#208 - Implementing genomics: lessons learnt from the Melbourne Genomics Health Alliance 2014-2024

Presenting Author(s)
Dr Melissa Martyn[1,2,3] on behalf of Professor Clara Gaff and the Melbourne Genomics Health Alliance

Affiliation
1. Murdoch Children's Research Institute, Australia
2. Melbourne Genomics Health Alliance, Australia
3. Department of Paediatrics, University of Melbourne, Australia

Country of residence
Australia

Objectives/aims
Genomic medicine examines an individual's entire DNA, or "genome" and aims to improve health outcomes through more personalised healthcare. In 2013, leading Victorian hospitals, research and academic institutions came together to form the Melbourne Genomics Health Alliance. Since 2014, Alliance member organisations, supported by the State Government of Victoria, Department of Health, have been collaborating to create the whole of system change needed to deliver genomics into the Victorian health system. The collaboration has encompassed three programs of work: 2014-2015 demonstration project[1]: laying the foundations to move genomics into clinical care; 2016-2020: producing evidence to inform, and systems to support, implementation of genomics; 2021-2024: embedding genomics in Victorian hospitals.

Methods
Healthcare is a complex adaptive system and to foster change within it requires creation of trigger mechanisms, building capability and social networks, and time.

Although each of the three programs of work have their own program logics and overarching evaluation frameworks, common elements to create conditions for change ran across the programs. Each program encompassed clinical, workforce development and genomic information management streams. Clinical stream design was informed by behaviour change theory[2] and theories of adoption of innovation in healthcare[3,4]. Workforce development stream design was informed by cognitive and social learning theories[5].

The 2014-2015 and 2016-2020 programs were designed to generate evidence to support decisions about when to implement genomics, and insights into how. Clinical

projects used pragmatic hybrid effectiveness-implementation type 1 designs. Clinical projects provided embedded workforce development opportunities, with funded positions to build capability for genomic change within the member organisations.

The current program focuses on providing evidence for how to implement genomics across a range of healthcare settings and includes type 2 and type 3 hybrid effectiveness-implementation clinical projects. A Measurement, Evaluation and Learning framework guides evaluation to identify change mechanisms and impacts across the program.

Stakeholder ownership of the program is a key design element, reflected in the governance and decision making processes of the Alliance.

Main findings
Each of the three programs of work has built upon the previous program, creating a near 10 year timespan for change to date.

Evaluation of the clinical projects has illustrated when genomics is better than usual care, creating an evidence base for change. Translation efforts have created triggers for change, with federal funding for testing now offered for eight clinical indications included in the programs.

Funding opportunities for clinicians to who wish to drive genomic change has created a cohort of ‘champions’. These ‘champions’ report a range of new relationships and describe ways in which they are creating wider system change for e.g. by pursuing funding for genomic testing.

Informed by evaluation of the type 1 hybrid projects and by theory, projects testing specific implementation strategies in a range of healthcare contexts are now underway. Program evaluation supports regular reflection to maximise program impacts and learn ‘what works’ to support flexible implementation of genomics, as appropriate for different hospital contexts across the state.

1 Gaff, et al. (2017) NPJ Genomic Medicine 2:16

2 Michie et al. (2011) Implementation Science 6: 42

3 Rogers (2003) Diffusion of Innovations

4 Greenhalgh et al. (2004) Milbank Q 82: 581–629.

5 Martyn et al. in Kumar (ed) (2022) Genomic Medicine Skills and Competencies