



THE UNIVERSITY  
OF QUEENSLAND  
AUSTRALIA

CREATE CHANGE

# Child Health Research Centre





## Child Health Research Centre

brings together researchers from a range of specialist areas to tackle some of the big issues in child health. With specialists in infectious diseases, nutrition and growth, burns, respiratory illness, environmental health, allied health, biostatistics, epidemiology and more, we are working in partnership with doctors, nurses, health specialists and parents to find new and better methods for promoting child health and for treating common childhood illnesses and injuries.

### Fast facts

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Over 200 articles in 2019



\$9 million in research funding in 2019



75% of research is published in top quartile journals



Located at the Centre for Children's Health Research, a collaborative research facility.



More than 140 researchers



## Message from the Director

Launched in 2015, the Child Health Research Centre (CHRC) brings together leading researchers to tackle global challenges in child and adolescent health. Our research aims to understand more about the health of children and the potential to prevent disease and disability before it even occurs.

With mounting evidence that long-term health is influenced by parental health during pre-conception and gestation and throughout a child's early years, investing research effort into children's health is critical.

UQ CHRC encompasses a number of research groups undertaking research across the full spectrum of children's health - from maternal health and neonatal health, burns and trauma, respiratory disease, cerebral palsy and rehabilitation, through to environmental health along with social and emotional wellbeing.

These groups work collaboratively within the centre, across UQ, and alongside industry, government, donors and research partners to understand the factors that ensure health in childhood and to prevent and treat disease and disability.

No matter what our individual research groups are focused on - our collective vision is the same: to prevent disease and disability before it occurs, thereby giving children the gift of life-long health.

We want to resolve the big questions to benefit our smallest people.

Best wishes,

Professor Karen Moritz  
Director, Child Health Research Centre

# Research themes

CHRC brings together researchers from a range of specialist areas to tackle some of the big issues in child health. With specialists in infectious diseases, nutrition and growth, burns, respiratory illness, environmental health, allied health, biostatistics, epidemiology and more, we are working in partnership with doctors, nurses, health specialists and parents to find new and better methods for promoting child health and for treating common childhood illnesses and injuries.



## Developmental Programming in Disease

Our group seeks to understand how disturbances during gestation contribute to a fetus' increased risk of developing disease in adulthood. This research area seeks to identify organs and systems that are affected by prenatal insults and improve understanding of how to prevent or mitigate damage from occurring.



## Queensland Cerebral Palsy Rehabilitation and Research Centre

Our mission is to lead research, innovation and education to advance the health of children with cerebral palsy, acquired brain injury and related disabilities, supporting them and their families across their lifespan.



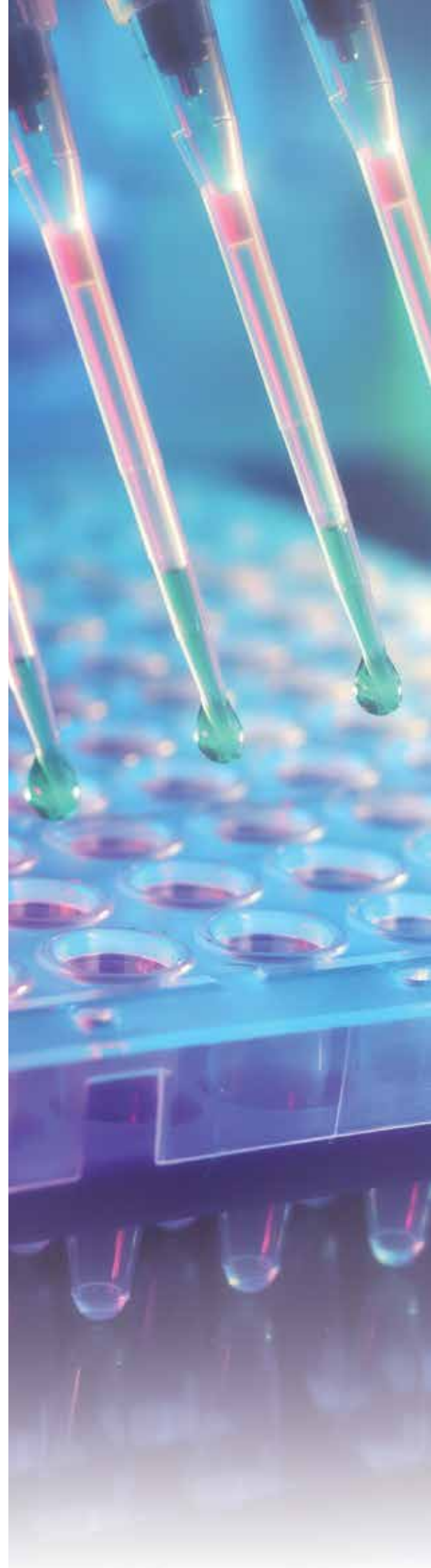
## Children's Health and Environment Program

CHEP plays an important role in children's environmental health research at The University of Queensland (UQ), bringing together researchers from many fields, connecting UQ researchers with international experts, and advising World Health Organisation policy makers.



## Children's Burns and Trauma Research Group

Research in this group is focused on the causes and predisposing factors for children with trauma and critical illness. We work to validate and optimise available treatments and to develop innovative and effective new treatments for seriously ill children.





## Child and Youth Mental Health Research Group

The Child and Youth Mental Health Research Group aims to improve the outcomes for families with children with psychiatric disorders. This is achieved by identifying risk factors for the development and persistence of childhood and adolescent mental health symptoms and by the development and evaluation of new treatment and prevention programs.



## Acquired Brain Injury in Children

Our goal is to improve the lives of children with a brain injury. Brain imaging technologies help us to understand how a child's behaviour and function relate to brain function and recovery after an injury. Working closely with Queensland Paediatric Rehabilitation Services and the Queensland Cerebral Palsy and Rehabilitation Research Centre enables us to explore new treatments for children and families with a brain injury.



## Paediatric Critical Care Research Group

Our group has established a strong research background, with the highest number of peer-reviewed studies published in the field of paediatric critical care in Australia. Research areas include, but are not limited to, paediatric respiratory, infectious and cardiac critical care as well a strong interest in neurodevelopment, psychosocial research and long term outcome. We also collaborate with a number of key stakeholders in Queensland to efficiently translate research findings and to run several clinical quality and service delivery programs.



## Queensland Cystic Fibrosis Research Program

Queensland Cystic Fibrosis Research Program is Queensland's first cystic fibrosis research program established to help improve outcomes for patients living with the life-threatening genetic disorder. Two new research projects will be the focus of the program, the Early Life Origins of CF lung disease (the ELO study), and the Mycobacterium.

# Research highlights

## Breathing new life into Cystic Fibrosis research



Greg Dunn will never forget the heart-wrenching moment he and his wife learned that their two year old son had cystic fibrosis. It was half-way through the pregnancy of their second child.

As new parents, Greg and Heidi barely had time to come to terms with the diagnosis before being hit with a new harsh reality – their second child could suffer the same fate.

“We got two-out-of-two babies affected, which was pretty unlucky,” recalls Greg, who is now a father of three. Their youngest child doesn’t have the disease.

“When the kids were born they were talking about a life-expectancy into the early-30s, now they’re talking about it being late-30s, and it goes up every year.”

The incurable genetic disease primarily affects the respiratory and digestive systems. When both parents are carriers there is a one-in-four chance of the baby being affected with cystic fibrosis (CF).

Fast forward to present day and son Aidan, aged 17, and daughter Mya, aged 15, have learned to live with their disease. They stoically embrace up to three hours of daily treatments and numerous 2–3 week hospital admissions during each year for their ‘tune-up’.

“The kids take up to 25 tablets every day, including enzymes, antibiotics, vitamins, salt and also calorie supplements,” Greg explains.

“Twice a day we do treatments to remove excess mucus which clogs their lungs, and they take nebulised antibiotics and other drugs.”

Both children have been part of clinical trials to help improve their condition. Mya has responded to one trial with great success, but Aidan hasn’t been able to reap the same benefits due to concerns the drug may worsen his liver disease.

The good news is a new \$15 million Queensland Cystic Fibrosis Research Program has now been created to help improve outcomes for patients with CF in Queensland and elsewhere.

The program will focus on two new research projects: the Early Life Origins of CF lung disease (the ELO study) and the Mycobacterium abscessus (MABS) pulmonary disease program.

The ELO study will recruit patients from birth to 30 years of age to develop disease trajectories.

Both research projects aim to improve clinical diagnosis of lung disease and its progression across early life and adulthood.

“We will use novel lung function tests, novel MRI techniques, and develop new specific biomarkers that show lung disease



activity earlier than currently possible,” UQ researcher, Professor Peter Sly explains.

“Findings from this study will increase our knowledge of why lung disease progresses, and will offer a better understanding of the relationship between early lung disease and loss of lung function.”

Professors Claire Wainwright, Peter Sly and Scott Bell will lead The Queensland Cystic Fibrosis Research Program team as part of UQ’s Child Health Research Centre.

Major funding to support this program has been awarded to the Queensland researchers by The University of Queensland, the Children’s Hospital Foundation and the American-based Cystic Fibrosis Foundation. The clinical trials have attracted funding from the Australian Department of Health Medical Research Future Fund and an anonymous donor, as well as support from the Thoracic Society of Australia and New Zealand. Research support will also be provided by the Children’s Hospital Foundation, The Prince Charles Hospital Foundation and UQ.

The research will be carried out in partnership with the Children’s Health Queensland Hospital and Health Service, the Metro North Hospital and Health Service and The Prince Charles Hospital.



## You can improve children's lives

Our researchers need your support, and all donations make an impact. Through your generosity, you can contribute vital funding to:

- advance life-improving and life-saving children's health research projects
- provide critical research equipment
- support promising researchers' careers
- attract senior researchers to further world-class research in our own backyard.

## To discuss your tax-deductible research gift, contact:

Advancement Team  
Faculty of Medicine  
The University of Queensland

**T:** +61 7 3365 5081

**M:** +61 438 821 851

**E:** [med.advancement@uq.edu.au](mailto:med.advancement@uq.edu.au)

**W:** [medicine.uq.edu.au/philanthropy](http://medicine.uq.edu.au/philanthropy)

For further details, please contact:

Child Health Research Centre  
Level 6  
62 Graham Street  
South Brisbane QLD 4101, Australia

[uqchrc@uq.edu.au](mailto:uqchrc@uq.edu.au)

T: +61 7 3069 7362

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