Building evidence into youth health policy: a case study of the access 3 knowledge translation forum

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Abstract

Background

Effective integration of research evidence and youth perspectives into policy is crucial for supporting the future health and wellbeing of young people. The aim of this project was to translate findings from the *Access 3* research studies to support development of a new state policy on youth health and wellbeing within New South Wales, Australia. Ensuring the active contribution of young people within policy development was a key objective of the knowledge translation process.

Methods

The knowledge translation activity consisted of a one-day facilitated workshop with 64 purposively sampled stakeholders. Participants included eight young people, fourteen policymakers, fifteen academics, twenty-two clinicians or managers from New South Wales (NSW) health services, four general practitioners and one mental health service worker. The design of the workshop was guided by the knowledge translation frameworks of Lavis et al [1] and Grimshaw et al [2]. Research findings to be translated came from the NSW *Access 3* studies. Participant satisfaction with the workshop was evaluated using a brief self-report survey. Policy uptake was examined through exploratory document analysis of the subsequent *NSW Youth Health Framework 2017-2024*.

Results

A total of twenty-five policy recommendations were established through the workshop and these were grouped into six themes. The six policy themes were: 1) Technology solutions, 2) Integrated care and investment to build capacity, 3) Adolescent health checks, 4) Workforce, 5) Youth participation, and 6) Youth health indicators. Forum members were asked to vote on the importance of individual recommendations. These policy recommendations were subsequently presented to the NSW Ministry of Health with some evidence of policy uptake identified. The majority of participants rated the forum positively.

Conclusions

The utilisation of knowledge translation theories and active youth engagement led to the successful transfer of research evidence and youth perspectives into NSW youth health policy. Future research should examine the implementation of policy arising from these knowledge translation efforts.

Contributions To The Literature

- This paper presents an inclusive approach to knowledge translation through a project focused on development of youth health policy.
- This paper demonstrates how government-academic partnerships can successfully build evidence-informed policy.
- This paper shows that using a theoretical approach to knowledge translation assists in the development of evidence-based policy recommendations.
- This paper shows that including young people and other relevant stakeholders assists in the development of evidence-based policy
- This paper will be of interest to domestic and international policymakers developing and implementing youth health policies.

Introduction

Background

The period of adolescence and young adulthood involves significant and long-lasting developments across biological, psychosocial and environmental domains [3–6]. Supporting optimal health and wellbeing at this stage is crucial, as lifelong health behaviours and service engagement patterns are formed and several unique health risks emerge [4, 5]. Improving health during adolescence is understood to provide a ‘triple dividend’ in that this allows for optimal youth development, improves long-term trajectories of health, and provides the healthiest start possible for the subsequent generation [4]. The time of adolescence and young adulthood thus presents a critical opportunity for policymakers to protect the current and future health of society through the creation and adoption of evidence-informed public policies focused specifically on youth health.

Adolescents face several health barriers including, but not limited to, difficulties accessing appropriate services, a lack of knowledge and experience in navigating healthcare systems, impacts of restrictive legislation, and concerns over confidentiality, stigma, and cost [4, 7]. Training in adolescent health is variable, as are the knowledge, attitudes, and skills of clinicians working with young people [7]. Consequently, young people’s health needs may not be fully met [4]. Public policy can help address these issues by building a framework for the health system that promotes young people’s access, provides quality health worker training, and delivers adolescent responsive services [4].

Public policy shapes health systems and services, directs funding for infrastructure and resources, helps to determine key health priorities, and supports innovation and implementation efforts [8, 9]. *Evidence-informed* public policy seeks to increase the use of data and research insights to guide decision-making on the merits, design, and implementation of policy actions [9]. The use of robust evidence aids policymakers to identify policy priorities, weigh-up the costs and benefits of public investments, determine the most effective policy steps to enact (and how), and identify whether more efficient

alternatives exist [9]. Together, this highlights the importance of building high-quality translatable evidence to support the development and implementation of effective youth health policy.

However, whilst the importance of evidence to inform public policy is well acknowledged, the failure to translate research knowledge into policy continues to be an area of concern [1, 2, 9–12]. Research often fails to determine or reach policy audiences despite decades of calls for stronger links between evidence and policy action [10–12]. Furthermore, the engagement and experiences of young people as a form of evidence crucial for the identification of important health issues and the development of policy and programs to promote health has often been under-utilised [5, 6, 13–15]. Appropriate youth consultation and focused knowledge translation efforts are required to transfer research findings and knowledge gained from young people's lived experiences into policy actions that promote the health and wellbeing of young people. Utilising established knowledge translation frameworks such as those provided by Lavis et al [1] and Grimshaw et al [2] may assist researchers and policymakers to build effective collaborations and can provide a common language for the development of evidence-informed policies [1, 2, 16].

Policy setting

Australia's health system includes a diverse range of healthcare providers and complex funding arrangements [17, 18]. The Federal government funds Australia's universal health insurance (Medicare), the Pharmaceutical Benefits Scheme (PBS) and Primary Health Networks (PHNs). PHNs are geographically-based administrative organisations which support providers of primary care and liaise with hospitals and other providers to improve health system efficiency across their regions [17, 18]. Australian States are responsible for the development of policy covering public and population health; as well as public hospital and community health funding and management [17, 18]. The Australian primary care sector is dominated by general practice, which operate as private businesses albeit with the bulk of their income sourced on a fee-for-service basis, reimbursed by Medicare. [10, 11]. Importantly, government policy cannot direct clinical services delivered by general practice but can influence it through federally controlled Medicare rebate incentives and other occasional targeted payments. The federal government also funds Headspace a national youth mental health foundation that provides services for young people aged 12 to 25 years.

New South Wales (NSW) is the most populous state in Australia with over 8 million residents [19]. Health policy is developed by the NSW Department of Health, while state government health services are administered by smaller units, the Local Health Districts (LHDs) and Speciality Health Networks (SHNs). [19] Approximately one third of young Australians (12 - 24 years) live in NSW [16] and make up 16.5% of the overall NSW population [16]. Prominent health issues for young people in NSW include mental health, suicide, chronic conditions, disability, obesity, accident and injury, sexual and reproductive health, and risk behaviours including substance misuse [16]. Young people at higher risk of poorer health outcomes include (but are not limited to) Aboriginal and Torres Strait Islander people, refugees or newly arrived migrants, those who were experiencing or at-risk of homelessness, those who are sexuality and/or gender diverse (LGBTI), and those living in rural and remote areas [16].

The Access studies

Youth health has been an area of specific policy development in NSW for over two decades [17–20]. Youth Health policies were released in 1998 [20], 2011 [17], and 2017 [19]. A Strategic Health Plan for Children Young People and Families was also released in 2014 [18]. In 2000 and 2002, NSW Health commissioned two consecutive studies that informed development of the 2011 youth health policy [17], known as Access Phase 1 [21] and Access Phase 2 [22].

In early 2015, NSW Health invited competitive tendering for *Access 3* research to inform policy beyond 2016. The objective stated on the tender document was to “gather policy-relevant intelligence about the experience of the young person when accessing and then navigating health care services. The priority perspective was the young person as consumer (and family where possible) with a key focus on marginalised youth” (Kang 2021, personal communication, 15 May) [23].

The *Access 3 Project* was comprised of four activities [23–27]. The first three activities were 1) a cross-sectional survey of young people residing in New South Wales [25], 2) a longitudinal qualitative study of a subsample of marginalised young people and their journeys through the health system over six to twelve months [26], and 3) interviews with health professionals [27].

The current paper reports on activity 4 of the *Access 3* project. The aim of this project was to translate synthesised data from the three *Access 3* studies into policy-ready recommendations to support development of a new State policy on youth health and wellbeing [19]. Ensuring a youth voice within policy development was a key objective of the knowledge translation process. Here, we describe the knowledge translation component of the *Access 3* project including participant satisfaction with this process and examine the current *NSW Youth Health Framework* [19] for evidence of research translation.

Method

Design and theoretical approach

The knowledge translation activity consisted of a one-day facilitated forum with invited stakeholders. The knowledge transfer frameworks of Lavis *et al* [1] and Grimshaw *et al* [2], guided forum design [1, 2].

Lavis *et al* [1] provide a framework that requires those responsible for knowledge translation to consider the following five questions:

- What should be transferred?
- To whom should research knowledge be transferred?
- By whom should research knowledge be transferred?
- How should research knowledge be transferred?
- With what effect should research knowledge be transferred?

Grimshaw *et al* [2] expand on this framework to ensure that barriers and facilitators to successful knowledge translation are considered when answering each of the above questions.

Recruitment and participants

A total of 64 stakeholders were recruited via direct email to participate in the forum. Stakeholders included young people, policy analysts, expert clinicians, researchers, community advocates, and senior staff from NSW Health (see Table 1). Forum members were purposively sampled based on their role (youth consultant, policymaker, clinician, manager, academic, other), health system level (primary, secondary, tertiary), health service type (public, private, non-government organisation), and service focus (general population vs. specific marginalised groups), and geographical location (metropolitan vs. rural). Approximately a third of forum attendees had previously been involved with the Access 3 study via reference groups (28), including Chief Investigators (7), Associate Investigators (5), Urban reference groups (5), Rural reference groups (5) and youth consultants (6).

Table 1
Workshop attendees by group

Group	<i>n</i>
NSW Health Services	22
Academia	15
Policy	14
Young people	8
General Practitioner	4
Mental Health (Headspace)	1
Total	64

Pre-Forum planning

Access 3 Chief Investigators planned the knowledge translation forum in collaboration with two NSW Health senior policy professionals responsible for establishing the new NSW Youth Health Framework, youth consultants, an academic with expertise in knowledge translation, and an experienced workshop facilitator. Building and maintaining strong relationships between these groups was prioritised over the course of the entire *Access 3* project. A program agenda was created, along with a data collection instrument for participants to complete on the day of the forum. A series of face-to-face meetings, as well as email and phone discussions, helped to refine the forum agenda, and data collection instrument.

A key aspect of agenda planning was utilising the eight themes for discussion drawn directly from the preliminary analyses of *Access 3* studies (Table 2). A report on these themes was sent to participants

prior to the forum.

Table 2
Discussion themes identified from Access 3 studies 1, 2 and 3

Theme 1: Young people's health literacy embraces our connected, digitally disrupted world
Theme 2: Traditional barriers remain but technology brings new opportunities for young people to connect and engage with services.
Theme 3: Health system navigation must be assertively supported
Theme 4: Engagement in health care is about people and positive interactions
Theme 5: Young people perceive and experience multiple prejudices
Theme 6: Health care costs are high and ripple out
Theme 7: The ideal GP has many desirable qualities but is hard to find
Theme 8: Reducing system demands and complexity would create a more efficient and straight-forward experience for young people

Forum program

The forum program involved several presentations focused on translating *Access 3* study findings. Presentations included an acknowledgement of country and traditional owners of the land, a presentation from a youth consultant on their perspective and experiences of the health system, and a presentation from the study Chief Investigator on the *Access 3* study including background, examples of prior policy translation, and an overview of *Access 3* study design and results. Next, a NSW government policymaker presented on current health policy and the context for the new policy under development. A health policy academic then gave an overview of knowledge translation processes and explained the key tasks for forum participants (i.e., to consider results of the study and work collaboratively to build policy solutions). Next, a research officer (also a CI) presented preliminary research findings around the eight key themes for small-group discussion. Finally, young people shared their reflections on the presentation of themes. Key principles for the forum program included credibility of the research to the stakeholders, end users being active contributors to translation of findings and structures being there to support the mobilisation of knowledge.

Small-group discussion workshops

Small-group discussions were utilised during the forum to workshop policy recommendations. Forum participants were pre-allocated to tables where they would discuss one of the eight key research themes using the data collection template to guide discussions. This involved each table working through a range of questions and prompts for discussion that were based on the knowledge translation frameworks of Lavis et al [1] and Grimshaw et al [2] (See Table 3). Group facilitation was provided by an Access 3

Chief or Associate Investigator. Participants were encouraged to consider possible conflicting priorities and current policy commitments, and to consider how their recommendations might be used and the potential audiences. Participants were not restricted to discussion of state level actions and were able to consider recommendations at the federal policy level if they wished.

Table 3
Workshop questions template adapted from Lavis et al [1] and Grimshaw et al [2]

Questions posed at workshop	Questions from KT frameworks
How does the group understand and support this theme?	What should be transferred? ^[1]
Which groups or locations or health care settings is this theme particularly relevant for?	To whom should research knowledge be transferred? ^[1]
Who would need to be involved in its implementation?	By whom should research knowledge be transferred? ^[1]
How can this theme be implemented?	How should research knowledge be transferred? ^[1]
What difference will this make?	With what effect should research knowledge be transferred? ^[1]
What would support implementation?	What are the barriers and facilitators to successful knowledge translation? ^[2]

Synthesis of policy recommendations

Synthesis of policy recommendations was accomplished using the data collection templates and content and thematic analysis of group discussions. First, each group was asked to workshop respective themes derived from the research and to translate these into policy-ready recommendations using the data collection template to record responses. The workshop groups were then asked to synthesise their ideas into three key implementation ideas with each table invited to share their top three ideas with larger room. These ideas were captured onto large sheets of paper and displayed on the walls of the conference room. As a final activity, all participants were given five red dots to stick on this paper as a vote for their top ideas for implementation. The implementation ideas with the highest number of votes in each of the themes became the final list for the *Access 3* Investigators to work with, translating these into policy-ready recommendations. These recommendations were subsequently presented to NSW Health in the form of a presentation and supporting report.

Evaluation of forum participant satisfaction

Participant satisfaction with the translation forum was evaluated using a brief self-report survey. The seven-item survey measured the extent to which participants felt they were able to contribute

meaningfully to the task of translating research, and the extent to which the facilitation, directions and activities of the forum aided development of policy-ready recommendations. A general remarks section was also provided for comments on forum organisation, attendees, structure and processes, outcomes and overall perspectives.

Post-hoc examination of policy translation

Finally, a post-hoc exploratory document analysis of the NSW Youth Health Framework [19] was conducted to identify potential translation of *Access 3* forum recommendations into health policy actions for NSW and Australia. This exploratory analysis consisted of the lead author examining content from the published health policy and mapping this to the recommendations created through the knowledge translation workshop.

Results

Workshop themes and policy recommendations

Six broad themes emerged from the synthesis of overlapping ideas between forum workshop groups. These themes were: 1) Technology solutions, 2) Integrated care and investment to improve capacity, 3) Medicare structures, 4) Workforce capacity building, 5) Youth participation, and 6) Quality systems. A total of 25 individual policy recommendations were established across these six themes. Table 4 outlines these recommendations and the number of votes each individual recommendation received. The most popular policy recommendations related to the hiring and development of youth health workers, involving young people at the heart of decision-making, and the importance of youth health indicators and screening. Notably, some of these recommendations related to Australia's universal health insurance (Medicare), which is federally administrated and thus outside the scope of NSW state policy.

Table 4
Workshop policy recommendations

Theme	Top Implementation Ideas	Votes
Theme 1: Technology Solutions	Streamlined portal: promotion through social media marketing, helping young people navigate efficiently and effectively, combining all websites and general health information	10
	Apps to locate GPs and Allied Health Professionals via postcode that filter by cost, hours, rating, bulk-billing, LGBTQI friendly, map and travel info	9
	Optimise trafficking to government websites through marketing e.g., paid media on Facebook and Google search	8
	Health Online Pathways (Primary Care Networks): flowchart/platform specialised advice for this group, local/referral pathways, promotion with youth workers and practices, consumer flowchart for the young person	8
	Broadening access to GPS: via technology e.g., YouTube education videos, common consultation, app chat	5
	Online directory of services for young people including key information (e.g., bulk billing) and youth ratings	5
	Infrastructures: access, quality, cost with cross-sector partnerships e.g., Telcos	4
	Cultural change through a) empowerment of YP through access to information and education, b) youth-friendly services: campaigns (stickers), websites (cost, hours transport, bulk-billing, minimum standards, service mapping) and c) government valuing youth health, funding, equity to access to services across state.	4
Theme 2: Integrated care and investment to improve capacity	Establish Youth Medical Assessment Team (YMTA) in Local Health Districts that parallels geriatric services: Nurse practitioner tasked with navigation, salaried medical officer	14
	Shared Care Model: Headspace accredited youth-friendly GPs, percolative health systems	10
	ED: 24/7 targeted structures that link back to YMTA	5
	Integrated care: Primary Health Care, GP and hospital sectors 'PHC team', pool- funding, commit to the time to do this	4
	Capacity: service and systems level investment to deliver better and integrated services	3
	Cross-sectoral work: training, planning, internal and external to health	3

Theme	Top Implementation Ideas	Votes
Theme 3: Medicare structures	15+ youth check: incentive for GP and YP, digital pre-screen (red flags), long consultation item Navigation Universal Access Funnel, Low need, high need, very high need	15
	Change in Medicare model: item number for youth health assessment, youth- accredited GPs	14
	Medicare item numbers for youth health: making the case for appropriately funding youth-integrated services, YP learning how to navigate health,	9
Theme 4: Workforce capacity building	Trained youth worker: advocacy, facilitator, navigating, training and education to practices and professionals	17
	Build capacity of youth workforce (health, Aboriginal Medical Service, justice, education) to embed health literacy in core business	7
	Ongoing professional development for all health providers: youth-friendly services training, especially for marginalised YP (multiple prejudices), current, up-to-date to our climate	4
	Training, education and resources with CPD points for health professionals (including cultural and gender sensitivity) and key references like youth services and schools to promote engagement at first contact with health services	4
	Capabilities: knowledge and skills for young people, professionals, parents, educators and policymakers	3
Theme 5:	Young people at the heart of decision-making - "Nothing for us without us"	17
Youth participation	User-centred approach to research, design, implementation and evaluation (youth participation and professionals)	4
Theme 6: Quality systems	Best practice youth health indicators included in standard accreditation systems e.g., GP/primary care accreditation, public health system accreditation	15

Participant satisfaction

Forty-five forum participants completed the workshop evaluation survey. The majority thought the workshop activities meaningfully contributed to the task of translating research into NSW youth health policy possibilities (93.3%) and felt that they were able to contribute to the small group discussions (88.8%). Participants who reported only partly being able to make contributions to small group discussions (n = 4) were asked to provide suggestions for how to improve group processes. Responses included ensuring facilitators held tighter adherence to questions posed, more efficient moderating of dominant group members, greater diversity of health disciplines on the table and ability to provide greater contribution to some of the topic areas discussed at other tables.

General comments from attendees indicated that the forum was well structured and facilitated, featured knowledgeable attendees and good engagement of young people affected by policy. The absence of Aboriginal youth representation was mentioned (however one of the youth representatives did identify as Indigenous), as was the desire for greater time for strategy development and inter-group feedback. When considering outcomes of the day, comments were positive with participants hoping for their work being translated into concrete policy actions. Table 5 summarises the quantitative results of the survey, which indicates high overall satisfaction with the knowledge translation forum and small-group workshops.

Table 5
Workshop evaluation responses

Workshop evaluation responses						
	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree	No response
Overall, today’s process allowed me to contribute meaningfully to the task of translating research into NSW Youth Health policy possibilities	18	24	0	0	1	2
Overall, the facilitation, directions and activities of the day helped us achieve our goals	19	22	0	0	1	3
This part of the agenda [group feedback and wrap-up] was useful for understanding what other groups had talked about and being able to make final contributions	12	24	7	0	0	2
	Yes	No		Partly		No response
Did you feel like you were able to make the contribution you wanted to in the small group?	40	0		4		1
What were the most useful parts of the agenda leading up to the small groups?						
Research findings and young people responses	15					
Policy translation	9					
About the project	5					
All presentations	5					
Why today is really important for young people	4					
What part/s of that process were least useful from your point of view? (Top Responses)						
Research findings and young people responses	5					
Policy translation	3					
Hearing things already sent in writing	3					

Post-hoc examination of policy translation

Post-hoc exploratory document analysis of the NSW Youth Health Framework [19] provided evidence of translation of *Access 3* recommendations into policy statements from the NSW Youth Health Framework [19]. Table 6 provides examples of policy recommendations from the knowledge translation forum next to relevant policy statements from the framework. Importantly, general themes from the research, (such as supporting young people’s health system navigation), were also evident in the policy.

Table 6
Research to policy translation examples

Theme	Access 3 Policy Recommendation	NSW Youth Health Framework
Technology Solutions	"Streamlined portal: promotion through social media marketing, helping young people navigate efficiently and effectively, combining all websites and general health information."	<p>"Maximise opportunities to provide up-to-date and accessible online information for young people about health services including who they are for, how to access them, what they do, and costs involved."</p> <p>"Support health services to adopt appropriate technology, including telehealth, Apps, mobile technology and social media, to support access to services and engage and seek feedback from young people."</p>
Technology Solutions	"Apps to locate GPs and Allied Health Professionals via postcode that filter by cost, hours, rating, bulk-billing, LGBTQI friendly, map and travel info."	"The Framework sets an expectation that NSW Health services for young people will use available electronic and mobile communication methods, and that online information is appropriate and meaningful. Further opportunities will be explored to develop and implement appropriate technology as part of service delivery, particularly to support young people living in rural and remote areas."
Technology Solutions	"Broadening access to GPs: via technology e.g., YouTube education videos, common consultation, app chat."	<p>"Further opportunities will be explored to develop and implement appropriate technology as part of service delivery, particularly to support young people living in rural and remote areas."</p> <p>"Support health services to adopt appropriate technology, including telehealth, Apps, mobile technology and social media, to support access to services and engage and seek feedback from young people."</p>
Workforce capacity building	"Build capacity of youth workforce (health, Aboriginal Medical Service, justice, education) to embed health literacy in core business."	"Work with partner agencies to support and provide health promotion information, programs and services, and create healthy environments for young people in line with state and local priorities that support healthy living, physical and mental wellbeing, health literacy, harm and demand reduction, sexual and reproductive health, and injury prevention."
Workforce capacity building	"Capabilities: knowledge and skills for young people, professionals, parents, educators and policymakers."	"Workforce capacity to provide responsive care to young people that promotes safety, welfare and wellbeing"
Youth participation	"Young people at the heart of decision-making - "Nothing for us without us."	"Young people's health needs are responded to; they receive quality healthcare and are supported to make informed decisions."
Integrated care and investment to improve capacity	"Capacity: service and systems level investment to deliver better and integrated services."	"NSW Health will strengthen relationships with other health services and cross sector partners to provide integrated and coordinated care."

Discussion

The current paper outlines the knowledge translation activities of the *Access 3* project, which were specifically designed to inform NSW youth health policy. We believe the design of this translation activity represents a step forward in Australian youth health policy making as it brought together a range of different perspectives including those of young people, academics, health workers and policymakers to co-create policy recommendations using a strong evidence base on youth health issues and a theoretically derived knowledge translation framework. Specifically, the knowledge translation forum led to the co-creation of 6 policy themes of areas for policy action with 25 specific policy recommendations proffered. Participant satisfaction with the knowledge translation forum was high and, importantly, the policy recommendations from the workshops can be evidenced within the subsequent NSW Youth Health Framework [19]. These results speak strongly to the success of building considered approaches to policy development and knowledge translation.

There are several aspects of the knowledge translation forum that likely contributed to this success. Central to these is the utilisation of the knowledge translation frameworks of Lavis *et al*/ and Grimshaw *et al*/ [1, 2]. These frameworks provided structure to the planning, execution and evaluation of the knowledge translation forum including the specific workshop activities and the knowledge dissemination strategies utilised. We therefore focus subsequent discussion around the key questions posed within these frameworks.

What should be transferred?

Effective knowledge translation requires quality evidence [1, 2]. Whilst researchers and research organisations, field experts, clinicians, consumers, peak bodies, and government bodies are often good sources of information, the evidence they provide is not always fit for direct policy translation [1, 9, 28]. The best evidence to support policy changes comes from pooled research knowledge in the form of systematic reviews or from research studies that are sufficiently large and targeted at specific policy questions [1, 2, 9, 10]. The quality, relevance and timeliness of evidence are particularly important influences on knowledge uptake [10, 29]. Presenting evidence in the form of ‘ideas’ rather than research data also improves the likelihood of translation, particularly when working with diverse groups and non-academic audiences [1].

In relation to the *Access 3* project, the knowledge created through studies 1 to 3 are of high quality and relevance in that they were designed specifically for answering policy questions relevant to youth health [23, 24]. The demand-driven nature of the tendering process for the *Access 3* work meant that this knowledge was sought after by the policymakers and developed in a timely manner with policymakers involved in the planning, execution and translation aspects of the project. Also, the translation forum allowed the research team to present the findings from studies 1 to 3 in the form of ‘research themes’ or ‘ideas’ and to transform these into actionable policy recommendations that were broadly aligned with the

remit of NSW Health. Together, these approaches appear to have provided valuable information to policymakers that were subsequently transferred into specific policy goals.

To whom should research knowledge be transferred?

The target audience for knowledge translation activities must be clearly identified to ensure success [1, 2]. Having a well-defined target group allows knowledge translators to better understand the types of decisions and decision-making environments that exist for the particular target, which in turn, allows for the tailoring of knowledge translation strategies [1]. For the current study, the target audience was defined as policymakers from the NSW Ministry of Health. The goal of the knowledge translation workshop was for these policymakers to be aware of and utilise the findings and policy recommendations from the Access 3 knowledge translation forum to inform policy development for the *NSW Youth Health Framework* [19]. Consideration of the political and organisational constraints that face NSW Health policymakers was built into the planning, execution, and evaluation of the knowledge translation activities.

A key aspect of this approach was gaining an understanding of the NSW policymaking environment and the factors that influenced decision-making processes within it. Working with policymakers throughout the research and knowledge translation process helped build this collaborative partnership. Importantly, the *Access 3* research and knowledge translation forum sat in the context of the broader relationship with the policymakers where researchers sat on a policy development reference group and gave comments on the policy and separately presented the research findings to policy committees.

By whom should research knowledge be transferred?

Effective knowledge-translation requires a credible messenger to deliver evidence to target audiences [1, 2, 10]. Individuals (e.g., health professionals, researchers, or consumers), groups, organisations, and the healthcare system can all act as messengers for knowledge translation activities focused at policymakers [2]. Whilst building credibility with this target audience may be difficult and/or time-consuming, it is an important aspect of effective knowledge translation [1, 2]. The current study utilised a broad stakeholder collaborative to deliver our message to the NSW Ministry of Health. We utilised the voices of expert clinicians and impartial researchers as they are shown to be authoritative messengers for the development of evidence-informed health policy [1, 10]. We also included policymakers in the knowledge translation forum and research processes to ensure that the collaborative had a sound understanding of the policy process and the context surrounding NSW Health policy agendas.

We also made sure to actively include young people in the policy development process (as well as throughout the entire Access 3 project). To date, efforts to include young people in the development of policy remains variable across settings and portfolios with inclusion influenced by a range of political and ideological factors [30]. Furthermore, when young people have been involved in the development of policy, this has often been limited to participating in rigidly structured consultations that have featured top-down approaches to policy development [30, 31]. Such efforts have even been labelled 'tokenistic' in their approach [30]. To counter this, we prioritised the active inclusion of young people in the formulation

of specific policy recommendations for the youth health policy. Throughout the knowledge translation process, the members of the core research team took on the role of knowledge brokers [2, 10, 28, 32, 33] working as intermediaries to build important connections between knowledge suppliers (i.e. researchers, clinicians and young people) and knowledge users (i.e. policymakers). This process featured bi-directional communication between stakeholders and policymakers to promote trust and greater understanding [33].

How should research knowledge be transferred?

A key explanation for the research-policy gap is the disparate and asynchronous responsibilities, priorities, and processes that exist within the domains of research and public policy [1, 2, 10, 12, 16, 33]. Research is typically investigator driven and usually proceeds in a steady, methodical, and linear fashion with publication of research findings often prioritised over translation efforts [16]. In contrast, policy is often developed in a fast-paced, unpredictable environment that involves a raft of competing demands, priorities, and stakeholders [1, 2, 10, 16]. Whilst public policy is applied by nature, policy decisions may be influenced more by opinion and political ideals rather than unbiased empirical evidence. Developing evidence informed public policy thus requires strong and deep collaborations between researchers and policymakers [2, 16, 33]. Researchers are required to develop relevant, timely and helpful evidence that can be effectively translated into policy. Policymakers must appraise available evidence, navigate entrenched political and economic interests, and balance these alongside the social acceptability of the policy they are tasked to deliver [34].

There is a growing evidence base to guide choice of knowledge translation strategies aimed at policymakers [28]. Specific factors that facilitate research uptake include interactive engagement between researchers and policymakers, and improved relationships and skills [10, 28]. Knowledge translation is thus most effective when it starts early, builds support through champions and brokers, understands contextual factors, and is timely, relevant, and accessible [28]. For the current study, we utilised workshops involving variety of stakeholders and built deep relationships over a period of time to provide formulated recommendations to government through an established pathway. The partnerships built between investigators, forum participants and NSW Health underpinned the strength of this translation approach.

With what effect should knowledge be transferred?

When considering knowledge translation, it is important to determine how it is hoped that research knowledge will be used [1]. In a health setting, this may be getting a clinician to change their behaviour in the face of research evidence whereas, in a public policy setting, the goal may be less concrete and may simply be to inform debate, especially given competing organisational and political factors [1, 2]. For the current study, the overarching goal was to develop implementable policy recommendations that could be provided to the NSW Ministry of Health for consideration for inclusion in the youth health framework [19]. The fact that the research themes and recommendations provided to Ministry can be mapped onto policy items within the framework suggests that this approach was effective.

Limitations

It is important to note the limitations of our research and knowledge translation approach. First, it is difficult to get an objective metric of knowledge translation success. Whilst document analysis allowed the authors to map policy recommendations onto the NSW Youth Health Framework [19] this approach may be considered subjective and hence may over or underestimate the impact of knowledge translation efforts. Whilst we acknowledge this limitation, the positive evaluation we received from policymakers engaged in the workshop suggests that our approaches were indeed impactful.

Second, whilst the forum led to a number of implementable policy recommendations, there were some recommendations that fell outside of the scope of NSW health policy. Specifically, these recommendations were related to federally administered Medicare structures that can shape the role and function of general practitioners. Importantly, this issue was highlighted and discussed at the knowledge translation forum. It was underlined that there was an audience for these kinds of recommendations beyond the NSW youth health framework. We believe that knowledge translation never ends in a closed system and that changes in one part of the overall health system will inevitably have flow on effects throughout the health system. Future work could look at how the development of the NSW youth health framework influenced and impacted the later development of policies across Australia at both a state and federal level.

Third, the required set up and timing of the forum meant some concessions had to be made. For example, the timing of the forum was due to policymakers needs and not the researchers and thus required the presentation of preliminary rather than final research results. Furthermore, as a face-to-face forum, there was limited in-person participation from rural areas. Nevertheless, the final findings of the research matched the themes presented at the knowledge translation forum and a rural reference group meeting was also held to supplement the forum findings. Overall, we believe that the approaches used were appropriate and led to strong levels of engagement from stakeholders and robust recommendations for policy.

Fourth, it is important to note that NSW health commissioned the *Access 3* research and knowledge translation forum which likely had an impact on policymaker buy-in. It is probable that engaging policymakers would be more difficult when this is not the case. Regardless, we believe that the knowledge translation frameworks and approaches outlined in this paper provide a strong model for collaboration between researchers and government. These ways of working can likely assist the development of strong relationships like those developed for the *Access 3* studies.

Finally, the current study stopped short of examining the actual implementation of policy recommendations that made their way into the NSW health framework. This was considered beyond the scope of our study and knowledge translation process. Measuring the success of knowledge transfer beyond decision making in the public policy realm is difficult as the routes from which research informed decisions translate into actual social, economic or health outcomes are complex [1].

In summary, we believe that the utilisation of knowledge translation theories and youth inclusion led to the successful transfer of evidence-based knowledge from the *Access 3* studies into NSW health policy. We would therefore encourage researchers from abroad to consider such approaches for the development of youth health policy within their respective states and countries. By actively engaging young people and utilising theoretically supported knowledge translation frameworks, we can build more inclusive and appropriate health policies that promote the health of our younger generations. Within New South Wales, there is now a clear opportunity to examine the implementation of policy recommendations [35]. By conducting this research, we may better understand the contexts, mechanisms, and outcomes surrounding policy implementation in the youth health space which will provide a clearer picture of how evidence is translated into subsequent action.

Conclusions

Bridging the research-policy gap is critical to ensure that policy decisions are fair, equitable, and based on a sound understanding of relevant issues. The current case study demonstrates an effective approach to the translation of research knowledge into policy recommendations utilising established knowledge translation frameworks. Further research into the implementation of policy actions developed from these knowledge translation approaches is warranted.

Declarations

Ethics approval and consent to participate: Ethics approval for the Access 3 project was granted through the University of Sydney Human Research Ethics Committee (approval 2015/874) and the New South Wales Aboriginal Health and Medical Research Council Ethics Committee (approval 1142/15). All participants consented to involvement in the research.

Consent for publication: Not applicable

Availability of data and material: The datasets analysed during the current study are available from the corresponding author on reasonable request.

Competing interests: The authors declare that they have no competing interests

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Authors' contributions:

MK led the Access 3 Project and wrote the tender for funding from NSW Health. FR was the project manager responsible for day-to-day conduct of Access 3 project activities. LS, KS, SJ, CH, MK and TU contributed to the project design and provided research leadership. The forum organising committee

comprised of MK, FR, CHS, and SG. DW conducted qualitative document analysis and was a major contributor in writing the manuscript. All authors read and approved the final manuscript.

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