



Government of Western Australia  
Child and Adolescent Health Service



# Kids Rehab WA Biennial Research Report

July 2023 – June 2025



Curtin University



THE UNIVERSITY OF  
WESTERN  
AUSTRALIA



Perth Children's Hospital and Neonatology | Community Health | Mental Health

Compassion

Excellence

Collaboration

Accountability

Equity

Respect

09<sup>th</sup> September 2025





# Acknowledgement of Country

The Child and Adolescent Health Service (CAHS) acknowledges the Whadjuk and Binjareb people of the Noongar Nation as the Traditional Custodians of the land, sea and waters on which we work and live. We pay our respects to the Elders past and present.

Aboriginal people, as the First Peoples, have cared for this land for at least 65,000 years. We recognise and value their continuing cultural and spiritual connections to this land. CAHS acknowledges the diversity of Aboriginal people from across Western Australia who access the health services provided within CAHS.

CAHS recognises that the colonisation of this Country has come at a great cost to Aboriginal peoples and communities and the continued effects of colonisation impact on health and wellbeing today. We pay tribute to the strength, resilience, and courage of Aboriginal people who have survived the devastation of the recent past, to stand strong and proud today.

CAHS is committed to working towards a better future, where all cultures are respected and valued, and Aboriginal people take their rightful place as the First Australians.



# Table of Contents

<b>Kids Rehab WA .....</b>	<b>4</b>
Our Vision.....	4
Our Mission .....	4
Our Goal.....	4
Our Priorities.....	4
Integrated Clinical Programs .....	6
Kids Rehab WA Consumer Reference Group .....	7
Member Spotlight.....	7
Paediatric Rehabilitation Information System (PRIS) .....	9
Quality Improvement .....	9
Governance, Evidence, Knowledge Outcomes (GEKO).....	10
<b>Our Research Impact .....</b>	<b>11</b>
2020 – 2025 at a glance .....	11
<b>The Kids Research Institute Australia.....</b>	<b>12</b>
<b>Curtin University .....</b>	<b>13</b>
<b>Research Spotlight .....</b>	<b>14</b>
<b>Staff Spotlight.....</b>	<b>15</b>
<b>Knowledge Translation.....</b>	<b>16</b>
<b>Awards .....</b>	<b>18</b>
<b>Current competitive grants .....</b>	<b>20</b>
<b>Publications.....</b>	<b>23</b>
<b>Conference Presentation Summary .....</b>	<b>27</b>
<b>Awards and Degrees.....</b>	<b>30</b>
<b>Key Links .....</b>	<b>31</b>
Kids Rehab WA Website .....	31
Project Links .....	31
Other Key Links .....	31



## Kids Rehab WA

Kids Rehab WA is a specialist Paediatric Rehabilitation Service which provides diagnosis, assessment, and management of children and adolescents with disabilities who require interdisciplinary goal-focused care to ensure they achieve the best level of function. Located at Perth Children's Hospital (PCH), Kids Rehab WA is part of the Child and Adolescent Health Service under the WA Government Department of Health. Our Kids Rehab WA service is unique as the only tertiary paediatric rehabilitation service provider in WA. Kids Rehab WA Research is a collaboration between the Child and Adolescent Health Service, The Kids Research Institute Australia and research partners, including Curtin University and the University of Western Australia. As a fully integrated clinical and research department, it ensures treatments are informed by the latest scientific advancements. Kids Rehab WA also proudly works alongside our well-established consumer reference group, ensuring that the voices of children and families are central to everything we do.



### Kids Rehab WA serves

**500** individual inpatients per year

**2,000** individual outpatients per year

**17,000** outpatient appointments per year

## Our Vision

Enabling healthy kids and healthy communities through excellence in paediatric rehabilitation clinical care, education and research.

## Our Mission

To be the statewide centre of excellence for paediatric rehabilitation and integrated research in Western Australia and provide the best healthcare and disability support, informed by consumer involvement, rehabilitation training, well supported staff, research and community collaboration.

## Our Goal

Kids Rehab WA will improve participation and health outcomes for children and families requiring paediatric rehabilitation services.

## Our Priorities

Children with complex neurodevelopmental conditions ***have their needs met and supported*** by Kids Rehab WA service streams

Minimising the impact of Social Determinants of Health on access and outcomes

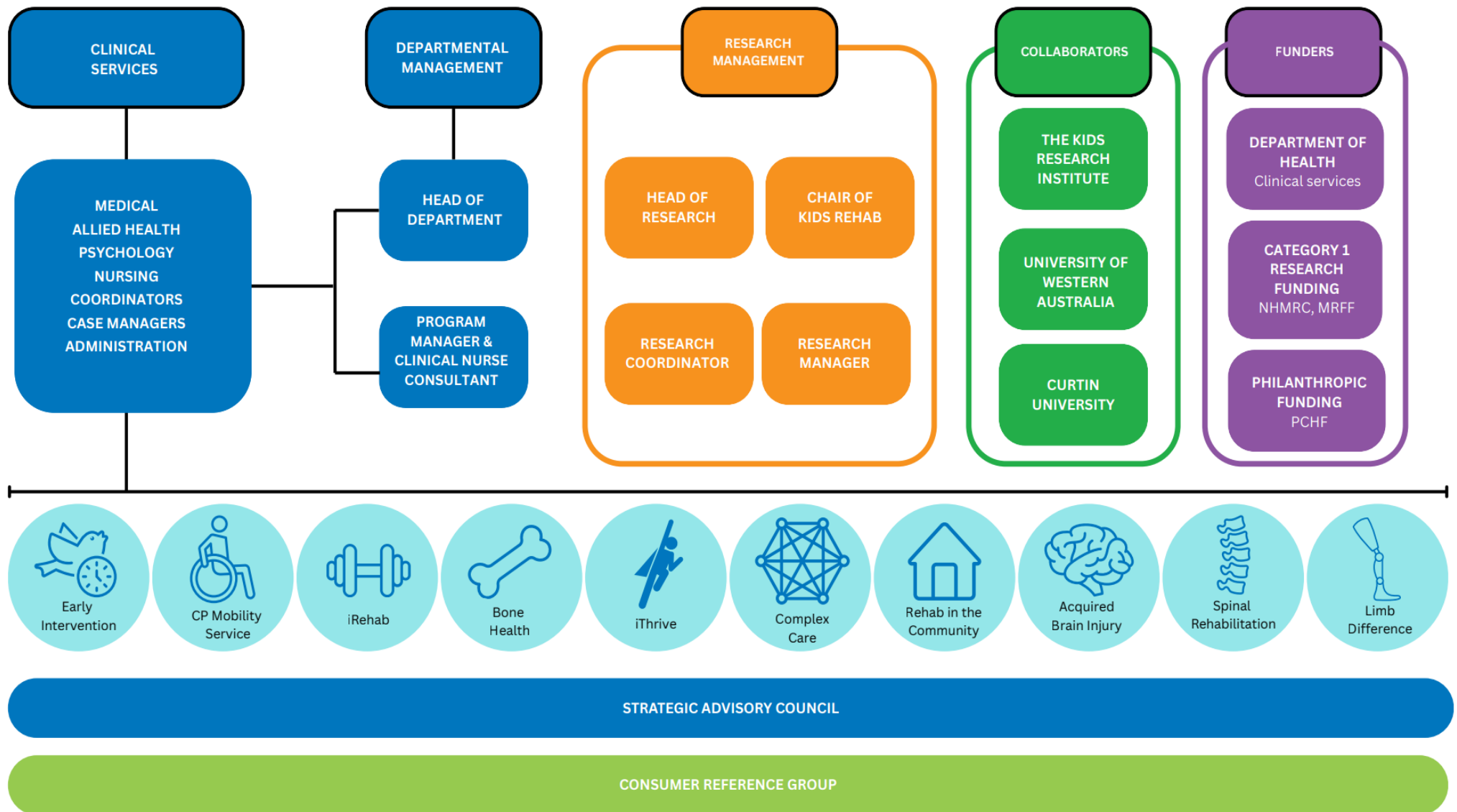
Early detection and intervention

Sustainable clinically integrated research program





## Integrated Clinical Programs



## Kids Rehab WA Consumer Reference Group

The role of the Consumer Reference Group is to support Kids Rehab WA's vision of healthy kids and healthy communities, by providing the consumer perspective to paediatric rehabilitation clinical research and services.

The Consumer Reference Group enables Kids Rehab WA to develop partnerships between consumers, community members and the hospital. Members work together in strategic planning, research and service design and quality improvement.

The Consumer Reference Group:

- Act as a liaison between consumers, community organisations, and Kids Rehab WA at Perth Children's Hospital
- Advocate to Kids Rehab WA on behalf of consumers and the community
- Advise on how to encourage consumer and community involvement in other consultative groups established by Kids Rehab WA
- Provide evaluation and feedback of consumer and community involvement in research, quality improvement and service delivery model development and implementation

### Member Spotlight

#### **Heather Whewell – Kids Rehab WA Consumer Reference Group Member**

*Member since February 2024*

Heather is the mum of two young children who keep her on her toes. Her youngest child was a NICU baby at Perth Children's Hospital and lives with Cerebral Palsy.

Heather is a qualified Family and Relationship Counsellor with experience providing therapeutic support, guidance, and strategies to children, young people, parents, and individuals as they navigate challenges, strengthen relationships, and build resilience. She is also an [ENVISAGE](#) facilitator, guiding parents of children with disability or developmental concerns through a values-based, strengths-focused approach to parenting.

Since birth, Heather's daughter has received ongoing care and support from PCH – starting in the NICU and continuing through the Early Intervention Clinic, Movement Clinic, and a range of other inpatient and outpatient services. While the journey has come with many challenges, Heather describes the care her family has received as excellent.

In connecting with other families across WA whose children have disabilities or complex care needs, Heather has heard a wide range of patient and family experiences – not all of them positive. Motivated by the quality of care her own family received, Heather joined the Kids Rehab WA Consumer Reference Group to help improve services for all families and ensure every child has the opportunity for the best possible outcomes and every family's experience is as positive as it can be.



Photo credit: Heather's 8 year old son



Through her role on the Consumer Reference Group, Heather contributes feedback on communications, publications, systems and services —bringing a valuable family perspective. She sees her involvement as a way to not only share her own experience, but to represent and elevate the voices of other families, ensuring their stories and needs are heard and embedded in how services are designed and delivered.

*“WA Health is constantly working to improve care and support for children, and we all need to work collaboratively to give our kids the best outcomes for their future. Through my involvement I hope that we can work to bridge the gap that sometimes exists between families and service providers - so that more patient journeys can be as positive and hopeful as ours has been.”*



Kids Rehab WA Consumer Group members at a 2024 meeting



## Paediatric Rehabilitation Information System (PRIS)

PRIS is the database used to capture comprehensive clinical data for children receiving paediatric rehabilitation services in WA. Data is collected across each child's developmental trajectory while they are accessing Kids Rehab WA services and used to inform clinical care, service development and improve safety and quality.



PRIS contributes to benchmarking by contributing data to national clinical registers and benchmarking organisations, including the:

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

PRIS supports development and implementation of best practice clinical guidelines. Recent examples include Early Intervention data audits to progress CONNECT-CP; the next phase for implementation of the guidelines for early detection and intervention for babies at risk of cerebral palsy in WA. Members of the iRehab and ABI teams led a collaboration with the Victorian Paediatric Rehabilitation Service to develop national guidelines for paediatric stroke rehabilitation, and data from PRIS informed the development of hip surveillance guidelines for children with acquired brain injury.

Data from PRIS is used to progress collaborations with neonatal and developmental services. By ensuring appropriate data is shared at the right time with the right people duplication and waste are reduced, so health resources are used efficiently to deliver coordinated and comprehensive care for children and families.

PRIS supports leadership in the implementation and evaluation of contemporary models of care. Data collected during programs using upper limb robots have provided evidence of their effectiveness and functional outcomes. This world leading work in the use of upper limb robots for paediatric rehabilitation provided platforms for the delivery of teaching and training at conferences in Australia and internationally, and the opportunity to inform the development of future robotic programs.

PRIS is one of Kids Rehab WA's key enablers, demonstrating the team's capacity to deliver projects with meaningful impact for children and families in WA, driven by data and supported by clinician-researchers. This capacity supports funding applications for research and quality improvement activities and enables future innovative clinical and service development.

## Quality Improvement

In 2023 a Kids Rehab WA Quality Improvement Committee was established. The aim of the committee is to support Kids Rehab WA to make Quality Improvement (QI) and research accessible for all. The committee consists of eight members, representing all medical, nursing and allied health professions and each clinical program across Kids Rehab WA. Three key focus areas of the committee were identified:

1. Upskilling/Learning - increasing capacity for QI and use of the Governance, Evidence, Knowledge, Outcome (GEKO) platform
2. QI and GEKO formulation
3. Progressing QI projects

A Kids Rehab WA Clinical Research Team has been established in Microsoft Teams to make information about research projects and outputs and QI projects more accessible to Kids Rehab WA staff. The Team includes a channel that records and tracks the progress of GEKO registered projects.

## Governance, Evidence, Knowledge Outcomes (GEKO)

Kids Rehab WA initiated 9 new GEKO registered projects, independent of the 12 completed projects in the 2023-2025 period. There has been an increase in projects since the commencement of the QI committee. The projects submitted and completed span each program of Kids Rehab WA and include for example:

- Audit of Paediatric Movement Clinic patients (Cerebral Palsy Mobility Service Program)
- Audit of outcome measures used for Traumatic Brain Injury Patients in the Kid's Rehab Acquired Brain Injury program
- The need for a Psychological Parenting Support Group in Early Intervention Rehabilitation
- Cool Kids in Spinal Rehabilitation
- Summary of clinical profile, medical and allied health management, and sub-acute rehabilitation outcomes for young children with stroke (Intensive Day Rehabilitation – iRehab).

Kids Rehab WA is committed to service improvement with some GEKO projects providing a foundation for research projects aimed at adding to the evidence base to guide evidence informed clinical practice.

# Our Research Impact

2020 – 2025 at a glance

Trained **150 clinicians** in **gold standard** early detection assessments



Published **132 peer reviewed journal articles** that have been cited **2,086** times to date



Development and implementation of **5 International Clinical Practice Guidelines** into clinical workforce



**\$29.3 million** in active, competitive research funding



30% reduction in the rate and severity of CP, from **1 in 500** to **1 in 700** children, as per 2018 ACPR report



Over **100** national and international **partners** and **collaborators**



**100%** of projects led by Kids Rehab WA involve **consumers**



Network for **early detection** of CP commenced across **rural and remote WA**





# The Kids Research Institute Australia

## Kids Rehab Research WA – Strategic Partnership with The Kids Research Institute Australia



Kids Rehab Research WA is a leading research team embedded within Kids Rehab WA, a state-wide tertiary clinical, research, education, and training unit based at Perth Children's Hospital, under the Child and Adolescent Health Service (CAHS). Organisationally, our research arm sits within The Kids Research Institute Australia, where we contribute to national and international efforts to improve outcomes for children with acquired and congenital neurological conditions.

Our work aligns with Research Reimagined, The Kids Research Institute's bold 10-year strategy that champions challenge-driven science, community-led innovation, and equitable health outcomes for children. Kids Rehab Research WA exemplifies this mission through translational research that is clinically embedded, consumer-informed, and globally connected.

Key initiatives include:

**Early Moves:** Supported by funding from NHMRC and Perth Children's Hospital Foundation. A nationally significant study focused on the early detection of neurodevelopmental disorders such as cerebral palsy and autism. This program integrates neuroimaging, developmental surveillance, and family-centred care to identify and support infants at risk.

**CONNECT-CP:** A state-wide clinical research program funded by the Perth Children's Hospital Foundation, designed to improve equity in early detection and intervention for cerebral palsy. Connect-CP is building a digitally enabled network to connect services across WA, with a strong focus on reaching families in regional and remote communities.

Our multidisciplinary team includes:

**Team Co-Leads:** Professor Jane Valentine and Dr Ashleigh Thornton

**Head of Department (Kids Rehab WA):** Dr Anna Gubbay

**Honorary Research Associates and Health Professional Associates and Honorary Team Members:** Prof Catherine Elliott, Assoc/Prof Alison Salt, Dr Tiffany Grisbrook, Dr Sian Williams, Dr Sarah Hall, Sue-Anne Davidson, Dr Caroline Alexander, Dr Simon Garbellini, Dr Nofar Ben Itzhak, Dr Katherine Langdon, Dr Rowan Jonson, Dr Renae Dayman, Sam Armstrong, Nadine Smith, Kirstin Pascoe, Natasha Amery, Kathryn Malley





Curtin University’s School of Allied Health and Kid’s Rehab WA work collaboratively to facilitate and coordinate neurodevelopmental disability research and quality improvement activities that are embedded within Kids Rehab WA clinical programs. The leadership of Professor Courtenay Harris, in addition to Curtin’s financial contribution, has supported ongoing capacity building, continuity in our research team and increasing collaborations with students and staff across both sites.

**Current Kids Rehab WA staff at Curtin University:**

*Chair of Kids Rehab:* Professor Catherine Elliott

*Research Coordinator:* Dr Simon Garbellini

*Post Doctoral Research Fellows:* Dr Caroline Alexander and Dr Sarah Hall

*Post Doctoral Research Project Lead:* Dr Dayna Pool

*Clinical Assessors:* 21 clinical assessors across 8 projects.

*Curtin Associates:* Professor Jane Valentine, Dr Ashleigh Thornton, Dr Alison Salt, Dr Tiffany Grisbrook, Brooke Sanderson

**Honours student projects**

Year	Project Type	Number of projects	Number of students
2023	Occupational Therapy Research Honours*	2	8
2024	Speech and Language Pathology Research Honours	1	1
2025	Physiotherapy Research Honours	3	3

In 2023 two Occupational Therapy Research Honours Projects (8 students) were successfully completed.

\*In 2024 the two Occupational Research Honours Projects commenced in 2023 were successfully completed.



## Research Spotlight

### Genomic testing pathways for precision health in cerebral palsy

The Australian Federal Government, through the Medical Research Future Fund (MRFF), awarded over \$2.9 million to support a pioneering national research initiative investigating the genetic causes of cerebral palsy (CP). Led by Dr Clare van Eyk and Professor Jozef Gecz at The University of Adelaide, the project brings together a multidisciplinary team including Professor Jane Valentine, Dr Cathryn Poulton and Professor Gareth Baynam from the Child and Adolescent Health Service.

Cerebral palsy is the most common physical disability in childhood, and emerging evidence suggests that up to 30% of cases may involve genetic factors. This study aims to establish genomic testing pathways to improve early diagnosis and understanding of CP, ultimately enhancing health outcomes for children with CP.

The research integrates genomic sequencing with comprehensive clinical assessments to refine aetiological classification of CP. It will identify genetic contributors, correlate clinical and neuroimaging predictors, and evaluate the broader benefits of genomic testing for families. We will also assess the value of genomic testing, including the additional benefits to children and parents from achieving a definitive diagnosis or ruling out other conditions.

A cohort of 500 families across Australia—including NSW, Qld, Vic, WA, and SA—will participate, with recruitment facilitated by clinical teams and genetic counsellors. Blood samples from children and their biological parents will be collected for DNA analysis. Genomic sequencing and first-tier analysis will be conducted using NATA-accredited workflows at SA Pathology, with clinical reports and genetic counselling provided to families.

This project will establish a clinical genomics pathway for children with CP, enabling earlier and targeted interventions that may reduce or prevent lifelong disability.



Pictured left to right: Dr Cathryn Poulton, Professor Gareth Baynam and Professor Jane Valentine

Photo Source: Child and Adolescent Health Service website.



## Staff Spotlight



### Dr Caroline Alexander

Dr Caroline Alexander is a Post-doctoral Research Fellow at Curtin University and Kids Rehab WA. She also currently holds the title of the Imogen Miranda Suleski Fellow at The Kids Research Institute Australia.

Caroline completed her PhD at the University of Western Australia in 2018, where her research focused on the structural and functional musculoskeletal adaptations associated with botulinum toxin use in children with cerebral palsy. She joined the Kids Rehab WA team in 2019, initially as maternity leave cover in the Research Manager position, before taking the role of Early Moves Post-Doctoral Research Fellow. In this project Caroline has led the project roll-out at the flagship site of Joondalup Health Campus through ORIGINS, and collection of the baseline data including the General Movement Assessment.

With recruitment and baseline data collection now complete, Caroline is enjoying the opportunity to analyse and disseminate early results, while continuing to support Early Moves research data management, strategic and operational tasks. In her role as Imogen Miranda Suleski Fellow at The Kids, Caroline is using Kids Rehab WA clinical data to investigate how we can better use existing assessment tools to predict later cognitive development among infants at high-risk, to ensure we get the right intervention, to the right child, at the right time.

She is passionate about conducting demand driven and translatable research, with particular interest in the use of existing health data to reduce research burden and maximise clinical impact.

### Dr Nofar Ben Itzhak

Dr. Nofar Ben Itzhak is a paediatric clinical psychologist and international clinical researcher who joined Kids Rehab WA in June 2025 as a Senior Research Fellow on the CONNECT-CP project. This statewide initiative aims to improve the early detection and diagnosis of cerebral palsy across Western Australia by strengthening regional workforces and equipping healthcare providers with specialist training, digital health tools, and culturally appropriate pathways to improve outcomes for children and families.

Nofar completed her PhD at KU Leuven, Belgium, where she developed and evaluated a game-based rehabilitation program for children with cerebral visual impairment (CVI). During her three-year postdoctoral position, she co-led a multi-centre randomised controlled trial in Belgium, assessing the effectiveness of this intervention in improving visual perception and quality of life in children with CVI.

Her research and clinical expertise span visual perception assessment, eye tracking, and co-design of tailored rehabilitation for children with neurodevelopmental disabilities. Nofar is passionate about early detection, family-centred care, translating research into real-world clinical practice, and meaningful community engagement.



Nofar has authored 20 peer-reviewed publications and worked in collaboration with clinical and research teams in the United States, Canada, Europe, and New Zealand. Nofar is also a member of the ICEVI Europe CVI Network, the Perkins School for the Blind Advisory Group (USA), and the Cognitive Assessment in Cerebral Palsy Group.

Now based in Western Australia, Nofar is eager to work alongside families, clinicians, and researchers to transform early detection and early intervention services across the state.

## Knowledge Translation

### Nadine Smith, PhD

Nadine is a physiotherapist in the Kids Rehab WA Cerebral Palsy Mobility Service Movement Clinic, where she has worked extensively with children and young people with cerebral palsy, many of whom experience chronic pain. Her clinical work, particularly within the Movement team motivated her to pursue research aimed at addressing the significant equity gap in the assessment and management of chronic pain for people with disabilities. She recently submitted a PhD titled “Development of a core outcome set to assess chronic pain for young people with cerebral palsy using a biopsychosocial approach”. This core outcome set was developed in collaboration with clinicians and in partnership with people with the lived experience of chronic pain, including young people with cerebral palsy and their caregivers. The recommended assessment tools measure the impact of chronic pain on someone’s everyday life, including emotional functioning. To support clinical decision making, a decision tree has been developed to help guide selection of the most appropriate assessment tool, based on whether the young person is able to self-report or whether proxy or observational report is required. By enhancing how chronic pain is assessed across key domains of a person’s life, this research aims to better identify those who may benefit from referral to best practice, multidisciplinary therapies.



# Rae Robinson, WA Department of Health Churchill Fellowship to explore innovations using robotics and telerehabilitation in children's rehabilitation

Written by Rae Robinson



Above: KITE ( Knowledge, Innovation, Talent, Everywhere) Institute Toronto Rehabilitation Research Labs – phenomenal!

With the support of Kids Rehab WA, I pursued my passion in paediatric rehabilitation through a Churchill Fellowship travelling through Asia, Europe, United Kingdom, USA and Canada during the latter part of 2023. For two amazing months I observed and was immersed in the daily functioning of 9 paediatric rehabilitation hospitals, 4 rehabilitation institutes, 4 robotic device manufacturers, one university rehabilitation faculty and 3 virtual rehabilitation sessions. -I explored the use of innovative models of care, therapeutic robotics and telerehabilitation to inform service development here in Western Australia and nationally. Reciprocally, I was able to share with international colleagues Kids Rehab data and models of care for implementing robotic technology into clinical practice as I travelled.

On my return to contextualise and translate and the knowledge gained during the Fellowship into clinical practice here at PCH and nationally in other paediatric services since returning I have been busy:

1. Project managing the 2 Kids Rehab WA successful grant applications to procure 2 Zero G Dynamic Body Weight Support Robotic devices and a Woodway Treadmill for installation into Clinic L at PCH. This has included establishing contacts for future research projects with other Australian tertiary paediatric rehabilitation centres and development of the new *P3 Physiotherapy Coordinator – Rehabilitation and Rehabilitation Technology* physiotherapy position. This position will provide specialist physiotherapy intervention, ongoing support for clinicians as the new robotics devices are incorporated into children's programs, ensuring best evidence-based care and ongoing research into their use.
2. Organising and facilitating FES training sessions with interstate trainers (onsite and virtual) for PCH Physiotherapy, Occupational Therapy and Rehab Medical teams to improve the clinical utility of these modalities.
3. Presenting for PCH Kids Rehab and Physiotherapy Departments and interstate conference presentations:
  - ISPRM 2024 Sydney Panel Presenter: The role of technology in rehabilitation for children and young adults.
  - PRECI 2024 Queensland – Telerehabilitation - Harnessing learnings from the Covid-19 pandemic to deliver equitable care in a child's natural environment.



Above: Woodway Treadmill Kennedy Krieger Virginia



4. Travelled to Westmead Children's Hospital in Sydney to share my Churchill knowledge utilising rehabilitation robotics and Kids Rehab robotic research.
5. Hosted visiting clinicians from Hocoma Singapore and the NSW Royal Rehab Ryde Rehabilitation during visits at PCH.

## Awards

### 2024 Transformative Practice Award

*Recipients:* Ashleigh Thornton and Dayna Pool

*Presented by:* Australasian Academy of Cerebral Palsy and Developmental Medicine

*Recognition:* Acknowledges contribution to and encouragement of evidence-based practice and how the recipients translate research into practice to optimise outcomes for people with childhood onset disability

Right: Dayna and Ashleigh receiving their award at the AusACPDM Conference, Cairns QLD



### 2024 Research with Impact Award

*Awarded to:* Kids Rehab WA Research Team

*Presented by:* enAble Institute, Curtin University

*Recognition:* For outstanding research which has demonstrated impact outside of the academic community

Left: Members of the Kids Rehab WA Curtin enAble team receive their Research Impact award

### Nomination – Children's Healthcare Australasia 2024 Team Medal of Distinction

*Nominees:* Rae Robinson and team

*Presented by:* Children's Healthcare Australasia

*Recognition:* For excellence in teamwork and collaboration that enhances paediatric healthcare delivery.

## MESISIG Poster Prize for Excellence in Methods and Trustworthiness

*Recipient:* Nadine Smith

*Event:* International Paediatric Pain Symposium, Glasgow 2025

*Details:* Nadine was shortlisted and delivered a 5-minute presentation defending her poster. *Learn more:* Want to know what trustworthiness in pain research is about? Visit <https://m.entrust-pe.org/>.

## Development of a core outcome set to assess chronic pain in young people with cerebral palsy

Smith N, Gibson N, Thornton A, Imms C & Harvey A.

### Background:

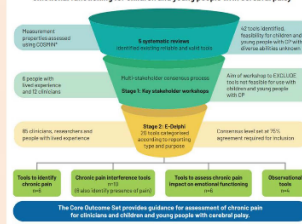
- Chronic pain is a common co-morbidity for children and young people with cerebral palsy
- Assessment of psychosocial domains has not been routine in clinical care
- Many assessment tools exist, however measurement properties and feasibility for children and young people with diverse communication and cognitive abilities was unknown.

### Aim:

To develop a core outcome set (COS) of chronic pain assessment tools for people with CP with diverse communication, cognitive and motor abilities.

### Methods:

A core outcome set to assess chronic pain interference and impact on emotional functioning for children and young people with cerebral palsy



**Results:** Twenty tools included in the COS as shown in the table below

Assessment Tool type	Identify presence of pain	Pain interference	Impact on emotional functioning
<b>Patient Reported Outcome Measure</b>	<ul style="list-style-type: none"><li>• Modified Brief Pain Inventory self</li><li>• Pain Burden Inventory-Youth</li><li>• Pain Interference Index</li><li>• Cerebral Palsy Quality of Life-teen (CP QoL) (pain and bother)</li></ul>	<ul style="list-style-type: none"><li>• Modified Brief Pain Inventory self</li><li>• PROMIS Pediatric Pain Interference self</li><li>• Pain Interference Index, Pain Burden Inventory-Youth, Pediatric Pain Screening Tool</li><li>• CP QoL teen (pain and bother subscale)</li></ul>	<ul style="list-style-type: none"><li>• Fear of Pain Questionnaire-child-self</li><li>• Fear of Pain Questionnaire-child self</li><li>• Pain Coping Questionnaire-of self</li></ul>
<b>Observer Reported Outcome Measure (ObsROM) (parent-proxy)</b>	<ul style="list-style-type: none"><li>• Pain Burden Inventory-Youth caregiver</li><li>• CP QoL-teen (pain and bother) parent/caregiver</li></ul>	<ul style="list-style-type: none"><li>• Modified Brief Pain Inventory parent proxy</li><li>• PROMIS Pediatric Pain Interference parent proxy</li><li>• Pain Burden Inventory-Youth caregiver</li><li>• CP QoL-teen (pain and bother) subscale parent/caregiver</li></ul>	<ul style="list-style-type: none"><li>• Fear of Pain Questionnaire-child - parent</li><li>• Fear of Pain Questionnaire-of parent</li><li>• Pain Coping Questionnaire-of parent</li></ul>
<b>ObsROM (observational)</b>	<ul style="list-style-type: none"><li>• Paediatric Pain Profile baseline</li><li>• Paediatric Pain Profile ongoing</li><li>• Non-Communicating Children's Pain Checklist- Revised</li><li>• CP CHILLD (comfort and emotional)</li></ul>	<ul style="list-style-type: none"><li>• Paediatric Pain Profile baseline</li><li>• Paediatric Pain Profile ongoing</li><li>• Non-Communicating Children's Pain Checklist- Revised</li><li>• CP CHILLD (comfort and emotional)</li></ul>	

### Conclusion and Future Directions:

- A core outcome set informed by consumer and clinician stakeholders is available for use in routine clinical care
- A pilot implementation study has been trialed to embed the COS in routine clinical care and will inform a scaled implementation study



Government of Western Australia  
Child and Adolescent Health Service



Perth Children's Hospital



Contact: Nadine.smith@health.wa.gov.au

ISPP Conference June 2025

## Current competitive grants

Funding Body	Funding Amount	Ends	Study Name and Investigators
Grants led by Kids Rehab WA			
PCH Foundation	\$3.17m	2029	<p>A Clinical Research Program to Improve Connection, Access and Translation of Evidence in Cerebral Palsy (CONNECT-CP)</p> <p>(Jane Valentine, Catherine Elliott, Tiffany Grisbrook, Caroline Alexander, Sue-Anne Davidson, Alison Salt, Sian Williams, Sarah Hall, Simon Garbellini, Courtenay Harris, Ashleigh Thornton, Dayna Pool, Roz Ward, Alishum Ali, Anna Gubbay, Slade Sibosado, Alicia Spittle, Anna Robson, Mary Sharp)</p>
PCH Foundation	\$156,810.98	2023	<p>Developing a sustainable family- clinician-researcher network for education and training in the early detection of cerebral palsy for all infants in Western Australia.</p> <p>(Jane Valentine, Alison Salt, Sue-Anne Davidson, Ashleigh Thornton, Andrew Savery, Mary Sharp, Antony Clark, Tiffany Grisbrook, Catherine Elliott)</p>
MRFF – Primary Health Care Research	\$1.58m	2027	<p>CP Movetime.</p> <p>(Catherine Elliott, Dayna Pool, Stewart Trost, Christine Imms, Olaf Verscuren, Sarah Reedman, Ben Jackson, Amity Campbell, Mark Peterson, Ewan Cameron, Rachael Moorin, Siohan Reid, Jane Valentine, Ashleigh Thornton, Leon Straker)</p>
Enabling Allied Health Research Capacity - Chief Allied Health Office and WA Health Translation Network	\$30k	2026	<p>Functional outcome following orthopaedic surgery for gait correction in children with cerebral palsy at an activity and participation level.</p> <p>(Maxine Fong)</p>
NHMRC Clinical Trials and Cohort Studies	\$2.2m	2026	<p>Early Moves: A prospective cohort study to identify an early biomarker for cognitive impairment.</p> <p>(Catherine Elliott, Jane Valentine, Alicia Spittle, Roslyn Boyd, Nadia Badawi, Catherine Morgan, Desiree Silva, Elizabeth Geelhoed, Robert Ware, Svetha Venkatesh.)</p>
PCH Foundation	\$1.5m	2025	<p>Early Moves.</p> <p>(Catherine Elliott, Jane Valentine)</p>



Cerebral Palsy Alliance	\$250K	2024	Early Moves (Catherine Elliott, Jane Valentine)
WA Child Research Fund	\$242K	2023	Early Moves (Catherine Elliott, Jane Valentine)
Grants led by other institutions			
MRFF	\$2.95m	2027	Genomic testing pathways for precision health in cerebral palsy.  (Jozef Gecz, Clare van Eyk, Michael Fahey, Iona Novak, Catherine Morgan, Roslyn Boyd, Russell Dale, James Rice, Cathryn Poulton, Sarah McIntyre, Natasha Garrity, Tracy Comans, Jane Valentine, Nadia Badawi, Kathryn Friend)
Department of Health (Western Australia) -	\$392K	2024	Detecting pain in kids who can't tell you it hurts: PainChek for children with disabilities.  (Assoc Prof Jenny Downs, Dr Marie Blackmore, Dr Jeff Hughes, Dr Katherine Langdon [Site lead], Nadine Smith, Janet Jonas-Oliver, Assoc Prof David Sommerfield, Prof Fiona Wood, Prof Britta Regli-von Ungern-Sternberf, Peter Jacoby)
National Health and Medical Research Council	\$1.537m	2026	Reducing potentially preventable hospitalisations and building health literacy for children and adolescents with intellectual disability.  (Assoc Prof Jenny Downs, Dr Katherine Langdon [Site lead])
MRFF Maternal First 2,000 Days and Childhood Health	\$1.44m	2025	SCHOOL READINESS: 4–5-year-old follow-up of randomised trials of Neuroprotection and Neurorehabilitation for children at risk of cerebral palsy.  (Prof Roslyn Boyd, Prof Iona Novak, Dr Catherine Morgan, Assoc Prof Leanne Sakzewski, Assoc Prof Michael Fahey, Prof Robert Ware, Assoc Prof Tracy Comans, Dr Koa Whittingham, Prof Stewart Trost, Dr Kerstin Pannek).  Site Leads: Tiffany Grisbrook and Alison Salt
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, Professor Catherine Elliott, Professor Nadia Badawi)
National Health and Medical Research Council	\$2.4m	2026	ACTIVE STRIDES-CP: 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, Elliott, Novak, Pool, Trost, Ware, Comans, Toovey, Peterson)
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, Dr Jane Valentine, Prof Catherine Elliott)
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, Prof Jane Valentine, Dr Thomas Walwyn, Ms Kim Laird (Child and Adolescent Health Service), Prof Catherine Elliott (Curtin University), 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)
Canadian Institutes of Health Research	\$646K	2024	ENAbiling 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: Jane Valentine]

# Publications

## July 2023 – December 2023

Adams, E. K., Nathan, A., Trost, S. G., Schipperijn, J., Shilton, T., Trapp, G., Maitland, C., **Thornton, A.**, McLaughlin, M., George, P., Wenden, E., & Christian, H. (2023). Play Active physical activity policy intervention and implementation support in early childhood education and care: results from a pragmatic cluster randomised trial [Article]. *International Journal of Behavioural Nutrition and Physical Activity*, 20(1), Article 46. <https://doi.org/10.1186/s12966-023-01442-0>

Imms, C., Wallen, M., **Elliott, C.**, Hoare, B., Greaves, S., Randall, M., & Orsini, F. (2023). Implications of providing wrist-hand orthoses for children with cerebral palsy: evidence from a randomised controlled trial [Article]. *Disability and Rehabilitation*, 45(12), 2046-2056. <https://doi.org/10.1080/09638288.2022.2079734>

McLaughlin, M., Nathan, A., **Thornton, A.**, Schipperijn, J., Trost, S. G., & Christian, H. (2023). Adaptations to scale-up an early childhood education and care physical activity intervention for real-world availability — Play Active [Article]. *International Journal of Behavioral Nutrition and Physical Activity*, 20(1), Article 65. <https://doi.org/10.1186/s12966-023-01457-7>

Morais, R., Le, V., Morgan, C., Spittle, A., Badawi, N., **Valentine, J.**, Hurron, E. M., Dawson, P. A., Tran, T., & Venkatesh, S. (2023). Robust and Interpretable General Movement Assessment Using Fidgety Movement Detection [Article]. *IEEE Journal of Biomedical and Health Informatics*, 27(10), 5042-5053. <https://doi.org/10.1109/JBHI.2023.3299236>

Sakzewski, L., Reedman, S. E., **Elliott, C.**, Ziviani, J., Novak, I., Trost, S., Majnemer, A., Comans, T., Shikako, K., Ware, R. S., McNamara, L., Williams, S., Keramat, S. A., Brookes, D., & Boyd, R. N. (2023). Participate CP 2: Optimising participation in physically active leisure for children with cerebral palsy - Protocol for a phase III randomised controlled trial [Article]. *BMJ Open*, 13(10), Article e075570. <https://doi.org/10.1136/bmjopen-2023-075570>

Simpson, A., Stein, M., Rosenberg, M., Ward, B., Derbyshire, A., **Thornton, A. L.**, & Jackson, B. (2023). Early childhood educator outcomes from online professional development for physical literacy: A randomised controlled trial [Article]. *Psychology of Sport and Exercise*, 68, Article 102464. <https://doi.org/10.1016/j.psychsport.2023.102464>

**Smith, N., Garbellini, S.**, Bear, N., **Thornton, A.**, **Watts, P.**, & **Gibson, N.** (2023). Effect of targeted movement interventions on pain and quality of life in children with dyskinetic cerebral palsy: a pilot single subject research design to test feasibility of parent-reported assessments [Article]. *Disability and Rehabilitation*, 45(10), 1646-1654. <https://doi.org/10.1080/09638288.2022.2072007>

Ward, R., Hennessey, N., Barty, E., Cattle Moore, R., **Elliott, C.**, & **Valentine, J.** (2023). Profiling the Longitudinal Development of Babbling in Infants with Cerebral Palsy: Validation of the Infant Monitor of Vocal Production (IMP) Using the Stark Assessment of Early Vocal Development-Revised (SAEVD-R) [Article]. *Diagnostics*, 13(23), Article 3517. <https://doi.org/10.3390/diagnostics13233517>

## January 2024 – December 2024

**Alexander, C.**, Amery, N., **Salt, A.**, Morgan, C., Spittle, A., Ware, R. S., **Elliott, C.**, & **Valentine, J.** (2024). Inter-rater reliability and agreement of the General Movement Assessment and Motor Optimality Score-Revised in a large population-based sample [Article]. *Early Human Development*, 193, Article 106019. <https://doi.org/10.1016/j.earlhumdev.2024.106019>

Bear, N. L., Wilson, A., Blackmore, A. M., Geelhoed, E., Simpson, S., & **Langdon, K.** (2024). The cost of respiratory hospitalizations in children with cerebral palsy [Article]. *Developmental Medicine and Child Neurology*, 66(3), 344-352. <https://doi.org/10.1111/dmcn.15714>

Perth Children's Hospital and Neonatology | Community Health | Mental Health





Benfer, K. A., Whittingham, K., Ware, R. S., Ghosh, A. K., Chowdhury, S., Moula, G., Samanta, S., Khan, N. Z., Bell, K. L., Oftedal, S., Bandaranayake, S., **Salt, A. T.**, Bhattacharya, A., Maiti, P., Tripathi, S. K., Morgan, C., Novak, I., & Boyd, R. N. (2024). Efficacy of Early Intervention for Infants With Cerebral Palsy in an LMIC: An RCT [Article]. *Pediatrics*, 153(4), Article e2023063854. <https://doi.org/10.1542/peds.2023-063854>

**Boettcher-Hunt, E.**, Boyd, R. N., & **Gibson, N.** (2024). Hip displacement in children with post-neonatal cerebral palsy and acquired brain injury: a systematic review [Review]. *Brain Injury*, 38(10), 751-763. <https://doi.org/10.1080/02699052.2024.2350049>

Cusso, M., Cooper, I., Beer, K., Naseri, C., **Garbellini, S.**, Doverty, A., Corcoran, G., & Needham, M. (2024). Consumer-driven evaluation of assistive technology usage and perceived value in people with myositis in Australia [Article]. *Australian Occupational Therapy Journal*, 71(5), 686-698. <https://doi.org/10.1111/1440-1630.12954>

Dale, N., Sakkalou, E., Eriksson, M. H., & **Salt, A.** (2024). Modification and Validation of an Autism Observational Assessment Including ADOS-2® for Use with Children with Visual Impairment [Article]. *Journal of Autism and Developmental Disorders*. <https://doi.org/10.1007/s10803-024-06514-z>

Finlay-Jones, A. L., Ang, J. E., Brook, J., Lucas, J. D., MacNeill, L. A., Mancini, V. O., Kottampally, K., **Elliott, C.**, Smith, J. D., & Wakschlag, L. S. (2024). Systematic Review and Meta-Analysis: Early Irritability as a Transdiagnostic Neurodevelopmental Vulnerability to Later Mental Health Problems [Article]. *Journal of the American Academy of Child and Adolescent Psychiatry*, 63(2), 184-215. <https://doi.org/10.1016/j.jaac.2023.01.018>

**Garbellini, S.**, Dew, A., Imms, C., Darcy, S., McVilly, K., & Gallego, G. (2024). Identifying priorities for Australian disability research using Q methodology [Article]. *Disability and Health Journal*, 17(3), Article 101634. <https://doi.org/10.1016/j.dhjo.2024.101634>

Gill, I., Davidson, S. A., Stevenson, P. G., **Robinson, R.**, Pool, D., & **Valentine, J.** (2024). Outcomes following intensive day rehabilitation for young people in Western Australia [Article]. *Journal of Pediatric Rehabilitation Medicine*, 17(2), 167-178. <https://doi.org/10.3233/PRM-220102>

Gray, C., Leonard, H., Wong, K., Reed, S., Schmidt, K., Skoss, R., Li, J., **Salt, A.**, Bourke, J., & Glasson, E. J. (2024). Down syndrome or Rett syndrome in the family: Parental reflections on sibling experience [Article]. *Journal of Intellectual and Developmental Disability*, 49(1), 11-24. <https://doi.org/10.3109/13668250.2023.2225353>

Harvey, A., **Smith, N.**, Smith, M., Ostojic, K., & Berryman, C. (2024). Chronic pain in children and young people with cerebral palsy: a narrative review of challenges, advances, and future directions. *BMC Med*, 22(1), 238. <https://doi.org/10.1186/s12916-024-03458-0>

Johnson, R. W., White, B. K., **Gibson, N.**, Gucciardi, D. F., & Williams, S. A. (2024). A mixed-methods feasibility study of a gamified therapy prescription app for children with neurodisability. *Physical & Occupational Therapy In Pediatrics*, 44(4), 586-603.

Kleeren, L., Mailleux, L., McLean, B., Elliott, C., Dequeker, G., Van Campenhout, A., de Xivry, J. J. O., Verheyden, G., Ortibus, E., Klingels, K., & Feys, H. (2024). Does somatosensory discrimination therapy alter sensorimotor upper limb function differently compared to motor therapy in children and adolescents with unilateral cerebral palsy: study protocol for a randomized controlled trial [Article]. *Trials*, 25(1), Article 147. <https://doi.org/10.1186/s13063-024-07967-4>

Marpole, R., Blackmore, A. M., Wilson, A. C., Cooper, M. S., Depiazzi, J., **Langdon, K.**, Moshovis, L., Geelhoed, E., Bowen, A., & **Gibson, N.** (2024). Can RESPIratory hospital Admissions in children with cerebral palsy be reduced? A feasibility randomised Controlled Trial pilot study protocol (RESP-ACT) [Article]. *BMJ Open*, 14(2), Article e076730. <https://doi.org/10.1136/bmjopen-2023-076730>

Marpole, R. M., Bowen, A. C., **Langdon, K.**, Wilson, A. C., & **Gibson, N.** (2024). Antibiotics for the treatment of lower respiratory tract infections in children with neurodisability: Systematic review [Review]. *Acta Paediatrica, International Journal of Paediatrics*, 113(6), 1203-1208. <https://doi.org/10.1111/apa.17240>

Reynolds, J. E., Alvares, G. A., Williams, J., Froude, E., **Elliott, C.**, McIntyre, S., Whitehouse, A. J. O., Evans, K. L., Reid, S. L., Cairney, J., & Licari, M. K. (2024). Investigating the impact of developmental coordination difficulties across home, school, and community settings: Findings from the Australian Impact for DCD survey [Article]. *Research in Developmental Disabilities*, 147, Article 104712. <https://doi.org/10.1016/j.ridd.2024.104712>

Simpson, A., Jackson, B., **Thornton, A. L.**, Rosenberg, M., Ward, B., Roberts, P., Derbyshire, A., & Budden, T. (2024). Parents on the Concept of Physical Literacy: What Do They Know, What Do They Do, and What Do They Want? [Article]. *Journal of Sport and Exercise Psychology*, 46(2), 100-110. <https://doi.org/10.1123/jsep.2023-0207>

Simpson, A., Teague, S., Kramer, B., Lin, A., **Thornton, A. L.**, Budden, T., Furzer, B., Jeltic, I., Dimmock, J., Rosenberg, M., & Jackson, B. (2024). Physical activity interventions for the promotion of mental health outcomes in at-risk children and adolescents: a systematic review [Review]. *Health Psychology Review*, 18(4), 899-933. <https://doi.org/10.1080/17437199.2024.2391787>

Sivaramakrishnan, H., Davis, E., Obadimeji, L., **Valentine, J.**, Wood, F., Shetty, V., & Finlay-Jones, A. (2024). Behavior Change Techniques Involved in Physical Activity Interventions for Children with Chronic Conditions: A Systematic Review [Article]. *Annals of Behavioral Medicine*, 58(8), 527-538. <https://doi.org/10.1093/abm/kaae033>

**Smith, N.** (2024). Chronic pain assessment for young people with cerebral palsy: Moving beyond pain intensity. *Dev Med Child Neurol*, 66(5), 554-555. <https://doi.org/10.1111/dmcn.15771>

Tofts, L., Ireland, P., Tate, T., Raj, S., Carroll, T., Munns, C. F., Knipe, S., **Langdon, K.**, McGregor, L., McKenzie, F., Zankl, A., & Savarirayan, R. (2024). Consensus Guidelines for the Use of Vosoritide in Children with Achondroplasia in Australia [Article]. *Children*, 11(7), Article 789. <https://doi.org/10.3390/children11070789>

Ullenhag, A., Imms, C., Anaby, D., Kramer, J. M., Girdler, S., Gorter, J. W., Ketelaar, M., Jahnsen, R. B., **Elliott, C.**, & Granlund, M. (2024). How can we reach long-lasting inclusive participation for all? A vision for the future [Article]. *Child: Care, Health and Development*, 50(2), Article e13249. <https://doi.org/10.1111/cch.13249>

## January 2025 - June 2025

**Alexander, C. F., Hall, S. E., Salt, A.**, Spittle, A., Morgan, C., **Grisbrook, T.**, Ali, A., Amery, N., **Davidson, S. A., Thornton, A.**, Sharp, M., Young, E., Ware, R. S., Silva, D., Ward, R., Badawi, N., Bora, S., Boyd, R. N., Woolfenden, S.,...**Valentine, J.** (2025). Implementation Fidelity of a Smartphone Application for Population-Based General Movement Assessment: the Early Moves Study. *J Pediatr*, 114710.

Anpalagan, K., Jacoby, P., Stannage, K., Leonard, H., **Langdon, K., Gibson, N.**, Nagarajan, L., Wong, K., & Downs, J. (2025). Hospitalizations Following Complex Hip Surgery in Children with Intellectual Disability: A Self-Controlled Case Series Analysis [Article]. *Journal of Pediatrics*, 278, Article 114435. <https://doi.org/10.1016/j.jpeds.2024.114435>

Boyd, R. N., Greaves, S., Ziviani, J., Novak, I., Badawi, N., Pannek, K., **Elliott, C.**, Wallen, M., Morgan, C., **Valentine, J.**, Findlay, L., Guzzetta, A., Whittingham, K., Ware, R. S., Fiori, S., Maitre, N. L., Heathcock, J., Scott, K., Eliasson, A. C., & Sakzewski, L. (2025). Randomized Comparison Trial of Rehabilitation Very Early for Infants with Congenital Hemiplegia [Article]. *Journal of Pediatrics*, 277, Article 114381. <https://doi.org/10.1016/j.jpeds.2024.114381>



**Davidson, S. A., Thornton, A.,** Hersh, D., Harris, **C., Elliott, C., & Valentine, J.** (2025). 'Feeling like you can't do anything because you don't know where to start'-Parents' Perspectives of Barriers and Facilitators to Accessing Early Detection for Children at Risk of Cerebral Palsy. *Child Care Health Dev*, 51(4), e70100. <https://doi.org/10.1111/cch.70100>

**Garbellini, S.,** Parsons, D., & Imms, C. (2025). Use of the Neurological Hand Deformity Classification in clinical practice for children with cerebral palsy: a case study approach [Article]. *Disability and Rehabilitation*. <https://doi.org/10.1080/09638288.2025.2458752>

Morais, R., Tran, T., **Alexander, C.,** Amery, N., Morgan, C., Spittle, A., Le, V., Badawi, N., **Salt, A., Valentine, J., Elliott, C.,** Hurriion, E. M., Dawson, P. A., & Venkatesh, S. (2025). Fine-Grained Fidgety Movement Classification Using Active Learning [Article]. *IEEE Journal of Biomedical and Health Informatics*, 29(1), 596-607. <https://doi.org/10.1109/JBHI.2024.3473947>

Nevill, T., Keely, J., Skoss, R., Collins, R., **Langdon, K.,** Mills, J., & Downs, J. (2025). What I Wish I Had Known: Examining Parent Accounts of Managing the Health of Their Child With Intellectual Disability [Article]. *Health Expectations*, 28(1), Article e70138. <https://doi.org/10.1111/hex.70138>

**Ogilvie, L., Garbellini, S.,** Sakzewski, L., **Davidson, S. A., & Elliott, C.** (2025). Key elements of Goal-Directed Training for children with cerebral palsy: A qualitative content analysis [Article]. *British Journal of Occupational Therapy*, 88(1), 17-24. <https://doi.org/10.1177/03080226241269239>

Page, J. S., Edgar, D. W., **Grisbrook, T. L.,** Jacques, A., Gittings, P. M., Wood, F. M., & Brade, C. J. (2025). Session Rating of Perceived Exertion Is a Valid Method to Monitor Intensity of Exercise in Adults with Acute Burn Injuries [Article]. *European Burn Journal*, 6(1), Article 4. <https://doi.org/10.3390/ebj6010004>

Sakzewski, L., Bleyenheuft, Y., Novak, I., **Elliott, C.,** Reedman, S., Morgan, C., Pannek, K., Santos, N. D., Hines, A., Nolan, S., Ware, R. S., & Boyd, R. N. (2025). A Multisite Randomized Controlled Trial of Hand Arm Bimanual Intensive Training Including Lower Extremity for Children with Bilateral Cerebral Palsy. *J Pediatr*, 284, 114666. <https://doi.org/10.1016/j.jpeds.2025.114666>

Simpson, A., Jackson, B., Willis, C., Lin, A., **Thornton, A. L.,** Furzer, B., Dimmock, J., Jeftic, I., Rosenberg, M., & Budden, T. (2025). "That's not fair on my kid": Carers' perspectives on sport participation and experiences for children in out-of-home care [Article]. *Psychology of Sport and Exercise*, 78, Article 102802. <https://doi.org/10.1016/j.psychsport.2025.102802>

**Smith, N. L., Gibson, N.,** Bear, N., **Thornton, A. L.,** Imms, C., Smith, M. G., & Harvey, A. R. (2025). Measurement properties and feasibility of chronic pain assessment tools for use with children and young people with cerebral palsy [Review]. *Disability and Rehabilitation*, 47(4), 840-854. <https://doi.org/10.1080/09638288.2024.2362398>

**Smith, N. L., Gibson, N.,** Imms, C., **Thornton, A. L., & Harvey, A. R.** (2025). A core outcome set to assess chronic pain interference and impact on emotional functioning for children and young people with cerebral palsy. *Dev Med Child Neurol*. <https://doi.org/10.1111/dmcn.16325>

**Twyford, K.,** Taylor, S., **Valentine, J.,** Pool, J., Baron, A., & **Thornton, A.** (2025). Functional outcomes in children and adolescents with neurodisability accessing music therapy: A scoping review [Review]. *Developmental Medicine and Child Neurology*, 67(4), 428-442. <https://doi.org/10.1111/dmcn.16135>



# Conference Presentation Summary

The following Kids Rehab WA staff have been active in presenting and disseminating results of their research activity. Please note the below list includes only those who served as speakers. Many other staff members from Kids Rehab WA also played key roles in developing numerous posters and conference materials.

## July 2023 – December 2023

### National Allied Health Conference, Perth, August 2023

Karen Twyford	Finding the words: An interprofessional Occupational Therapy & Music Therapy approach with an adolescent presenting with pervasive refusal behaviours  Music Therapy in Paediatric Neurodisability: Exploring the Evidence for Functional Outcomes (Poster Presentation)
---------------	--

### RehabWeek Singapore, September 2023

Dr Rowan Johnson	Development and feasibility of a gamified therapy prescription app for children with cerebral palsy and other neurodisability
------------------	---

### International Symposium on Paediatric Pain, Halifax, Canada, October 2023

Nadine Smith	Co-designing pain assessment for children and young people with Cerebral Palsy (Pain Education Day)  The development of a tool to rate the feasibility of chronic pain outcome measures in children with cerebral palsy (Paper Presentation)
--------------	--

### CAHS Child Health Research Symposium, Perth Children's Hospital, November 2023

Sue-Anne Davidson	Parents' perspectives of barriers to accessing early detection of cerebral palsy
Dr Katherine Langdon	General health outcomes for children with cerebral palsy after hip surgery
Karen Twyford	The Impact of Music Therapy in Paediatric Acquired Brain Injury Rehabilitation
Prof Jane Valentine	The Early Moves Study: Investigating whether a baby's early movement can predict learning difficulties in childhood



## January 2024 – December 2024

### European Academy of Childhood Disability, Bruges, Belgium, May 2024

Kids Rehab WA staff delivered three presentations and collaborated on another 10 at the conference in Bruges. The presentations included:

Dr Caroline Alexander	Exploring the diagnostic utility and qualitative parent experience of population-based screening for cerebral palsy using General Movement Assessment
Sue-Anne Davidson	A qualitative study of parents' and health providers' perspectives of barriers and facilitators to accessing early detection and early intervention for children at risk of cerebral palsy
Dr Katherine Langdon	Hospitalisations following complex hip surgery in children with intellectual disability

### Australasian Academy of Cerebral Palsy and Developmental Medicine, Cairns, Australia, July 2024

Dr Caroline Alexander	Outcomes of the Motor Optimality Score-Revised in a large population-based cohort
Dr Noula Gibson	Rebooting collaborative care: Integrated model of health and community services for children with cerebral palsy and medical complexity
Dr Rowan Johnson	Apps for Children with Disabilities: Effectiveness of Mobile Health Technology for Adherence and Engagement with Home Therapy Programs
Nadine Smith	A core outcome set of chronic pain assessment tools for young people with cerebral palsy: consensus from key stakeholders  Multidimensional pain experience in children before and one to two years following selective dorsal rhizotomy

### CAHS Child Health Research Symposium, Perth Children's Hospital, November 2024

Natalie Cavallo	Early detection of Cerebral Vision Impairment in children at risk of cerebral palsy
Sue-Anne Davidson	Health professional perspectives of barriers to early detection of cerebral palsy
Karen Twyford	Music Therapy in Paediatric Neurodisability: Results of a scoping review
Nadine Smith	A core outcome set of chronic pain assessment tools for young people with cerebral palsy: consensus from key stakeholders

January 2025 - June 2025

**Australian Pain Society Conference, Melbourne, April 2025**

Nadine Smith	Development of a core outcome set and decision tree to assess chronic pain in young people with cerebral palsy
--------------	--

**The combined congress of the European Academy together with the International Alliance of Academies of Childhood Disability (EACD-IAACD), Heidelberg, Germany, June 2025**

Dr Caroline Alexander	Feasibility of app-based General Movement Assessment screening in a population-based cohort.  Outcomes of the General Movement Optimality Score-Revised and the Motor Optimality Score-Revised in a large general population-based cohort.
Jennifer Colegate	Practical application of somatosensory assessments  Upper Limb Robotics: Connecting Robotic Intervention with Children's Functional Outcomes
Dr Noula Gibson	RESP-ACT – what do our children and families need: Qualitative results from family's experience of RESPACT  Effective implementation strategies – what works and how
Dr Sarah Hall	Predictive outcomes of the General Movement Assessment in Infancy for Cognitive Outcomes: A Systematic Review
Dr Katherine Langdon	Introduction to RESPACT: What it is and what it involves
Professor Alison Salt	Neuro-visual function in infancy and complex disability  How CPG-CVI can be used to enhance your own practice
Nadine Smith	The important roles of pain behaviours, emotions and thoughts  Pilot implementation of an evidence-based decision tool to guide assessment of chronic pain for young people with cerebral palsy





# Awards and Degrees

## Currently Enrolled

Student	Affiliation	Degree	Collaborating Institution(s)	Project
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
Maxine Fong	Curtin	PhD	PCH	Establish functional outcome measures for children with CP undergoing surgery for gait correction in clinical practice
Yvette Pickering	Curtin	MPhil	PCH	Recreational prosthetic use in children and adolescents with upper limb difference <sup>2</sup>
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
Natasha Bear	UWA	PhD	TKI, PCH	Respiratory hospitalisations in children and young people with cerebral palsy: Which children and at what cost?
Kassandra Hewitt	UWA	PhD	PCH	Examining the links between somatosensation and cognition in children with cerebral palsy (CogSense study)

## Recently Awarded

Student	Affiliation	Degree	Collaborating Institution(s)	Project
Evelyn Toh	Curtin	MPhil	PCH	Parent quality of life and developmental outcomes of young children

# Key Links

## Kids Rehab WA Websites

[Kids Rehab WA Website](#)

[Kids Rehab Research WA](#)

## Project Links

[Early Moves](#)

[CONNECT-CP \(A Clinical Research Program to Improve Connection, Access and Translation of Evidence in Cerebral Palsy\)](#)

[Genomic testing pathways for precision health in cerebral palsy](#)

[Homepage - Envisage Families](#)

## Other Key Links

[The Kids Research Institute Australia - Chronic Diseases](#)

[Australasian Cerebral Palsy Clinical Trials Network](#)

[Curtin enAble Institute](#)

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

### Child and Adolescent Health Service

Telephone: (08) 6456 5605

Produced by Kids Rehab WA; Ashleigh Thornton, Tiffany Grisbrook, Simon Garbellini, Sue-Anne Davidson

© CAHS 2025

**Disclaimer:** This publication is for general education and information purposes. Contact a qualified healthcare professional for any medical advice needed. © State of Western Australia, Department of Health.