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Comparing and contrasting 'innovation platforms' with other forms of professional networks for strengthening primary healthcare systems for Indigenous Australians

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ABSTRACT

Efforts to strengthen health systems require the engagement of diverse, multidisciplinary stakeholder networks. Networks provide a forum for experimentation and knowledge creation, information exchange and the spread of good ideas and practice. They might be useful in addressing complex issues or 'wicked' problems, the solutions to which go beyond the control and scope of any one agency.

Innovation platforms are proposed as a novel type of network because of their diverse stakeholder composition and focus on problem solving within complex systems. Thus, they have potential applicability to health systems strengthening initiatives, even though they have been predominantly applied in the international agricultural development sector.

In this paper, we compare and contrast the concept of innovation platforms with other types of networks that can be used in efforts to strengthen primary healthcare systems, such as communities of practice, practice-based research networks and quality improvement collaboratives. We reflect on our ongoing research programme that applies innovation platform concepts to drive large-scale quality improvement in primary healthcare for Aboriginal and Torres Strait Islander Australians and outline our plans for evaluation. Lessons from our experience will find resonance with others working on similar initiatives in global health.

Summary box

- Health systems strengthening requires bringing together networks of stakeholders across traditional disciplines and fields in order to achieve relevant goals and objectives.
- Innovation platforms are distinguished from other networks by the diverse range of stakeholder groups they bring together, and their focus on solving complex and often entrenched systemic problems.
- We compare and contrast innovation platforms with other types of networks and reflect on our experience applying this concept to a large-scale quality improvement programme in primary healthcare for Aboriginal and Torres Strait Islander Australians, and outline our plans for evaluation.
- Policymakers should support further experimentation with innovation platforms as a strategy for engaging with multiple stakeholders in health systems strengthening initiatives.

INTRODUCTION

There is a moral imperative to address the global disproportionate burden of disease and mortality for Indigenous people when compared with general populations.[1 2] Stronger health systems are identified as a vital requirement for meeting this challenge and improving health outcomes for all,[3 4] with calls to apply systems thinking approaches and to mobilise networks.[2] At its core, systems thinking is focused on interactions and relationships between different components and levels of the health system—local, regional and national.[2]

Efforts to strengthen health systems require, in part, the utilisation of diverse, multidisciplinary stakeholder networks working across different levels of the broader health system to problem solve collectively, build the capacity and learning of stakeholders and to foster system-wide planning, evaluation and research.[3 4] Networks are promoted as providing a general mechanism for exchanging information, spreading good practice, promoting experimentation and for knowledge creation.[5] The term 'network' tends to be used interchangeably with (or as a catchall for) terms such as 'partnership',

'collaboration', 'group' or 'alliance'. It is also used to describe relationships through which people, groups or organisations connect to work effectively and synergistically together.[6] Of most relevance to this paper, networks might be useful in addressing complex issues or 'wicked' problems, the solutions to which go beyond the control and scope of any one agency.[7]

Many networks are focused on one professional group or one part of the health system, and are primarily established to address a specific local-level problem or to implement evidence-based practice. They tend to be focused at the clinical microsystem level in small, functional frontline units that provide most healthcare to most people.[8] However, a recent publication by Nix *et al*[9] renews the call for expanded multidisciplinary networks that have both a system-wide lens, and include policymakers, researchers and health services. These authors also highlight the gap in the literature on understanding the factors that contribute to network effectiveness.[9]

The term 'innovation platform' describes a form of network that aims to overcome challenges occurring at the interface of systems through bringing together people from different parts of the system.[10 11] Leaders of large-scale change have argued that innovation platforms create an opportunity for people working in different parts of the system to tackle challenging issues together.[12 13] These platforms have been most extensively applied in the international agricultural development sector, and to a more limited extent in health. They are promoted as being different to other networks, mainly due to their diverse stakeholder composition and focus on problem solving that requires a whole of system response (ie, within and across micro, meso and macrolevels of the health system).

In this paper, we describe the application of the concept of innovation platforms—as a specific type of multidisciplinary network that engages stakeholders at national, regional and local levels to problem solve together—to our work in health services and health systems research in Aboriginal and Torres Strait Islander (hereafter respectfully referred to as Indigenous) primary healthcare (PHC) in Australia. We compare and contrast innovation platforms with other types of commonly used network concepts, reflect on our ongoing experience in using the innovation platform concept and outline our plans for evaluation.

INTEGRATED QUALITY IMPROVEMENT IN INDIGENOUS PHC

Although Australia has a high-performing health system, underpinned by a universal health insurance scheme, it ranks low on measures of equity when compared with other Organisation for Economic Cooperation and Development nations.[14] Indigenous Australians experience a disproportionate burden of ill health, shorter life expectancy and poorer access to PHC compared with the non-Indigenous population.[15 16] These inequities are a pervasive legacy of colonisation, land dispossession, displacement, disempowerment, social and economic exclusion and ongoing racial discrimination.[17] Furthermore, at least 34% of the health gap between Indigenous and non-Indigenous Australians is linked to social determinants of health, rising to 53% when combined with behavioural risk factors, such as tobacco and alcohol use, dietary factors and physical activity.[15 18]

Continuous, system-wide quality improvement—a systematic way of using data to guide changes to improve how PHC is organised, structured or designed—can significantly improve the quality of PHC service delivery.[19 20] Recognising the need to enhance and scale up continuous quality improvement initiatives in Indigenous PHC, the National Health and Medical Research Council of Australia provided funding to develop a Centre of Research Excellence in Integrated Quality Improvement in Indigenous Primary Health Care (CRE–IQI) from 2015 to 2019. The CRE–IQI aims to improve Indigenous health outcomes by accelerating and strengthening system-wide PHC quality improvement efforts through working at all levels of the health system, and supporting quality improvement efforts at the health service, regional and national levels. The conditions for effective quality improvement include the use of multifaceted approaches that are tailored to suit local context, action and engagement sustained at multiple levels, investments in staff training and development, and access to resources such as information technology to support quality improvement.[21] The CRE–IQI builds on the Partnership Learning Model that was developed in a previous phase of collaborative quality improvement research.[22] The model hypothesises how large-scale change can lead to improved population health outcomes through the interaction of comprehensive PHC, integrated quality improvement and system-based research networks and participatory action research.

DISTINGUISHING INNOVATION PLATFORMS FROM OTHER TYPES OF NETWORKS

Types of networks that have been described in the PHC and quality improvement literature include (but are not limited to) communities of practice,[23] practice-based research networks[24] and quality improvement collaboratives.[25]

Communities of practice

The concept of 'communities of practice' describes a group of people (either individually or as members of an institution or organisation) with shared interests, or a common set of problems or concerns, who come together on an ongoing basis to explore ideas and solve problems, and to extend their knowledge and expertise on a specific topic.[23 26] Communities of practice have been applied in a number of sectors, such as education and health. Broadly used in healthcare,[26 27] they are generally established for the purpose of bringing together people with a similar professional skill set to improve clinical practice or to assist

with the implementation of evidence-based practice: for example, a group of general practitioners developing a community of practice to improve the standard of referral letters written to specialists.[28]

Practice-based research networks

Practice-based research networks are a collaborative learning mechanism comprising research academics and primary care practitioners. They link dispersed practices in collaborative research, drawing on front-line PHC teams to help frame practice-relevant research questions, catalyse local knowledge with academic expertise and create opportunities to address important research questions generated at the local primary care level.[24 29 30] A good example of this in Australia is the North Queensland Practice-Based Research Network, which aims to develop and conduct locally important, clinically relevant, high-quality primary care research. It involves general practitioners and practice nurses conducting small research projects relevant to local needs, with academic support from James Cook University.[31] Practice-based research networks aim to address specific research questions relevant to their participants rather than addressing broader health system challenges.

Quality improvement collaboratives

Quality improvement collaboratives bring together healthcare professionals within one organisation or across multiple sites to focus in a structured manner on a common problem related to a particular clinical issue or area, for example, setting targets and undertaking rapid cycles of change to improve quality of care.[25 32] Experts in areas such as clinical and service performance improvement provide the group with periodic instruction and encourage teams to share both lessons learnt and examples of best practice. The most prevalent quality improvement collaborative approach is the Breakthrough Series developed by the Institute for Healthcare Improvement.[33]

Innovation platforms

An 'innovation platform' is defined as:

> A space for learning, action, and change. It is a group of individuals (who often represent organizations) with different backgrounds, expertise, and interests… The members come together to diagnose problems, identify opportunities, and find ways to achieve their goals. They may design and implement activities as a platform, or coordinate activities by individual members.[11] (p 1)

Elements of an innovation platform include:

- Linking people from a variety of backgrounds, expertise and interests.
- Identifying shared goals and interests along the supply chain, common problems and solutions.
- Leveraging research and/or technological expertise.
- Creating spaces for long-term learning and change, and providing opportunities for capacity building.
- Establishing effective managerial and administrative components to drive and coordinate the innovation platform.[10 11 34 35]

To be effective, the facilitation of innovation platforms must recognise and value the diversity and knowledge of stakeholders. It also requires a high level of trust and willingness by stakeholders to share their information and knowledge to achieve a common goal.[36 37] The role of researchers and research in innovation platforms is evolving, and there is recognition of their important role in improving the relevance and impact of research.[34 35] The composition of an innovation platform often changes over time with people leaving and others joining. Innovation platforms have been most commonly applied in situations where interventions and solutions are required along a chain and at various levels of production, for example, in supporting small-scale farmers to improve productivity, including seed selection and availability, cultivation, harvesting and getting produce to markets efficiently.

In table 1 we compare and contrast various elements of innovation platforms with other networks applied in healthcare settings. Notably, other network structures or forms of networks in the health sector do not typically include such a diverse range of stakeholders across levels of the health system, and are less focused on addressing system-wide issues at local, regional and national levels.

APPLYING AN INNOVATION PLATFORM TO INTEGRATED QUALITY IMPROVEMENT IN INDIGENOUS PHC

The aims of the CRE–IQI are:

i. To refine and build new clinical audit tools and processes.
ii. To develop systems for reporting quality improvement data at different PHC system levels.
iii. To facilitate the use of quality improvement data in clinical governance.
iv. To build on quality improvement capacity in the Indigenous workforce.
v. To identify what works for whom, why and under what circumstances in improving the quality of Indigenous PHC.

The CRE as an innovation platform

The CRE–IQI applies innovation platform concepts to the Partnership Learning Model[22] by drawing on the experiences and learning gained from studying this model. The concept of innovation platforms inspired the inclusion of a wider range of stakeholder, such as policymakers, using diverse quality improvement approaches across multiple levels of the health system to solve problems and innovate together (table 2). Consistent with an innovation platform, a range of organisations and people working in diverse roles and at different levels of the health system are involved in the CRE–IQI. They include researchers from universities and research organisations, policy officers from State and Territory health departments, project managers from State/Territory level support organisations established for Indigenous

Table 1 Key features and motivations of networks—communities of practice, practice-based research networks, quality improvement collaboratives and innovation platforms

Key features and motivations	Communities of practice	Practice-based research networks	Quality improvement collaboratives	Innovation platforms
Definition	Groups of people who share a concern or passion for something they do and learn how to do it better as they interact regularly. They usually form around a specific topic.[27]	Collaborations between primary healthcare services and academic institutions, conducting research focused on delivering care to the patients they serve[29]	Groups of professionals who come together, either from within an organisation or across multiple organisations, to learn from and motivate each other to improve the quality of health services[46]	A space for learning, action and change. It is a group of individuals (who often represent organisations) with different backgrounds, expertise and interests… The members come together to diagnose problems, identify opportunities and find ways to achieve their goals. They may design and implement activities as a platform, or coordinate activities by individual members.[11]
Predominant sector of application	Health	Health	Health	Agriculture
Purpose	To improve clinical practice or to assist with implementation of an evidence-based practice	To develop and undertake practice-relevant research	To focus on a common problem in a structured manner to achieve improvement in a specific area of care	To identify problems and shared solutions—typically to address system issues
Membership	Commonly people from a similar professional background	Typically general practitioners and practice nurses supported by researchers	Healthcare professionals either from within one organisation or across multiple organisations and sites	Multiple stakeholders from different backgrounds, organisations and levels of a system (or supply chain)
Opportunities for capacity building	Through sharing and learning within the community of practice	Through research support to clinicians	Through sharing and learning within the collaborative	Through harnessing required expertise, sharing and collective problem solving
As vehicles for knowledge and information sharing	Foster opportunities for knowledge and information sharing between members.	Mainly generate research, but also have a role in knowledge and information sharing. Provide opportunities for coproduction of research (by clinician/researchers or collaboration between researchers and clinicians) and improve the relevance, translation and impact of research.	Encourage sharing and learning between teams. Can energise learning and improvement, usually in short bursts.	Facilitate knowledge and information sharing and improve the relevance, translation and impact of research. Facilitate exchange of ideas and problem solving across multiple disciplines and levels of a system, essential for tackling large-scale systemic change. Uses diversity of members and their skills, experience and perspectives as a powerful source of knowledge generation.
Examples in health	Western Australian Community of Practice to improve the quality of referral letters to specialty clinics—Australia[28] Senior Health Knowledge Network to improve the delivery of healthcare for seniors by facilitating knowledge translation among health professionals[38]	North Queensland Practice-Based Research— Australia[31] Agency for Healthcare Research and Quality[47]	Australian Primary Care Collaboratives[48] Institute for Healthcare Improvement[49]	Grand Challenges— Canada[50]

community-controlled health services and practitioners from Indigenous health services.

By fostering knowledge exchange and collaboration, the CRE–IQI brings together stakeholders who offer diverse perspectives on identifying problems (or bottlenecks in the PHC system), propose innovative solutions and work collaboratively on implementation and evaluation of these solutions.

Our experience so far suggests that as an innovation platform, the CRE–IQI facilitates the collaborative development and translation of research projects. Priorities for research emerge fluidly, because PHC stakeholders articulate the knowledge gaps they want to address, and groups of research and health sector stakeholders form around topics. Transitioning from a priority research need to a research project requires the identification of

Table 2 Elements of an innovation platform and aspirations and examples of activities from the Centre of Research Excellence in Integrated Quality Improvement

Elements of an innovation platform	CRE–IQI innovation platform aspirations and examples of activities
Linking people from a variety of backgrounds and roles—multiple stakeholders	► The CRE–IQI's aim is to accelerate and strengthen large-scale PHC quality improvement efforts. To achieve this vision, CRE–IQI brings together stakeholders from multiple roles and organisations across the system, including clinicians, researchers, policy and project management from health services, regional service support organisations, national support organisations, universities, research institutes and government. ► The CRE–IQI is designed as an open platform that encourages new partnerships and collaborations. This is achieved through sharing information widely to increase awareness of the platform; open calls for funding for projects in which organisations put forward new proposals; and biannual meetings that actively encourage participation from interested stakeholders. ► The innovation platform itself is a vehicle for integrated research and knowledge translation, with research, translation and learning occurring in the exchanges and interactions of service providers, policymakers and researchers.
Identifying shared goals and interests, common problems and solutions	► A cornerstone of the CRE–IQI is the long-standing commitment from individuals and organisations to improving Indigenous PHC. ► Potential projects are identified through the CRE–IQI network, with the management committee determining priority projects for allocation of CRE–IQI resources. ► Vision, research aims and cross-cutting work programmes were collaboratively developed.
Harnessing research and/or technology expertise	► Research organisations are represented in the CRE–IQI, and are seen as an essential component to facilitate large-scale change. The CRE–IQI is using quality improvement data in clinical governance, management and practice to strengthen health systems in Indigenous PHC. ► The innovation platform provides mechanisms for research findings to be translated into policy and practice through (A) strong involvement and leadership of Indigenous people and other end-users throughout the research process; (B) production of high-quality, credible and actionable evidence that addresses the priority needs of the Indigenous PHC sector; and (C) resourcing of collaboration at various levels.
Creating spaces for long-term learning and change, and providing opportunities for capacity building	► A key element of the platform is to provide participants with ways to connect with each other beyond their professional teams or workplaces, to ask questions and to share problems and ideas, experiences and solutions through CRE–IQI biannual meetings and regular teleconferences. ► The innovation platform provides mechanisms for ongoing capacity building and learning. It provides opportunities for training new and existing researchers and the health workforce to engage in quality improvement research, to understand and apply quality improvement data and evidence and to show leadership in quality improvement. ► 'Developing the health research workforce' is an identified cross-cutting theme of the CRE–IQI and we aim to strengthen the research capacity through student scholarships on topics relevant to CRE–IQI; monthly research capacity building teleconferences and webinars with guest presenters external and internal to the network; funding to attend CRE–IQI biannual meetings; and supporting students to become project officers to lead the development of publications and conference presentations.
Establishing effective managerial and administrative components to drive and coordinate the innovation platform	► A project lead or chief investigator is identified to progress a piece of work, and their role includes creating the conditions for collective problem solving, sharing of information and solutions and empowering others in driving change. ► A project coordinating centre is established to drive the CRE–IQI. People are connected through biannual meetings, regular teleconferences, newsletters, workshops, social media, collaborative writing of publications and presentations, and joint research submissions. ► A management committee comprising CRE–IQI chief investigators provides high-level strategic direction and governance oversight of the CRE–IQI. ► 'Facilitation of collaboration' is an identified cross-cutting theme of the CRE–IQI.

CRE–IQI, Centre of Research Excellence in Integrated Quality Improvement; PHC, primary healthcare.

an academic lead or chief investigator, who will be responsible for creating the conditions for collective problem solving across multiple stakeholders, sharing information and solutions and empowering others to drive change. Projects can receive some seed funding from the CRE–IQI, often for bringing together stakeholders to develop and refine the research proposal, but most project funds are leveraged from competitive research grant programmes or resourced by health sector stakeholders (usually government health departments). The CRE–IQI also actively supports the translation of research conducted under the auspice of the network.

A platform for innovation, knowledge exchange and collaboration

A portion of CRE–IQI resources is dedicated to providing the infrastructure that actively enables collaboration, learning and innovation (table 2). The core of this infrastructure is a small project coordinating team, who organise regular meetings, workshops and seminars or other events, and facilitate the flow of information. Biannual face-to-face meetings provide opportunities to progress project development and research translation, hear about project outcomes, share ideas and build relationships. The CRE–IQI includes cross-cutting programmes that strengthen research capacity, collaboration and research translation. Webinars and teleconferences enable members located across Australia to connect and engage with leaders in PHC research, and masterclasses are offered around each biannual meeting to increase the skills and knowledge of CRE–IQI members.

Opportunities and challenges

Progressing successful innovation platforms relies on strong engagement from all members, with a demonstrated willingness to work together and to trust each other. The CRE–IQI seeks to provide an open collaboration that actively encourages cooperation with other organisations and individuals to help achieve its aims. Over time, this sharing of information is expected to lead to an expansion of the membership, bringing additional capacity to the CRE–IQI and ultimately extending the potential impact of its programme of work. Changing membership with participating organisations requires constant effort to refresh and build relationships. The time frames for achieving change are long, which can make it difficult to maintain interest and engagement, particularly if people are expecting more rapid change. In particular, members in different roles may have different expectations in relation to time frames for achieving change. For example, clinicians usually work within short time frames when making care decisions with clients or in small teams within clinical microsystems for local continous quality improvement (CQI) purposes; policymakers work in short-to-medium time frames developing policy in response to need; and researchers are accustomed to the longer time frames required to develop, undertake, analyse and disseminate research.

The endeavour of creating multidisciplinary or interprofessional networks comes with substantial challenges.[6] Power relations exist in all networks and play a role in all phases of innovation platform development—from stakeholder selection, agenda setting, identification of relevant research questions and the facilitation of dynamics between platform members.[34 36] A key determinant of success, therefore, will be the extent to which the CRE–IQI is alert and responsive to power dynamics, and what actions it takes to facilitate the platform, promote reflexive practice and support stakeholders to maintain a commitment to collaboration.

Evaluation of the CRE–IQI as an innovation platform

Despite increased attention to networks in healthcare, evidence on their ability to influence systems change and contribution to improving long-term health outcomes generally yields equivocal findings.[9 25 38] Undoubtedly, the challenges in assessing impact are driven by the complex environments in which such networks are implemented and the social practices that they are seeking to influence. It follows that the experience of networks in one setting might not necessarily be replicated in other settings, because effectiveness is intimately linked to context, purpose and composition.[39 40]

Like these other networks, innovation platforms similarly run the risk of not being able to generate clear messages around their impact in terms of process, health and community outcomes. Given there is a general lack of published evaluations of networks and specifically of innovation platforms in the peer-reviewed literature, and the limited application of innovation platforms in the health sector, we seek to address these knowledge gaps by evaluating to what extent the concepts underpinning innovation platforms are applicable to the CRE–IQI and what impact they may be having on a range of outcomes. Specifically, the evaluation goal will be to study the formation, functioning and outcomes of the CRE–IQI as an innovation platform to drive large-scale change. Objectives include the following:

1. Assess whether the concept of innovation platforms translates from agricultural to health sectors.
2. Synthesise lessons learnt from the establishment, functioning and outcomes of the CRE–IQI as an innovation platform.
3. Generate new knowledge about the mechanisms and contextual factors that influence the ability of innovation platforms to generate positive impact in Indigenous PHC systems.
4. Contribute new knowledge on the optimal methodological approaches to evaluating innovation platforms.

Because of the inherent challenges with evaluating complex networks (including innovation platforms) we have designed a mixed-methods, multipronged evaluation, employing three evaluation approaches to learning about the establishment, functioning and outcomes of the CRE–IQI as an innovation platform: social network

analysis, developmental evaluation, and economic and impact assessment.

The social network analysis will document the extent to which the CRE–IQI has facilitated collaboration, and the extent to which it has addressed factors associated with effective network structures. A social network survey was administered at the midpoint of the 5-year life-cycle of the CRE–IQI and will be administered again in the final year. The economic and impact evaluation is using a mixed-methods assessment based on the application of the 'Framework to Assess the Impact from Translational health research'.[41] Drawing on an embedded research model,[42 43] we are conducting a developmental evaluation[44 45] to synthesise and apply lessons from the establishment, functioning and outcomes of the innovation platform in real time. The findings from these approaches will be triangulated in a summative evaluation.

CONCLUSION

Promoted as a vehicle to stimulate and support multistakeholder collaboration, innovation platforms are considered particularly useful when there are complex, system-wide issues requiring coordinated action and collective problem solving. The innovation platform concept goes beyond that of other types of networks, and provides mechanisms to enable large-scale change with the potential to improve population health outcomes. Whether they can contribute to system-wide change, or if they are merely a continuation of 'business as usual', will largely be determined by their ability to achieve transformative change in the ways in which stakeholders engage with one another. Given the novelty of this concept, rigorous and critical evaluation is required to build the evidence base on impact of innovation platforms in Indigenous PHC and in other health system settings.

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