WAHTN Health Service Engagement Strategy: managing the interface between healthcare delivery and research

Executive Summary

Organisations that provide healthcare face multiple challenges to deliver high-quality, high-value, equitable, and sustainable healthcare. These challenges are growing. Research- and innovation-based solutions offer a pathway to meet some of these challenges. However, there are substantial systematic barriers to the research- and innovation-sectors partnering with providers of health services to develop and evaluate solutions that can help address the challenges associated with delivering high-quality healthcare.

This document outlines a strategy, that is expected to be iterative, for *how* the research- and innovation-sectors can partner with providers of healthcare to generate and implement knowledge about how to deliver better patient outcomes and a sustainable healthcare system. The overarching theme is *co-design*. Health service partners play a key role to identify high-priority challenges that represent opportunities for improvement and work together with researchers to plan and conduct *projects* that would develop and/or evaluate solutions. The goal is a partnership that meets the needs of the end-users of research: health services, health consumers, and clinicians.

Background and context

Health Service Providers (HSPs), which in this document refers to all providers of health services, both public and private, face increasing challenges to deliver safe, effective, efficient, and equitable healthcare. Many factors contribute to these challenges including changes in the age structure of the population, increased occurrence of complex comorbidity and frailty, community expectations, expertise of the clinical workforce, the availability of new (sometimes expensive) treatments and medical technology, and persistence of care that is likely of low or no value, for which deimplementation is the priority.

Across OECD countries, increases in healthcare expenditure have exceeded increases in GDP over long periods of time. As a result, the sustainability of healthcare delivery is under significant threat, with widespread acknowledgement that health systems face a slow rolling crisis and that, despite previous waves of reforms, major challenges persist.

In Australia, Research Translation Centres (RTCs) have been established by the federal government, via the National Health and Medical Research Council (NHMRC), to act at the interface between the healthcare delivery sector and the sectors that conduct research and undertake innovation. The underlying premise of this national policy is that research and innovation can lead to direct and sustainable improvements in healthcare. The recently released National Health and Medical Research Strategy and the NHMRC Research Translation Strategy emphasise the importance of:

- Embedding of research within routine health care delivery
- Co-design with health services
- Ensuring research meets the needs of end-users, particularly health services

The most recently stated objectives of the NHMRC's RTC initiative are:
to improve the health and wellbeing of patients and communities through the translation of research into health care by:

- *promoting health service leadership in research and research translation that addresses priorities directly relevant to health services and the populations the centre serves.*
- *strengthening collaboration between health services and research institutions.*
- *delivering training and education, and building research and research translation capacity and capability.*

Framing the challenge

HSPs face substantial challenges. The fundamental proposition of this strategy is that research and innovation can assist HSPs to solve problems and leverage opportunities for improvement leading to better health outcomes and sustainable health systems.

RTCs were established more than a decade ago with the goal of achieving this objective but it has become apparent that there are substantial barriers to the execution of this strategy. Currently, there are few or no systematic, organised, and efficient processes that exist to:

- identify and prioritise opportunities for improvement that might be amenable to research-based solutions.
- establish partnerships between HSP leaders and researchers that can co-design, develop and/or evaluate candidate solutions.
- ensure that candidate solutions, and corresponding evaluation, are feasible for implementation and meet the evidence requirements necessary for HSPs to act on the research conclusions.
- measure the impact of research and innovation on health outcomes and health system productivity

Healthcare is a 'decision-rich' environment: Which treatment option is best? Will this policy have its desired impact? Will this clinical service redesign have its intended effect? Will this model-of-care improve outcomes and efficiency? What current treatments are low value and should be de-implemented? How can low value care be de-implemented?

Decisions occur during routine care, at the individual patient level, and are usually the responsibility of the treating clinical team, considering the preferences and values of patients. Decisions also occur at the institutional level, applied to populations (i.e., clusters) of patients, and are usually the responsibility of HSP leaders. The definition of '*evidence*' is information to guide decision-making. Research is the process that is used to generate evidence, and its purpose is to provide information to guide decision-making. However, evidence, even if high quality, is insufficient. Evidence must be implemented into practice if there is to be *impact* on patient outcomes. A key proposition of this strategy is that more and better evidence, coupled with implementation of evidence into policy and practice, is a plausible pathway to improve healthcare delivery.

This strategy acknowledges that there are major barriers to the delivery of research activities within HSPs including, but not limited to, infrastructure, access to patients and data, ensuring that research does not compromise delivery of health care, resources and funding, and research approval processes. However, one of the goals of this strategy is to be able to demonstrate the value and impact of research-based solutions. Solutions to the barriers to conducting research with HSPs are more likely to be solvable when there is clear evidence of the value of research-based solutions.

Barriers at the interface between healthcare delivery and research

There are many barriers to achieving an effective, organised, and systematic *process* for utilising research methods to improve healthcare delivery. Acknowledging these are broad generalisations, barriers include:

- The absence of pathways by which problems and opportunities for improvement faced by HSPs can be collated and organised, to identify and prioritise problems that might be amenable to research-based solutions. In the absence of this information the research and innovation sectors are incompletely informed about where opportunities exist. It is acknowledged that health systems are continuously seeking to improve. This includes high-level documents that identify strategic priorities as well as quality improvement initiatives and clinical redesign. The question this strategy seeks to address is whether collaboration with the research and innovation sector can add further value to the existing processes.
- HSPs have a high-degree of awareness of the problems that they face but may not consider them as problems that are amenable to research-based solutions or evaluations.
- HSPs must prioritise immediate responses to an array of operational challenges. Research-based solutions may be perceived as too slow to assist or more focussed on theoretical or academic considerations over practical application of solutions or their evaluation.
- Ensuring research opportunity is equitable including in regional and rural areas, as well as priority populations including Indigenous Australians. Sometimes research that is intended to guide care in non-metropolitan locations or for priority populations is not place-based, reducing the likelihood of successful implementation outside metropolitan areas. It is acknowledged that in WA there are unique challenges associated with delivery of high-quality and equitable healthcare in rural, regional, and remote locations and to priority populations.
- Limited awareness, within HSPs, of examples of research that solves problems for HSPs. For example, a return-on-investment study by the Australian Commission on Safety and Quality in Healthcare together with the Australian Clinical Trials Alliance (ACTA) reported a 6:1 return for comparative effectiveness clinical trials. One third of that return arose from avoidance of treatments that were more expensive but offered no advantage over existing care. It could also be argued that the research sector has not been effective at communicating its potential value to HSPs.
- Research and innovation sectors may lack capacity and capability in some of the methodologies that are most valuable for solving problems at HSPs. This includes evidence synthesis, implementation science, health economics, predictive modelling, and clinical trials that focus on comparative effectiveness, de-implementation, or randomisation of clusters.
- Processes for ensuring high-quality consumer and community engagement in the identification and prioritisation of opportunities for improvement, as well as the development and evaluation of solutions are not well developed and integrated across healthcare and research sectors. It should be noted that this is different to consumer and community engagement in research projects that are brought to HSPs by external research organisations in which implementation of the National Clinical Trials Governance Framework requires high-quality consumer participation.
- There can be a perception within HSPs that research creates risk and burden, particularly when there are challenges associated with governing the relationships between HSPs and external research institutions.

- Implementation of research-based solutions to HSP problems requires resources that are scarce. Research institutions rely largely on a funding system that is aligned with delivery of traditional academic outputs rather than aligned with solving problems for HSPs.
- Researchers may have a poor understanding of HSP decision-making, particularly in relation to what is needed to assist interventions to cross the "valley of death". There is a perception that HSPs are risk-averse and lack systematic processes for translation of research into practice. It is possible that a 'pull' model of research translation, in which health services pull interventions from the research and innovation sector into practice will be more effective than 'push' models driven by the research and innovation sectors.
- Operational challenges are often the most immediate problems for HSPs. As such, HSPs may lack the 'bandwidth' to think and plan strategically. It is possible that some 'delegation' of strategic thinking to the research and innovation sector may be of mutual benefit.
- HSPs are continuously seeking to improve care including system-level changes such as clinical redesign, taskforces, service-led innovation and deimplementation of low value care. These are usually undertaken outside a research paradigm, which is entirely appropriate. However, such activities may benefit from contribution from researchers who can provide access to methods that may enhance implementation or provide more valid measurement of impact or both.
- Researchers may be in a much better position to undertake 'horizon scanning' about new interventions and technologies that are under development. This information may not be shared with HSPs currently, but such sharing may assist HSPs to be better prepared for the arrival of new, particularly expensive, technologies.
- Differences in the funding and organisation of care that occurs in the community compared with hospital-based care make it substantially more difficult to conduct research activities outside hospitals. However, it is acknowledged that research translation is just as important in the community as it is within hospitals.
- Many research projects, particularly those conducted by external research organisations, are not embedded as part of routine care. This contributes to there being separate healthcare delivery and research 'silos' that can result in duplication of activities and research that is less efficient as well research for which the results are not implementable into practice because of the way the research was conducted does not reflect how an intervention would be implemented in the real world.
- Across these barriers, an underlying theme is that HSPs and research institutions are very different organisations with differences in culture, use of language, priorities, and incentives. The differences can be a barrier to effective communication as well as create misunderstanding or uncertainty about what could and should be shared goals and objectives.

Embedding research within routine healthcare delivery

Many current policy documents promote the concept of embedding research within routine healthcare delivery including the National Health and Medical Research Strategy, the NHMRC Research Translation Strategy, and Research and Innovation as Core Functions of the Health System from the Australian Academy of Health and Medical Sciences.

ACTA defines embedding as "*the process of integrating research activities into routine patient care, to facilitate the appropriate, timely and efficient generation and implementation of the best available evidence".*

These policy documents identify that the way much research is conducted currently, with separate silos for healthcare delivery and research, creates duplication and inefficiency, excessive burden for clinicians and patients, as well as acting to prevent alignment of the goals of the healthcare delivery system with the research sector. An important strategy to break down these silos is to make research as 'embeddable' as possible. However, this requires substantial changes in the way research is designed and conducted so that it becomes possible to integrate research within existing clinical and operational workflows and utilise existing administrative and clinical data.

Co-design of research by health services and clinicians

Similarly, the policy documents referred to above, also identify the importance of co-design of research activities with health service leaders and clinicians. Research that is co-designed is more likely to:

- achieve goals that are relevant to improving health outcomes and/or health system productivity
- be feasible
- be capable of being embedded
- deliver the informational requirements needed for decision-making by health services
- be implementable into practice and policy

Strategy

The overarching objective of the WAHTN strategy is for WAHTN to act as a 'system-level broker' connecting HSP needs with research capabilities, government support, and implementation pathways to facilitate the conduct of research that solves problems for and meets the needs of HSPs. This will be achieved by:

1. enhancing relevant research capacity and capability within WAHTN partner organisations by creation of methodology-based Communities of Practice.
2. development of a pathway for communication of opportunities for improvement and solutions between health service sector and the research sector that enables:
    a. identification of research-amenable problems within health service partners
    b. with the agreement of health service partners, provision of this information to research partners
    c. a process for research partners to develop projects intended to leverage opportunities for improvement
    d. a pathway for review and feedback of candidate solutions by health service partners leading to co-designed project proposals
3. Endorsement of project proposals, by one or more health service partners and WAHTN, that have the capacity to potentially solve a defined clinical, operational, or strategic healthcare delivery challenge.

The teams responsible for an endorsed project must have members from both health delivery and research sectors, as well as consumers. The project team for endorsed projects has primary responsibility for acquiring the resources necessary to conduct the project, but with assistance, support, and facilitation from WAHTN. However, WAHTN has some resources that can be used to assist endorsed projects.

There are two interacting pillars to the strategy:
1. Process for identification and endorsement of projects that aim to leverage an opportunity for improvement that has been identified by health service partner(s) and
2. Communities of Practice (CoP) for the research methodologies that are relevant to improving healthcare

Pillar 1: Pathway and process for connecting HSPs and researchers to tackle research amenable problems

Researchers have methodological expertise that may be useful to solve problems for HSPs but may not have a good understanding of these problems. The purpose of this pillar is to establish a formal, but likely iterative process, by which research amenable problems can be identified and candidate solutions developed for consideration by HSPs.

The proposed structure is outlined in the following Figure. In brief, HSPs are best positioned to identify their high-priority problems. The Western Australian Department of Health Office of Health and Medical Research, as well as individual Health Service Providers in the public sector, have or are developing processes to identify problems and challenges. Similar processes likely exist within private sector HSP partners. WAHTN will engage with, and where feasible, assist HSP partners to identify, organise, categorise, and curate problems. This will include seeking to understanding activities that HSPs are already undertaking to improve health care delivery such as clinical redesign and service-led innovation. *HSPs will have primary responsibility for prioritisation and WAHTN will have a role to identify prioritised problems that are potentially research amenable*.



It is noted that all health service partners have well developed processes for consumer and community engagement that assists in the identification and prioritisation of health system challenges. Additional consumer and community engagement will occur at this stage. All potential problems will be considered in the context of HSP strategic plans and existing frameworks for improvement in services.

Once prioritised research-amenable problems have been identified, WAHTN will have responsibility for description and dissemination to research partners. At least in part, this will occur via methodology-based CoPs as well as via existing channels to WAHTN partners and their staff. WAHTN will assist and facilitate the formation of a research teams to develop co-designed solutions for each prioritised problem. This process is expected to be iterative, multidisciplinary, and involve individuals from both health service delivery and research sectors, with many problems requiring individuals with expertise across two or more CoPs. It is anticipated that WAHTN will establish fora for presentation, discussion, and consideration of proposed projects.

Projects for which a research team develops a proposal will be considered for endorsement by WAHTN. The requirements for endorsement will be formalised but include that the proposed project must be supported by one or more health service partners and, as judged by WAHTN, the proposal is of high quality in relation to feasibility, validity, co-design by health services, consumer and community engagement and involvement, capacity for implementation including that it meets the needs of health service decision-makers, and potential for impact to improve patient outcomes or health service productivity or both.

Pillar 2: Communities of Practice

WAHTN research partners have extensive expertise and experience within many research methodologies that are relevant to improving healthcare delivery. However, there are some methodologies in which capacity and capability are more limited. Across both methodologies and research partners there is substantial opportunity for increased collaboration and synergy.

The broad purpose of the CoPs is to facilitate networking, identify common training and educational opportunities, and leverage opportunities with the goal of enhancing capacity and capabilities that are directly relevant to co-designed projects that have the goal of improving healthcare delivery.

Establish or enhance existing CoPs in six areas:

1. Consumer and community engagement and involvement. This is an established CoP and acts as an integrating and cross-cutting resource across all other CoPs, endorsed projects, and the pathways for communication and decision-making necessary to implement the strategy.
2. Evidence synthesis. A CoP is being established. Evidence synthesis is of potential use to HSPs when they face a problem and existing research literature may identify a potential solution that can be implemented by HSPs.
3. Implementation science. A CoP is being established. When a HSP has decided to implement a solution, implementation science provides a formal framework for determining the optimal method of implementation or evaluating alternative options to achieve optimal implementation.
4. Health economics. Methodology to determine the impact of healthcare interventions on cost and system productivity is vital information to guide decision-making by HSPs. There is some, but limited, health economics capacity and capability in WA. A CoP will be created.

5. Clinical trials including cluster trials. A CoP has been established via the Clinical Trials Enabling Platform that has Future Health Research and Innovation funding to build capacity and capability in clinical trials. In the context of improving healthcare delivery, clinical trials can play roles to manage unwarranted variation in clinical practice (via conduct of comparative effectiveness trials) and evaluation of novel candidate solutions to improve healthcare. Cluster trials are a particular type of clinical trial in which clusters, rather than individuals, are randomised. They are the only type of design that is suitable for randomised evaluation of system-level interventions such as policies, clinical redesign, and models-of-care. Cluster trials require specialised statistical expertise with limited capacity and capability in WA currently.
6. Observational analysis and predictive modelling of healthcare data, including linked administrative data. This type of analysis may be of use to HSPs to quantify the nature of problems, explore factors that may contribute to problems, identify variation in care, and generate information that supports candidate solutions. Preliminary work to create a CoP has commenced.

There are some existing national CoPs, within these methodological areas, such as ACTA for clinical trials, ACTA HEAT for health economics, Australian Health Research Alliance (AHRA) and within other RTCs, and the Australian Trials Methodology (AusTriM) Research Network. WAHTN CoPs should interact with similar CoPs, particularly in areas where there is limited WA-based capacity and capability.

Each CoP will have a self-selected leadership group and be open to any individual with an interest in that area. An important goal is membership of CoPs by individuals who are based within health service partners including health service leaders, clinicians, and researchers. Each group will operate under formal Terms of Reference developed in conjunction with WAHTN, and with secretariat support and communications pathways provided by WAHTN. Project proposals will be shared by WAHTN with CoPs, but this pathway is only one of several pathways for dissemination of project proposals.

It is possible that in the future consideration may be given to the establishment of system- or problem-oriented CoPs.

Limitations and challenges

HSPs will only engage with this process if they perceive the process and solutions can provide value. To be perceived as offering value to HSPs, projects must meet the operational needs and timelines of HSPs, and projects must be designed to be of direct benefit with a plausible pathway to improve patient outcomes or health system productivity or both.

It is acknowledged that research teams may require seed resources to develop project proposals and WAHTN has some resources that can be applied within its current funding period. When WAHTN applies to the NHMRC for reaccreditation it is anticipated that a substantial part of the budget request will be to support the development of project proposals, as outlined in this strategy.

Measures of success

The impact of successful execution of the strategy will be fundable project plans which, if resourced, are expected to be capable of improving health outcomes and health system sustainability. The process is designed to generate fundable and impactful projects because each project aims to solve a problem identified by health service partners and is endorsed as a feasible and viable proposal to solve that problem.

Proposed KPIs:

- Number of projects endorsed by health services
- Number of endorsed projects submitted for competitive funding
- Number and proportion of endorsed projects that achieve successful competitive funding
- Number of funded projects that are completed
- Implemented change in practice and policy arising from endorsed projects
- Impact of funded projects on health system delivery and patient outcomes