Position Description

Position Title:	Biostatistician (Postdoctoral Research Officer)
Salary Range:	MCRI Research Salaries - Level A Steps 6-8 or Level B Steps 1-2
Reporting Manager:	A/Prof Margarita Moreno-Betancur
Direct Reports:	None
Home Group:	Clinical Epidemiology & Biostatistics Unit (CEBU)

Who are we?

The Murdoch Children's Research Institute (MCRI) is home to significant scientific discoveries. We believe there is an answer, a cure or a better treatment for every childhood condition — and we're determined to find it.

We are a diverse team of world-leading researchers, doctors, engineers, and hardworking professionals in corporate and scientific services from all corners of the world with one shared goal — to transform child health worldwide.

Our strength lies in our partnership and co-location with The Royal Children's Hospital and the University of Melbourne — the Melbourne Children's Campus. This rare model amplifies opportunities to quickly translate research into clinical care.

Together, we share a powerful vision: re-imagine the future of child health.

What is it like to work for us?

We are committed to ensuring a positive working environment that values all backgrounds and experiences. We cultivate an inclusive culture that is underpinned by equal opportunity for all and a culture based on respect, consideration and dignity. We are also committed to developing our people and fostering an environment where learning and development is central to our staff reaching their full potential.

About the Clinical Epidemiology & Biostatistics Unit (CEBU)

CEBU is supported jointly by the MCRI and the University of Melbourne Department of Paediatrics to provide core support and training in epidemiological and clinical research methods, with a particular focus on biostatistics, to researchers on the Melbourne Children's campus. CEBU is a well-established unit with a national and international reputation for its high level of biostatistical expertise and engagement in a wide range of research studies. In conjunction with its role in providing training, advice and direct support in research design and analysis, the team has a substantial research profile, by way of collaboration as co-investigators in clinical and epidemiological research projects, and for independent methodological research work in biostatistics. CEBU is a lead partner with similar groups at Monash University and the Melbourne School of Population & Global Health (University of Melbourne) in the Victorian Centre for Biostatistics (ViCBiostat), a collaborative cross-institutional Centre of Research Excellence in biostatistics.

Position Overview

This new role provides an exciting opportunity for an early-career statistician to obtain advanced training and build a career in data science embedded in health and medical research. The successful applicant will have the opportunity to engage collaboratively with epidemiological studies that are addressing 21st century challenges in health, while also developing expertise and a methodological research portfolio in cutting-edge areas of biostatistics, in particular causal

inference methods. The appointee will not only work closely with researchers at the MCRI, but also with colleagues in the broader Victorian Centre for Biostatistics (ViCBiostat), within which CEBU is a leading partner. The appointee will contribute to both methodological and collaborative research in the areas described below, and also to teaching and training activities, in particular to the coordination and delivery of our short course training program.

Causal inference methods research

We have a growing team of researchers specialising in causal inference, in particular leading ground-breaking work in the areas of mediation analysis, missing data and causal machine learning. Given that the ultimate goal of medical and health research is to improve patient outcomes and population health, an overwhelming majority of clinical and public health research studies ask "causal" questions, which they might only be able to answer using observational data. Causal inference thinking and methods are not only important in the analysis of observational data (cohort studies, administrative data, registry data, etc) but also in the analysis of clinical trials. The appointee will develop expertise in causal inference through methodological research that is informed by and will feed directly into their collaborative research work.

Collaborative research

The MCRI is home to various major data initiatives, including the LifeCourse platform, which hosts over 30 longitudinal cohorts, and the hospital's electronic medical records (EMR) system. These and other data are being used by research groups to address key questions in child and adolescent health. The candidate will provide support and develop collaborations with a wide range of researchers across the Melbourne Children's campus, and in particular closely engage with emerging collaborative partners in areas such as:

- Population Allergy: Studying why food allergy develops, and why some children outgrow their food allergies while others have lifelong disease.

- Socio-biological Epidemiology: Examining how social forces and exposures become embedded to influence health and health inequities throughout the lifecourse.

- Paediatric Oral Health: Understanding oral health and disease across the life course.

- Inflammatory Origins: Understanding the role of paediatric infection and inflammation in cardiovascular disease and other 'adult' diseases.

- Intergenerational Health: Investigating the role of maternal health and family environment in children's and young people's health and wellbeing

The candidate will collaborate with some (but not all) of these groups, working closely in the provision of statistical support to the respective research teams that include senior investigators, postdoctoral fellows, research assistants and doctoral/other students.The appointee will be expected to provide high-level statistical support throughout the planning, conduct and analysis of research studies.

Key Accountabilities

Research

- Contribute to collaborative applied research output, including provide guidance on, modify and implement existing statistical methods for application to epidemiological data.
- Conduct methodological research, including the development and evaluation of statistical methods through a combination of theoretical work, computer simulation studies and critically evaluated case studies.
- Read, interpret and synthesise recent statistical/methodological literature in specific areas.
- Lead (a small number of) and contribute to (a much larger number of) scientific manuscripts based on the methodological and substantive research work respectively.
- Contribute to the development of grant applications in both methodological and substantive epidemiological and clinical research.

Engagement in CEBU Teaching & Training

- Contribute to coordinating and delivering our short course training program, which may include preparing and delivering occasional lectures and tutorials and computer-based training.
- Provide supervision and assistance on research methods to undergraduate and postgraduate students.

Support and knowledge transfer

- With minimal supervision contribute to and advise researchers in best practice in data management and statistical analysis.

Leadership and Management

- Demonstrate leadership capabilities in providing statistical support, and developing and addressing methodological research questions.
- Co-supervise, or where appropriate supervise, honours or postgraduate research projects and students in both biostatistics and applied research.
- Generate creative solutions to new and existing problems by demonstrating initiative relative to the position
- Undertake professional development activities.

Contribution to Scientific Community and MCRI

- Become involved in the promotion of research links with outside bodies.
- Contribute to the research culture of the group and campus through attendance at meetings, and/or membership of a limited number of committees relevant to the group's research outputs.
- Participate and occasionally deliver presentations at internal and external conferences and other fora.
- Conduct ethical research at the highest level of integrity and in line with the Australian Code for Responsible Conduct of Research and MCRI policies.
- Conduct research activities in alignment with the strategic direction of the Institute.
- Be engaged in the campus culture including professional development activities, membership of campus committees and contributing to/attending internal/external campus conferences and seminars.

Selection Criteria

Essential

- A PhD in biostatistics, statistics or closely related discipline.
- Strong understanding of and technical competence with complex statistical models and methods.
- Experience in programming for data manipulation and analysis in a statistical package with a flexible language such as Stata or R.
- Record of publication of (or demonstrated capacity to contribute to) peer-reviewed scientific articles in both methodological and substantive research.
- Excellent communication skills both written and verbal.
- Aptitude and enthusiasm for supervision of research students.
- Demonstrated ability to work independently and collaboratively to achieve project goals and meet agreed deadlines.

For appointment at Level B:

- At least 3 years postdoctoral or equivalent research experience (relative to opportunity) and appropriate level of expertise gained from a combination of experience, training or professional accreditation.
- Building a reputation as a successful researcher with the potential to be competitive for grant funding.

Desirable

- Experience in collaborative research involving the application of statistics in health research, preferably with experience in epidemiological concepts and methods.
- Experience in modern methods for longitudinal studies (causal inference, methods for handling missing data etc.).

Conditions of Employment

- Working with Children & National Police Clearance (if appointed) in compliance with the Victorian Governments Child Safety Standards.
- The right to reside and work in Australia and you meeting any applicable visa conditions.

Health, Safety & Wellbeing

- We are committed to providing and maintaining a working environment which protects the health, safety and wellbeing of our people, partners and the community.
- Employees conducting duties on behalf of MCRI are expected to meet the environment, health and wellbeing requirements and responsibilities specifically required for the role.
- We are committed to supporting children in their right to be safe and adhere to the responsibilities we have to ensure their protection and safety as per the Child Safety Standards Policy.
- Specified positions may be subject to medical review to ensure that the inherent requirements of the role can be undertaken safely.

As MCRI evolves to meet its changing strategic and operational needs and objectives, so will the roles required of its employees. As such, this document is not intended to represent the position which the occupant will perform in perpetuity. This position description is intended to provide an overall view of the incumbent's role as at the date of this statement.