Generation Victoria (GenV): From Population Discovery to Prevention – Australia's Whole-of-State DOHaD Research Platform

Richard Saffery[1,2], Susan Clifford[1,2], Sharon Goldfeld[1,2,3], Tony Frugier[1], Alisha Gulenc[1], Elizabeth Hughes[1,2], Raghu Lingam[1,4], Jatender Mohal[1], Naomi Schwarz[1], William Siero[1,2], Natasha Zaritski[1], Melissa Wake[1,2]

[1.] Murdoch Children's Research Institute, Melbourne, Australia
[2.] The University of Melbourne, Melbourne, Australia
[3.] The Royal Children's Hospital, Melbourne, Australia
[4.] The University of New South Wales, Randwick, Australia

Presenting Author Email: richard.saffery@mcri.edu.au

Background: Developmental Origins of Health and Disease (DOHaD) research increasingly requires population-scale infrastructure capable of moving beyond discovery to intervention and translation. Generation Victoria (GenV) was established as Australia's whole-of-state birth and parent cohort to support equitable, longitudinal and implementation-ready research across the life course.

Methods: GenV invited every family with a child born in Victoria between October 2021 and October 2023, following a 10-month Advance cohort. The platform combines participant-collected biospecimens, residual clinical samples, longitudinal participant data and consented linkage to health, education and administrative datasets. Designed as an open research asset, GenV supports discovery science, natural experiments, embedded trials and future population phenomics.

Results: More than 124,000 participants (>49,400 children and >74,600 parents) have enrolled through all 58 Victorian birthing hospitals. The biobank now contains more than 200,000 biospecimens, including over 100,000 saliva samples, 40,126 newborn blood spots, pregnancy serum and plasma, Group B Streptococcus swabs, and paired breastmilk and infant stool samples. Around 20,000 parents have completed one or more surveys. State, national and exposome data linkage are progressing, while the first biological studies, including population-scale congenital cytomegalovirus screening, are underway. Planning has commenced for the Early School Wave (2028–2030), introducing scalable face-to-face phenomics, alongside expansion of the GenV Intervention Hub to support stand-alone and stacked prevention trials.

Conclusions: GenV has transitioned from cohort establishment to an internationally distinctive cell-to-society research infrastructure, open to all researchers via the GenV Research Portal (https://researchportal.genv.org.au). By enabling collaborators to discover developmental pathways, evaluate preventive strategies and translate evidence through real-world services, sectors, places and policies, GenV provides a platform to accelerate population-level improvements in lifelong health.