



THE UNIVERSITY OF
SYDNEY

—
Westmead Applied
Research Centre

QUARTERLY REPORT

Q2 April - June 2023

Director's Message



As we reach Quarter 2 and the midway point of 2023, we reflect on what a busy and productive year it has been. A prominent highlight of Q2 was the WARC- Google Consumer event, held in partnership with Google at their Pyrmont HQ, and attended by consumers, industry partners, health services stakeholders and academic collaborators. The theme of the event was “Digital Health and You – A conversation”, a topic that generated exciting discussion and debate throughout the evening. While many of us think that digital health has made leaps and bounds during the COVID19 pandemic, there is a feeling that we now need to look back, learn from the experiences and grow from them. Replacement of existing services with digital replicas was not the original goal of digital health, and a mature approach needs to be applied in developing how digital health can be more transformative for healthcare.

WARC has just undergone its 5-year review, with many WARC members involved in bringing together stories of our achievements, impact and plans for the future, as well as participating in interviews for the review.

We have also taken part in several important events, including the inaugural NSW Research Translation Centres (RTCs) Cardiovascular Symposium at the Westmead Precinct, an event designed to foster connection and collaboration across NSW RTCs in Cardiovascular research.

Finally, we welcome several new staff members to WARC, including Myron Godinho (Research Fellow), Yennie Huynh (Research Study Coordinator), Shiva Narang (Clinical Trials Coordinator), Sally McNeill (Senior Project Officer-ASHRA) and Aileen Zeng (Research Administration Officer) – as well as new WARC Principal Investigators Prof Leanne Togher and A/Prof Andrew Coggins.

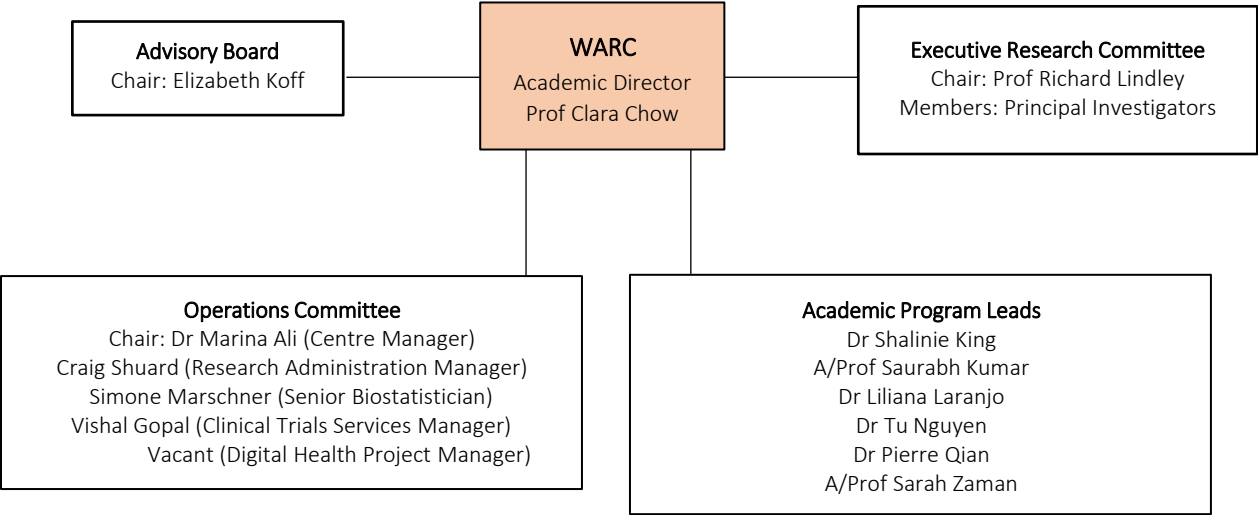
Best wishes

Clara Chow AM | Professor of Medicine and Academic Director

OUR STRUCTURE

These groups are responsible for designing, implementing and refining our strategy.

GOVERNANCE



WARC ADVISORY COMMITTEE

- Graeme Loy (Chief Executive, WSLHD)
- Katherine Belov (Pro-Vice-Chancellor, Global & Research Engagement, USyd)
- Jean-Frederic Levesque (Deputy Secretary for Research and Innovation and Chief Executive Officer at Agency for Clinical Innovation, NSW)
- Carrie Hayter (Consumer Engagement Manager: Health and Medical Research, Health Consumers NSW)
- David Lloyd (Chief Executive Officer, The Heart Foundation)
- Ray Messom (Chief Executive Officer, WentWest)
- Elizabeth Koff (Managing Director, Telstra Health)
- Cheryl Jones (Head of School and Dean, Sydney Medical School, USyd)
- Richard Lindley (Professor of Geriatric Medicine, FMH, USyd)
- Clara Chow (Academic Director, WARC)
- Liliana Laranjo (Senior Research Fellow, WARC)
- Sarah Zaman (Academic Interventional Cardiologist, WARC)



Inaugural meeting of new Advisory Board.

WARC AT A GLANCE

Overview of WARC activities to date, up to 30 June 2023

WARC ACTIVITIES



175

Partners



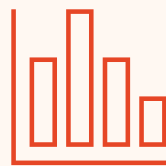
114

Active Projects



86

Team members



72

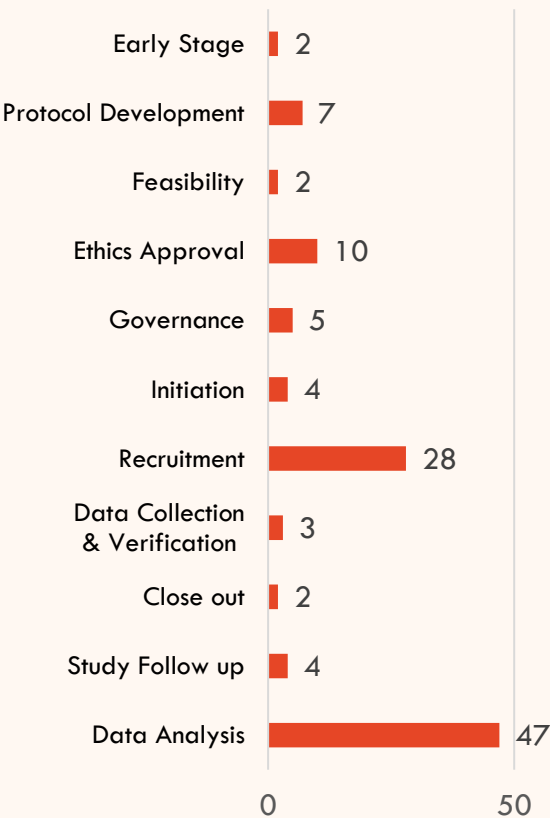
WARC-led statistical analyses



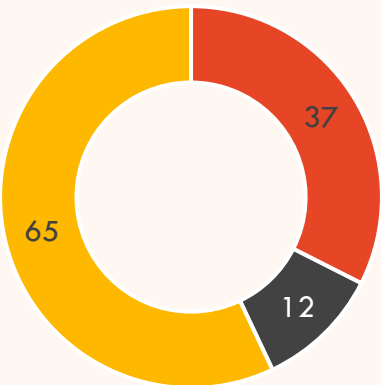
59

Clinical Trials

PROJECTS STATUS



OUR RESEARCH THEMES



- Digital Health & Technology
- Equity in Healthcare Access
- New Clinical Approaches

OUR PERFORMANCE

PUBLICATIONS EXCELLENCE

At WARC we are committed to high quality research output and collaborating with our active research network nationally and internationally.

In the three months from April to June, WARC led or contributed to 36 publications across all our research themes.

Half of these publications were in top-ranking global journals (SJR>1) and 15 papers were co-authored with international researchers.

Congratulations to all our researchers who continue to deliver exceptional research.

PUBLICATION STATISTICS



36

Publications



18

High ranking
(SJR > 1)



15

International
collaborations

FUNDING

We have continued WARC's excellent track record in funding success in Q2 of 2023.

Medical Research Future Fund (MRFF) has awarded Clara Chow and team \$1.3 million for REMOTE-CARE (REmote MONitoring deTECTing CARDiac issues Rapidly to Enable care). This project brings together leading industry partners, cardiovascular consumer engagement group [Hearts4Hearts](#) and peak body Cardiac Society of ANZ ([CSANZ](#)) and investigators around Australia. The proposal will **improve understanding of RM technology implementation** in Australia, generating evidence that will support clinically effective, safe, and cost-effective implementation of remote cardiac monitoring. WARC PhD student Dr **Brodie Llewellyn Sheahan** was deeply involved in the design of the study and will work with the team as a Chief Investigator.



Three WARC Investigators have been awarded **Western Sydney Local Health District (WSLHD) Research Education Network Grants \$50k each:**

- Sarah Zaman
- Poonam Balaji
- Kasun De Silva

OUR PERFORMANCE

SOCIETAL IMPACT

WARC in the media - WARC PI A/Prof Pramesh Kovoor, in collaboration with Greg Page (best known as the Yellow Wiggle) is campaigning for improved availability of defibrillators. Josh Kovoor, also picture here, has conducted research at WARC, both with Pramesh Kovoor and WARC PI Aravinda Thiagalingam.



Westmead Applied Research Centre #WARC_USYD
@WARC_USYD

A defibrillator saved this Wiggle's life. Now he wants them everywhere. "The shorter the delay, the better," said #WARC Principal Investigator Pramesh Kovoor. "It's really a no-brainer." Read more in this @smh article [smh.com.au/national/nsw/a...](https://www.smh.com.au/national/nsw/a...) @GregPage_Yellow @heartfoundation @WestSydHealth @syd_health @heartfoundation #wiggles @HeartNationAus #PrameshKovoor @clara_chow



Clara Chow @clara_chow · May 18
Great to have great neighbours! Looking forward to working together to apply #digitalhealth to #prevent #CVD and #chronicillness with @Telstra @WARC_USYD @WestSydHealth @heartfoundation @thecsanz

Robyn Ward @RobynWard13 · May 18
Telstra health visited by minister butler @mark_butler_mp - fast track digital health agenda - death to fax machines - great to be joined by # Westmead colleagues and partners @clara_chow Graeme Loy

Our impact is global but our location in Westmead affords us great opportunities to be part of the growing neighbours to **Australia's largest health and research precincts.**



OUR PERFORMANCE

OUTREACH

In April, Professor Chow and the WARC team held a showcase event at Google HQ demonstrating their innovative heart disease solutions. The showcase event provided a space for the exploration of ways to transform digital health through collaborations with Google, the government, consumers and clinicians.

The showcase attracted leading decision-makers in healthcare, including Graeme Loy, Chief Executive of the Western Sydney Local Health District, Professor Andrew Wilson, Director of the Menzies Centre for Health Policy and Carrie Hayter, Consumer Engagement Manager from Health Consumers NSW.

The event comprised presentations from WARC researchers which was opened by the University of Sydney's Professor [Richard Lindley](#), facilitated by Associate Professor [Sarah Zaman](#), and three WARC researchers including Professor Chow as well as Dr [Liliana Laranjo](#) and Sonali Munot. Anita Kaye from Google Cloud closing the presentations. Panel and audience members discussed the suitability of the current health system, the barriers to change and the potential value of digital health in providing equity of access to healthcare. There was also discussion as to how to scale digital health interventions and how to identify the useful from commercial digital health interventions.

A subsequent panel discussion was chaired by Professor [Tim Shaw](#), and included Elizabeth Koff AM, Managing Director of Telstra Health and former Secretary of NSW Health, Ray Messom, CEO of Wentwest (Western Sydney Primary Health Network), and Michael Kielty, a consumer representative.

<https://www.sydney.edu.au/medicine-health/news-and-events/2023/05/23/westmead-team-collaborates-on-health-tech-with-google.html>



OUR PERFORMANCE

CLINICAL RESEARCH

Another busy quarter for the clinical trials team with several projects recruiting their first participants, including ASPIRE-AF and MICardiac.

ASPIRE-AF (Anticoagulation for Stroke Prevention in Patients with Recent Episodes of Perioperative Atrial Fibrillation after noncardiac surgery) is a global clinical trial, and has recruited its first participant in Australia, led by WARC team.



ASPIRE-AF Trial recruits first patient

MICardiac – innovative cardiovascular app designed and launched by WARC for its first participants.

We are actively recruiting for 28 clinical trials.

CLINICAL TRIAL – FOCAL THEME



OUR PERFORMANCE

TEXTCARE UPDATE

TEXTCARE is a vehicle for behaviour change using text messages across a number of chronic health diseases. Developed at WARC, it is now being used by several teams for research and real-world projects. Existing topics for TEXTCARE programs include:

- Heart Health
- Community Health
- Mental Health
- Diabetes
- COVID
- Women Health

New topics are:

- Pain Management
- Dental Hygiene
- Rehabilitation
- Medication Management
- Patient Monitoring

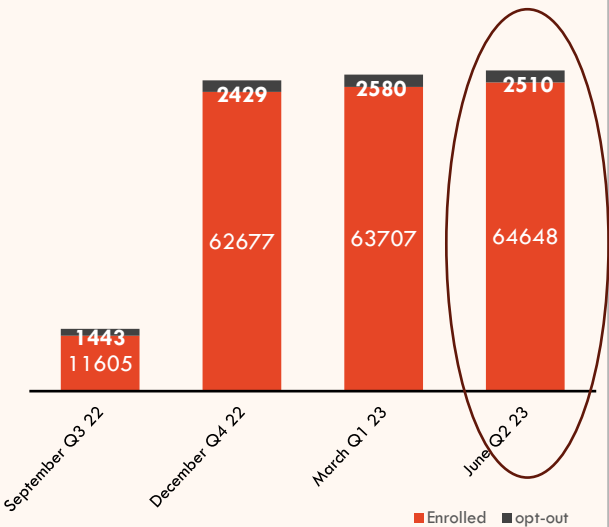
TEXTCARE SUMMARY

 **941**
New participants

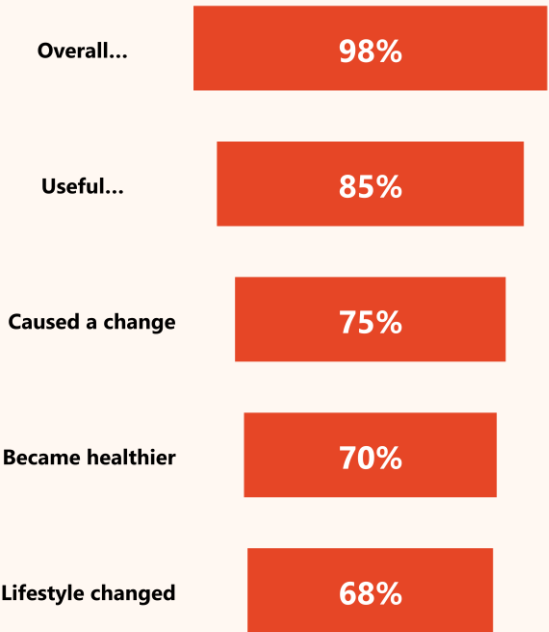
 **1765**
Currently active on TEXTCARE programs

 **15%**
Opt-out rate

RECRUITED VS OPT-OUT PARTICIPANTS (SEPTEMBER 2022 – JUNE 2023)



PARTICIPANT FEEDBACK



OUR PERFORMANCE

FEATURED PROGRAM

The link between oral health and heart health is the focus of the Cardio-periodontal Program at WARC. Led by Dr Shalinie King, and with inspiring students like Rebecca Chen, the Program is building an evidence base for role of oral health in broader chronic disease management.

Dr Shalinie King is a Senior Lecturer with the University of Sydney Dental School, and a



Shalinie King – WARC EMCR

postdoctoral research associate with WARC. She is a practising clinician with experience working in both the public and private sectors of dentistry.

FEATURED STUDENT

Rebecca Chen has a Bachelor of Oral Health, a Master of International Public Health, and is a PhD student at WARC. Her research is co-designing an mHealth intervention to reduce early childhood caries rates (tooth decay) and hospitalisations in NSW. Collaborating with patients, clinicians, and policy makers, it leverages digital technologies for more effective health promotion. The goal is to drive real change in oral health behaviours.

Rebecca strives to influence policy and clinical translation to improve oral health and general health outcomes for dental patients. Her research has already impacted NSW Health policies and strategies.



Rebecca Chen – PhD Candidate

FEATURED PROJECT

Rebecca’s PhD Project is SMILEsup: Supporting parents/carers of young children with tooth decay to use a Mobile health Intervention targeting oral health Lifestyle behaviours and Evaluating opportunities to Scale-up: a randomised control trial.

Received: 17 June 2021 | Revised: 16 October 2021 | Accepted: 10 November 2021
DOI: 10.1111/cdoe.12708

ORIGINAL ARTICLE

COMMUNITY
DENTISTRY
WILEY

Socio-demographic and familial factors associated with hospital admissions and repeat admission for dental caries in early childhood: A population-based study

Rebecca Chen¹ | Francisco J Schueuer² | Michelle J Irving^{3,4} | Clara K Chow¹ | Harleen Kumar^{5,6} | Carrie Tsai^{5,6} | Woosung Sohn⁶ | Heiko Spallek⁶ | Jane Bell² | Natasha Nassar²

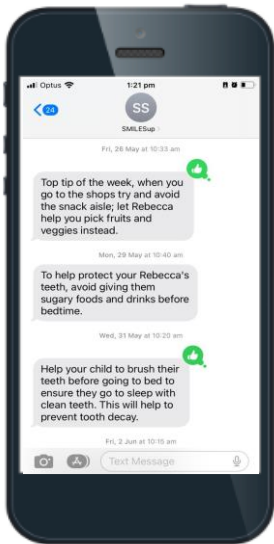
¹The University of Sydney, Westmead Applied Research Centre, Faculty of Medicine and Health, New South Wales, Australia
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³The University of Sydney, The Menzies Centre for Health Policy, New South Wales, Australia

Abstract

Objectives: Dental caries remains a complex childhood condition often requiring preventable hospital admissions. There are limited population-based epidemiological studies that use large and linked data sets to quantify the clinical, socio-demographic and familial risk factors related to hospital admissions for dental caries. The aim of this study was to describe and quantify the rates, socio-demographic, clinical characteristics and familial factors including repeat admissions associated with young children admitted to hospital for dental caries.

Co-designed digital intervention

She is trying to answer the question ‘Does a mHealth intervention change dental caries outcomes?’. Following the implementation of the intervention, the project will examine the short-term outcomes (clinical indicators and behaviour change) and the long-term outcomes (reduced decay rates and hospitalisation).



Co-designed digital intervention

APPENDIX 1 - PUBLICATIONS

1. Allwright M, Mundell HD, McCorkindale AN, Lindley RI, Austin PJ, Guennewig B, et al. Ranking the risk factors for Alzheimer's disease; findings from the UK Biobank study. *Aging Brain*. 2023;3:100081.
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PUBLICATIONS

30. Tong A, Perera P, Sarsenbayeva Z, McEwan A, De Silva AC, Withana A. Fully 3D-Printed Dry EEG Electrodes. *Sensors (Basel)*. 2023;23(11).
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