

Woolworths Centre for Childhood Nutrition Research

Annual Report
2022





The work we are doing aims to **improve the nutritional health** of children by focussing not only on individuals and their biology but also by **improving the environments** in which they live, grow, play, learn and heal. Our research will make a **difference.**



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WCCNR 2022 Highlights

Our vision is to improve the nutritional health of families and children so they can reach their full potential



We shared our work online and added our voice to nearly 20 international campaigns that support children and their health



11 PhD Students supervised



6 Awards



25 papers published



Social Media followers doubled



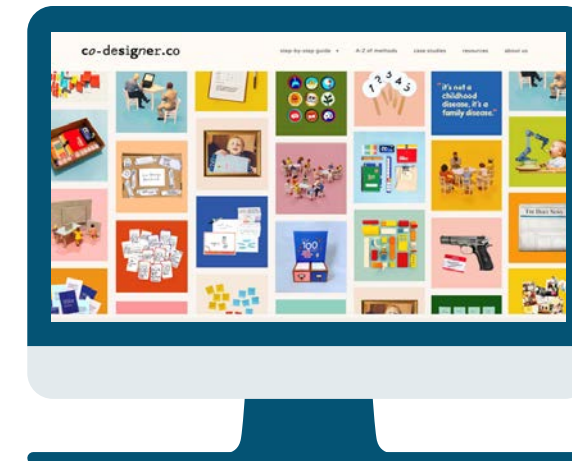
30% increase in stakeholders engaged



7 Additional grants received with >\$2 million in funding

We have listened to mums and dads as they talk about their struggles with putting food on the table, and the solutions they need to feed their children for healthy outcomes

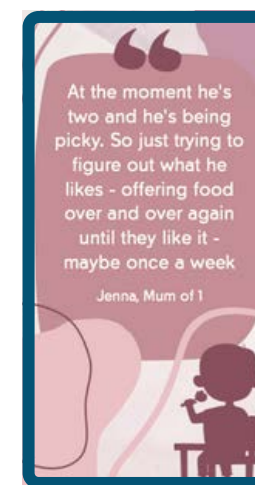
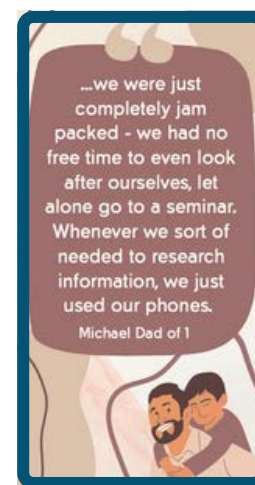
“Due to the lack of money, I'm normally cooking enough for her and sometimes not enough for myself...I'll do anything to feed her but I am gonna cut for myself...to one meal a day.”
Dads at Mealtimes participant



We are working to build capacity of researchers and practitioners to engage in co-design

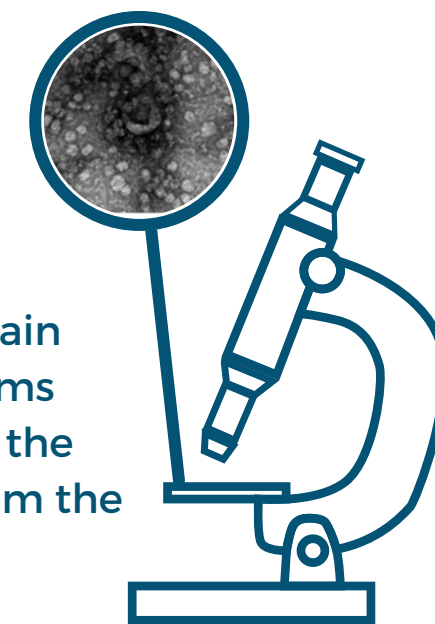
We are working with children with gastrointestinal diseases and their caregivers to improve clinical care pathways and quality of life

Our PhD students are presenting their work to their peers, publishing their findings, and making sure they translate their work so everybody understands



We are co-designing solutions with families

We are doing experiments that help explain the mechanisms between diet, the immune system the microbiome, and allergy



From the Director

It's been a big year for the Woolworths Centre for Childhood Nutrition Research. Despite ongoing challenges associated with the pandemic and severe weather events we continue to gather momentum across our diverse projects. We have partnered with organisations, those with lived experience living in communities and professionals who support children and families in improving food, nutrition and health. We are providing ongoing research training for early and mid-career researchers and higher degree students as well as opportunities for undergraduate research and internships for media and communications.

Our discovery science stream led by A/Professor Severine Navarro continues to unlock the connections and mechanisms between diet, immunology and health. Understanding these mechanisms will help us improve the mental and physical health of children into the future. The clinical stream led by Professor Nikhil Thapar is working to improve the treatment of children with diseases impacting on the gastrointestinal tract and in particular those conditions with a strong dietary component. In the public health stream we have worked with mums and dads, children, schools, principals, teachers, health services, welfare organisations, children's services, food aid providers, local councils to inform and optimise the environments in which children live, play, grow and learn.

We remain committed to co-design and being trauma-informed and continue to build our understanding of what this means in practice. In this report you will see the academic papers we have produced and you can connect via twitter @WCCNR and via our website <https://research.qut.edu.au/wccnr>

Professor Danielle Gallegos
Centre Director



Centre Members

Director

Professor Danielle Gallegos

Strategic Leadership Group

Professor Nikhil Thapar

Associate Professor Severine Navarro

Kate Kruger

External Advisory Group

Aimee McVeigh

Emeritus Professor Lynne Daniels

Emeritus Professor David Crawford

Damon Mudge

Research Fellows and Affiliated Staff

Dr Foluké Abigail Badejo

Dr Kimberley Baxter

Dr Sabine Baker

Dr Heena Akbar

Dr Jeremy Kerr

Dr Rebecca Byrne

Dr Smita Nambiar-Mann

Dr Agnieszka Malczewski

Dr Yan Lu

Dr Athena Andreosso

Dr Helen Vidgen

Dr Lee Wharton

A/Prof Toby Pavey

PhD Students

Susannah Ayre

Jeffrey So

Sophie Wright-Pedersen

Tina Gingell

Amanda Taylor

Bree Whiteoak

Jessica Cheers

Juciliane Haidamak

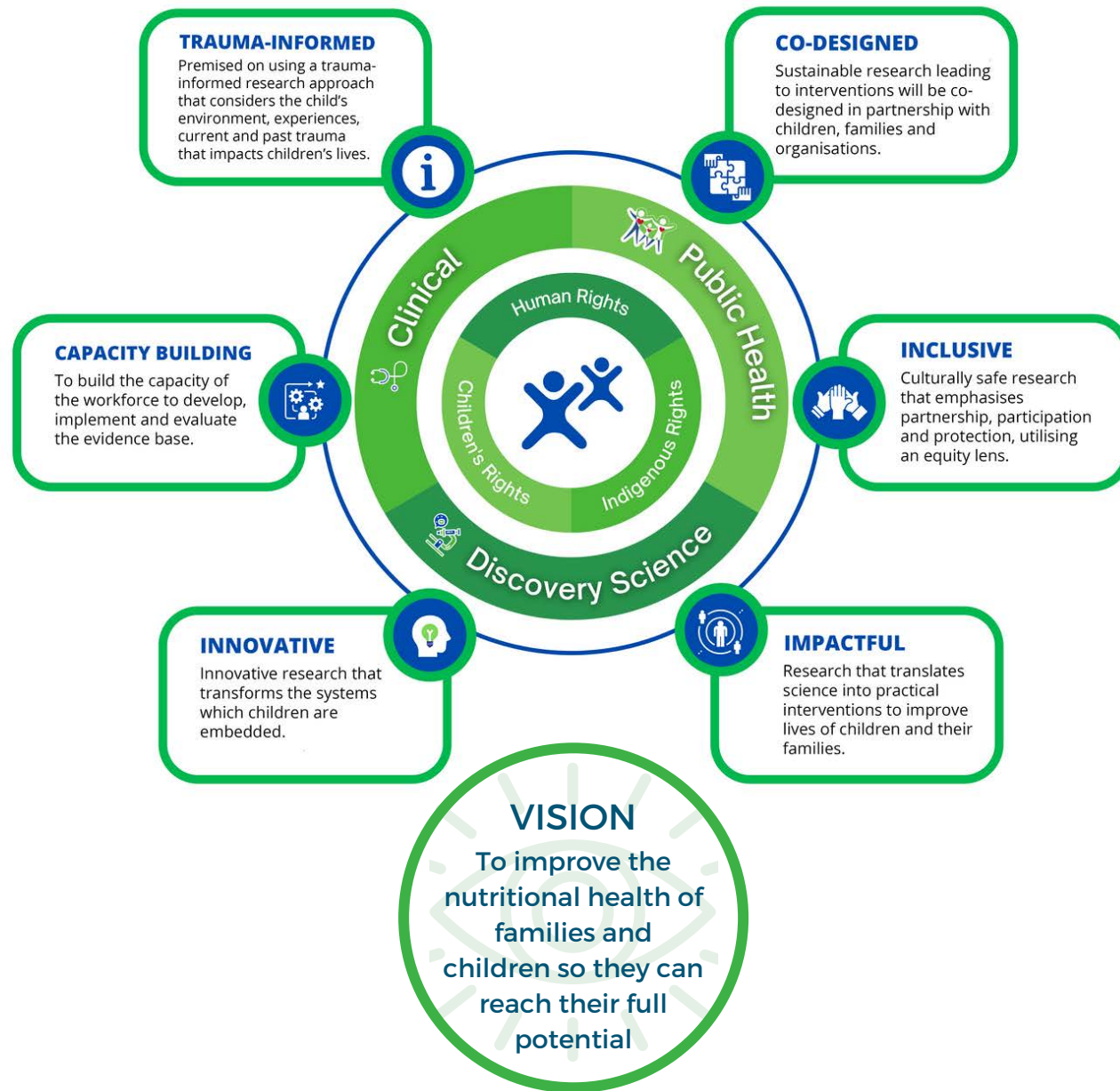
Prarthna Gopalakrishnan

Bhaskaran

Madeleine Rogers

Rina Kumar

Strategic Framework



Our Core Values



INTEGRITY



HUMILITY








COURAGE



EQUITY

Priority Areas

The WCCNR has a commitment to translating research into practical, accessible outcomes. The impact on child health outcomes will include:

-  Building nutrition, food and feeding knowledge as well as changing school environments to increase the consumption of healthy foods
-  Improving the access to healthy food choices for families who are struggling to put food on the table
-  Understanding maternal and child microbiomes and how they impact on physical and mental health leading to potential therapeutic interventions
-  Enhanced capacity and capability of families, healthcare professionals, welfare agencies, educators and children to facilitate food security and healthy nutrition
-  Building affordable, accessible evidence-based dietary interventions for children living with chronic gastrointestinal conditions

* For an overview of our research, see appendix 1

Progress towards Milestones

All of our work is leading towards building a coherent, world class program of research that contributes to the optimization of children's health and nutritional status.

Governance



- Governance structures with terms of reference established
- Agreements, institutional contracts completed
- Strategic Plan and Evaluation Framework finalised
- High quality Centre staff, ECRs and HDR students appointed

Completed

WCCNR is governed by established processes with input from an external advisory group. It is supported by high quality staff, researchers and students.

Action

In 2024 we will work towards developing a theory of change that articulates the work we are doing and its impact.

Communication and engagement



- Comprehensive collaboration, knowledge translation and communication plan developed
- Key stakeholders across all sectors identified and consulted
- Website, social media channels established and active
- Research meeting (ENRICH symposium) undertaken

Partially completed - ongoing

The work of WCCNR requires ongoing identification and engagement of stakeholders that represent an ever-widening circle of collaborations. Our website and social media channels have been established and we continue to leverage these to get our messages to a broader audience.

Action

In 2023 we will continue to leverage our social media and to translate our work so that it reaches a broad audience.

Research capacity



- Create a culture of collaboration within Queensland with regular meetings and forums for sharing of ideas and generation of knowledge between researchers, practitioners and community members
- Identification and networking of researchers across Queensland
- Establish collaborations with national and international child nutrition researchers.
- Identify and leverage additional funding from multiple sources to build research capacity and build sustainability

Ongoing

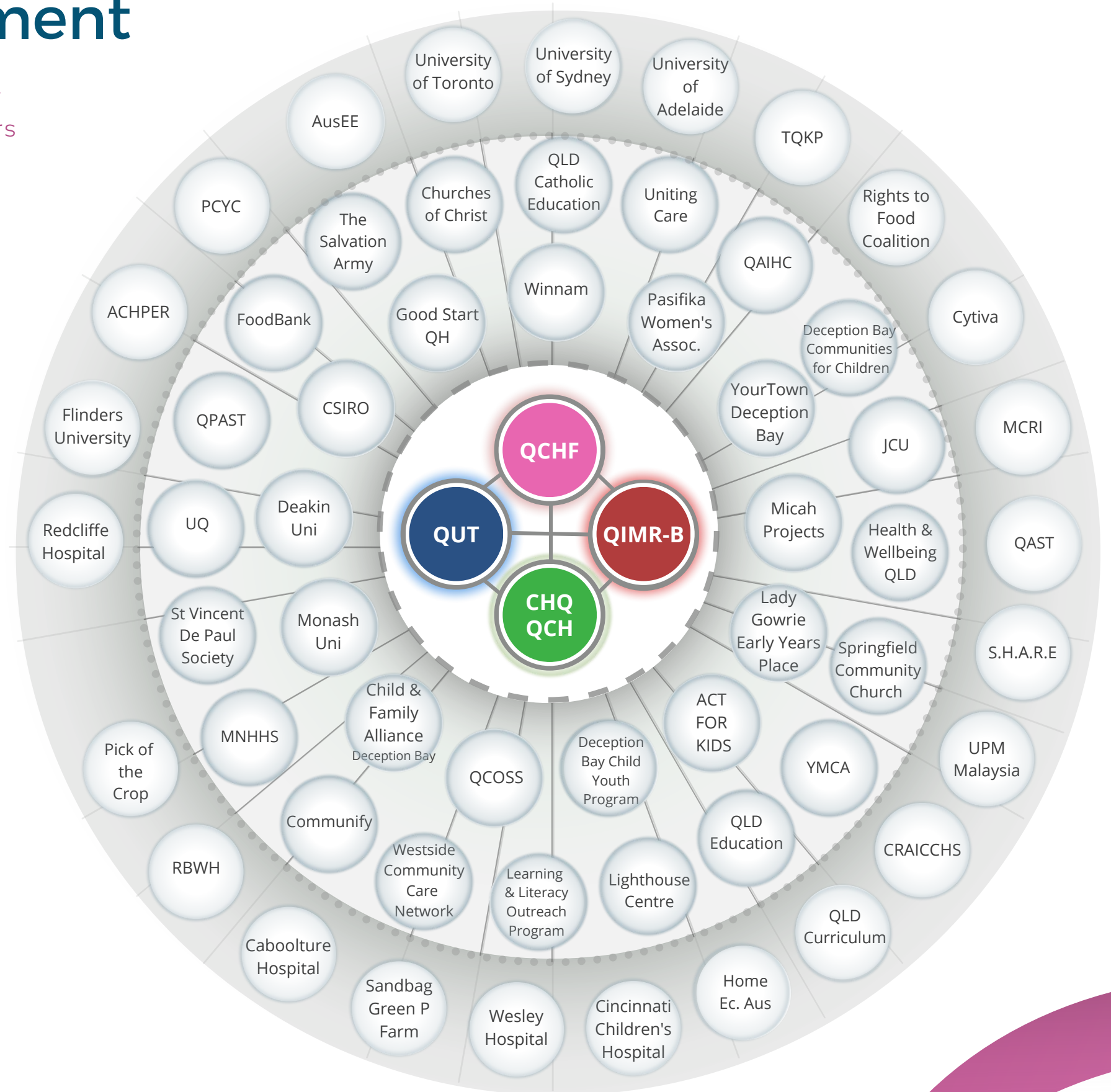
We continue to build our networks of researchers locally, nationally and internationally. We are using multiple sources of funding and continue to seek out opportunities to build our sustainability. Our individual projects have successfully worked with researchers, practitioners and community members to share ideas and generate new knowledge.

Action

COVID and major weather events have delayed a whole of centre event and this is planned for 2023.

Stakeholder Engagement

Throughout 2022, we expanded our stakeholder engagement with over 50 strategic stakeholders across multiple systems.



Publications

25 papers published in high quality journals for maximum impact.

Akbar, H., Radclyffe, C.J.T., Santos, D., Mopio-Jane, M., **Gallegos, D.** (2022). 'Food Is Our Love Language': Using Talanoa to Conceptualize Food Security for the Māori and Pasifika Diaspora in South-East Queensland, *Australia Nutrients*, 14 (10), pp.Article number: 2020.

Akbar, H., Windsor, C., **Gallegos, D.,** Manu-Sione, IF., Anderson, D. (2022). Using Talanoa in Community-Based Research with Australian Pacific Islander Women with Type 2 Diabetes *Progress in Community Health Partnerships: Research, Education, and Action*, 16 (1), pp.119-128.

Akbar, H., Gallegos, D., Anderson, D., & Windsor, C. (2022). Deconstructing type 2 diabetes self-management of Australian Pacific Islander women: Using a community participatory research and talanoa approach. *Health & Social Care in the Community*, 30(5), 1988-1999.

Ayre, S., Harris, H., White, M., & **Byrne, R.** (2022). Feeding in the context of sibling children: A grounded theory study. *Nutrition and Dietetics*, 79(S1), 7-8.

Ayre, S. K., Harris, H. A., White, M. J., & **Byrne, R. A.** (2022). Food-related parenting practices and styles in households with sibling children: A scoping review. *Appetite*, 106045.

Ayre, S. K., Jansen, E., **Gallegos, D.,** Tran, C. Q., Do, D. N., & **Nambiar, S.** (2022). Initial investigation of associations between feeding practices, eating behaviours, and weight status in Vietnamese children using modified questionnaires. *Obesity Research & Clinical Practice*, 16(4), 301-306.

Baxter, K.A., Nambiar, S., So, T.H.J., Gallegos, D., Byrne, R. (2022). Parental Feeding Practices in Families Experiencing Food Insecurity: A Scoping Review *International Journal of Environmental Research and Public Health*, 19 (9), 5604.

Benham, A. J., **Gallegos, D.,** Hanna, K. L., & Hannan-Jones, M. T. (2022). Vitamin B12 Supplementation Adequacy in Australian Vegan Study Participants. *Nutrients*, 14(22), 4781.

Boak, R., Palermo, C., Beck, E.J., Patch, C., Pelly, F., Wall, C., **Gallegos, D.** (2022). A qualitative exploration of the future of nutrition and dietetics in Australia and New Zealand: Implications for the workforce *Nutrition and Dietetics*.

Byrne, R. A., Baxter, K. A., Irvine, S., **Vidgen, H.,** Davidson, K., & **Gallegos, D.** (2022). Educators and child health nurses: Working together to support responsive infant and young child feeding practices in early childhood education and care. *Australasian Journal of Early Childhood*, 47(4), 289-303.

Byrne, R.A., Baxter, K., Irvine, S., **Vidgen, H.A., Gallegos, D.,** Martin, E., Trost, S.G. (2022). Feeding Practices in Australian Early Childhood Education and Care Settings *Public Health Nutrition*, 25 (2), pp.303-311.

Chanpong, A., Borrelli, O., & **Thapar, N.** (2022). Recent advances in understanding the roles of the enteric nervous system. *Faculty Reviews*, 11.

Cobos, C., Bansal, P. S., Wilson, D. T., Jones, L., Zhao, G., Field, M. A., ...**Navarro, S.,** Loukas, A. & Daly, N. L. (2022). Peptides derived from hookworm anti-inflammatory proteins suppress inducible colitis in mice and inflammatory cytokine production by human cells. *Frontiers in medicine*, 2743.

Dellon, E. S., Gonsalves, N., Abonia, J. P., Alexander, J. A., Arva, N. C., Atkins, D., ... **Thapar, N.,** & Aceves, S. S. (2022). International consensus recommendations for eosinophilic gastrointestinal disease nomenclature. *Clinical Gastroenterology and Hepatology*, 20.11:2474-2484

Gingell, T., Murray, K., Correa-Velez, I., & **Gallegos, D.** (2022). Determinants of food security among people from refugee backgrounds resettled in high-income countries: A systematic review and thematic synthesis. *PloS one*, 17(6), e0268830. **SAGE Higher Degree Research Student Publication Prize Competition for 2022 for Faculty of Health.**

Ho, S. S., Evans, H. M., Roberts, A. J., **Thapar, N.,** Dutt, S., Thacker, K., ... & PEDiatric Australasian Gastroenterology Research NETwork (PEDAGREE). (2022). Australasian paediatric gastroenterologist practices of coeliac disease diagnosis before and during the COVID-19 pandemic. *Journal of Paediatrics and Child Health*.

Kamath, S. D., Liu, T., Giacomini, P., Loukas, A., **Navarro, S.,** & Lopata, A. L. (2022). Mollusk allergy: Not simply cross-reactivity with crustacean allergens. *Allergy*.

Kumar, R., Simms, L., Lord, A., Zakrzewski, M., **Navarro, S.,** & Radford-Smith, G. (2022, September). Microbiome analysis of fecal and mucosal samples from patients without inflammatory bowel disease. In *JOURNAL OF GASTROENTEROLOGY AND HEPATOLOGY* (Vol. 37, pp. 175-175).

Lanham, A., Lubari, E., **Gallegos, D.,** Radcliffe, B. (2022). Health promotion in emerging collectivist communities: A study of dietary acculturation in the South Sudanese community in Logan City, Australia *Health Promotion Journal of Australia*, 33 (1), pp.224-231.

Mai, T. M. T., Tran, Q. C., **Nambiar, S.,** Pols, J. C. V. D., & **Gallegos, D.** (2022). Development and Validation of the Vietnamese Children's Short Dietary Questionnaire to Evaluate Food Groups Intakes and Dietary Practices among 9-11-Year-Olds Children in Urban Vietnam. *Nutrients*, 14(19), 3996.

Majd, H., Samuel, R. M., Ramirez, J. T., Kalantari, A., Barber, K., Ghazizadeh, Z., ...**Thapar, N.** & Fattahi, F. (2022). hPSC-Derived Enteric Ganglioids Model Human ENS Development and Function. *bioRxiv*.

Taylor, A. J., **Baker, S.,** & **Gallegos, D.** (2022). Intersection of food insecurity and moral experiences of those involved in paediatric healthcare: A scoping review of child, caregiver and healthcare provider perspectives. *Journal of Child Health Care*, 13674935221133476.

Tulloch, A.I.T., Oh, R.R.Y., **Gallegos, D.** (2022). Environmental and public health co-benefits of consumer switches to immunity-supporting food *Ambio*, 51 (7), pp.1658-1672.

Vuong, T. N., Dang, C. V., Toze, S., Jagals, P., **Gallegos, D.**, & Gatton, M. L. (2022). Household water and food insecurity negatively impacts self-reported physical and mental health in the Vietnamese Mekong Delta. *PloS one*, 17(5), e0267344.

Vuong, T. N., Van Dang, C., Toze, S., Jagals, P., Gatton, M., & **Gallegos, D.** (2022). Household Food Insecurity in Regions of the Vietnamese Mekong Delta: Prevalence and Risk Factors. *Journal of Hunger & Environmental Nutrition*, 1-21.

Conference Presentations

Akbar, H. (2022). Feeding our Mana: food insecurity for Māori and Pasifika. Dietitians Australia Conference. Adelaide, August 2022.

Baker, S., Gallegos, D., Mahoney, R., Fraser, J., Rebuli M, Taylor, A. (2022). Asking the (right) questions: A scoping review of food insecurity screening tools. PHAA Preventive Health Conference. Brisbane May 2022

Baxter, K. (2022). Feeding experiences of food insecure parents of young children: coping, resiliency and hardship. Dietitians Australia Conference. Adelaide, August 2022.

Byrne, R., Baxter, K., Davidson, K., Irvine, S., **Vidgen, H. A., Gallegos, D.** (2022). Educators and child health nurses: Working together to support responsive feeding practices in early childhood education and care 2022 Australasian Journal of Early Childhood Research Symposium : Embracing challenge: Research in early childhood, pp.66-67.

Gallegos, D. and Baker, S. (2022). Struggling to put food on the table: realities for Queensland families. Dietitians Australia Conference. Adelaide, August 2022.

Gallegos, D., Durham, J., Rutter, C., McKechnie, R. (2022). Activist scholarship: boldly stepping up to reduce inequities in practice. Dietitians Australia Conference. Adelaide, August 2022

Gingell, T., Eltahir, N. Pe, E., Murray, K., Correa-Velez, I., **Gallegos, D.** (2022) Connecting with cultural foods Dietitians Australia Conference. Adelaide, August 2022

Gingell, T. (2022). Connecting with cultural foods: co-designing data collection methods with community members with lived refugee experiences. QUT-SENS conference November 2022 [second prize]

So, J. (2022). “You have to spread it thin so everyone gets something which is better than nothing”: father’s roles and feeding experiences when struggling to make ends meet. QUT-SENS conference November 2022

Whiteoak, B. (2022). Exploring socioeconomic disadvantage, food insecurity, diet and the gut microbiome in pregnant women. QUT-SENS conference November 2022

Invited Presentations

Gallegos, D. and Baker, S. Poverty, violence and time: prioritising social determinants to ensure the right to food. The Open Ancient Capital Conference on Science and Technology. Hue, Vietnam August 2022

Gallegos, D., and Kleve, S. Lessons from the lived experience of food insecurity. S.H.A.R.E Collaboration 12 October 2022

Gallegos, D. Invited Professor to Universitie Putra Malaysia for child nutrition research linkages

Navarro, S. Allergy and ToLerAnce Screening bioprocess: a new tool to identify microbiome-derived biomarkers and therapeutics. Invited to speak on this topic at:

- Charles Perkins Centre
- Translational Research Institute
- Brisbane Immunology Group Annual Retreat
- GastroEnterology Society of Australia
- NSW Microbiome Centre - Focus on the gut and the influence on early life immune education with Alexis Hung
- George and Sutherland Clinical School Research in Progress

Thapar, N.

- 10th Middle East Course on Paediatric Gastroenterology: Riyadh, Saudi Arabia. 25th -27th January 2022. Paediatric Neurogastroenterology and Motility: what does the future hold?
- Israel Society of Paediatric Gastroenterology, Hepatology and Nutrition (Virtual) 29th March 2022. Manometry in Children: indications and Implications.
- European Forum on Visceral Myopathy Spring 27th-29th April 2022, Camogli, Italy. Current management and future treatments: Paediatric and Adult Visceral Myopathies
- ASEAN Gut Day (virtual). 14th May 2022. Infantile Colic: implications.
- Congreso Chileno de Gastroenterologia y Hepatologia Pediatrica, Chile 25th-27th August 2022 (Virtual). Manometric investigations in Children.
- Asia Pan-Pacific Society of Paediatric Gastroenterology, Hepatology and Nutrition Annual Congress, Kota Kinabalu, Malaysia, 12th-15th October 2022. Plenary Lecture: The Microbiota-Brain-Gut Axis.
- Asia Pan-Pacific Society of Paediatric Gastroenterology, Hepatology and Nutrition Annual Congress, Kota Kinabalu, Malaysia, 12th-15th October 2022. How I approach a gut motility disorder.
- RACGP Paediatric Masterclass for General Practice. 25th October 2022. Functional Somatic Symptoms in Children: Functional Abdominal Pain Disorders.
- Gastroenterological Society of Australia Gut School. Kingscliff, NSW 26th-27th Nov 2022: Motility Disorders in Children
- European Society of Paediatric Gastroenterology, Hepatology and Nutrition Motility Winter School, Berkhamsted, United Kingdom 7th-10th December 2022.

Paper Showcase

“Food Is Our Love Language”: Using Talanoa to Conceptualize Food Security for the Māori and Pasifika Diaspora in South-East Queensland, Australia

by [Heena Akbar](#)^{1,2}, [Charles J. T. Radclyffe](#)^{1,2,3}, [Daphne Santos](#)⁴, [Maureen Mopio-Jane](#)⁵ and [Danielle Gallegos](#)^{1,2,*}

Nutrients 2022, 14(10), 2020; <https://doi.org/10.3390/nu14102020>

Received: 12 April 2022 / Revised: 6 May 2022 / Accepted: 9 May 2022 / Published: 11 May 2022

Nutrients 2022 14 (10): 2020

This paper is data from the Feeding our mana project and highlights a co-design and co-analysis approach with community researchers who also collected the data. Three co-researchers are also co-authors on the paper. The findings highlight the significant importance of food in Māori and Pasifika communities and how not being able to access food impacts all parts of identity and social life. Since May the paper has had 2098 reads and has an Altmetric score of 24

Educators and child health nurses: Working together to support responsive infant and young child feeding practices in early childhood education and care

[Rebecca A Byrne](#), [Kimberley A Baxter](#), and [Danielle Gallegos](#) [View all authors and affiliations](#)

Volume 47, Issue 4 | <https://doi.org/10.1177/18369391221130791>

Australasian Journal of Early Childhood, 47(4), 289-303.

This research was funded by the Children’s Hospital Foundation (WWHSR0052018) in the 2018 Woolworths Nutrition-Related Health Services Research Grant Round. This paper highlights the importance of working across all settings where children may live, grow, play, learn and heal. With increasing numbers of children attending early education and care settings prior to starting school what foods are served and how educators feed children becomes increasingly important. This work demonstrates that child health nurses and educators are pivotal in improving the nutritional health of children but that there are organisational barriers that impede them working together.

Published online 2022 Mar 24. doi: [10.12703/r/11-7](https://doi.org/10.12703/r/11-7)

PMID: [35373214](https://pubmed.ncbi.nlm.nih.gov/35373214/)

Recent advances in understanding the roles of the enteric nervous system

[Atchariya Chanpong](#)^{1,2,3}, [Osvaldo Borrelli](#)¹ and [Nikhil Thapar](#)^{3,4,5,6,*}

Faculty Reviews, 11:7

This review highlights the importance of the enteric nervous system which is often called the brain of the gut. This nervous system has been implicated in dysfunction of the motility of the gut. Disturbances of these roles and interactions of the ENS, especially in early life, are likely to have significant implications for the development of diseases of the GI tract, brain and other body systems. These include a host of conditions from disorders of gut-brain interaction (e.g., irritable bowel syndrome) to severe GI motility (e.g., gastroparesis, paediatric intestinal pseudo-obstruction, slow transit constipation and Hirschsprung disease) and inflammatory disorders (e.g., necrotising enterocolitis and inflammatory bowel disease). The team at the Children’s Hospital see many children with these diseases with psycho-social and physical implications. Understanding how the enteric nervous system works and connects the brain and the gut will be important in the prevention and treatment of these conditions.

Allergy / Volume 77, Issue 10 / p. 3127-3130

LETTER | [Open Access](#) | [CC](#) | [BY](#) | [NC](#) | [ND](#)

Mollusk allergy: Not simply cross-reactivity with crustacean allergens

[Sandip D. Kamath](#), [Tiange Liu](#), [Paul Giacomini](#), [Alex Loukas](#), [Severine Navarro](#) and [Andreas L. Lopata](#)

First published: 16 May 2022

<https://doi.org/10.1111/all.15377>

Allergy, 77(10)

This paper describes the work undertaken to identify a new primary cause of shellfish allergy which could lead to better targeted testing and diagnosis of the potentially life-threatening reaction. Prawns and other crustaceans like crayfish, crab, and lobster, and even some insects like dust mites, spiders and scorpions are all capable of triggering an allergic reaction. This work shows for the first time that a protein found in molluscs, including abalone, clams, scallops, oysters, and even octopus and snails, can also independently cause the allergy. This means people may show up as negative to shellfish allergy in testing, when they are actually allergic, just to a different species. The findings mean we need to revise how we’re diagnosing food allergy to include molluscs.

Grants & Funding

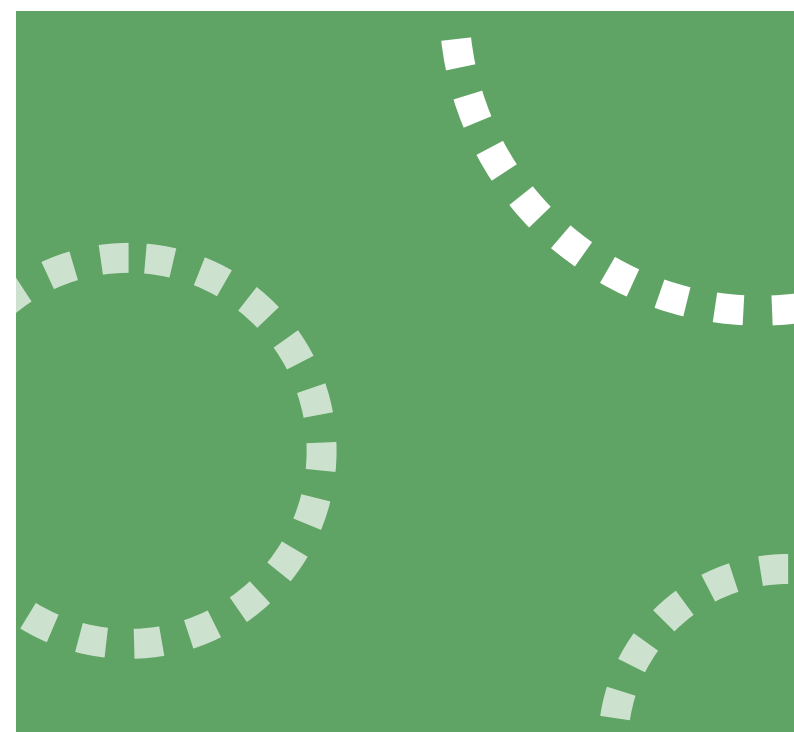
In 2022 we have actively been seeking grant opportunities to continue the work of the Centre. We have applied for seven separate funding rounds including the Australian Government ARC Indigenous and MRFF Consumer-led funding rounds, and from philanthropic funders the Ian Potter and Paul Ramsey Foundations. We are also undertaking commercial research with Foodbank QLD. The table below indicates additional funding received in 2022/2023. We have attracted over \$2 million in funding in 2022.

| Project | Funding Provided | Funding Period |
|--|------------------|----------------|
| Solving hunger in Queensland - Foodbank QLD This project is working with Foodbank QLD to assist them with evidence to support their long-term strategic planning working towards mitigating food insecurity in Queensland. The work involves desk audits of peer reviewed and grey literature as well as interviews with key stakeholders to gain insights into how Foodbank can remain relevant today and into the future. Children are the most impacted by food insecurity and this work will support activities to ensure Queensland children do not go hungry. WCCNR investigators: Danielle Gallegos and Sabine Baker | \$108,474 | 2022 - 2023 |
| Pasifika Women's Diabetes Wellness Program - WHTRN and Diabetes Queensland This project is a trial of the Pasifika Women's Diabetes Program. Pasifika women are disproportionately impacted by diabetes with higher rates of poor control. This program has been co-designed with the communities to develop a program that will optimise both diabetes prevention and management using Pasifika ways of talking and developing a shared understanding. Pasifika women are the primary caregivers of children within the community and changing their eating and physical activity patterns will have a profound impact on the children living in their households. WCCNR investigators: Heena Akbar and Danielle Gallegos | \$84,970 | 2022 - 2023 |

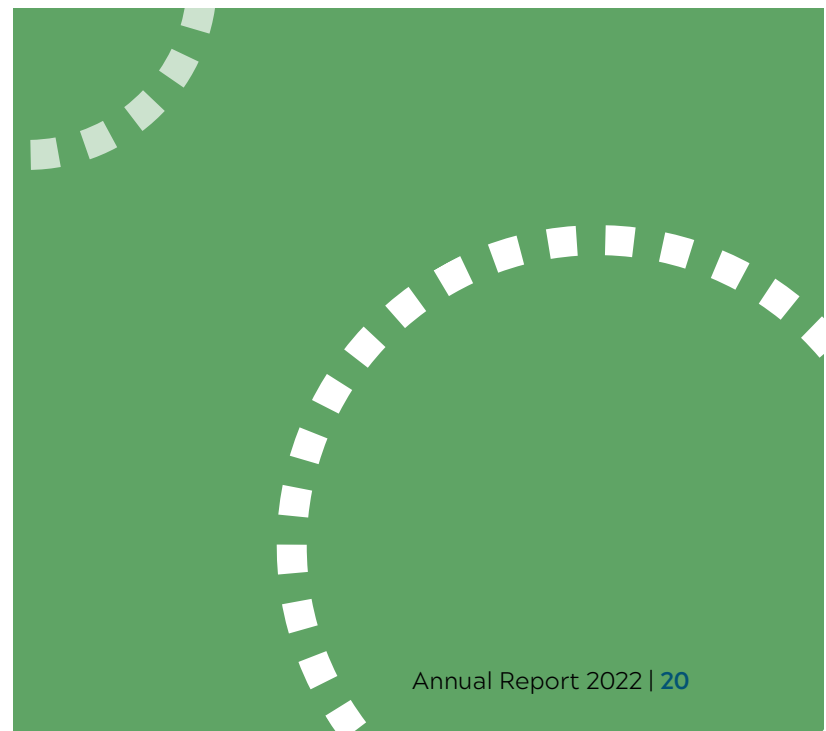
| Project | Funding Provided | Funding Period |
|--|------------------|----------------|
| Co-designing Food Sovereignty Models for Indigenous Communities - ARC Discovery Indigenous Grant Food sovereignty asserts the rights of people and communities to healthy and culturally appropriate foods through determination of their own food and agriculture systems. | \$829,628 | 2023-2027 |
| Mode of delivery and the microbiome - ASCENT study (Allergic Symptoms after Caesarean Section) This project is an example of the increased research capacity that has been generated by the funding from the CHF and Woolworths. The project is described in detail earlier. In 2021, the team received CHF funding in 2020 (\$50,000) and an additional \$100,000 in 2021 (MNHHS and Ferring Pharmaceuticals). In 2022 it attracted an additional \$50,000 in funding from ANZCA. | \$200,000 | 2020 - 2022 |
| Hookworm-derived protein AIP-2 to prevent allergy onset in neonates An additional \$268,000 Q Accelerator Grant for drug development has been secured. | \$268,000 | 2022 |
| Sessile serrated lesions in young women with Inflammatory Bowel Syndrome This project is an example of the increased research capacity that has been generated. The project in partnership with the Wesley and Mackay Hospitals secured \$1,000,000 in funding from the Wesley Medical Research Foundation and \$10,000 from the Mackay Institute of Research and Innovation \$10,000. | \$1,000,000 | 2022 |
| Additional funding In 2022, additional funding to support the activities of the laboratory have been received from a philanthropic donation (\$200,000), the Australian Infectious Disease Research Centre UQ-QIMR Berghofer (\$50,000) and the Near-miss Funding Scheme QIMR Berghofer (\$100,000). | \$350,000 | 2022 |

Awards & Recognition

- Dr Rebecca Byrne, was awarded a DECRA for \$450,556 for her project, Understanding the combined influence of parental and educator feeding practices on self-regulation of children attending early childhood education and care. The project aims to observe healthy young children over 12 months and describe the impact of care-giver practices on child self-regulation, eating behaviour and dietary intake.
- Dr Heena Akbar was one of five of Queensland's leading diabetes researchers to be awarded a research grant at the Diabetes Australia 2022 Research Grant Awards for her work on the Pasifika Women's Diabetes Wellness Program.
- Susannah Ayre was the QUT winner of Visualise your Thesis which is a one minute video presentation. Her presentation was titled 'A table for two, please: Feeding in families with siblings'. QUT - Graduate research student showcase.
- Jeffrey So finalised in the QUT 'Visualise your Thesis' competition, in which he created a one minute video summary of his project, Dads at Mealtimes: Exploring fathers' food parenting, feeding roles and experiences in tough times.
- Tina Gingell won the QUT Faculty of Health Sage best HDR paper for her paper on "Determinants of food security among people from refugee backgrounds resettled in high-income countries: A systematic review and thematic synthesis".
- In November, Dr Sabine Baker was awarded a 2022 Faculty of Health Early Career Researcher Grant.



[Click to view Susannah's video](#)



Communication

During 2022, we have been actively working towards increasing our external communications and broadening our reach by communicating our activities through a variety of forums. Some highlights of our communication in 2022 include:



Grew our online following by 66% since 2021



PhD student, Susannah Ayre, take first place in the 2022 QUT Visualise your Thesis competition



PhD student, Jeffrey So, finalising in the 2022 QUT Visualise your Thesis competition

Internship Program 2022

The WCCNR participated again in the QUT Creative Industries Work Integrated Learning (WIL) program, Semester 1 and 2, 2022. The WIL internship program is implemented through final-year capstone units at QUT. The QUT Creative Industries students that have been on placement within the WCCNR cover a diverse range of disciplines, including: interactive and visual design, journalism, media and communication, creative writing and visual arts. We welcomed 7 student placements during 2022 and they provided our centre with a fresh perspective and up-to-date skills in their areas of study. The WCCNR offers a unique opportunity for students to work with a multi-disciplinary team of academics, clinical and professional staff. They learn skills in project management, communication, visual design as well as social media platform management.

Students worked with HDR students and researchers to develop recruitment materials (flyers and social media), professional figures for journals, videos and infographics for knowledge translation, social media posts and report templates. Thank you to Bridget Young, Vidya Kannappan, Carta Steenstrup, Yuki Yeung, Chrystelle Pantaleon, Estelle Sanchez, Leanne Hui. We employed Lauren Doherty one of last year's interns to help us with media and communication throughout the year.

Online Presence

We posted on @WCCNR [Twitter](#) and [LinkedIn](#) for National and International Health related events:

- Coeliac Awareness Week
- International Women's Day
- World Day of Social Justice
- Reconciliation Week
- Families Week
- World Health Day
- World Refugee Day
- World Refill Day
- National Aboriginal and Torres Strait Islanders Children's Day
- NAIDOC week
- Children's Week
- Anti Poverty Week
- World Food Day
- Mental Health Week
- National Child Protection Week
- Indigenous Literacy Day
- International Youth Day
- International Day of Indigenous People
- World Microbiome Day



Keep up to date with all things WCCNR



Twitter



LinkedIn



Youtube



Website

Other Activities

A national discussion on school meals in Australia

Danielle Gallegos has been working closely with the team at Flinders University to develop a national discussion paper on school meals in Australia. Australia is one of a handful of countries that currently does not offer school-aged children a universal breakfast and lunch at school. The discussion paper explores international models and what needs to be addressed within the Australian context. The paper has been written and received feedback from key stakeholders - a second draft will be circulated more broadly. A recent piece in the Conversation had over 35,000 views.

[Australian schools are starting to provide food, but we need to think carefully before we 'ditch the lunchbox'](#)

By Brittany Johnson, Alexandra Manson, Danielle Gallegos, and Rebecca Golley – November 6, 2022

The S.H.A.R.E. Collaboration

Danielle Gallegos has been working for the last four years with the national academic collaboration: Solutions supporting Household Food Security in Australia through Research and Evidence @SHAREFoodOZ. As a result of this coalition Gallegos and colleague Sue Kleve (Monash University) have written two articles for the Australian Institute of Family Studies - the most recent on responding to food relief needs. A webinar in October had over 300 registrants. Gallegos is currently leading a paper with researchers from Monash, Flinders, Curtin and Drexel Universities developing an international consensus on food insecurity definition and monitoring in high income countries.

Australian Household Food Security Data Consensus Statement

Danielle Gallegos and Sabine Baker have both contributed to the Australian Household Food Security Data Consensus Statement and have independently worked to ensure that all relevant longitudinal studies in Australia include a measure. Gallegos presented at the launch of the statement.

ENRICH - Empowering Nutrition Research in Child Health

Danielle Gallegos and Kristie Bell (Children's Health Queensland) lead this group which aims to provide a network for researchers focussed on nutrition in child health. A blended symposium (offering both online and face-to-face engagement) was staged in October 2022 where early career and HDR students had an opportunity to present. Keynote speakers included Dr Rebecca Byrne (QUT) and Dr Rati Jani (Griffith) and four papers selected from abstracts. This included presentations from Jacqui Palmer (QUT) on the effects of a prebiotic supplement on child behaviour in Autism Spectrum Disorder, Natassja Billich (UQ) on nutrition issues in skeletal dysplasia and the Grow and Go Toolbox and Melanie Blair (Cairns Hospital) on the development of a multidisciplinary special care nursery feeding ward round. There were 73 registrants. Bree Whiteoak, Susannah Ayre and Tina Gingell from the WCCNR were responsible for producing and disseminating the newsletter which had broad reach across Queensland. This year there was a 45% increase in the number of subscribers to our quarterly newsletter. ENRICH have also been working on completing a national Delphi survey to identify the priorities in child nutrition research - the results of this Delphi are anticipated to be finalised in early 2023.

Foodies in the Field

Sophie Wright-Pedersen our dynamic PhD student at WCCNR has developed a podcast Foodies in the Field - where she interviews public health nutritionists and food activists across the nation providing deep insights.



[Click to visit the Foodies in the Field webpage](#)

Australian and New Zealand Society for Immunology Qld Branch

Severine Navarro has been re-elected as a Councillor taking her term from 2020-2025. In this role she has created the Qld Immunology Committee composed of E/MCR and PhD students throughout the state to enhance their visibility, networking opportunities and promote science through lectures and public events. She has organised three major events in 2022:

- Brisbane Immunology Group annual retreat - 110 people
- Queensland Immunology Networking Symposium - 180 people
- Tissue Inflammation and Homeostasis special symposium - 135 people



This year we also launched a new international online seminar series with high profile international speakers our first speaker As/Prof Marie Claire Arietta from the University of Calgary, Canada who coined the “window of opportunity” with respect to the microbiome in children.

Gastroenterological Society of Australia

Professor Nikhil Thapar in 2022 is Chair and education lead of the Paediatric Faculty of the Gastroenterological Society of Australia (GESA), a member of the specialist Programme Committee of the Gastroenterological Society of Australia (GESA). He is also President-Elect and Founding Steering Committee Member, Paediatric Neurogastroenterology and Motility Association of Australasia.

In 2022, Professor Nikhil Thapar has also been

- Chair of the Neurogastroenterology and Motility Working Group of the Asia Pan-Pacific Society of Paediatric Gastroenterology, Hepatology and Nutrition
- Member, Rome V Committee, Disorders of Gut-Brain Interaction (Paediatrics, Lower GI), Rome Foundation: International Foundation for the classification and scientific appraisal of Gastrointestinal (dys)function
- Founding Steering Committee Member, Paediatric Australasian Gastroenterology Research Network(PEDAGREE)

Public Health Project Updates



Co-Design Gateway

Milestone Progress

Following completion of a series of co-design workshops with health researchers, other professionals engaged in co-design, and parents and children, in the second half of 2021, the development of the final design outcome of the project began this year. This has led to the development of the platform co-designer.co, which will be released publicly in late **January 2023**.

This platform represents an open source, fully-contained training package for people to learn about co-design, and then plan and develop customised co-design projects. This includes those operating specifically in the sector of child nutrition health.

co.designer.co Platform

The platform consists of **1) a step-by-step guide to co-design, 2) video case studies** which highlight co-design approaches and showcase the work of WCCNR researchers, and **3) a comprehensive searchable A-Z of co-design methods** for practitioners. The video case studies highlight WCCNR's work across the following videos; 'A Codesign-led Research Centre' (presented by Prof. Danielle Gallegos), 'Co-designing Recruitment & Interventions' (presented by Dr. Kim Baxter), 'Co-analysis with Maori & Pacifica Communities' (presented by Dr. Heena Akbar), 'Blended Co-design for Co-designer.co' (presented by Dr. Jeremy Kerr), 'Using Personas to Work with Refugees' (presented by PhD student Tina Gingell) and 'Playful Co-design' (presented by PhD student Jess Cheers). The A-Z of Methods is an interactive feature that outlines how to apply over **180+ co-design approaches**. It is designed as a resource that can support co-designers on an ongoing basis as they continue to work across projects and need support to develop activities for specific project aims. This ensures the platform is repeatedly accessed by academics and health professionals and fulfils a core need in the field. All this content and design has been a direct response to the learning needs and preferred modes identified through the year-long primary research process for the project in 2021.

Proposed Handbook Progress

Alongside the development of the site this year, the project has undertaken the first draft of a proposed handbook, intended to be published by an academic publishing house, which builds upon content of the platform.



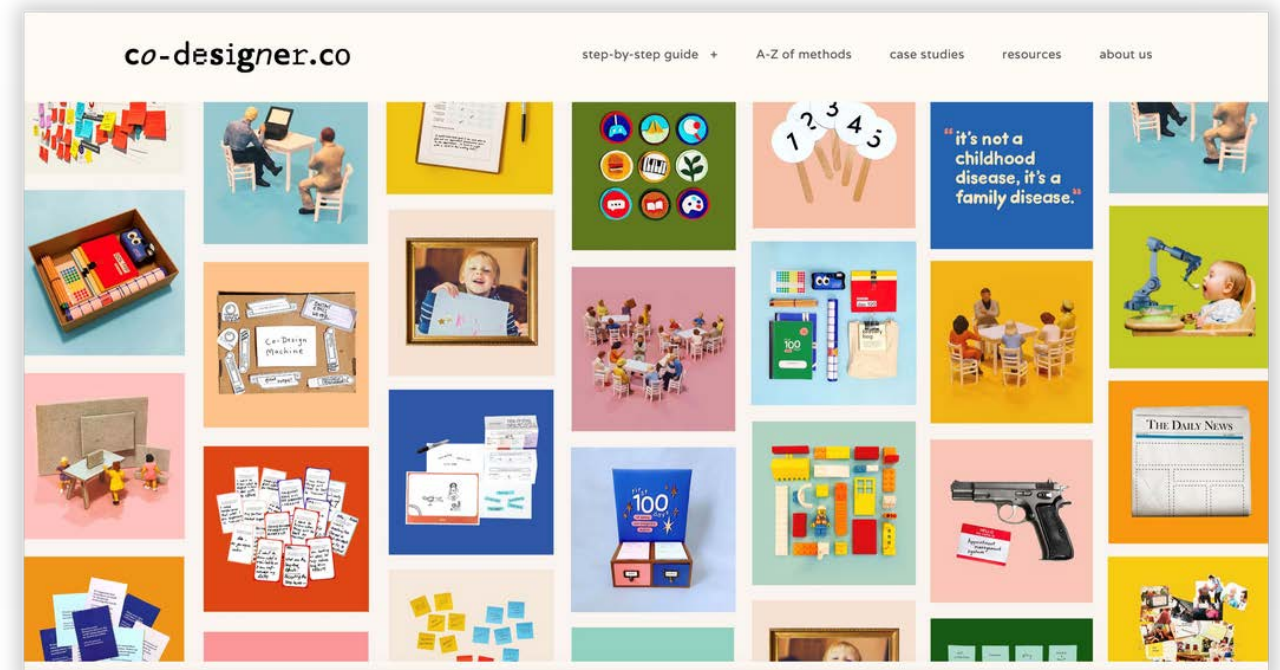
Dr Jeremy Kerr

This was developed with the understanding that the web platform meets a demand for a 'quick and straightforward' understanding of how to undertake co-design with an interactive focus, while there is also a need for a deeper level written 'manual' to support researchers. The manuscript and web platform have been developed in unison this year. Following the release of the platform in early 2023, the project focus will be in finalising a publishing deal to develop the manuscript into a commercial book. Importantly, all the visual representations of co-design and other visual material on the co-designer.co platform were created as original copyright images, which allow for publication in print form. These visuals also form an important component of the print publication.

Future ventures

Alongside the development of the platform and related book as final outcomes for the project, there has also been ongoing dialogue with QUT Industry Engagement to explore a potential **co-design consultancy** to run alongside the co-designer.co platform. This would see the platform build upon its profile and offer training for health professionals wanting to develop co-design projects. The intention is for the consultancy to be run by QUT design staff and supported by HDR students as well. It is seen as a way to further disseminate project outcomes and ensure the sustainability of co-designer.co.

As well, co-designer.co is forming the basis of a new all-of-university undergraduate elective, 'Design and Health'(DVB305), which will run for the first time in the second half of 2023. This unit is also exploring the potential to integrate co-designer and its teachings into a Masters-level unit and as a micro-credential unit, as part of its knowledge translation and dissemination process.

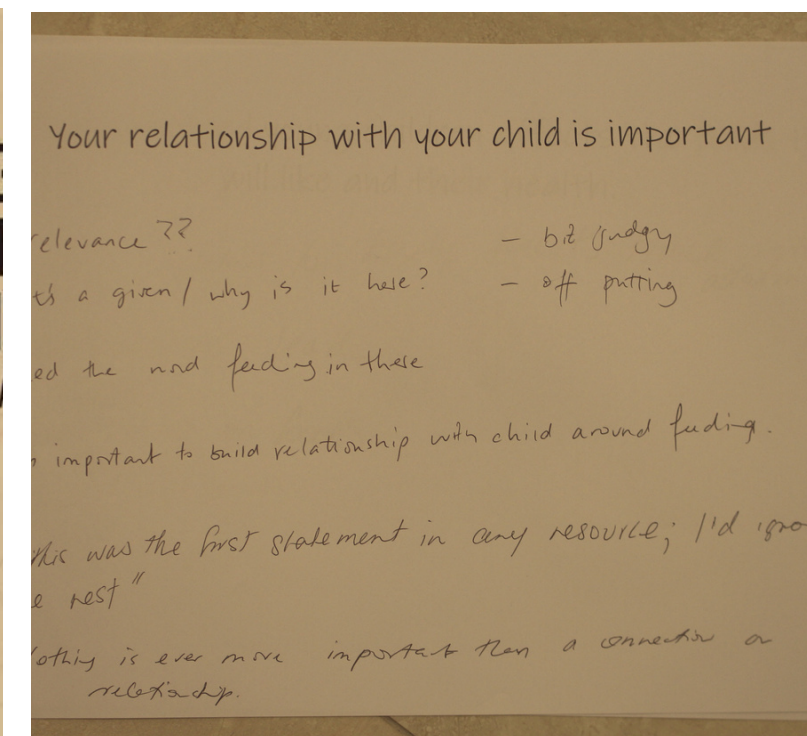
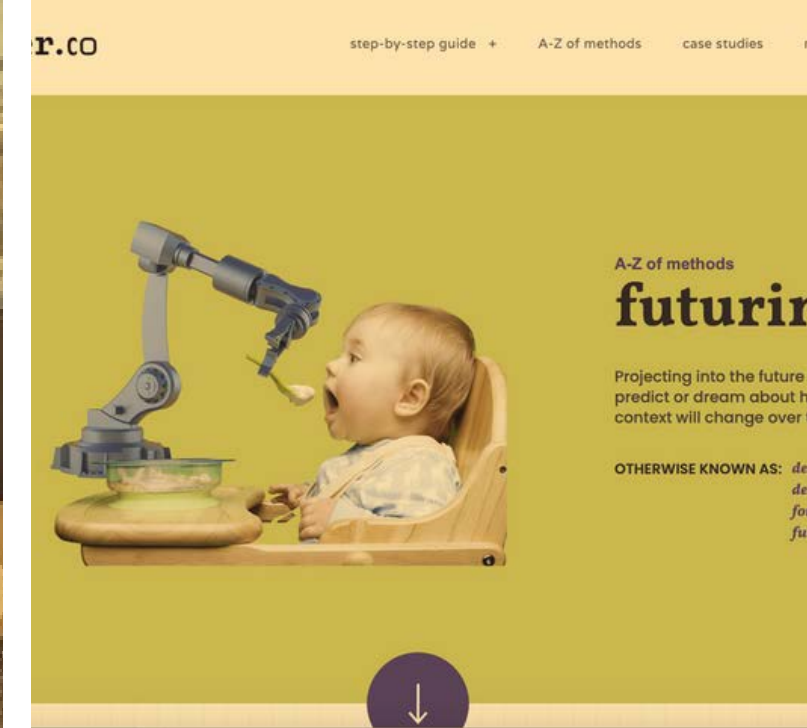


Our Commitment to Co-Design

From the outset the WCCNR made a commitment to embedding co-design and community participation wherever possible. This recognises that those with lived experience are experts of their own lives. Working with researchers who have learned experience means we act as facilitators to design interventions and solutions that are more likely to work. It is not feasible to integrate co-design into every element of the research work we do but to date we have:

- Co-designed recruitment approaches - the wording of the Feeding Families in Tough Times recruitment resulted in over 130 expressions of interest to be interviewed
- Co-designed research with Māori and Pasifika communities including co-collecting and co-analysing data with community researchers
- Co-designed interventions - R-FiTT is in the final stages of co-designing a micro-digital intervention for feeding babies and young children.

Our co-design team led by Jeremy Kerr is building the capacity of practitioners and researchers to embed co-design in the work that we do.



Feeding Families in Tough Times (FFiTT)

Milestone Progress

Milestone 2: Semi-structured Interviews

Phase 2 interviews have been completed. Over 160 initial enquiries were received, indicating a successful recruitment strategy. Forty-three interviews and 15 photo voice studies were completed as planned.

Interview participants were from a range of families (single parents, 2 parent original family, blended family, living with extended family, grandparent carer) across a number of different locations: Brisbane, Ipswich, Logan, Moreton Bay, Lockyer Valley, Gold Coast, Redland, Somerset, Bundaberg, Roma, Cairns. Families ranged in their experience of food insecurity, with many reporting severe food insecurity.

Interview data on parent and child experiences of food insecurity informed the key focal areas of the Phase 3 survey. In particular the pervasive impact of domestic and family violence and adverse childhood experiences stood out and warrants further exploration in the larger survey. In addition, the interviews clearly highlighted the impact of food insecurity on children.

Preparation for Milestone 3: cross-sectional survey

Ethics -in consultation with the Steering Committee and informed by Phase 1 and Phase 2, procedures for Phase 3 survey have been developed, recruitment material has been designed, a draft survey has been submitted for Ethics approval Nov 2022.



Dr Sabine Baker



One of the photos from our families who are doing it tough

“I do sometimes [go hungry], but I don't talk about it to people, obviously. If I'm really tight, they'll have toast. They'll have toast and milo. And I'll just have a tea bag, I keep that tea bag in the little thing. And I'll reuse that the whole day. Because I don't want to waste the tea bag. And I'll just keep drinking that tea, tea, tea, tea, tea all day long” (Trisha FFiTT)”

Engagement

- Engagement with leading Australian food insecurity researchers as part of the newly founded Australian Household Food Security Data Coalition, which works to advocate for data collection on household food security.
- Engagement with Australian longitudinal studies to advocate for inclusion of household food insecurity monitoring and screening, e.g. HILDA, Sax Institute (45 and up study).

Students:

- QUT Developmental and Educational Psych Master student who completed the project: “Coming to School Hungry: The Relationship between Food Insecurity and Early Childhood Development in Australian School-aged Children” has been awarded a high distinction for her thesis. We have worked with the student to draft a journal publication, which went through an approval process with the AEDC (data custodians) and has now been submitted for publication to the journal Early Childhood Research Quarterly.
- Ongoing PhD supervision. The FFiTT PhD student has passed her confirmation milestone. In addition, her first journal publication has been accepted for publication. The student was on parental leave from March - Oct 2022.

Conference presentations:

- Gallegos, Baker (Aug 2022). Struggling to put food on the table: Realities for Queensland families. Dietitians Australia conference.
- Baker, S., Gallegos, D., Mahoney, R., Fraser, J., Rebuli, M., Taylor, M. (May 2022). Asking the (right) questions: A scoping review of food insecurity screening tools. Paper presented at the Preventive Health Conference.

Publications

- Taylor, A., Baker, S. & Gallegos, D. (2022). The intersection of food insecurity and the moral experiences of those involved in paediatric healthcare: a scoping review of child, caregiver and healthcare provider perspectives. Journal of child health care: for professionals working with children in the hospital and community. Advance online publication. <https://doi.org/10.1177/13674935221133476>
- MacKenzie, T., Eivers, A., Baker, S. & Gallegos, D. (2022). The Impact of coming to school hungry on the Early Child development of Australian school-aged children. Submitted to Early Childhood Research Quarterly (Nov 2022).

Awards & Recognition

Sabine Baker: STEMM women in research writing retreat funding (2022)

Research & Consultancy Income (other than WCCNR funding)

- Baker, Sabine (Chief Investigator) (Mentor: Gallegos, Danielle): Implementing household food insecurity screening in healthcare services: Organisational readiness and needs assessment. QUT Faculty of Health Early Career Researcher Grant 2022. AUD20,000
- Gallegos, D., Baker, S. & Parsell, C. (2022). Evidence-based solutions for household food insecurity in Queensland. Food Bank QLD. AUD98,474

Responsive Feeding in Tough Times (RFiTT)

Milestone Progress

Research Objective I: To explore responsive feeding practices in a variety of households living with disadvantage

1. **Digital survey** (demographics, parental feeding practices, household food insecurity, household chaos, parental stress index). Data collected. Responses: n = 247
2. **Qualitative interviews with parents** (division of food work, family mealtimes, responsive feeding practices, income stress and strategies around food provision, experiences accessing infant feeding information, learning style and opinion on preferred intervention format & content). 29 interviews completed.
4. **Mealtime observations** (direct observation of family mealtimes x3 at home in usual environment via camera video)

Conducted: 19.08.2021 - 08.02.2022
Completed: 10 sets of observations collected

Research Objective II: To co-design messages and modalities of delivery with families experiencing disadvantage and with health and community stakeholders

Codesign and Engagement activities:

1. Parent workshop series
2. Intervention Refinement: 1:1 virtual codesign and user testing of digital intervention (n=12) November 2022
3. Expert Content Review of Intervention: 24 January 2023 (n = 10) including expertise from child health nursing, parenting and clinical dietetics.



Dr Kimberley Baxter



Dr Rebecca Byrne

“
What we have learned from families that the intervention needs to be integrated with what families already do. There is no capacity to do anything extra. The intervention needs to be at their fingertips, clear, easy-to-use, and accessible.
”

Research Objective III: To deliver the intervention and assess feasibility and acceptability. Evaluate the impact of the intervention on parental feeding practices

Intervention design and content creation:

1. **Digital intervention content**
Digital microlearning using mobile first design is being used as mode of intervention delivery based on parent codesign engagement. A series of 12 microlearning lessons will delivered to parents via SMS as the primary intervention delivery mode.
 - Significant progress has occurred to develop and design the content using an engaging mixed format of video, audio bites, interactive content and incorporating the quotes and short stories of parents who participated in the research data collection activities of Objectives I and II (interviews and codesign)
 - 3 digital microlessons have been user tested under research objective II (Intervention Refinement)
 - Digital content overall is approximately ~70% completed

2. Mail out pack

The digital microlearning content will be complemented and reinforced through a physical mail out package sent to parents

- Contents of mail out pack have been finalized with validation from parent codesign input (Intervention Refinement)
- Contents include: Condensed Fridge booklet with summary intervention messaging and research staff contact information, baby tooth brush for oral health promotion, child story book with food literacy underpinning story, Bib with key intervention message, sticker with key intervention message, individually wrapped tea bags for parent/s
- Source of contents has been finalized, costed and quotes identified from preferred suppliers
- Fridge booklet - supplier, specifications and quote has been finalized, design and content under work

3. Plan for 2023 Intervention Evaluation

- A randomized controlled trial design will be used to evaluate the intervention among 150 Australia families
- Accepted intervention active delivery phase is March 2023 - August 2023
- Preparation of Children’s Health Queensland Hospital and Health Service ethics approval application is in progress

Engagement

Presentations:

- Dietitian’s Association National Annual Conference 15.08.2022 ‘Feeding experiences of food insecure Parents of young children: coping, Resiliency and hardship’ K. Baxter et al.

- Centre for Children’s Health Research Seminar Series 01.09.2022 ‘Feeding experiences of food insecurity parents of young children’ K Baxter et al
- ENRICH (Empowering Nutrition Research in Child Health) 10.10.2022 ‘Translating food parenting research into effective support for families experiencing food insecurity: The RFiTT project’ R. Byrne
- Paediatric Dietitian’s National Special Interest Group (Clinical network); 26.10.2022 ‘Responsive Feeding in Tough Times: An overview’ K. Baxter and S. Nambiar-Mann

Student Supervision:

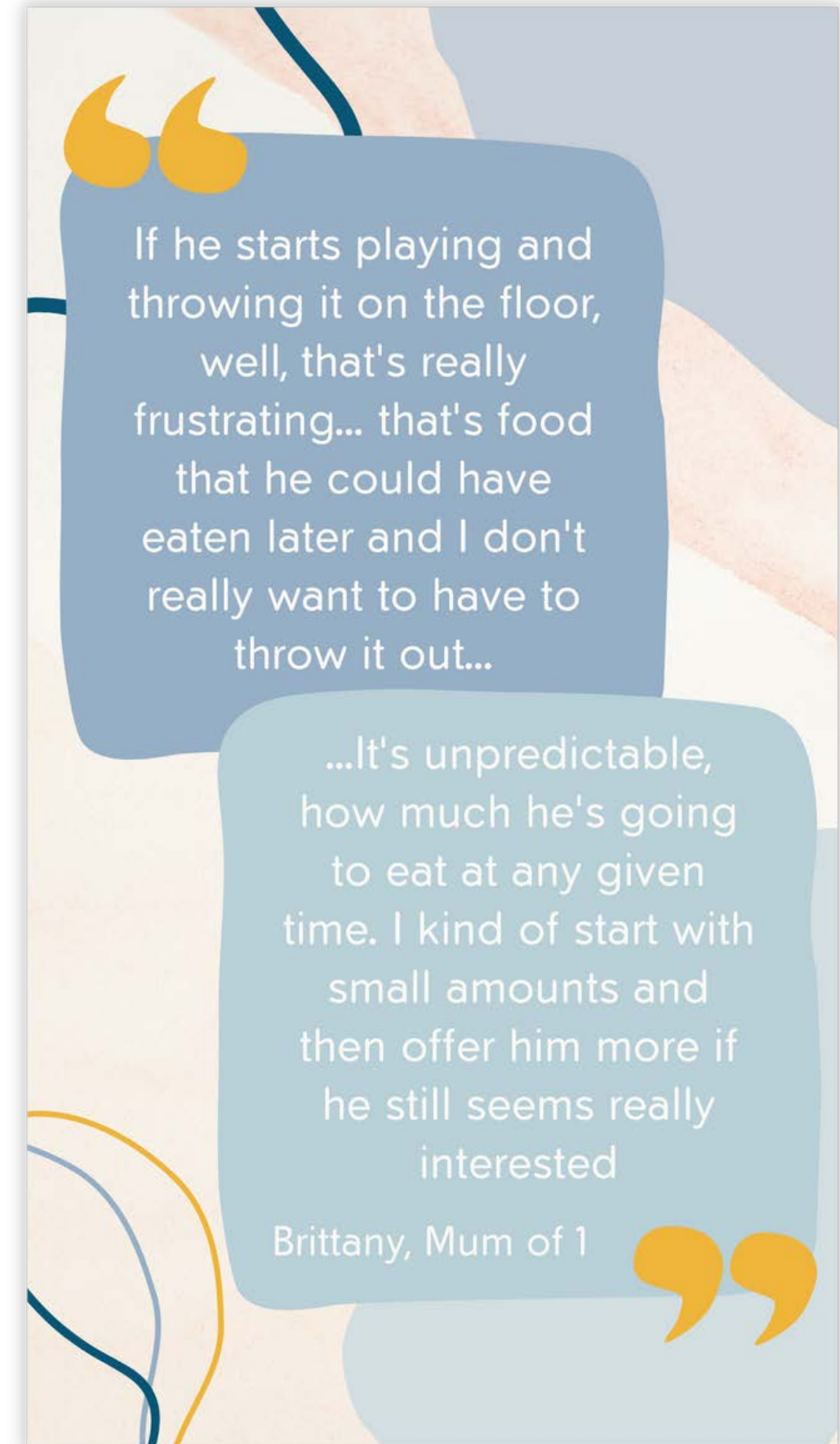
- Jeffrey So, PhD Candidate; ‘Dads at Mealtimes: Exploring fathers’ food parenting, feeding roles and experiences in tough times’
- Lauren Stanley, Vacation Research Experience Scheme: ‘Parental feeding practices and strategies amongst disadvantaged households: mealtime video analysis’ Nov 2022 - Feb 2023
- Lauren Stanley and Lily Miller, 4th year Honours Project, The Determinants of Responsive and Non-Responsive Feeding Practices in Australian Families Living with Disadvantage and Household Food Insecurity. Nov 2022 - Nov 2023

Publications

Baxter KA, Nambiar S, So THJ, Gallegos D, Byrne R. Parental Feeding Practices in Families Experiencing Food Insecurity: A Scoping Review. *Int J Environ Res Public Health*. 2022 May 5;19(9):5604. doi: 10.3390/ijerph19095604. PMID: 35564998; PMCID: PMC9099728.

Research & Consultancy Income (other than WCCNR funding)

Vacation Research Experience Scheme: ‘Parental feeding practices and strategies amongst disadvantaged households: mealtime video analysis’ Nov 2022 - Feb 2023 - \$2000 scholarship stipend awarded from the QUT Faculty of Health.
Digital content course creator and Learning Management System (7taps) provided license in kind for first year at \$5952.



#SchoolFoodies: Optimising Primary School Food and Nutrition Environments in Queensland

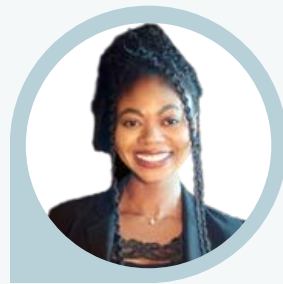
Milestone Progress

This four-year program of research aims to co-design and pilot a place-based model for building and sustaining optimal food and nutrition environments among primary schools in predominantly disadvantaged areas in Queensland. Building on the evidence base and extending existing approaches, this project will co-design a scalable co-design process model supplemented by a suite of case study applications and adaptations, which primary schools across Queensland but especially in disadvantaged areas can draw upon to build and maintain an optimal school food and nutrition environments. Outcomes from this trans-disciplinary project will support schools to implement, drive and sustain their own healthy school food communities (hence #schoolfoodies) to achieve measurable and sustained improvements in food literacy, nutrition knowledge and diet quality.

The program aims to answer the following research questions:

1. What are the core components and key features of an optimal primary school food and nutrition environment within contexts of disadvantage?
2. What are the barriers and enablers of a sustainable school food and nutrition environment that increases access to and availability and consumption of core foods, and decreases the availability and consumption of discretionary foods?
3. Does a transdisciplinary, systems thinking, participatory design approach promote sustained adoption, effectiveness and maintenance of a healthy school food and nutrition environment?

To answer these questions, this project employs a mixed methods research design using a combination of quantitative and qualitative methods in an exploratory sequential design itemised and status summarised below. The design has been guided by the ecological systems theory (Bronfenbrenner, 1977) and is informed by international frameworks for school food and nutrition environments such as the UNFAO School Food and Nutrition Education Framework (UNFAO, 2019) and the World Health Organisation Health Promoting School Framework (WHO, 1996, 2011).



**Dr Foluké
Abigail Badejo**



**Emma Esdaile
Parental Leave
Backfill**

Systematic Literature Reviews

This phase conducted three systematic reviews of the existing literature on primary school food and nutrition environments. Individually and collectively, the insights generated from these systematic literature reviews will serve to inform subsequent stages of the project.

1. Systematic literature review: Teacher self-efficacy (36 papers)
2. Systematic literature review: Australian school food environments (137 papers)
3. Grey literature review: Australian food and nutrition teaching resources

Preliminary Co-design Workshops

This phase comprises a series of co-design workshops based around the general theme of optimising primary school food and nutrition environments, and comprising of activities led by visual and persona mapping, communicative ecologies, discussion of barriers and facilitators, and creative ideation exercises. Insights from these initial workshops were used to inform subsequent studies in the larger project including a school food environment audit survey of principals and teachers and a deep dive ethnography into local school food systems. Completed.

Principal and Teacher Surveys

This phase of the project involves two online cross-sectional surveys, the first to principals and the second to teachers currently working in Queensland primary schools to:

- Map food and nutrition environments and activities being undertaken in Queensland primary schools.
- Understand the nutrition knowledge, self-efficacy, motivations and opportunities of primary school classroom teachers regarding food and nutrition education and environments.
- This is the first research undertaken in Queensland and the results will inform the next phase of the research project. It will also contribute to the development of professional development, and advocacy for policy that will optimise food and nutrition environments in Queensland primary schools. Data analysis will be concluded in December

Ethnography

The deep dive exploration of four primary schools across Queensland, aims to map the key forces within these local food environments, and how these forces interact individually, and collectively with existing policies and practices (e.g. Smart Choices, School Health and Wellbeing Frameworks, School Food Policies etc) to shape the dietary choices of school children. This phase will work with schools to map their school food environment and identify opportunities and processes for optimisation and improvement.

- 4 schools have been recruited and confirmed
- Ethnographic activities will begin in Term 1, 2023 from weeks 3-6 and will include semi-structured interviews, food diary activity, structured observations, informal interviews, document analysis

Feeding our Mana – Food insecurity in Māori and Pasifika communities

This project was led by a steering committee of community members and Dr Heena Akbar and undertook interviews with members of communities to explore the concept of food security and potential solutions. The work has resulted in one academic paper to date “Food is our Love Language” with an additional two in preparation. In addition, two philanthropic grants were written which were unsuccessful. One of the key outcomes concerns the important role young people play in the community and in co-designing solutions to food insecurity. The community is developing social media to destigmatise food insecurity. Discussions are underway to explore an additional grant that will enable this work to continue

Food insecurity screening: a scoping review of what works in health services.

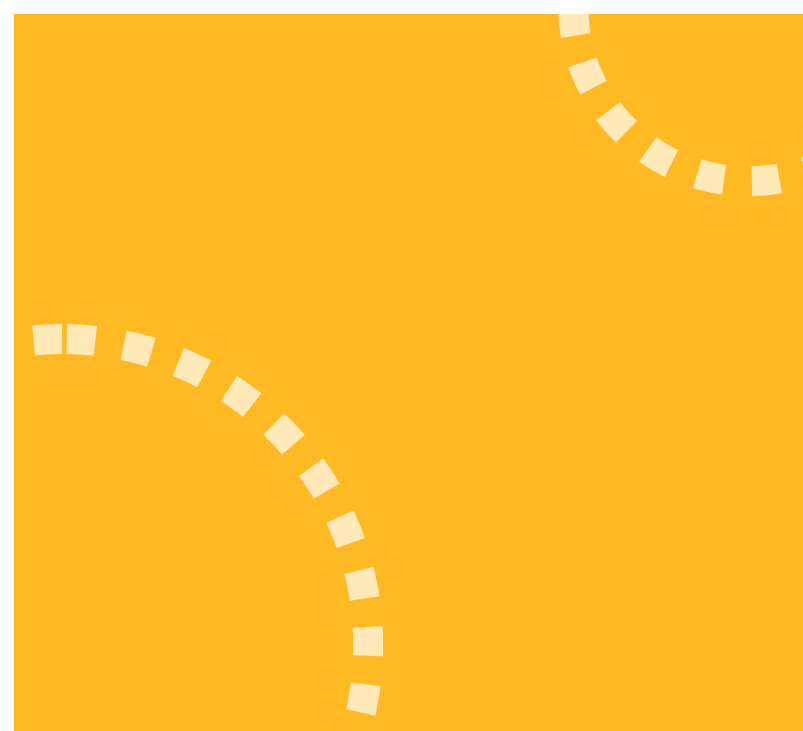
This work was carried out with a small amount of funding from CSIRO and the e-Health Research Collaboration for Aboriginal and Torres Strait Islander Health. The objective was to undertake a scoping review of the literature to investigate the development and implementation of food insecurity screening tools in healthcare and other systems. There was a particular focus on the food insecurity screening encompassing the social determinants of health in Indigenous settings. This work has been presented at the PHAA Preventive Health Conference, a report has been submitted to CSIRO and a paper is in preparation.

Solving hunger in Queensland – Foodbank QLD

We are undertaking a desk audit of peer-reviewed and grey literature and interviews with stakeholders to develop an evaluation framework and roadmap for future action for Foodbank QLD. Foodbank QLD are committed to ending hunger among Queensland families not only at the next meal but at every meal into the future. The outcomes of this work will provide direction for the organisation.

Pasifika Women’s Diabetes Wellness Program – WHTRN and Diabetes Queensland

Dr Heena Akbar was successful in securing funding to run a pilot other PWDWP which uses talanoa as a way to come to a shared understanding of ways to prevent and manage diabetes. Recruitment of intervention and control groups are currently underway. Māori and Pasifika women are gatekeepers to children and family and it is anticipated as collectivist cultures the changes in behaviours to healthier eating and active living will be far reaching.



PhD Student Projects

Dads at Mealtimes: Exploring fathers' food parenting, feeding roles and experiences in tough times

Milestone Progress

Jeffrey has continued to work on his PhD project: Dads at Mealtimes: Exploring fathers' food parenting, feeding roles and experiences in tough times.

To date, the following progress has been made:

- Phase 1: Online Survey to examine associations between family demographics, food insecurity, paternal feeding practices, and household and work chaos. Data collection completed (n = 315).
- Phase 2: Semi-structured Interviews to explore fathers' perception of their roles, strategies, facilitators and barriers in feeding, and interactions with others in the context of socioeconomic disadvantage. Data collection completed (n = 25); data analysis and qualitative paper are currently underway.



Jeffrey So
PhD Candidate

Publications

Jeffrey has submitted an abstract to ISBNPA (International Society of Behavioural Nutrition and Physical Activity) Conference 2023: Perceptions and feeding experiences of Australian fathers of young children while living with disadvantage. T.H.J. So, K. Baxter, R. Byrne, S Nambiar-Mann, D. Gallegos. He has also presented in Australian Fatherhood Research Symposium, QUT School of Exercise and Nutrition Sciences Conference, and QUT Centre for Child Health and Wellbeing Symposium. He has also been interviewed with an article published at the Australian Men's Health Forum.

An impact video (60-sec digital presentation of thesis) has been created by Jeffrey and represented Faculty of Health as a finalist for the 2022 QUT Visualise Your Thesis Grand Final.

“Due to the lack of money, I'm normally cooking enough for her and sometimes not enough for myself...I'll do anything to feed her but I am gonna cut for myself...to one meal a day.”
Dads at Mealtimes participant

Child Perspectives of Food Insecurity

Milestone Progress

For most of 2022, I have been on parental leave from my PhD studies. However, there have been a few highlights. The first was a successful PhD Confirmation process in February of this year (1 week prior to the birth of baby Annabel). During my leave period, I received news that the first paper from my PhD entitled “Intersection of food insecurity and moral experiences of those involved in paediatric healthcare: A scoping review of child, caregiver and healthcare provider perspectives” was accepted by the Journal of Child Health Care (Q1 journal) and published in November 2022. This scoping review explores the ethical issues which can arise when food insecurity and paediatric health settings intersect. It identified that food insecurity threatens caregiver and healthcare provider identity; that identifying food insecurity may or may not be seen as the business of health?; and that screening for food insecurity could be considered surveillance rather than assistance. The struggles associated with worrying about or being unable to provide sufficient healthy food for all family members can be exacerbated in the context of existing child health conditions. The review has shown that aspects of healthcare settings, such as FI screening initiatives, are strongly linked to the moral concerns of caregivers and healthcare professionals. The results of the review is informing the rest of my work by identifying how the child's voice is included in this space, for healthcare practice and policy design, and for the development of FI screening tools.

Publications

Taylor AJ, Baker S, Gallegos D. Intersection of food insecurity and moral experiences of those involved in paediatric healthcare: A scoping review of child, caregiver and healthcare provider perspectives. Journal of Child Health Care. 2022;0(0). doi:10.1177/13674935221133476



Amanda Taylor
PhD Candidate

The Mums & Meals Study: Food insecurity and the microbiome in pregnant women

Milestone Progress

The Mums & Meals Study will explore socioeconomic disadvantage, food insecurity, diet, and the gut microbiome in pregnant women. In 2022, I passed my confirmation of candidature milestone and successfully obtained ethics approval for the project from three human research ethics committees (primary approval and administrative reviews through collaborating institutes). We also collaborated with clinicians at three public hospitals in South East Queensland and obtained governance approval to recruit for the project through their antenatal clinics. Since August, we have recruited over 700 pregnant women for the first phase of the project (an online survey), predominantly through social media advertising. We are also working towards collecting faecal samples to be able to study the microbiome in women living with disadvantage.

Very preliminary analysis of data from more than 700 pregnant women indicates that 25% (1 in 4) live in food insecure households. Of these, 15% have changed the quality of what they are eating (less fruits and vegetables, more filling foods) and 10% have reduced the quantity of what they are eating or have skipped meals, which indicates severe food insecurity. This has significant repercussions for maternal health and the subsequent health of the child. A further 20.5% live in marginally food secure households, which means they may worry about food running out and/or have other concerns about accessing healthy food. This increases stress which also impacts negatively on the health outcomes of mothers and their babies. In 2022 I have presented my work at the QUT School of Exercise and Nutrition Sciences HDR Student Conference (oral presentation) and at the QUT Centre for Child Health and Wellbeing Symposium (poster).



Bree Whiteoak
PhD Candidate

Feeding Siblings: An Exploratory Mixed-Methods Study on Australian Parents and Children Aged 1 to 5 years



Susannah Ayre
PhD Candidate

Milestone Progress

The Feeding Siblings Project is divided into a qualitative (mealtime observations and interviews) and quantitative (survey) phase. In 2022, data collection and analysis were completed for the qualitative phase. This has informed the design of a survey that is being used for the quantitative phase of the project. An ethics application was submitted and approved for this phase, after which data collection was commenced. Data collection will be finished by the end of 2022. With the borders opened, a memorable highlight of this year was travelling to Phoenix to present at the International Society of Behavioral Nutrition and Physical Activity (ISBNPA) 2022 Annual Meeting. What made this trip memorable was not only the giant red rock and cacti that surrounded the conference, but the connections that were built with researchers from colleges and universities from four different continents, one of which has opened an opportunity to present in 2023. I have presented my work at six conferences this year.

Other achievements in 2022 included:

- Visualise Your Thesis (VYT) Faculty Finalist and Overall QUT Winner (\$AU 750)
- International Congress of Dietetics (ICD) LEAP Travel Grant (\$AU 1,000)
- International Society of Behavioral Nutrition and Physical Activity (ISBNPA) 2022 Annual Meeting Scholarship (AU \$500)
- Christine Critchley Memorial Scholarship (\$AU 980)

Publications

Ayre S, Harris, H, White, M, Byrne, R. Food-related parenting practices and styles in households with sibling children: A scoping review. *Appetite*. 2022;106045. doi: 10.1016/j.appet.2022.106045 (citations: 1)

Connecting to Cultural Foods

Milestone Progress

Ethics to conduct interviews was approved in February and a variation to include the co-design workshops was approved in September. The data from focus groups held in 2021 was co-analysed with two steering committee members, and a paper has been drafted and is currently being reviewed by all authors, with an expected submission to a journal in early January 2023.

Four co-design workshops were held between January and April to co-design the data collection methods (interviews) and tools (interview guide) for the project. Between May and July, 176 surveys were conducted during 18 group meetings at education centres, neighbourhood centres and community hubs across Brisbane, to collect data on where people access their cultural foods and identify key community members that facilitate that access. This data was analysed and used to select community members to be interviewed. Seven research assistants were hired (participants from the co-design workshops), and they tested the interview guide with four community members between July to September. Four interviews with community members were completed between October to December to explore how community roles influence access to cultural foods, and a further three to be completed before the end of the year. A workshop will be held with the project team in December to commence analysis of the interview data and determine the project outcomes to be delivered in 2023.

Publications

Determinants of food security among people from refugee backgrounds resettled in high-income countries: A systematic review and thematic synthesis in PLOSOne - <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0268830>



Tina Gingell
PhD Candidate



Sophie Wright-Pedersen
PhD Candidate

Kids to the front: Exploring Children's Food Practice Perspectives

Milestone Progress

This year began with the Kids to the Front study passing the PhD confirmation milestone and gaining ethics approval to go ahead. After an overwhelmingly successful recruitment drive in the second half of the year, we completed Phase 1 of data collection where 42 children from 28 families participated in creative draw-and-tell interviews. Following this, 20 of these children (from 15 families) progressed to Photovoice meaning Phase 2 was also completed. The third and final Phase involves video ethnography with six children where we currently have three children (from 3 families) currently undertaking this activity and plan to complete this Phase in early 2023. A huge amount of data has been collected and the next steps involve transcription and analysis to piece it all together and tell children's food stories.

Additionally as part of the PhD, a scoping review exploring the extent and nature of children's participation in food related studies has been submitted for publication and is currently under review; and a presentation has been given on the methods used within the study at the QUT SENS HDR Conference in November this year.



Jess Cheers
PhD Candidate

From Ludic to Lucid: Exploring playful participatory approaches to designing for wicked problems in health care

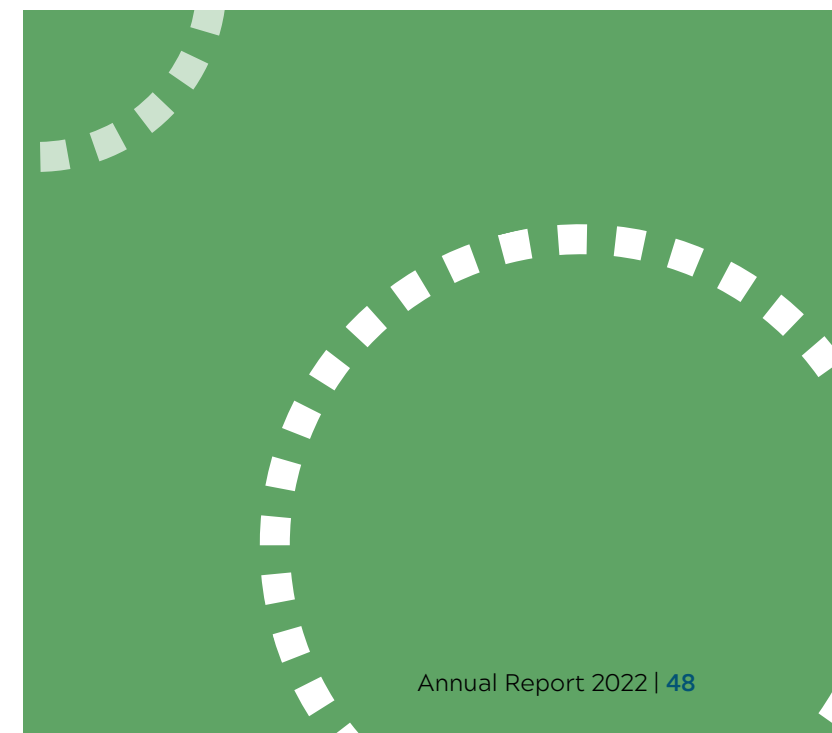
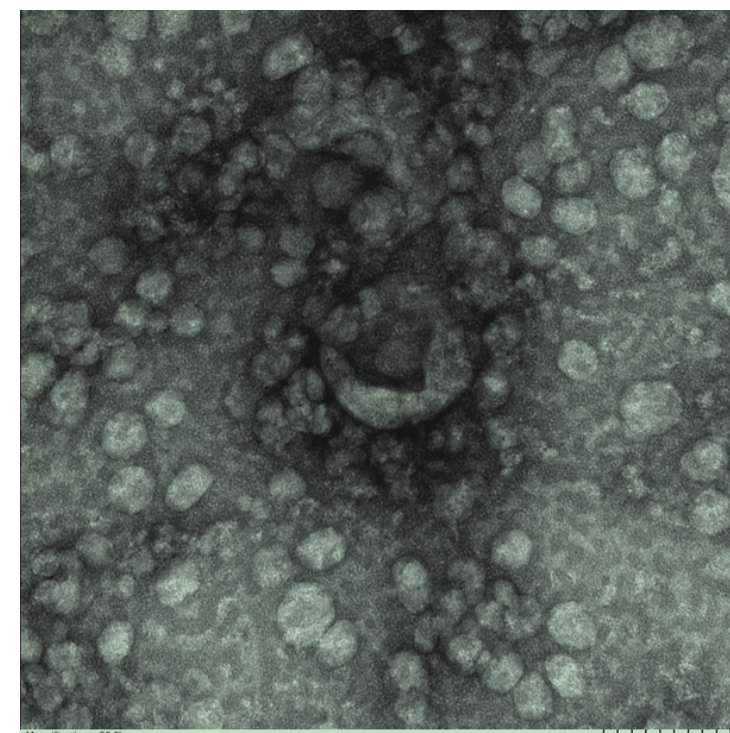
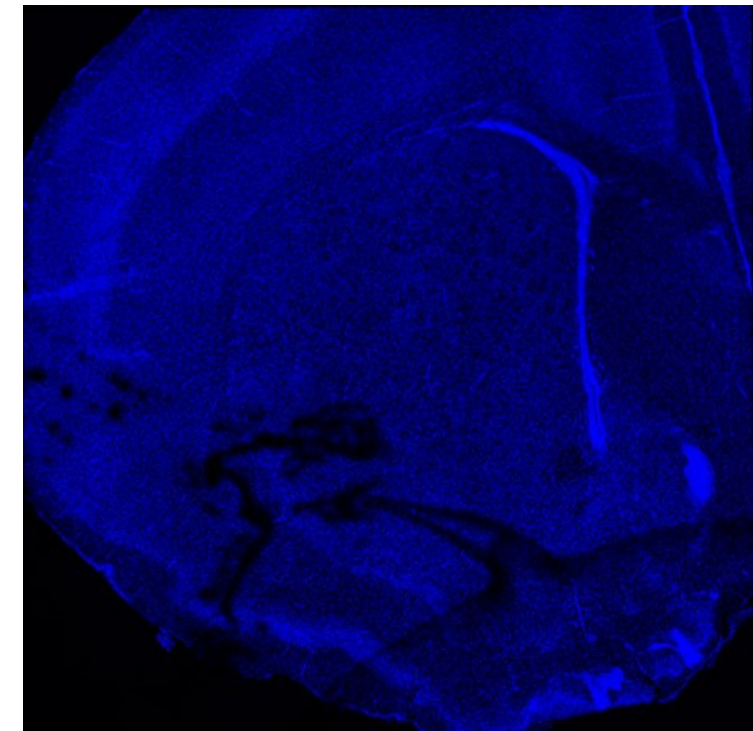
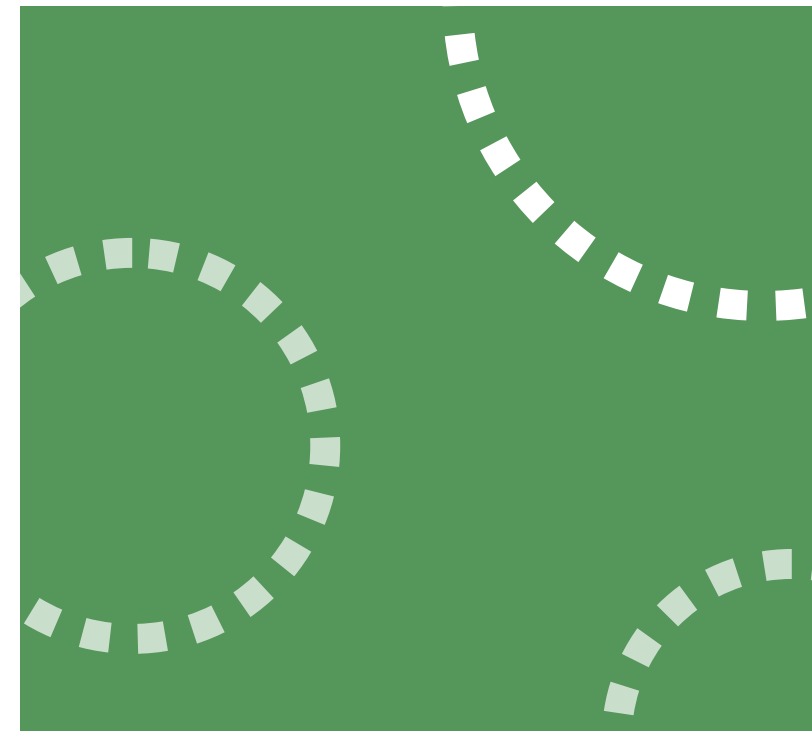
“
My biggest WOW moment: Receiving an email from one of my steering committee members saying “Thank you for believing us and allow us to participate with your project” when I asked if they wanted to co-author a paper. This reinforced that the project was being conducted in the right way.
”

Discovery Science Project Updates



“We are starting to see some exciting results in our work. In particular the work we are doing on maternal immune activation is showing the relatively small changes to diet potentially has profound implications for fertility, brain development and development of the immune system.”

A/Professor Severine Navarro
Discovery Science Lead



Regulating the Microbiome and Immune Development in Early Life

Project Overview

This project is working in an animal model where mice are receiving either a western diet (increases in carbohydrate and fat by 10-20%) or a “Mediterranean diet” (about a 20% increase in digestible fibre). The novelty is that the dietary changes are not extreme but are small alterations in carbohydrate, fat and fibre. Preliminary findings indicate the “Mediterranean” diet is having an improved effect on fertility (improved), brain development (developing more brain tissue), and on the immune system. Mice on the Mediterranean” diet are less likely to develop allergy, through all organs (lung, gut, lymph). The data being collected includes microbiome, metabolomics (from every tissue) - leading to the identification of metabolites that are important for modulation of the immune system. An additional study is investigating the impacts of a ketogenic diet for the treatment of schizophrenia.



Dr Yan Lu

Metabolomics in Enhancing Responses to Cancer ImmunoTherapy in Melanoma (MERIT- M)

Project Overview

This pilot observational study will examine the metgenomic sequence and metabolomic profiles of patients undergoing immunotherapy-based treatment for metastatic melanoma to identify metabolic signals associated with response vs resistance to immunotherapy with the goal of reversing metabolic changes associated.

Milestone Progress

This project was funded by the Wesley Medical Research Foundation. Recruitment is underway but slow due to the psycho-social impacts of a melanoma diagnosis. The Navarro lab will be undertaking microbiome sequencing and metabolomics analyses.



Dr Agnieszka Malczewski

Allergic Symptoms after CaesarEaN SecTion Trial (ASCENT study)

Project overview

This is a randomised controlled feasibility study to assess the necessity for prophylactic antibiotics in scheduled caesarean procedures in low-risk women. We are assessing maternal clinical outcomes, atopy and food intolerance in the child and infant faecal and breastmilk microbiome/metabolome composition. In the long-term, we are planning to perform a multicentre RCT to strengthen our data. This project has the potential to change the current standard of care for low-risk c-sections and re-evaluate the level of necessity for antibiotics use during the perinatal period. 19 participants recruited (women need to consent to abstain from antibiotics at C-section). Data has been collected and when recruitment reaches 10 in each arm - analysis will be undertaken. The outcomes of this research could potentially radically change procedures for C-sections that will change the rate of allergy prevalence in children.

Publications

Submitted review Acta Obstetrica et Gynecologica Scandinavica, a top quartile O and G journal that takes “State of the art” non-invited narrative reviews Intrapartum antibiotics in Cesarean section, the infant microbiome and allergic diseases

Additional funding

This project has attracted \$50,000 in funding from ANZCA with an additional \$150,000 from the RBWH Foundation pending.

The Infant Gut Health Study

Project Overview

This project aims to investigate the shifts in the gut microbiome composition in individuals infected with gastrointestinal helminths and the potential health implications and challenges with susceptibility to other opportunistic pathogens. There have been delays in this project due to changes in policy with DFAT in order to be able to access the PNG samples. To counter these delays the team has been working closely with other researchers at QIMRB to utilise samples from cohorts living in Asia. All protocols and methods have been established regarding the parasite identification and metabolomics. The method used is untargeted which requires significant data analysis but has the potential to identify novel products. A new strain of parasite has also been identified. This project is providing the groundwork for the identification of biomarkers for allergy and the potential discovery of novel immunotherapeutics. Ground-breaking insights into the interaction between parasites, microbiome and the host that will inform the development of therapeutic treatments to improve overall health (better probiotics and drugs).

The Infant Gut Health Study (PhD project)

Project overview

This project aims to investigate the shifts in the gut microbiome composition in individuals infected with gastrointestinal helminths and the potential health implications and challenges with susceptibility to other opportunistic pathogens.

Progress in 2022 for this project was as follows:

- Standardized the protocol to isolate parasites' intestinal using human samples from the Philippines that have already been collected.
- Performed molecular techniques, including PCR, qPCR and DNA sequencing, to identify the most common intestinal parasite in humans.
- Commenced literature review about the Influence of gastrointestinal parasites on the gut microbiome of mothers and children in the Pacific Region.



**Juciliane
Haidamak**
PhD Candidate

Allergic Symptoms after CaesarEaN SecTion Trial (ASCENT study)



**A/Professor
Severine Navarro**

Project overview

This is a randomised controlled feasibility study to assess the necessity for prophylactic antibiotics in scheduled caesarean procedures in low-risk women. We are assessing maternal clinical outcomes, atopy and food intolerance in the child and infant faecal and breastmilk microbiome/metabolome composition. In the long-term, we are planning to perform a multicentre RCT to strengthen our data. This project has the potential to change the current standard of care for low-risk c-sections and re-evaluate the level of necessity for antibiotics use during the perinatal period. 19 participants recruited (women need to consent to abstain from antibiotics at C-section). Data has been collected and when recruitment reaches 10 in each arm - analysis will be undertaken. The outcomes of this research could potentially radically change procedures for C-sections that will change the rate of allergy prevalence in children.

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Additional funding

This project has attracted \$50,000 in funding from ANZCA with an additional \$150,000 from the RBWH Foundation pending.

Development of Novel Compounds for the Treatment of Asthma

Project overview

This is known as the “Hookworm Study” and includes “hookworm-derived protein AIP-2 to prevent allergy onset in neonates” and “treatment of food allergy with Schistosoma egg antigen-derived exosomes”. The novel compounds have been identified and now the team are in the process of identifying the mechanisms of action for the prevention of onset and the treatment of asthma in children. The identified compounds are currently under business development and is being overseen and guided by a national committee of commercialization experts (venture capital, CSL etc) to secure a licensing agreement with Pharma in the next 12 months. Novel effective biologic for the treatment of asthma.



**Prarthna
Gopalakrishnan
Bhaskaran**
PhD Candidate



**A/Professor
Severine Navarro**

Regulating the Microbiome and Immune Development in Early Life

Project Overview

This project is working in an animal model where mice are receiving either a western diet (increases in carbohydrate and fat by 10-20%) or a “Mediterranean diet” (about a 20% increase in digestible fibre). The novelty is that the dietary changes are not extreme but are small alterations in carbohydrate, fat and fibre. Preliminary findings indicate the “Mediterranean” diet is having an improved effect on fertility (improved), brain development (developing more brain tissue), and on the immune system. Mice on the Mediterranean” diet are less likely to develop allergy, through all organs (lung, gut, lymph). The data being collected includes microbiome, metabolomics (from every tissue) - leading to the identification of metabolites that are important for modulation of the immune system. An additional study is investigating the impacts of a ketogenic diet for the treatment of schizophrenia.



Dr Yan Lu

Worms to the rescue: probing Schistosoma mansoni eggs for tolerogenic products

Project overview

As countries move towards major industrialisation and the complete elimination of schistosomiasis and other helminth diseases, the hygiene hypothesis predicts that food allergy rates will continue to rise. My project aims to discover new drugs for the treatment of food allergy in Schistosoma mansoni eggs, or soluble egg antigen (SEA), with a specific focus on low molecular weight (LMW) SEA proteins and exosomes. During my project, I have been able to develop and optimise a novel protocol for the isolation of exosomes from S. mansoni eggs that provides highly pure and concentrated exosomes for contents and functional analysis. The biggest wow moment for me was when I saw my exosomes under the transmission electron microscope in high concentration. Honourable mention goes to identifying the possible presence of two different size compartments of S. mansoni egg derived exosomes, which may have different cargo and thus downstream function!

Presentations and awards

- Featured in QIMR Berghofer LifeLab
- QIMR Berghofer Student Symposium, First Place
- QIMR Berghofer Top-Up Scholarship



**Madeleine
Rogers**
PhD Candidate



Adrian Ilich
PhD Candidate

How diet influences T cell education and microbiome-immune cross-talk?

Project Overview

This year’s key theme for me was learning about my topic (literature review), about lab techniques such as flow cytometry, ultracentrifugation gradient separations and cell cultures, protein gels, BCA assays and endotoxin assays.

I completed a single cell RNA sequencing experiment on isolated T cells from the mesenteric lymph nodes of control diet and treatment diet exposed mice. I performed a gut microbiome metaproteomics experiment on those mice as well, and additionally performed some preliminary cell culture experiments. I have data now which I am analysing using several programming languages. It's too early yet to report on the findings.

This year I attended six seminars/workshops held by QCIF, BioCommons and QIMR to learn the basics of coding, data analysis, and statistical analysis, with a heavy focus on single cell RNA sequencing analysis. I now feel competent writing basic scripts in R, python, and unix (all of which I had no prior knowledge in before this year).

I think the moments that stood out most greatly to me this year would have to be successfully articulating my Master's project into a PhD project. During this time I was also awarded the QUT Faculty of Health living stipend scholarship.

Presentations

- "Microbiome-Immune interactions in the gut" QIMR infection and inflammation seminar series, May 2022
- "How diet Modulates T cell populations in the Gut" QIMR Student Symposium, July 2022

e-PINO: Early Prediction of Infant Neurodevelopmental Outcomes using novel biomarkers



A/Professor
Severine Navarro

Project overview

The capacity built in the laboratory has allowed participation in this project which is looking for predictive biomarkers for Cerebral Palsy in premature babies - to allow early intervention and decrease the severity of brain damage. It is in partnership with UQ, CSIRO, Monash University, Monash Medical Centre, University of Sydney and the University of Adelaide

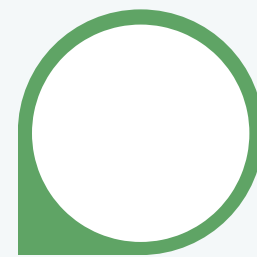
The role of metabolism in the perinatal brain and neuropsychiatric disorders

Project Overview

This project aims to characterise how maternal immune activation alters the developmental expression of metabolic receptors and investigate whether ketogenic diet can reverse these changes. Elucidating the mechanism of action may aid in the development of novel therapeutic treatment options for schizophrenia. My work so far has focussed on optimising the protocols and methods for the experiments that will be undertaken including: optimisation of RNA extraction protocol for bulk RNAseq; optimisation of microglia immunofluorescence staining protocol including; and primer design and validation for RT-qPCR.

Presentations

- QIMRB Inflammation and Infection seminar series
- Student symposium
- ECR seminar



Alexis Hung
PhD Candidate



A/Professor
Severine Navarro

Sessile serrated lesions in young women with Inflammatory Bowel Syndrome

Project overview

Increased capacity in the laboratory has made this project possible. The project will define the role of the microbiome and microbiome derived metabolomics in driving gastrointestinal disease (coeliac disease and IBS). While in adults the onset of GI disease the project has the potential to identify early markers for diagnosis of disease onset which is often in childhood. Many adults presenting have had ongoing symptoms as children that remained undiagnosed.

Clinical Health Project Updates

Paediatric Coeliac Disease Care: Pathways to Clinical Excellence (PaCE-QLD)

Coeliac Disease (CD) is one of the most common immunological diseases of children, thought to affect up to 30,000 Queensland children. Treatment is adherence to a strict gluten free diet which can be challenging. The Paediatric Coeliac Disease Care: Pathways to Clinical Excellence (PACE-QLD) project has been submitted for funding to the Queensland Children's Hospital Foundation as a collaboration between QUT and Queensland Children's Hospital to. The co-design of a digital passport will equip children to be confident navigators of their chronic condition. The project will:

1. Identify structural characteristics, networks and communication, culture and implementation climate from the perspectives of general practitioners, paediatricians, dietitians, paediatric gastroenterologists and pathology providers to inform the development of a centralised QLD coeliac disease registry and digital passport.
2. Understand the needs, barriers and enablers (social, emotional, and socioeconomic) of parents, young people and children affected by coeliac disease, to inform the appropriate referral diagnosis and dietary therapy adherence taking into consideration the significant geographical and financial barriers to accessing healthcare and implementing gluten-free diet therapy.

Nutrition and Dietetics Honours Student Projects

Fourth year Nutrition and Dietetics students as part of their embedded Honours degree have undertaken two projects that assist the clinical team in advancing research within the gastroenterology area. Two students worked with the eosinophilic oesophagitis (EoE) team to survey children and their caregivers with EoE to determine dietary and clinical determinants and outcomes. A second group of students undertook a systematic literature review scoping the current evidence for dietary management of paediatric Crohn's Disease.

Clinical trials currently in progress:

Three industry funded phase III clinical trials of novel pharmacological agents for the treatment of severe gastroenterological (GI) and hepatological diseases:

1. IBD
2. Eosinophilic Esophagitis
3. Wilson Disease

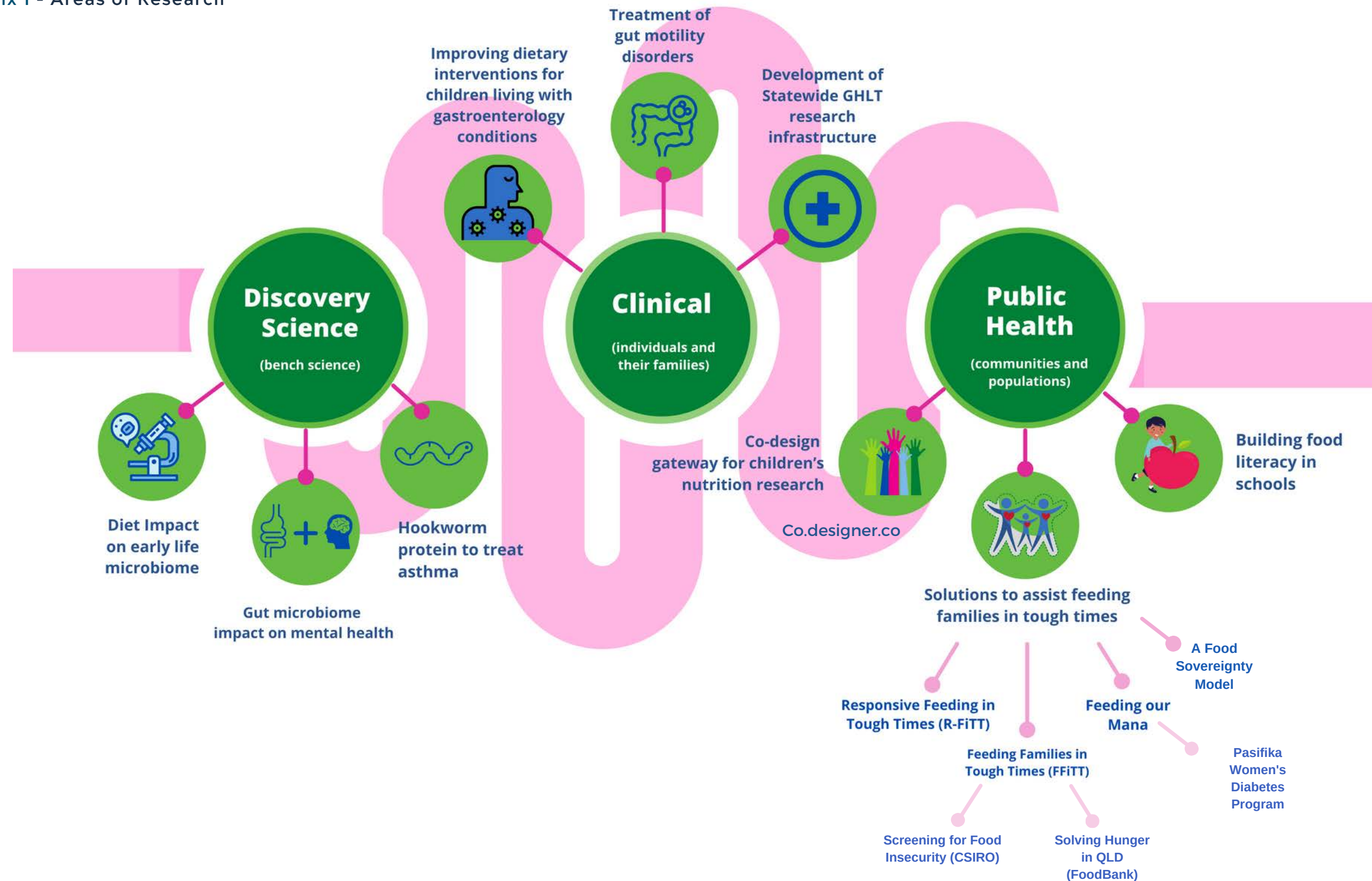
The clinical use of small intestinal function tests in gastrointestinal motility disorders: a specific study on scintigraphy. Study to investigate the utility of non-invasive testing of small intestinal transit / neuromuscular function.



Professor
Nikhil Thapar
Clinical Health Lead

Appendices

Appendix 1 - Areas of Research



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