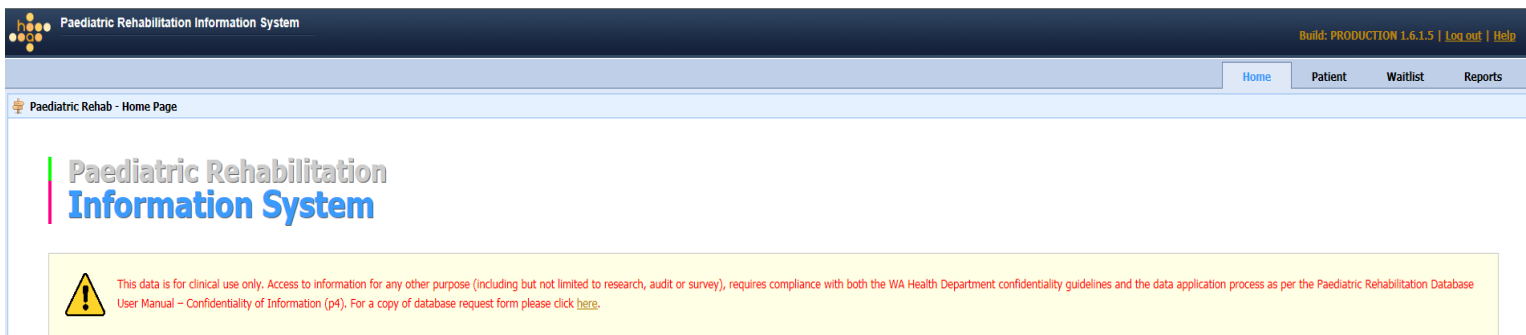
Kids Rehab WA has established a comprehensive clinical database for children receiving paediatric rehabilitation services. This database records clinical assessments and tertiary interventions for children in Kids Rehab clinical programs and research projects. The database was established in 2003 with data retrospective to 1995. In 2013 the database was upgraded and integrated into the Paediatric Rehabilitation Information System (PRIS). This upgrade allowed integration of PRIS with the WA Health web based Patient Administration System (WebPAS). A data dictionary has been established and is undergoing review.

A further upgrade to incorporate clinical data for children from 0 – 2 years of age was completed in March 2021 to enable the collection of data used during standard clinical care for children attending the Early Intervention service. The latest upgrade provides the capacity to capture comprehensive clinical data across a child's developmental trajectory while they are accessing Kids Rehab WA services. It also helps us to improve services, for example by monitoring and evaluating the implementation of best practice guidelines for early detection and early intervention for babies at risk of cerebral palsy.

These upgrades to integrate PRIS means it is now able to provide (i) data on clinical services; (ii) accurate and timely reporting of service events; (iii) waitlist information; (iv) key performance indicators for clinical programs; and (v) capture, safe storage and retrieval of clinical information. PRIS is utilised to periodically export data to national clinical registers and benchmarking committees including:

- Australasian Paediatric Rehabilitation Outcomes Centre (APROC)
- Western Australian Register of Developmental Anomalies
- National Selective Dorsal Rhizotomy Register
- National Intrathecal Baclofen Register

Data generated from PRIS have also contributed to clinical and service development for Kids Rehab WA through the development of research questions and quality improvement activities (GEKO).




Paediatric Rehabilitation Information System

Build: PRODUCTION 1.6.1.5 | [Log out](#) | [Help](#)

Paediatric Rehab - Home Page

Home Patient Waitlist Reports

Paediatric Rehabilitation Information System

 This data is for clinical use only. Access to information for any other purpose (including but not limited to research, audit or survey), requires compliance with both the WA Health Department confidentiality guidelines and the data application process as per the Paediatric Rehabilitation Database User Manual – Confidentiality of Information (p4). For a copy of database request form please click [here](#).

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## Research Questions and Populations

Following ethics and governance approval, PRIS has enabled the identification of relevant patient cohorts for local, national and international clinical research studies, including NHMRC funded trials such as HABIL-ILE (APP1144846), Participate-CP (APP1140756) and REACH (APP1078877). Data collated in PRIS has facilitated the successful completion of five RACP trainee projects in the last three years, with one currently accepted for publication, two under preparation and three accepted for presentations at international conferences. Ten applications to PRIS have been led by Kids Rehab Allied Health staff, four have informed the clinical audit of programs and quality control and a further four have facilitated patient enrolment in other department-led trials. A summary of the number of PRIS data requests per annum, since its inception, can be found in Figure 1 below.

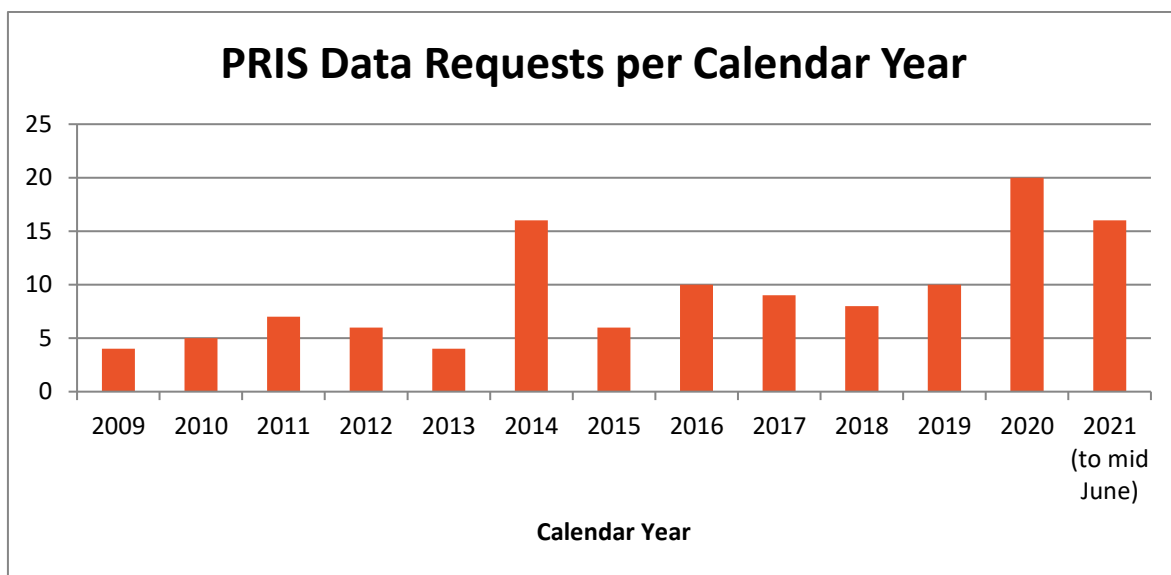


Figure 1. Data requests for PRIS per calendar year

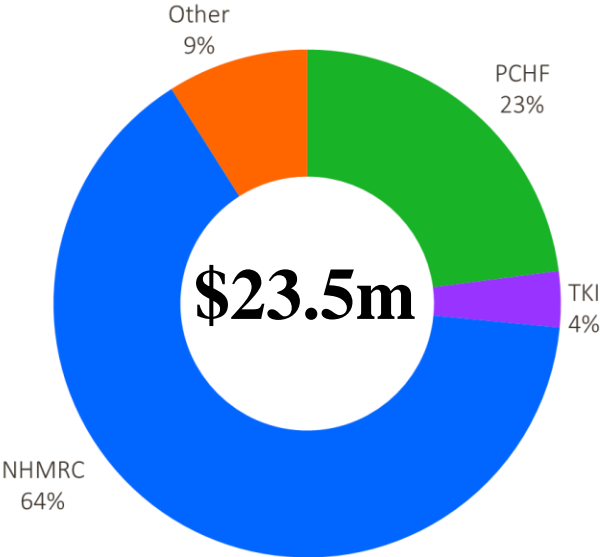
## Governance, Evidence, Knowledge, Outcomes (GEKO)

During the 2020/21 financial year, Kids Rehab WA clinical teams have worked on 24 clinical GEKO activities. Eight new GEKO projects commenced this financial year, nine projects continued from last year, and another seven projects from previous years were completed.

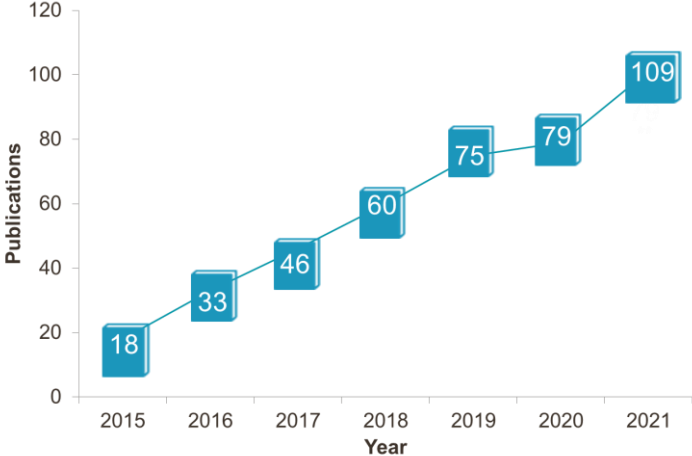
The aims of the Kids Rehab WA GEKOs are diverse. Some examine clinical outcomes (e.g., in paediatric stroke patients, or among children receiving botulinum toxin for upper and lower limb dystonia). Other GEKOs analyse clinical population characteristics to assist in benchmarking or service planning (e.g., documenting adverse childhood events in infants at risk of Cerebral Palsy, or examining diagnostic classification data in children with Acquired Brain Injury). Many GEKOs focus on improving the quality and efficiency of current services and involve people who use our services (e.g., creation of transition template for paediatric spinal patients transitioning to adult services, or gaining consumer feedback about services such as the sub-acute care unit).

# Research Summary

**We have a successful track record in securing funding for our research.**



**We publish in high impact Journal**  
Cumulative publications over the past seven years



**We actively collaborate with colleagues around the world. We have:**

Over **60** international  
**+**  
Over **40** national  
collaborators

# Telethon Kids Institute

## Kids Rehab WA research team

Collaboration with Telethon Kids Institute (TKI) and universities “provides a unique opportunity to embed world class child health research and infrastructure throughout the health service”

TKI offers honorary researcher appointments to individuals not employed by the institute, which benefit both the institute and the appointee by; promoting collaboration, facilitating the exchange and sharing of knowledge, invigorating and promoting the intellectual culture scientific reputation and collaborative networks of the institute and recognising the contribution of researchers to the Institute.

TKI has four research focus areas (RFA); Aboriginal Health, Brain and Behavior, Chronic and Severe Diseases and Early Environment. Each RFA supports multiple research programs and teams. Kids Rehab WA has been accepted as a research team within the Autoimmunity Metabolic Health & Clinical Sciences Research Program in the Chronic & Severe Diseases RFA.

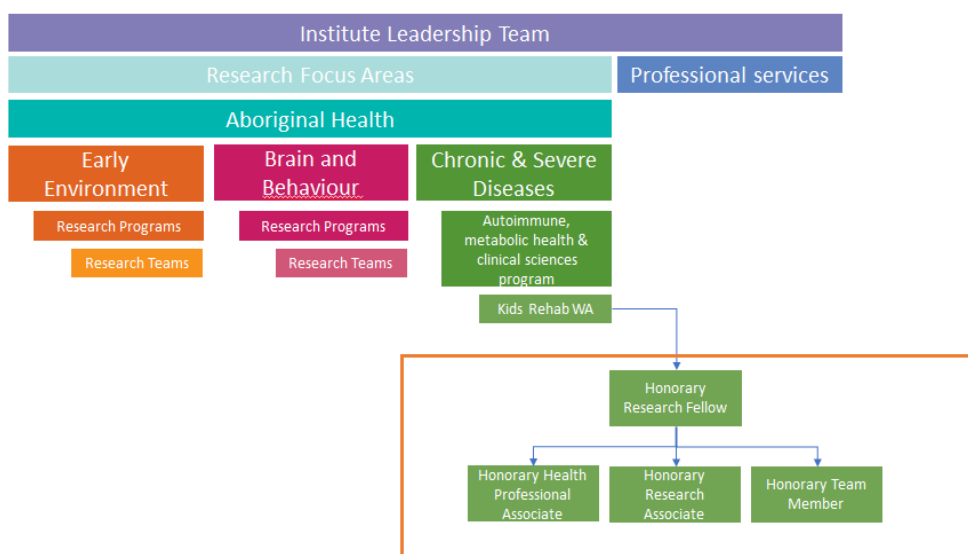
Each research team is led by an Honorary Research Fellow, for Kids Rehab WA, this is Prof Jane Valentine. Other team members who have so far been appointed as part of the TKI Kids Rehab WA Research Team are:

*Honorary Research Fellow:* Prof Jane Valentine and Prof Catherine Elliott

*Honorary Health Professional Associates:* Dr Alison Salt, Sue-Anne Davidson, Dr Katherine Langdon, Dr Simon Garbellini

*Honorary Research Associates:* Dr Dayna Pool, Dr Tiffany Grisbrook, Dr Caroline Alexander, Dr Sarah Hall

*Honorary Team Members:* Dr Anna Gubbay, Nadine Smith, Sam Armstrong, Renae Dayman.





# Research Spotlight

## **VISIBLE: Vision Intervention for Seeing Impaired Babies: Learning through Enrichment**

VISIBLE is an international study for infants at high risk for Cerebral Palsy (CP) with Cerebral Vision Impairment (CVI). The study is funded by CP Alliance and Perth Children's Foundation (additional support for Perth infants) to recruit 32 children in Italy and Australia (WA, Queensland, NSW and Victoria) from three to six months of age. Six Perth children will be included in the VISIBLE study. The study is a multisite pragmatic pilot RCT feasibility and acceptability study of a six to nine month early vision-awareness and parent-directed environmental enrichment program for infants with severe CVI and high risk of CP.

VISIBLE is an early intervention program based on the core principles of optimising an infant's visual experience during the first months of development. The general principles are activity-dependent learning and environmental enrichment. Parents are essential to environmental enrichment for infant learning success. They provide the environmental cues for both social and physical infant interaction. Parents will provide vision-awareness environmental enrichment—adapting the social and physical environment to allow the infant the opportunities to learn by successfully experiencing their enhanced environment. Within the context of parent-child daily goal-oriented interactions, environmental enrichment, vision-awareness modifications, will include lighting, spatial distances, salience, consistency and multimodality (including all senses) of the infant's environment

There is strong international evidence that children with visual impairment in the context of other disabilities often go unrecognised (Woodhouse et al. 2013). Given the crucial role vision plays in early development this is of critical importance to the child's developmental potential. Engagement in this trial will provide an opportunity to improve early recognition of visual impairment, ensure improved early referral for ophthalmological intervention and enhance knowledge and evidence-base for best practice for early vision intervention.

The program is being led and supported by the early intervention multidisciplinary team in the Early Intervention Clinic at Perth Children's Hospital (PCH) including Paediatric Rehabilitation specialists, Ophthalmologists, Orthoptists and Paediatric developmental therapists.

The research team in Perth are Assoc. Professor Alison Salt, Consultant Paediatrician, Dr Tiffany Grisbrook, Senior Research Fellow, Rosalie Mori, Physiotherapist, Professor Catherine Elliott, Professor Jane Valentine, Sue-Anne Davidson and Dr Ashleigh Thornton.

The trial is run from the University of Queensland who provide administrative support for the trial. The external co-investigators for the VISIBLE trial include Professor Roslyn Boyd, Associate Professor Andrea Guzzetta, Professor Iona Novak, Dr Cathy Morgan, Professor Glen Gole and Dr Susan Greaves.



# Early Moves

The Early Moves project continued throughout the 20-21 year. The project aims identify if early movement patterns of babies, called General Movements (GMs), can be used as a biomarker for cognitive impairment in the same way as it has become internationally accepted for cerebral palsy. Identifying a biomarker for childhood cognitive impairment delivers the potential to provide evidence based very early intervention (in the first 1,000 days of life), setting a strong foundation for children’s future health and wellbeing.



The project aims to recruit a representative sample of 3000 WA-born infants into the study. Currently in its second-year, the project is progressing well, having recently enrolled the 1,000<sup>th</sup> baby into the study. Comprehensive developmental assessments using gold-standard measures for babies at two-years are about to commence. An exciting milestone! For more information follow the link to the [Early Moves website here](#).

**2,398**

**General movement assessments conducted**

GM are conducted by a team of 7 expert clinicians

“

"This is a once in a lifetime opportunity to create a paradigm shift in the diagnosis of cognitive impairment at the earliest time of life. Importantly, early diagnosis means earlier intervention and significantly improved outcomes for children."

Prof. Jane Valentine

”

**1,174**

**Participants consented**



**Implementing partners**



Government of Western Australia  
Department of Health



Australian Government  
National Health and Medical Research Council



**Funding partners**



**Research partners**

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# Staff Spotlight

## Sam Armstrong

Sam is a Senior Physiotherapist within the iRehab program at Kids Rehab WA. Sam is a vital member of the skilled, dedicated and passionate staff within Kids Rehab WA and is committed to the patients and families we see at Perth Children's Hospital. A particular clinical interest of Sam's is working with children and adolescents with stroke and other acquired brain injuries.

Over the course of six months, Sam was granted dedicated non-clinical time to undertake research activities relating to his current clinical practice. This funding was generously provided to the Physiotherapy Department at PCH by the Parker Paediatric Physiotherapy Research Fund (10 days) and the WA Health Chief Allied Health Office Research Capacity Grant (20 days).

Over the 30 days, Sam completed some research training modules, completed a literature review and conducted a clinical audit. The outcomes from this opportunity will be presented at the Stroke Society of Australasia Conference in October 2021. The time spent on the activities will not only further enhance Sam's clinical skills and knowledge working with these cohorts, but also provide a basis to develop and implement clinically-embedded research into practice here at PCH and Kids Rehab WA in the future.



## Jenni Moore

Jenni Moore is a Senior Physiotherapist in the Kids Rehab Early Intervention (EI) team. Jenni helped establish the EI service and has been an integral part of developing the new model of EI for early detection and intervention for children at risk of cerebral palsy since 2015.

Jenni has been a major driver in introducing the use of the General Movements (GM) Assessment as part of standard clinical care in EI and establishing the governance of GM recording and reporting at CAHS. Utilising her expertise in GMs Jenni is also a senior GM assessor in the Early Moves study – which is enrolling 3000 children for GM assessments, so will be reporting quite a lot of the 12,000 GM videos collected for this study. Jenni's incredible expertise in EI for children with neurodevelopmental disabilities, especially cerebral palsy, is also being shared by her contribution to

teaching other clinicians in CAHS and WACHS. Jenni has travelled to Kununurra and Broome to provide hands-on teaching and education and she provides telehealth support to remote clinicians who are managing babies seen in EI clinics. Kids Rehab WA acknowledges and thanks Jenni for her amazing contribution to clinical care, teaching and research to improve the outcomes for children and their families.



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## Bronwyn Carrigg

Bronwyn is a Research Coordinator in Kids Rehab WA. The Kids Rehab WA Research Coordinator is a new part-time position funded by Curtin University and Perth Children's Hospital. Bronwyn has a background in speech pathology. Most recently, she worked at Telethon Kids Institute (TKI) as a senior research fellow, and prior to that was at Sydney Children's Hospital for 17 years as deputy manager in speech pathology. Bronwyn completed her PhD through the University of Sydney submitting in 2017. One of the priorities of the Research Coordinator role is to build research and quality improvement capacity among Kids Rehab WA clinicians. Another key role is to extend education, training, and research collaborations between Kids Rehab WA and Curtin. The physical co-location of this position in the Kids Rehab WA clinical team and the Curtin School of Allied Health makes it easier to find opportunities for clinicians, university staff, and students to add value to existing/future research projects across both sites.



Within Kids Rehab WA, Bronwyn works with clinical teams and individuals on quality improvement (GEKO) projects, helps develop clinicians' research ideas, and assists with grant submissions. From a Curtin perspective, Bronwyn is involved in research supervision and developing projects for Honours and HDR students at Curtin University. Translating research into clinical practice is another important part of the role. For example, Bronwyn organised several training courses for clinicians in the assessments required to implement the international guidelines for early diagnosis of Cerebral Palsy. Bronwyn also coordinates several of the WA early intervention trials for infants with cerebral palsy and helps with other research studies underway in the Kids Rehab WA team.







# Research Impact Spotlight

## Early Intervention for Children Aged 0 to 2 Years With or at High Risk of Cerebral Palsy: International Clinical Practice Guideline Based on Systematic Reviews

In 2021, International Clinical Practice Guidelines for early intervention for children aged zero to two years with or at high risk of cerebral palsy were published by a leading group of researchers including researchers from Kids Rehab WA and our collaborators [1].

The International Clinical Guidelines were developed through a systematic review of the best current available evidence for CP-specific interventions in children aged zero to two and their families across nine domains: 1) promoting motor function; 2) cognitive skills; 3) communication; 4) eating and drinking; 5) vision; 6) sleep; 7) managing muscle tone; 8) musculoskeletal health; and 9) parental support. Sixteen systematic reviews and 27 randomised controlled trials were included.

The authors reported three best practice principles for the treatment and management of children at high risk of CP and their families which were the immediate referral for intervention after diagnosis of high risk CP, building capacity in parents for attachment and ensuring parental goal-setting at the commencement of intervention. More specifically, the International Clinical Practice Guidelines strongly recommend a comprehensive multidisciplinary approach and provide key evidence supporting 28 recommendations (24 for and four against) relative to the nine domains. The paper highlights the importance of early targeted interventions to build on the critical developmental time for plasticity during the early stages of childhood where the plasticity of developing systems is maximised.

The International Clinical Guidelines provide a strong mechanism to translate research findings into evidence-based practice and clinical decision making, thus enhancing the impact of our research for families of children with CP.

For more information on the International Clinical Guidelines you can find the paper [here](#):

1. Morgan, C., et al., *Early Intervention for Children Aged 0 to 2 Years With or at High Risk of Cerebral Palsy: International Clinical Practice Guideline Based on Systematic Reviews*. JAMA Pediatrics, 2021.

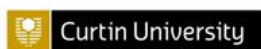


# Knowledge Translation

## Podcast: Research Works



*In Association With*



The Research Works podcast was launched in February 2021 and is hosted by Dr Dayna Pool and Dr Ashleigh Thornton in association with Curtin University and the Healthy Strides Foundation. Research Works is a free podcast available on all major podcast platforms and providers, from Apple Podcasts, to Google Podcasts, Spotify, Amazon Music/Podcasts (and more). It is designed for health professionals in the area of child health. The podcast discusses emerging, modern, evidence based research, hosts interviews with world renowned clinicians and researchers and provides a breakdown on how individuals can implement the latest evidence into clinical practice. The podcast has now recorded 24 episodes and can boast an average listenership that puts the podcast in the top 20% of all podcasts publicly available for download. The Research Works podcast has been in the Top 20 for health related podcasts in Australia. Predominantly focused on Australian researchers, forays into the international field with US and European researchers show a reach well beyond the shores of Australia. 50% of downloads have come from local listeners based in Western Australia and a total of 88% of listeners come from Oceania (Australia and New Zealand predominantly) with 12% from international markets (Western Europe & the UK and the USA)\*.

To date, many clinicians and researchers from Kids Rehab WA have been invited to discuss their recent work including Prof Jane Valentine, Prof Catherine Elliott, Mitch Adams, Dr Alison Salt and Dr Belinda McLean. A link to previous episodes, including abstracts, key-takeaway messages and reflections from the hosts can be found on the website: <https://researchworks.net>

\*Statistics are provided via hosting provider Buzzsprout - these statistics all comply with the IAB Podcast Measurement Technical Guidelines.

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## Training courses

An important part of translating research findings into practise is upskilling clinicians. In 2020-21, Kids Rehab WA supported allied health, nursing, and medical staff to train in a range of best practise assessments for children with Cerebral Palsy. We organised and hosted training events and provided registration fee scholarships for clinicians in areas of high need (e.g., remote clinicians from the Pilbara and Kimberley, metropolitan staff working in indigenous health).

- Basic General Movements Course (3.5 days) facilitated by Prof Alicia Spittle, University of Melbourne and Dr Cathy Morgan, University of Sydney. 23 attendees.
- Advanced General Movements Course (3 days) facilitated by Prof Christa Einspeler, Medical University of Graz, Austria and Dr Cathy Morgan, University of Sydney. 13 attendees.
- Hand Assessment for Infants (2 days) facilitated by Dr Sue Greaves & Danni Centorame, Royal Children's Hospital. 25 attendees.
- Mini Assisting Hand Assessment (2 days) facilitated by Dr Sue Greaves, Royal Children's Hospital. Hosted by CPA NSW, but Kids Rehab WA funded 6 clinician registrations.



# Competitive Grants – 20/21

Grant	Funding	Ends	Study
Grants led by Kids Rehab WA			
Enabling Allied Health Research Capacity - Chief Allied Health Office and WA Health Translation Network	\$30k	2026	Functional outcome following orthopaedic surgery for gait correction in children with cerebral palsy at an activity and participation level. <b>(Maxine Fong)</b>
PCH Foundation	\$10k	2022	Visible: Vision Intervention for Seeing Impaired Babies: Learning Through Enrichment. <b>(Dr Alison Salt, Dr Lynne Jensen, Professor Catherine Elliott, Associate Professor Jane Valentine, Sue-Anne Davidson, Dr Ashleigh Thornton)</b> . This grant is linked to a international study led by Professor Roslyn Boyd, Associate Professor Andrea Guzzetta, Professor Iona Novak, Dr Cathy Morgan, Professor Glen Gole and Dr Susan Greaves.)
NHMRC Clinical Trials and Cohort Studies	\$2.2m	2024	Early Moves: A prospective cohort study to identify an early biomarker for cognitive impairment. <b>(Catherine Elliott, Jane Valentine, Alicia Spittle, Roslyn Boyd, Nadia Badawi, Catherine Morgan, Desiree Silva, Elizabeth Geelhoed, Robert Ware, Svetha Venkatesh.)</b>
WA Child Health Research Fund	\$250k	2021	Feasibility of Early Moves. <b>(Jane Valentine, Catherine Elliott, Alison Salt, Disree Silva, Susan Prescott, Brad Jongeling, Srinivasjois, Tan, Roslyn Boyd, Alicia Spittle, Nadia Badawi, Catherine Morgan, Robert Ware)</b>
PCH Foundation	\$1.5m	2025	Early Moves. <b>(Catherine Elliott, Jane Valentine)</b>
PCH Foundation; Research Project Grant	\$78k	2022	GAME: Goals, Activity, Motor Enrichment early intervention for infants with cerebral palsy. <b>(Catherine Elliott, Roslyn Ward, Jane Valentine, Misty Blakeman)</b>
PCH Foundation	\$143k	2022	Accelerate: Early Diagnosis of Babies at Risk of CP. <b>(Roslyn Ward; Jane Valentine; Catherine Elliott; Sue-Anne Davidson; Alison Salt; Ashleigh Thornton; Wendy Langford; Mary Sharp; Elizabeth Geelhoed; Courtenay Harris)</b>
Telethon New Children's Hospital Research Foundation	\$170k	2022	Discovering the sense of touch: implications for recovery in children with CP. <b>(Catherine Elliott; Belinda McLean; Misty Blakeman; Jane Valentine)</b>
PCH Foundation; Research	\$80k	2021	Upper Limb Orthoses Randomised Control Trials for Children with Cerebral Palsy. <b>(Simon Garbellini; Catherine</b>

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Project Grant			<b>Elliott</b> ; Chirstine Imms; Francesca Orsini; <b>Ashleigh Thornton</b> ; <b>Corrin Walsley</b> ; <b>Katherine Langdon</b> ; <b>Sherilyn Nolan</b> )
Allergan	\$28k	2020	Long term motor outcomes in cerebral palsy. ( <b>Catherine Elliott</b> ; <b>Jane Valentine</b> )
Cerebral Palsy Alliance	\$50k	2020	Participate NOW: Optimizing participation for children with cerebral palsy and their families. ( <b>Catherine Elliott</b> ; Leanne Sakzewski; Sonya Girdley; Roslyn Boyd; Sarah Reedman; <b>Claire Willis</b> )
Grants led by other institutions			
National Health and Medical Research Council	\$3.1m	2026	Cognitive Improvement through early Restoration of circadian rhythms in very preterm Infants via Environmental Modification: The CIRCA DIEM Study. Led by the University of Western Australia. (Professor Jane Pillow; Professor Rod Hunt; Professor Peter Anderson; Dr Peter Mark; Professor Alicia Spittle; Professor Andrew Whitehouse; Dr Julie Marsh; <b>Professor Catherine Elliott</b> ; Professor Nadia Badawi)
National Health and Medical Research Council	\$2.4m	2026	Randomised trial of Intensive Rehabilitation (Combined Intensive Gait and Cycling Training) for children with moderate to severe bilateral cerebral palsy. Led by the University of Queensland. (Sakzewski, Boyd, <b>Elliott</b> , Novak, <b>Pool</b> , Trost, Ware, Comans, Toovey, Peterson)
WA Child Research Fund	\$250k	2022	Cognitive Improvement through early Restoration of circadian rhythms in very preterm Infants via Environmental Modification: The CIRCA DIEM Study. (Professor Jane Pillow; Professor Rod Hunt; Professor Peter Anderson; Dr Peter Mark; Professor Alicia Spittle; Professor Andrew Whitehouse; Dr Julie Marsh; <b>Professor Catherine Elliott</b> ; Professor Nadia Badawi)
Perron Foundation	\$1m	2025	WA National Imaging Facility Node. ( Prof Timothy Colmer, Prof Gary Geelhoed, Prof Francis Roslyn, Prof Paul Parizel, Dr Nick Gottardo, Dr Michael Bynevelt, <b>Dr Jane Valentine</b> , <b>Prof Catherine Elliott</b> )
PCH Foundation	\$2.8m	2026	Move to Improve: Multidirectorate CAHS program on exercise in chronic illness  Prof Elizabeth Davis (Child and Adolescent Health Service), Prof Fiona Wood, <b>Prof Jane Valentine</b> , Dr Thomas Walwyn, Ms Kim Laird (Child and Adolescent Health Service), <b>Prof Catherine Elliott (Curtin University)</b> , Ms Joanna White (Child and Adolescent Mental Health Service), Dr Treya Long (Fiona Wood Foundation), Dr Louise Naylor (University of Western Australia), Dr Amy Finlay-Jones (Telethon Kids Institute)

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NHMRC Project Grant	\$601k	2022	HABIT-ILE: A randomised trial of Hand Arm Bimanual Intensive Training Including Lower Extremity training for children with bilateral cerebral palsy. (Leanne Sakzewski, <b>Catherine Elliott</b> , Roslyn Boyd, Jenny Ziviani, Iona Novak, Stewart Trost)
National Health and Medical Research Council	\$499k	2024	LEAP-CP: Learning Everyday Activities with Parents of Infants with CP. (Roslyn Boyd, Katherine Benfer, Nadia Badawi, <b>Catherine Elliott</b> , Iona Novak, Anthony Smith, <b>Jane Valentine</b> )
NHMRC Project Grant	\$827k	2022	Participate CP: Optimising participation in physically active leisure for children with cerebral palsy: A randomised controlled trial. (Leanne Sakzewski, <b>Catherine Elliott</b> , Roslyn Boyd, Jenny Ziviani, Iona Novak, Stewart Trost, Annette Majnemer)
NHMRC CRE	\$2.5m	2021	Australasian Cerebral Palsy Clinical Trials Network (AusCP-CTN): early detection and optimising effective interventions for children with CP (Roslyn Boyd, Iona Novak, Euan Wallace, Nadia Badawi, Michael Fahey, Stephen Rose, Paul Colditz, Jenny Ziviani, <b>Catherine Elliott</b> , Ngaire Stott <b>Jane Valentine</b> )
NHMRC project grant	\$939k	2021	REACH: Randomised trial of Rehabilitation very Early in Congenital Hemiplegia. (Roslyn Boyd, Jenny Ziviani, Leanne Sakzewski, Iona Novak, Nadia Badawim Kerstin Pannek, <b>Catherine Elliott</b> , Susan Greaves, Andrea Guzzetta, <b>Jane Valentine</b> Koa Wittingham)
Canadian Institutes of Health Research	\$646K	2024	ENabling VISions And Growing Expectations for Service Providers (ENVISAGE-SP): Creating opportunities to change how service providers think, talk about, and approach childhood disability in the 21st century. (Peter Rosenbaum, Kim Herketh, Rachel Martens, Laura Miller Site Lead: <b>Jane Valentine</b> )



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# Publications

## July 2020 – June 2021

- Armstrong, J., Elliott, C., Davidson, E., Mizen, J., Wray, J., & Girdler, S. (2021). The Power of Playgroups: Key components of supported and therapeutic playgroups from the perspective of parents. *Australian Occupational Therapy Journal*, 68(2). doi:<https://doi.org/10.1111/1440-1630.12708>
- Armstrong, J., Girdler, S., Davidson, E., Mizen, J., Bear, N., Wray, J., & Elliott, C. (2021). Randomised Controlled Trial of a Therapeutic Playgroup for Children with Developmental Delays. *Journal of Autism and Developmental Disorders*, 51(4), 1039-1053.
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# Conference Presentations

1. Neuropsychological Profiles of Western Australian Children with Cerebral Palsy  
**6th Pacific Rim Conference Call**  
Kassandra Hewitt
2. General Movements: What are they, How have they changed care and what might more can they tell us?  
**Science on the Swan, 2021**  
Jane Valentine
3. Systematic review: activity and participation outcomes of children with cerebral palsy following orthopaedic surgery for gait correction  
**CAHS Symposium 2020**  
Maxine Fong
4. Understanding pain mechanisms and implementing meaningful pain assessment for children with cerebral palsy.  
**Australian Pain Society 2021 annual scientific meeting**  
Nadine Smith
5. Outcomes following intensive rehabilitation for young people in Western Australia: a service evaluation  
**Queensland Paediatric Rehabilitation Service – Rehabilitation conference**  
Irwin Gill, Sue-Anne Davidson, Rae Robinson, Paul Stevenson, Dayna Pool, Jane Valentine
6. Identifying Adverse Childhood Experiences (ACE) in children with acquired and congenital neurological impairments at Perth Children’s Hospital.  
**Queensland Paediatric Rehabilitation Service – Rehabilitation conference**  
Jane Valentine, Sue-Anne Davidson, Rae Robinson, Bronwyn Carrigg
7. Implementation of early detection and early intervention for babies at risk of cerebral palsy at Perth Children’s Hospital in Western Australia: a service evaluation  
**Queensland Paediatric Rehabilitation Service – Rehabilitation conference**  
Sue-Anne Davidson, Roz Ward, Alison Salt, Katherine Langdon, Catherine Elliott, Courtenay Harris, Kids Rehab Early Intervention team, Ashleigh Thornton, Natasha Bear, Jane Valentine



# Awards and Degrees

## Completions 2020/21

Student	Affiliation	Degree	Collaborating Institution(s)	Project
Simon Garbellini	Australian Catholic University	PhD	PCH	Prescribing upper limb orthoses for children with cerebral palsy: Exploring decision making and a hand deformity classification to guide orthosis prescription.

## Currently Enrolled

Student	Affiliation	Degree	Collaborating Institution(s)	Project
Nadine Smith	UWA	PhD	PCH	Pain measurement for all young people with cerebral palsy: What is needed for a best practice bio-psychosocial model to capture impact of pain on function and participation? <sup>1</sup>
Karen Twyford	UWA	PhD	PCH	The impact of music therapy across the rehabilitation spectrum in paediatric acquired brain injury: A mixed methods experimental enquiry
Yvette Pickering	Curtin	MPhil	PCH	Recreational prosthetic use in children and adolescents with upper limb difference <sup>2</sup>
Sue-Anne Davidson	Curtin	PhD	PCH	Development of a state-wide clinical education and training network to improve very early detection and intervention for babies at risk of cerebral palsy in Western Australia; Accelerate WA
Kassandra Hewitt	UWA	PhD	PCH	Examining the links between somatosensation and cognition in children with cerebral palsy
Maxine Fong	Curtin	MPhil	PCH	Establish functional outcome measures for children with CP undergoing surgery for gait correction in clinical practice

<sup>1</sup> Funded by NHMRC Centre for Research Excellence: Australian Centre for Health, Independence, Economic Participation and Value Enhanced Care for adolescents and young adults with cerebral palsy ("CP-Achieve")

<sup>2</sup> Funded by Perth Children's Hospital Foundation



# Key Links

## Kids Rehab WA Website

[Kids Rehab WA Website](#)

## Project Links

[Early Moves](#)

[Randomised trial of EARly Rehabilitation in Congenital Hemiplegia \(REACH\)](#)

[LEAP-CP: Learning through Everyday Activities with Parents](#)

[Optimising Participation in Physically Active Leisure for Children with Cerebral Palsy: A Randomised Controlled \(ParticiPate CP\)](#)

[HABIT-ILE: A randomised trial of Hand Arm Bimanual Intensive Training Including Lower Extremity training for children with bilateral cerebral palsy.](#)

[Visible: Vision Intervention for Seeing Impaired Babies: Learning Through Enrichment](#)

## Other Key Links:

[Australasian Cerebral Palsy Clinical Trials Network](#)

[Curtin enAble Institute](#)

[Telethon Kids Institute – Chronic Disease Research Focus Area](#)

**This document can be made available in alternative formats on request for a person with a disability.**

### Child and Adolescent Health Service

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