Translating evidence into practice: A longitudinal qualitative exploration of allied health decision making.

Jennifer White (j.white@nari.edu.au)
National Ageing Research Institute Inc https://orcid.org/0000-0003-1235-0916
Kellie Grant
Monash University Faculty of Medicine Nursing and Health Sciences
Mitchell Sarkies
Curtin University
Terrence Haines
Monash University Faculty of Medicine Nursing and Health Sciences

Research

Keywords: allied health, evidence base practice, implementation science, qualitative

Posted Date: January 2nd, 2020

DOI: https://doi.org/10.21203/rs.2.19845/v1

Version of Record: A version of this preprint was published at Health Research Policy and Systems on March 18th, 2021. See the published version at https://doi.org/10.1186/s12961-020-00662-1.

Abstract

Background

Health policy and management decisions rarely reflect research evidence. In response, it is important to determine how to improve evidence-informed decision-making. As part of a broader study exploring implementation science strategies we examined how allied health managers respond to two distinct recommendations and the evidence that supports them.

Methods

Allied health managers across Australia and New Zealand who were responsible for weekend allied health resource allocation decisions towards the provision of inpatient service to acute general medical and surgical wards, and sub-acute rehabilitation wards were eligible for inclusion. Consenting participants were randomised to: (1) control group or; (2) Implementation Group 1: received an evidence-based policy recommendation document guiding weekend allied health resource allocation decisions, or (3) Implementation Group 2: received the same policy recommendation document guiding weekend allied health resource allocation decisions with support from a knowledge broker. Serial focus groups were conducted with a sample of over 80 allied health managers recruited to Implementation Group 2 only. Out of 6 waves of recruitment, up to four focus groups were conducted with each wave during the 12 months study period. In total 17 health services participated in serial focus groups according to their allocated wave, over a 12-month study period. Data were analysed using an inductive thematic approach with constant comparison. Thematic saturation was achieved.

Results

Results provide insights into resource allocation and decision-making, including the interplay between barriers and facilitators concerning implementation of recommendations outlined in evidence-based policy recommendation document. Five key themes emerged: (1) Local data trumps, or is more influential; (2) How good is the evidence and does it apply to us; (3) It is difficult to change things; (4) Historically that’s how we have done things; and (5) What if we get complaints?

Conclusions

This study explored implementation of strategies to bridge gaps in evidence-informed decision-making. Results provide insight into barriers, which prevent the implementation of evidence base practice from fully, and successfully occurring such as attitudes towards evidence, limited skills in critical appraisal, and lack of authority to promote change. In addition, strategies are needed to manage the risk of confirmation biases in decision-making processes.

Introduction

There is a global move towards the implementation of science-led health care practices, commonly referred to as evidence-based practice. Evidence-based practice is underpinned by research and guided by principles of safety, effectiveness, person-centered care, timeliness, efficiency, and equity (1) alongside clinical expertise, and the values of people who seek health care (2). There has also been an exponential growth in the number of systematic review findings which places demands on clinicians for analysis and comprehension of healthcare evidence (3, 4). However, finite resources mean that allied health managers must make explicit or implicit choices about how to prioritise interventions, funds and staff time.

Failure to translate research findings into day-to-day health care practices result in evidence-based practice gaps (5). Bridging the gaps to implement the best available and most relevant evidence is a major challenge for the health system. A recent study in Australia suggested that an average of 57% of persons in health care settings receive care according to evidence-based guidelines (6). A similar earlier study in the United States demonstrated concordant results with almost 55% of patients being provided with recommended care consistent with evidence (7). There remains many possible reasons why evidence based practice gaps continue to exist (8). Health professionals have been reported as not engaging in evidence-based practice activities because they do not see these as core components in clinical care (9). Further, health professionals may lack skills towards searching and evaluating research findings. In addition, the impact of increasing caseloads is cited as a barrier to accessing necessary databases (9-11). Despite limitations in the current application of evidence-based practice, it is still reported to be an important issue amongst health professionals (10, 11).

Evidence-informed decision-making refers to the complex process of considering the best available evidence when planning, evaluating and delivering health services (12-14). High quality research, professional experience, expert opinion, values of people receiving health care services, and local contextual factors may all contribute to the evidence-informed decision-making process (15). However, organisational resistance to change can provide an internal barrier to evidence-informed decision-making(16), where external limitations such as lack of financial incentives, community views, and political context create a complex external environment to navigate (17-19).

Central to the context of this study is evidence that, within Australia, allied health therapeutic services are provided during business hours in (20, 21). Typically, reduced allied health services are available during weekends, with the goal of facilitating patient discharge, and preventing adverse events and escalation of care. Further, there is a variety in weekend allied health provision both within (22) and between health services (20, 21). Within services, allied health departments have different levels of availability during weekends based on perceived benefits (23, 24). Between services, there is a large unwarranted variation in care, with approximately 43-61% of acute hospitals and 30-53% of sub-acute hospitals providing weekend services (20, 21). Variations in care can often be ascribed to uncertainty around the effectiveness of specific healthcare approaches (25), emphasising the importance of evidence dissemination and implementation into policy and practice.

Research into existing evidence-practice gaps in areas specifically relevant to allied health disciplines is limited. This is important as more than 25% of the Australian healthcare workforce are allied health professionals, with an estimated 195,000 clinicians delivering 200 million episodes of care annually (26, 27). Together with doctors and nurses, allied health professionals play a vital role among health care providers in Australia, providing interventions that are essential to the functioning of an efficient and effective health system (27). The aim of this research was to explore the experience of decision making in allied health managers towards making practice change based on access to a policy recommendation document.

Method

Design

Qualitative social research investigates the relationships between individuals and the institutions and society in which they live (28). This prospective qualitative study involved serial focus groups with allied health managers (29) and was informed by the Consolidated criteria for reporting qualitative research (COREQ) checklist (30). Participants were recruited as part of larger study exploring research implementation strategies from Australian and New Zealand hospitals, reported elsewhere(31). As part of the larger study participants were randomised to: 1) control group or; 2) Implementation Group 1: received an evidence-based policy recommendation document guiding weekend allied health resource allocation decisions (32), or 3) Implementation Group 2: received the same policy recommendation document guiding weekend allied health resource allocation decisions with support from a knowledge broker. The primary outcome was alignment of weekend allied health service provision with policy recommendations at 12-month follow-up. This qualitative sub-study explored secondary outcomes regarding the experience of decision-making among allied health managers, randomised to the Implementation Group 2. Focus groups occurred between June 2018 and September 2019 and all participants provided written, informed consent. The Monash University Health Research Ethics Board approved the study (Res-17-0000-067L).

Participants and setting

Allied health managers across Australia and New Zealand who were responsible for weekend allied health resource allocation decisions towards the provision of inpatient service to acute general medical and surgical wards, and sub-acute rehabilitation wards were eligible for inclusion. The process of recruitment and randomisation is described elsewhere (31).

Procedure

Participants in the broader study , involving a three-group matched (based on health service regional status) parallel cluster randomised controlled trial (31), were randomised at varying times depending on acquiring multi-site ethics approval, time of consent and collection of baseline data. In total eight waves (groups) of participants were recruitment between May 2018 to September 2019, thus resulting in six groups of participants who engaged with the knowledge broker. Participants and the number of sites

varied between each wave (Table 1). While participants were encouraged to consider the evidence and recommendations provided recommendation (32), there was no obligation for participants to change weekend allied health service delivery or engage with the knowledge broker.

Data collection

Focus groups were conducted via teleconference, ideally, where video allowed, and promoting eye contact throughout. The knowledge broker, an experienced qualitative researcher and occupational therapist (JW), conducted the focus group and one facilitator (KG) took detailed field notes(33) that informed continued data analysis. The knowledge broker was not involved in participant recruitment and this assisted to reduce bias throughout the focus groups. Out of a total of six waves of participants, up to four focus groups were conducted with each wave during the 12 month study period. The numbers of participants attending focus groups varied and a focus group only proceeded when two or more participants had responded that they would participant in any given focus group. Higher numbers of participants (range 6-18) attended the first focus group whereby the knowledge broker (JW) presented results from the systematic review of literature towards weekend allied health(31) and recommendations as outlined in the evidence-based policy recommendation document(32). A topic guide was used during focus groups and questions were open-ended and focussed on participants' reactions to the presented evidence and how they considered they might respond (Table 2). Ongoing focus groups allowed for a deeper exploration of the evidence, barriers and facilitators to practice change and previous experiences of making practice changes. Consequently, the participants contributed as much detailed information as they wished, and the researchers asked further questions as necessary towards barriers, facilitators, and processes that affected making practice changes.

Data analysis

All focus groups were recorded and transcribed verbatim. The primary author checked transcripts for accuracy. Two experienced qualitative researchers (JW and KG) conducted data analysis guided by an inductive thematic approach (34). Analysis involved constant comparison, concurrent data collection and analysis (whereby analysis informed data collection in further interviews)(35). The researchers sequentially examined each transcript, both in relation to emerging codes and concepts, in the cohort as a whole and in temporal relationship by same health service participants. Each researcher sustained engagement with the data through an initial reading and re-reading of transcripts to identify units of meaning and initial codes. We acknowledged participant silence to look for the implicit meanings within participant responses (35). Following team discussion initial codes were used to identify key categories and the primary author merged codes into a single document. At this stage, both researchers re-read the previously coded transcript alongside the identified categories, in order to ensure that these appropriately fitted the original text. In the final step, emerging categories were refined and grouped together into themes with input from the broader team. Rigour was upheld through immersion in data, reflexive analysis, peer debriefing (36). In addition, consensus coding between team members from different professional backgrounds (JW an occupational therapist, KG a social worker and TH a physiotherapist)

followed by discussion with the broader team addressed the potential for bias (36). Coders also captured exemplar quotes supporting each theme.

Results

In total 17 health services participated in focus groups (ranging from 1-2 hours), according to their allocated wave. Discussion among participant across the serial focus groups provided insights into resource allocation and decision-making, including the interplay between barriers and facilitators concerning implementation of recommendations outlined in evidence-based policy recommendation document. Five key themes emerged:

1. Local data trumps, or is more influential
2. How good is the evidence and does it apply to us
3. It is difficult to change things
4. Historically that's how we have done things
5. What if we get complaints?

Local data trumps, or is more influential

There were similarities across each wave of focus groups towards participant understanding of reading and interpreting research evidence. The nature of participant's questions, the silence of participants or hesitation towards interpreting the systematic review appeared to reflect a lack of understanding, and confidence in understanding research data. For example, participants' asked questions about the outcome measures reported in the included studies, and felt more should be included. They also expressed concern about why studies were included and questioned the timing of included studies.

Your research was before 12 months ago. How does that apply to the orthopaedic ward that is in practice today? (Wave (W) 2, Session (S) 1)

Specifically there appeared limited understanding about statistic interpretation. Most participants reported to be more confident in results if there were a larger number of studies supporting an outcome, in contrast to the sample size, effect size, and confidence interval reported within a given study. As a result, participants reported there was, "Insufficient data" (W6, S2) of research findings. This was closely linked with a reluctance to consider changing the status quo.

What we are saying is there is not a great number of studies. Yes, there is pooled results, but this is based on still a very limited number of studies. (W5, S2)

I guess we do not feel that there is enough evidence out there to make a change. (W2, S2)

Most participants cited a preference for making decisions according to studies they had previously relied referred to develop their current weekend clinical protocols. All of these studies advocated for weekend

allied health, such as early mobilisation post-surgery. However, these studies were not included in the systematic review (criteria cited elsewhere(31)).

Surgery is an interesting one, because there is evidence for it outside of the weekend service. There is actually evidence out there with regard to early mobilisation, for a fractured knee, the knee replacement….I am inclined to say we should stick with the protocols we have got with that regards. I would not be changing anything there. (W1, S2)

After reviewing the results of the systematic review, participants reported an overwhelming response for the need to revisit internal, local health service data. Subsequent participant reports suggested that internal data was the primary source of information for consideration when making resource allocation decisions.

The lack of evidence [in the systematic reviews] does not mean that we should not be providing that service; we just do not have enough evidence ….so we deal with our own evidence. We know what works in our site or have information. (W1, S2)

Other participants indicated they preferred to verify the results for themselves before making decisions. This reportedly involved revisiting the papers in the systematic review, as well reflecting on internal data.

I think for me, I need to go back, re-read the document. I need to also go back and look at some of the data [internal] that I actually have around…. look at some of the files to see exactly what has happened. (W7, S1)

Alternatively, participants reported hearing studies in progress promoting weekend-allied health services and preferred to wait for findings to be published. As such, participants appeared to place value in incomplete research over and above completed work.

From my understanding, there is a very positive trial happening. I do not remember what they are looking at, but they think they have actually increased orthopaedic services [on the weekend], in response. (W3, S1)

Closely linked with a reliance on descriptive local knowledge when making resources decisions, was a reliance on collective data, such as benchmarking.

What about what other sites are doing?…is there benchmarking data?.(W4, S1)

An additional factor potentially driving respondents to prioritise local data and other forms of evidence, not included in the systematic review, was that the findings and recommendations were often not congruent with participants' reported beliefs, values and wishes for their practice. Where the evidence conformed to their beliefs, the evidence was more enthusiastically accepted.

In regards to the research around the subacute setting, we would absolutely love to provide some sort of weekend service. (W1, S3)

Participants reportedly valued anecdotal evidence such as feedback or satisfaction from people receiving their health care services. At times, this appeared to be valued over and above published evidence. For example, participants stated that patient comfort, satisfaction and desire for regular contact with a therapist were integral to decision making about what services were needed.

Anecdotal data on patient comfort, you know things like that….that is what we rely on. (W2, S1)

Participants working in private settings most commonly cited the importance of patient feedback and decision-making.

You might say that, you know, I have been in private heath now, our clients are, our customers are fairly demanding. I would argue more so than when I was in public health.

(W2, S2)

Participants also strongly relied upon anecdotal staff reports, which cited that weekend allied health services facilitated flow of people through the health care service, discharge, and workload pressures, while ensuring care.

To actually churn things through [move patients] is, I suspect, why we have the weekend staff at the end of the day. (W5, S2)

2. *How good is the evidence and does it apply to us?*

Participants readily stated that local context was a key factor informing decision-making and these were based on internal reviews of their weekend service.

We have moved services around and have a number of proposals [for weekend allied health services] ready to go. These are based on evidence so to speak of the actual work that we have been doing. (W1, S3)

Some participants reported confusion about the perceived variances in models of care across the Australian states and this impacted decision-making. For example, there was a perceived lack of sub-acute services in NSW providing the impetus for more acute services, including weekend-allied health. As a result, important local contextual differences influenced allied health manager decision making.

We do not have a very good understanding of models of care across Australia and how they are similar or different. Yet we are being asked to make decisions on evidence from some studies, not looking at the whole picture. (W5, S1)

Other frequently cited local contextual issues were the expectations of medical and nursing staff. Many participants reported that surgeon expectations influenced allied health service delivery and as such, they felt curtailed in what they could change. Despite the availability of skilled nurses, many sites reported there was an expectation of allied health providing key interventions, such as mobilising or assisting with

activities of daily living. In many health services, this to informed nursing roles and staff rosters, thus, to make changes reportedly required a cultural shift underpinned by extensive consultation and education.

Now, I hear what you are saying, that things do not necessarily have to be done by a physiotherapist. But, often there are barriers that come up if [a service] it is not instigated by allied health - depending on their local culture strength. (W3, S2)

Participants reported that components of their weekend services were often funded by different divisions whereby there was the expectation to provide weekend-allied health. While making a change was not considered insurmountable, it was perceived to be difficult. As such, there was a preference among participants to continue meeting the expectations of their funders.

We could move the staff… but the difficulty comes when you have been allocated specific funding by a specific part of the organisation. I am not saying that it cannot be done, but certain parts of the service do allocate the funds (W1, S2)

We provide professional supervision for them; so we can still influence [service provision] but we cannot actually make the decisions to change weekend staffing. (W2, S3)

Overall, upper level managers cited data was only one of many components that informed decision making, such as staff availability, managing resources and system processes.

I think the complexity for managers is that published evidence is one source of data, but it is not the only source of data in which we make decisions. We draw on a systems-based approach to thinking about how services are delivered, whom they are delivered to, how we have to manipulate and be flexible with resources. Both parts of the puzzle are not necessarily things that you will go to a formal piece of evidence to look at, because it is a dynamic decision-making process. Does that make sense? (W1, S3)

3. *It is difficult to change things*

Participant reports highlighted their hesitancy in responding to recommendations and making a decision. A key reported barrier towards implementing evidence was that participants anticipated that additional, future conflicting evidence would emerge in support of weekend allied health service delivery.

Because I don’t need to find out later that someone comes out with a really fantastic control trial in two years’ … proving equivocally that occupational therapists and physiotherapists get people out much quicker if they see them on a weekend. (W2, S1)

Another challenge expressed by participants was balancing the research evidence with what they believed to be high quality, individualised care, even if data was not available to support these beliefs.

Out of all of those, I think most clinicians probably say function and quality of life is what they are hoping to change. I do not think people go into health so they can reduce length of stay. (W2, S3)

In the absence of sufficient evidence, participants placed significant value in their clinical reasoning and the perceived effectiveness of services provided by their profession.

Yeah, just without the evidence, we are going to rely on our own reasoning, I guess, and that is what we have done. (W3, S1)

Given the majority of studies in the systematic review pertained to occupational therapy and physiotherapy services on the weekend, participants from other allied health disciplines expressed an interest in undertaking research or publishing existing, local research in order to advocate for their profession.

It is not public, but I tell you what, you really encouraged me to publish. This has really lit a fire in my belly to do some research and publish [local data] on this stuff. (W1, S1)

Overall, where there was more evidence, there was more willingness to take action.

I think our sense is probably we will be looking at the physiotherapy and occupational therapy recommendations where there are sort of more evidence taken. (W4, S1)

Interestingly for rural and regional services, the lack of allied health on the weekend was routine practice. However, metropolitan sites appeared reluctant to reflect on this variance, despite consistency with study recommendations. Instead, metropolitan participants remained silent at this point in the focus group.

4. *Historically, that is how we have done things*

Participants who were reluctant to change weekend allied health service delivery, cited a belief in the perceived benefit of historical weekend allied practice, particularly when considering the need for allied health to respond to the timing of orthopaedic surgery.

I mean it [the recommendations] goes against the physiotherapist. And obviously we have a long tradition of providing quite extensive services to acute medical and surgical wards. (W1, S1)

We have acute care cover for the elective surgical patients on the weekend so that we can meet their requirements with most surgeries done on Thursday and Friday. (W2, S3)

When considering relocating staff in response to the recommendations, many participants reportedly feared that any weekend allied funding would be lost and re-distributed to services other than allied health.

It will take us more than 10 years to try and find that funding again - you know what I mean? We are going to shoot ourselves in the foot. (W1, S1)

Participants also reflected on the past time and effort required to successfully advocate for a weekend allied service delivery on the weekend. As a result, considering making changes was difficult and

participants feared that a change in service would reflect poorly on the allied health service reputation.

We worked so hard across disciplines to actually get allied health as a recognised part of

care over the weekend (W3, S2)

5. *What if we get complaints*

The majority of participants reported the fear of receiving complaints was a major barrier to modifying their weekend allied health service model. The most commonly cited reason was the long-standing expectation in providing a weekend service.

I think we have a lot of pushbacks from our facility if we even stop to talk about stopping weekend services that we currently provide. (W2, S2)

Enormous amount of noise [complaints]. You will also potentially get complaints from patient and patient's family. (W1, S2)

Participant reports also suggested that some recommendations placed patients at risk of complication if they were not seen on the weekend. This had the potential to create additional costs to the organisation.

As a dietitian, it is just appalling that someone would be left [nil by mouth] for 72 hours [over the weekend]. What you are going to have to do is put in a drip, and all the cost associated with that. So, even though there may not be evidence, I think that's a pretty big common-sense element that comes in to have an assessment from a speech pathologist, rather than having to wait… (W1, SA1)

A lot of our joint replacement patients are going home day two and if day two falls on a weekend - we are going to miss them. We need to see and review them and make sure everything is in place for when they go home. (W3, S2)

Dealing with complaints was perceived to be a time-consuming process and therefore efforts were made to pre-empt and avoid complaints wherever possible. As such, when participants anticipated complaints in response to toward making staff change to a well-established service delivery model, then they cited they need to, "Do our homework" (W6, S2)to be certain before making a change.

Perceived changes in society towards seven-day workweek was another commonly cited variance towards the need to maintain weekend allied health service delivery. Indeed, having seven day allied health was viewed as favourable in light of society expectations, such as those observed in the retail industry.

It is becoming almost archaic now: the notion of a weekend and will definitely be so in 10 years' time. (W3, S1)

Discussion

Where the evidence aligned with prior expectations and previous decisions, allied health managers appeared agreeable to the recommendations, with only local contextual factors and resourcing appearing to stand in the way of adoption. Where the evidence did not align, there were a number of themes identified describing what would likely be barriers to implementation of the recommendation.

The first key barrier revolved around acceptance of evidence not aligning with prior expectations. When decision making in this context was discussed, participants indicated that they would turn towards local data, benchmarking data, and anecdotal reports from staff and people receiving care. Internal inconsistency was noted, as was the inconsistency with established frameworks for forming recommendations based on research evidence (such as the GRADE criteria used by the Cochrane Collaboration (37)). These observations may be symptomatic of confirmation bias, which has been observed in many fields when evidence is presented that does not conform to prior expectations and beliefs (38). Similarly, sink cost bias was evident in that participants were more inclined to weekend service provision as a result of previously invested resources (39). This has implications for future research seeking to assist allied health decision makers to use evidence conflicting with prior expectations and decisions. Strategies are needed to help decision makers to internally manage the risk of confirmation biases distorting how they go about their decision-making processes.

This study highlights that implementing an evidence based public health service is complex. While some proponents of evidence-based practice adopt greater specificity, such as GRADE components, others are less clear, which means it is difficult to make decision especially when local contextual factors exist. Providing leadership development skills has the potential to equip allied health leaders and reduce feelings of disempowered and frustration in

Strengths and Limitations

The strength of this study lies in the longitudinal, qualitative methodology and tracking of changes over time. A broad range of experiences were identified and we achieved thematic saturation however, we did not explore issues affecting allied health decision in the other implementation groups. We acknowledge that results may not be transferable to other countries where there are inherent funding differences.

Conclusion

Results from this study provide insight into barriers, which prevent the implementation of evidence base practice from fully, and successfully occurring such as attitudes towards evidence, limited skills in critical appraisal, and lack of authority to promote change. Although there is a growing body of knowledge, there remain many unanswered questions towards translation science. What works in one context of care may or may not work in another setting, suggesting that context variables matter in implementation.

Abbreviations

S Session

W Wave

Declarations

Ethics approval and consent to participate

This project received approval from Monash Health Human Research Ethics Committee (Res-17-0000-067L). All participants written informed consent.

Consent for publication

Not applicable.

Availability of data and materials

The qualitative data used and/or 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.

Funding

This study is funded by a partnership grant from the National Health and

Medical Research Council (NHMRC) Australia (APP1114210), and the Victorian

Department of Health and Human Services. The funding arrangement

ensured there was no role of the study funder in study design, collection,

management, analysis, and interpretation

Authors' contributions

JW completed data analysis with support from KG and TP. JW drafted the manuscript for publication and KG, TH contributed to the content and revision of the manuscript. JW managed revisions, literature and checking of the manuscript. All authors read and approved the final version.

Acknowledgements

The authors thank the all participants.

References

1. Plsek P. Institute of Medicine, Crossing the quality chasm. Washington, DC: National Academies Press; 2001.
2. Sackett DL. Evidence-based Medicine How to practice and teach EBM: WB Saunders Company; 1997.
3. Misra DP, Agarwal V. Systematic Reviews: Challenges for Their Justification, Related Comprehensive Searches, and Implications. Journal of Korean medical science. 2018;33(12).
4. Lam MT, McDiarmid M. Increasing number of databases searched in systematic reviews and meta-analyses between 1994 and 2014. Journal of the Medical Library Association: JMLA. 2016;104(4):284.
5. Morris ZS, Wooding S, Grant J. The answer is 17 years, what is the question: understanding time lags in translational research. Journal of the Royal Society of Medicine. 2011;104(12):510-20.
6. Runciman WB, Hunt TD, Hannaford NA, Hibbert PD, Westbrook JI, Coiera EW, et al. CareTrack: assessing the appropriateness of health care delivery in Australia. The Medical journal of Australia. 2012;197(2):100.
7. McGlynn EA, Asch SM, Adams J, Keesey J, Hicks J, DeCristofaro A, et al. The Quality of Health Care Delivered to Adults in the United States. The New England Journal of Medicine. 2003;348(26):2635-45.
8. Grol R, Wensing M. What drives change? Barriers to and incentives for achieving evidence-based practice. Medical Journal of Australia. 2004;180(6 Suppl):S57.
9. Harding KE, Porter J, Horne-Thompson A, Donley E, Taylor NF. Not Enough Time or a Low Priority? Barriers to Evidence-Based Practice for Allied Health Clinicians. Journal of Continuing Education in the Health Professions. 2014;34(4):224-31.
10. Bennett S, Tooth L, McKenna K, Rodger S, Strong J, Ziviani J, et al. Perceptions of evidence-based practice: A survey of Australian occupational therapists. Australian Occupational Therapy Journal. 2003;50(1):13-22.
11. Iles R, Davidson M. Evidence based practice: a survey of physiotherapists' current practice. Physiotherapy Research International. 2006;11(2):93-103.
12. Dobbins M, Hanna SE, Ciliska D, Manske S, Cameron R, Mercer SL, et al. A randomized controlled trial evaluating the impact of knowledge translation and exchange strategies. Implementation Science. 2009;4(1):1-16.
13. Orton L, Lloyd-Williams F, Taylor-Robinson D, O'Flaherty M, Capewell S. The use of research evidence in public health decision making processes: systematic review. PLoS One. 2011;6(7):e21704.
14. LaRocca R, Yost J, Dobbins M, Ciliska D, Butt M. The effectiveness of knowledge translation strategies used in public health: a systematic review. BMC public health. 2012;12:751.
15. Rycroft-Malone J, Seers K, Titchen A, Harvey G, Kitson A, McCormack B. What counts as evidence in evidence-based practice? Journal of advanced nursing. 2004;47(1):81-90.
16. Dobbins M, Rosenbaum P, Plews N, Law M, Fysh A. Information transfer: What do decision makers want and need from researchers? Implementation Science. 2007;2:20.

17. Bowen S, Erickson T, Martens PJ, Crockett S. More than “using research”: the real challenges in promoting evidence-informed decision-making. Healthcare Policy. 2009;4(3):87.
18. Lavis JN. How can we support the use of systematic reviews in policymaking? PLoS Medicine. 2009;6(11):e1000141.
19. Lavis JN. Research, public policymaking, and knowledge-translation processes: Canadian efforts to build bridges. Journal of Continuing Education in the Health Professions. 2006;26(1):37-45.
20. Shaw KD, Taylor NF, Brusco NK. Physiotherapy services provided outside of business hours in Australian hospitals: a national survey. Physiotherapy Research International. 2013;18(2):115-23.
21. Caruana EL, Kuys SS, Brauer SG. Allied health weekend service provision in Australian rehabilitation units. Australasian journal on ageing. 2018;37(2):E42-e8.
22. Haines T, Bowles K, Mitchell D, O’Brien L, Markham D, Plumb S, et al. Impact of disinvestment from weekend allied health services across acute medical and surgical wards: 2 stepped-wedge cluster randomised controlled trials. PLoS medicine. 2017;14(10):e1002412.
23. Mitchell D, O’Brien L, Bardoel A, Haines T. Challenges, uncertainties and perceived benefits of providing weekend allied health services—a managers’ perspective. BMC Health Services Research. 2017;17:118.
24. O’Brien L, Mitchell D, Skinner EH, Haas R, Ghaly M, McDermott F, et al. What makes weekend allied health services effective and cost-effective (or not) in acute medical and surgical wards? Perceptions of medical, nursing, and allied health workers. BMC Health Services Research. 2017;17(1):345.
25. Eddy DM. Variations in physician practice: the role of uncertainty. Health affairs. 1984;3(2):74-89.
26. Allied Health Professions Australia. What is allied health? Australia2017 [Available from: https://ahpa.com.au/what-is-allied-health/.
27. Buchan J, Law D. A review of allied health workforce models and structures: A report to the Victorian Ministerial Advisory Committee for Allied Health In: Services DoHH, editor. Melbourne2016.
28. Bernard HR, Bernard HR. Social research methods: Qualitative and quantitative approaches: Sage; 2013.
29. Murray SA, Kendall M, Carduff E, Worth A, Harris FM, Lloyd A, et al. Use of serial qualitative interviews to understand patients’ evolving experiences and needs. Bmj. 2009;339:b3702.
30. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. International journal for quality in health care. 2007;19(6):349-57.
31. Sarkies MN, White J, Morris ME, Taylor NF, Williams C, O’Brien L, et al. Implementation of evidence-based weekend service recommendations for allied health managers: a cluster randomised controlled trial protocol. Implementation Science. 2018;13(1):60.
32. Sarkies MN, White J, Henderson K, Haas R, Bowles J. Additional weekend allied health services reduce length of stay in subacute rehabilitation wards but their effectiveness and cost-effectiveness

are unclear in acute general medical and surgical hospital wards: a systematic review. Journal of physiotherapy. 2018;64(3):142-58.
33. Phillippi J, Lauderdale J. A guide to field notes for qualitative research: Context and conversation. Qualitative Health Research. 2018;28(3):381-8.
34. Braun V, Clarke V. Using thematic analysis in psychology. Qualitative research in psychology. 2006;3(2):77-101.
35. Charmaz K. Premises, principles, and practices in qualitative research: Revisiting the foundations. Qualitative health research. 2004;14(7):976-93.
36. Lincoln YS, Guba EG. Naturalistic inquiry: Sage; 1985.
37. Dijkers M. Introducing GRADE: a systematic approach to rating evidence in systematic reviews and to guideline development. KT Update. 2013;1(5):1-9.
38. Klayman J. Varieties of confirmation bias. Psychology of learning and motivation. 32: Elsevier; 1995. p. 385-418.
39. Kahneman D, Lovallo D, Sibony O. Before you make that big decision. Harvard business review. 2011;89(6):50-60.
40. Annas GJ. Burden of proof: judging science and protecting public health in (and out of) the courtroom. American Journal of Public Health. 1999;89(4):490-3.
41. Rychetnik L, Hawe P, Waters E, Barratt A, Frommer M. A glossary for evidence based public health. Journal of Epidemiology & Community Health. 2004;58(7):538-45.

Tables

Table 1 Randomisation, and access to support from a knowledge broker

WAVE	Potential participants	Number of sites	Number of focus groups with knowledge broker
1	55	4	5
2	23	3	2
3	35	3	2
4	49	4	3
7	15	1	3
8	7	2	2

Table 2: Interview Guide

Questions	Probe
What is your initial reaction to the recommendation? Expand	What did you think of the information presented? How do feel after listening to this presentation? Do you feel that the Evidence-Based Policy Recommendation is applicable to your health service? Why/ Why not? Do you feel that the results presented within individual papers have been reported in a trustworthy manner by the authors? (Why / Why not) Do you feel that the approach taken by the EviTAH investigators to identify and synthesise this information has been trustworthy? (Why / Why not)
Do you feel that the evidence synthesised to form the Evidence-Based Policy Recommendation is applicable to your health service? (Why / Why not) What do you perceive the recommendations mean towards the provision of your Acute and sub-acute services?	Do you feel that the recommendations formed by the EviTAH investigators accurately reflects the evidence that was identified? (Why / Why not) Do you have any concerns? What do you have particular concerns about? ?LOS, outcomes – reflect on how they perceive the evidence and its meaning to their setting Are you concerned that there may be risks associated with implementing the recommendation What are some of these? What leads you to believe these may happen? (source of information, personal perception) Is there anything else that you think will be important towards implementing the recommendations?
What did you think of the information presented? At this stage how do you feel you will respond?	What do you see your role in terms of ensuring that resources used in allied health are done so in a way that maximise benefit to the community What are the main reasons that you intend to respond or not? What do the recommendations mean for your acute service delivery?

Does the make-up of your wards align with the results What does the evidence mean to your service delivery	If you already think your acute service are provided on the basis of clinical exception, what are the exceptions? What do the recommendations mean for your sub-acute service delivery? How/how not? Clarify re GEM Don't know what to do? Explore current service in comparison to EBPR Anticipate barriers eg time, effort, specialist Is there anything else that you think will be important towards implementing the recommendations?
Are you completely accepting of EBRG? Expand Are accepting but not willing to act? What do you see as barriers that could be over-come?	Why? How could these be overcome Explore barriers perceived as resolvable and those that aren't. Perceived concerns/risks?