

Study enables research projects



Currently, 42 independent studies are nested within ORIGINS, with 15 more in the pipeline. Many are making ground-breaking initial findings, and are soon to publish results. We highlight four of these studies.

Virtual dental checks

A Dental Screening study enabled ORIGINS parents to use a mobile phone to take a photo of their child's teeth and upload it to an app for remote assessment by dental professionals.

The app enabled high-accuracy screening of healthy children without tooth decay, as well as those with evidence of cavities.

The feasibility study was led by researchers from The University of Western Australia, Dr Somayyeh Azimi, Dr Jilen Patel and Dr Mohamed Estai. The app has ongoing potential for use to overcome barriers of distance for remote communities with a lack of local dental services.

Making the most of screen time

Screen ORIGINS is investigating how families engage with screen technologies and how it may influence child development.

Lead author Dr Rebecca Hood, said interviews with ORIGINS parents revealed that looking at pregnancy information and apps on their device helped many parents-to-be feel connected to their baby, by giving them a better idea of what was going on. However, using devices for unrelated tasks, such as social media, led to a sense of disconnection from their baby.

Positive engagement through nature

A park play program has helped ORIGINS families to learn about the importance of connectedness to nature for young children.

The Nature Play & Grow program, run in collaboration with Nature Play WA, addresses the trend towards passive screen-based

indoor activities — with an associated rise in psychological disorders, chronic disease and a disconnect from the natural environment.

Families met weekly in local parks, participating in outdoor play, healthy eating, physical activity and child development activities. Sessions were facilitated by a child health and developmental 'play' expert. They were also asked to listen to weekly online educational podcasts and complete questionnaires about their experience.

An evaluation of the program showed both parents and children benefited from participation in the program.

New thinking on food allergies

The PrEggNut and SYMBA studies are examining whether the food a mother eats during pregnancy and breastfeeding affects the chances of her baby developing food allergies.

It was previously thought that babies and children should avoid common allergic foods such as peanuts and eggs, to prevent the development of allergies. But new studies, including one nested within The ORIGINS Project and led by Dr Debbie Palmer - Program Head of Early Life and Life-Course Health at Telethon Kids Institute – through the Centre for Child Health Research, University of Western Australia, have found the opposite.

Initial findings have shown that the early introduction of common allergen foods during pregnancy or earlier in childhood can actually tolerise the baby, so the child has a reduced chance of developing allergies.



The ORIGINS Project: A platform for research discovery

The ORIGINS Project is a decade-long longitudinal study of more than 18,000 individuals including mothers, partners and children, as part of a collaboration between Telethon Kids Institute and Joondalup Health Campus.

Through the study of early environments, maternal physical health and genetics, ORIGINS aims to uncover how, when and why chronic conditions such as asthma, obesity, allergies and poor mental health develop.

Collecting data and biological samples to create one of Australia's largest data and biobanks, the project is following the progress of pregnant women and their families for the first five years of the child's life, fuelled by an increasing understanding that an individual's lifetime health and disease may be programmed at a very early stage – while a child is still in the womb.

The samples and information being collected from complete family units are creating a rich resource in the ORIGINS Biobank, which contains more than 350,000 biological samples linked to more than 16 million data points.

Real-time feedback provided to participant families also allows for early intervention if health or developmental issues are identified.

Now in its sixth year, The ORIGINS Project reached a milestone in 2023, completing recruitment of all active participants.

The ORIGINS infrastructure provides a framework for the integration of sub-projects, nested within the main observational cohort. This saves researchers time and money, enabling faster results and research translation. As well as facilitating strategic long-term research capacity, ORIGINS is a pipeline for short-term productivity through a series of clinical trials, early interventions, mechanistic studies and targeted research questions to improve maternal and paternal health and the early environment of the child.

Information is being used by researchers around the world to identify and implement ways to reduce risks for children and will be accessed for many years to come.



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ORIGINS at a glance



One third of active ORIGINS pregnancies have already had at least one sample used for research



7,476 biological samples

have been distributed to **11 projects**



18 ORIGINS sub-projects have received data extracts



7,370 Birthing Women



8,212 Babies Born



2,512 Non-Birthing Partners



Almost 3,000 children have had a clinical assessment at one-, three- or five-years of age



42 nested sub-projects