*Article*

# Evidence Translation in a Youth Mental Health Service: Clinician Perspectives

**Alan P. Bailey[1,2,3], Magenta B. Simmons[1,2,3], Stefanie De Silva[1,2,3], Sarah E. Hetrick[1,2,3], and Alexandra G. Parker[1,2,3]**

## Abstract

An evidence–practice gap is well established in the mental health field, and knowledge translation is identified as a key strategy to bridge the gap. This study outlines a knowledge translation strategy, which aims to support clinicians in using evidence in their practice within a youth mental health service (*headspace*). We aim to evaluate the strategy by exploring clinicians' experiences and preferences. The translation strategy includes the creation and dissemination of evidence translation resources that summarize the best available evidence and practice guidelines relating to the management of young people with mental disorders. Semi-structured interviews were conducted with 14 youth mental health clinicians covering three topics: experiences with evidence translation resources, preferences for evidence presentation, and suggestions regarding future translation efforts. Interviews were recorded, transcribed verbatim, coded, and analyzed using thematic analysis. Themes were both predetermined by interview topic and identified freely from the data. Clinicians described their experiences with the evidence translation resources as informing decision making, providing a knowledge base, and instilling clinical confidence. Clinicians expressed a preference for brief, plain language summaries and for involvement and consultation during the creation and dissemination of resources. Suggestions to improve the dissemination strategy and the development of new areas for evidence resources were identified. The knowledge translation efforts described support clinicians in the provision of mental health services for young people. The preferences and experiences described have valuable implications for services implementing knowledge translation strategies.

## Keywords

dissemination, evidence-based practice, knowledge translation, mental health services, qualitative research

An evidence–practice gap in the mental health field is well documented (Dobson & Beshai, 2013; Furber et al., 2015; Goldman et al., 2001; Hoagwood, Burns, Kiser, Ringeisen, & Schoenwald, 2001; Newnham & Page, 2010; Weisz, Ng, & Bearman, 2014). The failure to use research evidence to inform treatment decisions results in inefficient use of limited resources through the delivery of ineffective interventions, and worse, delivery of interventions that may cause harm (McLennan, Wathen, MacMillan, & Lavis, 2006).

Knowledge translation is identified as a key strategy to help bridge the gap (Davis et al., 2003) and has been defined by the Canadian Institutes of Health Research (2015) as the " . . . synthesis, dissemination, exchange and ethically sound application of knowledge to improve health . . . , provide more effective health services and products, and strengthen the health care system" (Knowledge Translation – Definition, para. 1). The crux is getting clinical and research-generated knowledge into action in clinical settings (Straus, Tetroe, & Graham, 2009).

Graham and colleagues (2006) present a knowledge-to-action loop to describe the process of knowledge translation.

The loop begins by identifying a practice gap; identifying, reviewing, and selecting knowledge relevant to the gap; adapting that knowledge to local contexts; assessing barriers to its use; selecting tailored interventions to facilitate its use; monitoring knowledge use; and evaluating knowledge use outcomes to feed back into the identification of further practice gaps.

One component of the knowledge translation process we focus on here is the creation of knowledge translation products according to the hierarchy of knowledge (Graham et al.,

[1]Orygen, The National Centre of Excellence in Youth Mental Health, Melbourne, Victoria, Australia
[2]*headspace*, The National Youth Mental Health Foundation, Melbourne, Victoria, Australia
[3]Centre for Youth Mental Health, The University of Melbourne, Victoria, Australia

**Corresponding Author:**
Alan P. Bailey, Orygen, The National Centre of Excellence in Youth Mental Health, Locked Bag 10, Parkville, Melbourne, Victoria 3052, Australia.
Email: alan.bailey@unimelb.edu.au

2006; Haynes, 2001). Findings from primary research studies (i.e., first-generation knowledge) are synthesized to create translation products containing clinically relevant recommendations, such as systematic reviews (Cook, Mulrow, & Haynes, 1997) and practice guidelines (Woolf, Grol, Hutchinson, Eccles, & Grimshaw, 1999), also known as second-generation knowledge. However, it is recognized internationally that the recommendations found in these forms of synthesis are far from adequately implemented in daily clinical practice (Bauer, 2002; Cabana et al., 1999; Grol, 2001; Guyatt, Meade, Jaeschke, Cook, & Haynes, 2000; Hetrick, Thompson, Yuen, Finch, & Parker, 2012; Wallace, Nwosu, & Clarke, 2012; Yang et al., 2013). Barriers to their use are well documented (Cabana et al., 1999; Francke, Smit, de Veer, & Mistiaen, 2008; Grol & Grimshaw, 2003; Guyatt et al., 2000; Wallace et al., 2012) and include, but are not limited to, perceived lack of relevance, lack of awareness or accessibility, and the time, resources, and expertise required to adapt knowledge to the local context. Third-generation knowledge involves the synthesis and translation of knowledge across these second-generation sources, with the aim of providing clear, concise and tailored information ideal for facilitating local clinical decisions (Graham et al., 2006). In this way, third-generation knowledge products attempt to overcome some of the barriers associated with primary and secondary knowledge. In general terms, this is a streamlining of knowledge into synthesized, easily accessed forms that facilitate the use of evidence in practice settings.

In the area of youth mental health, few studies have investigated the effectiveness of knowledge translation strategies to promote the uptake of evidence into clinical practice. A recent systematic review by Barwick et al. (2012) identified 12 studies mostly investigating specific clinician training and education programs. The majority of included studies were of low quality, which precluded the reviewers from drawing firm conclusions about the effectiveness of such strategies to improve the uptake of evidence into practice. The adult literature provides many examples of knowledge translation strategies, the most common of which are based around clinician education (Grimshaw, Eccles, Lavis, Hill, & Squires, 2012; Scott et al., 2012), with delivery methods such as printed educational materials (Giguère et al., 2012), use of champions or opinion leaders (Flodgren et al., 2011), use of knowledge brokers (Ward, House, & Hamer, 2009), and various other tailored and multifaceted strategies (R. Baker et al., 2010; Grimshaw et al., 2012). However, questions around the effectiveness of such strategies remain, and there does not appear to be a "one size fits all" when attempting to implement a knowledge translation strategy in a particular context (Powell et al., 2012).

## The Current Study

We briefly describe and evaluate a component of knowledge translation involving the creation and dissemination of third-generation knowledge translation products (referred to as evidence translation resources) within the clinical services of *headspace*, the National Youth Mental Health Foundation of Australia.

*headspace* provides mental health services to young people aged 12 to 25 years. These services are delivered in a "one-stop-shop" youth-friendly service environment staffed by multidisciplinary teams of health professionals (McGorry, Bates, & Birchwood, 2013; McGorry et al., 2007; Rickwood, Telford, Parker, Tanti, & McGorry, 2014). *headspace* is a national service, with more than 70 centers currently operating across all states and territories in Australia. The value of evidence in the provision of clinical practice was fundamental to establishing the *headspace* service delivery model. The *headspace* Centre of Excellence in Youth Mental Health (CoE) was established to support *headspace* service providers in using evidence-based approaches to clinical service delivery and is responsible for generating, collecting, synthesizing, appraising, disseminating, and implementing research regarding young people with mental health and substance use issues.

The CoE's knowledge translation efforts were guided by Graham and colleagues' (2006) knowledge-to-action loop. Specific practice gaps were identified through consultation with clinicians operating within the service. A key outcome of this needs assessment was that an increase in clinically relevant knowledge about effective, evidence-informed treatments would facilitate the clinicians' capabilities to practice more effectively in the newly emerging field of youth mental health. We developed a targeted, individual-level information-sharing approach to summarize the available literature and to deliver guidance on best clinical practice. This was mainly achieved by the production and dissemination of two types of third-generation evidence translation resources: (a) evidence summaries, which aim to provide a concise, easy-to-read summary of the current state of research evidence, and clinical practice guidelines and recommendations surrounding mental health issues in young people, and (b) mythbusters, which aim to dispel common myths about various mental health issues.

These third-generation translation resources cover topics where the research-generated evidence base has not yet been adequately synthesized for a clinical audience. Topics include using antidepressants with young people, talking about suicidal ideation and self-harm, diagnosing and treating borderline personality disorder, and using motivational interviewing for substance use with young people (the full range of resources is available from http://headspace.org.au/resource-library/category/health-professionals). These evidence translation resources summarize individual, trial-level evidence, provide consensus across multiple systematic reviews and guidelines, and incorporate input from expert clinical consultants with the overall aim of providing easy access to actionable clinical guidance. They are freely accessible from an online resource repository in the form of

**Table 1.** Summary of Interview Schedule.

- Have you used the resources produced by the Centre of Excellence? If so, which ones?
- How have you used these resources or the information contained in them?
- How have the resources been useful?
- How do you prefer to receive/explore/find clinically relevant information?
- Are there any gaps in our current strategy?
- What would you like to see covered?
- Other comments/feedback about the resources/strategy not covered above

four- to six-page booklets. Electronic copies are emailed to all *headspace* clinicians and print copies are provided to all centers across the national *headspace* network; however, no further dissemination processes are currently in place.

Evaluation is a key part of knowledge translation, according to Graham and colleagues' (2006) knowledge-to-action loop. Obtaining feedback from those using evidence translation resources is important in determining the strategy's effectiveness while identifying positive aspects in addition to potential gaps and generating ideas to fill these gaps. The aim of the current study is to present a preliminary evaluation of this key aspect of the knowledge translation strategy. Given the target audience for the evidence translation resources is predominantly clinicians operating across the *headspace* network, we aim to explore their preferences and experiences regarding our knowledge translation strategy. We use qualitative methods in the form of in-depth interviews with clinicians. The results are discussed in the context of implementing knowledge translation strategies in real-world settings.

## Method

### Design

Semi-structured in-depth interviews were conducted with *headspace* clinicians. The Centre for Youth Mental Health Ethics Advisory Group, University of Melbourne provided ethics approval (ID: 1237990).

### Sampling and Participants

Approximately 250 clinicians working across *headspace* services nationally were potentially eligible to participate. Resource constraints dictated a manageable goal of conducting interviews with approximately 20 clinicians on a first come, first served basis. Although not without limitations, this target sample size may be considered appropriate for the current study given our aim of exploring the experiences and preferences of a purposive sample of resource users by semi-structured interview, our use of theory to inform the interview process, and a predominantly deductive analysis approach focusing on commonality (S. E. Baker, Edwards, & Doidge, 2012; Holloway & Wheeler, 2013). *headspace* state and center managers contacted clinicians under their jurisdiction directly and briefly explained the evaluation project

and collected expressions of interest. Sixteen expressions of interest were received and the research team contacted these clinicians to determine eligibility. Recruitment to the study was purposeful to the extent that we required participants to have some experience with the resources that formed the basis of the interview. We selected clinicians based on the following criteria: (a) being a current salaried or private *headspace* clinician, (b) engaged in some face-to-face clinical contact with *headspace* clients (e.g., assessment, triage, treatment), and (c) having some experience with the evidence translated resource produced by the CoE (without regard to the amount of experience or type of use). Two clinicians who had expressed interest did not have experience with the resources and were not selected, leaving a total recruited sample of 14 clinicians.

### Procedure

A member of the research team conducted individual semi-structured interviews with each participant by telephone. Interviews were audio recorded and transcribed verbatim. Interviews were scheduled for 30 min ($M = 25$ min, $SD = 10$ min) and covered the following domains: (a) experiences with evidence translation resources, (b) preferences for evidence, and (c) suggested areas for development. A summary of the interview schedule is presented in Table 1. Additional interview probes related to each topic were used where necessary. Demographic information was collected on clinical discipline, years of experience, hours of clinical contact per week, and nature of *headspace* center role.

### Analysis

The semi-structured interviews were transcribed verbatim and checked for accuracy against the recordings. Interview data were analyzed using thematic analysis by A.P.B. according to the description by Braun and Clarke (2006). The first step involved familiarization with the data by reviewing the transcripts in detail. A line-by-line coding phase of the transcriptions followed where each response was allocated one or more summary codes. These codes were generated in two ways: first, a deductive approach (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2006) was undertaken where code generation and allocation to responses were informed theoretically by Graham and colleagues' (2006) work and, therefore, predetermined by the interview questions. Second,

**Table 2.** Broad Interview Topics and the Identified Themes.

| Topic | Themes | | | |
|---|---|---|---|---|
| Experiences with evidence translation resources | Informing clinical decision making | Providing a clinical knowledge base | Instilling clinical confidence | In-session use with clients |
| Preferences regarding evidence and evidence translation | Preference for summaries | Involvement in translation process | | |
| Gaps in current evidence translation strategy | Dissemination | New areas for translation resources | | |

new codes were freely derived from the data where appropriate. Following the data-coding phase, a process of code synthesis was undertaken to begin the meaningful grouping of the coded data. Category matrices were constructed, one for each broad interview topic. Codes and their associated data were allocated to one or more matrix based on the broad topic to which they were related. Further synthesis occurred where codes were further sub-grouped within each category matrix. These sub-groupings within each category matrix informed the production of the final thematic map and helped to define the overarching themes. Consultation and discussion with the research team was undertaken to ensure consistency and accuracy of the coding phase, the synthesis phase, and the production of the final thematic map and definition of each theme. Differences were resolved through discussion. Each theme, its definition, and its corresponding summary codes were checked against substantiating quotes to ensure accuracy. Exemplar quotes were selected to help present each theme.

## Results

### Demographics

Fourteen clinicians were recruited, of which 11 (78.57%) were female. The mean years of clinical experience was 8.23 (*SD* = 7.35 years), and the mean number of hours per week of face-to-face contact with clients was 19 (*SD* = 8.72 hr). Clinicians were from clinical psychology, mental health nursing, social work, or medical disciplines, and were employed in intake and assessment, private or salaried clinical psychologist, general practitioner, or clinical service manager roles. The sample reflected the many disciplines and provider roles delivered through *headspace* services nationally. Clinicians were from *headspace* centers located in Victoria, New South Wales, Queensland, and the Northern and Australian Capital Territories. Centers from Western Australia, South Australia, and Tasmania were not represented.

### Themes

All interview responses were assigned summary codes and these were grouped together into themes based on the broad interview topics (see Table 2). Each interview topic is

represented by a number of themes. These themes are described in summary to provide definition and each is supported with exemplar quotes.

*Topic 1: Service provider experiences with evidence translation resources*

*Informing clinical decision making.* Participants highlighted the usefulness of translation resources to inform and guide their clinical decision making. Two important aspects of clinical decision making were expressed: first, clinical identification of mental disorders, and second, intervention.

Translation resources were used to prepare for clinical sessions, particularly where uncertainty about diagnosis and treatment exists.

> . . . thinking of [a borderline personality disorder] diagnosis in terms of a young person who's in their late teens, early twenties; obviously a bit of a tricky diagnosis to make at that time. (C8)

> I guess there is a bit of a question mark over what's the best treatment . . . it [the evidence summary] gave me a hand in the treatment planning phase and a good knowledge base. (C7)

The translation resources that clinicians reported as most useful addressed controversial areas in the clinical or public domains or in areas of considerable clinical complexity (e.g., using antidepressants with adolescents, talking about suicidal thoughts or behavior). Although not always informing an immediate clinical decision, they were reported as valuable in adding to the clinical knowledge base or confirming current level of clinical knowledge.

*Providing a clinical knowledge base.* All participants identified the role of translation resources in providing a clinical knowledge base, either following a clinical session, in preparation for a particular client or for professional development. Although the timing and reasoning for accessing translational material differed across participants, there was consensus that doing so ensured a sound knowledge base should a circumstance arise.

> Having a read of the resources for myself . . . as something to keep in the back of my mind and being aware of it. (C2)

> Sort of a refresher when an issue comes up with a client and I'm not sure that I'm thinking about everything. (C8)

Participants also identified that seeking information that can add to their knowledge base is a useful strategy to allay feelings of clinical uncertainty.

*Instilling clinical confidence.* Participants reported that although resources were used to gain new information to inform decision making, they were also used to confirm or support current knowledge, giving confidence that their practice was supported by the best available evidence. It is commonplace for clinicians to operate with clinical uncertainty, and the availability of translation resources was key to allaying this uncertainty and providing a sense of clinical confidence in service provision.

> . . . [the resources] reassure my own level of thinking when dealing with clients who present with this particular issue . . . really serves as a quick reminder about the issues . . . around things I should know. (C4)

> [Gives me] confidence that I'm using the right approach. (C1)

> Talking to parents about antidepressants that had been prescribed . . . felt like I didn't know the area well enough so was able to consult the SSRI evidence summary and gave a lot of confidence to discuss the issues and present information to my client and concerned family. (C14)

All participants expressed confidence in the level of reliability and trustworthiness of the material contained within the resources.

> I have no problem at all using the information contained within . . . (C10)

Participants felt that it was important for the source of the evidence translation resources to be identified, with trust and reputation essential, illustrating a potential mechanism for how translation resources are able to instill clinical confidence.

> If it's coming from *headspace* national and you guys [CoE], I know there's evidence behind it and it's been well researched. (C2)

*Perspectives on in-session use with clients.* Participants described using the evidence translation resources with clients and their families/significant others, both in session and as take-home reference pieces.

> . . . talked through some of the information with the young person in session and gave them the option to take it home. (C13)

> I used one specifically with parents who were wanting to know about suicidal ideation, we went straight to discussing the [resource's] content . . . and I think the family felt reassured having something they could reference. (C1)

Participants identified that providing in-session resources to clients appeared to have mixed results. For some, the provision of written material was well received and was explored thoroughly within the clinical session. For others, the resources were not always received positively, expressing the potential for clients to feel overwhelmed by the amount of information provided. Regardless of actual use and perceived outcomes for clients, most participants highlighted the importance of having resources on hand.

### Topic 2: Preferences regarding evidence generally and the translation process

*A preference for summaries.* Clinicians expressed a strong preference for summaries and appraisals of important clinical topics in addition to access to primary research and review articles.

> . . . usually reading stuff in a hurry, don't want to sit there and sort of process the information and weigh up the evidence for myself . . . I really want the conclusion to be kind of . . . I want to be spoon fed. (C8)

This highlights important barriers clinicians face, not only time constraints but also the skills required to critically appraise and synthesize research literature before drawing a clinically relevant conclusion.

> Summaries are a great way to go, because I don't often have a lot of time to go through all, each separate article, but reading a summary first and if you want further information going further, going to the primary source. (C2)

All clinicians expressed a preference for summaries as an entry point to exploring a research field and the preferred option over primary journal articles and reviews. However, clinicians agreed that having access to the literature that underlies the evidence translation resource was important.

*Clinician involvement in the translation process.* Participants highlighted the value of involvement in the evidence translation process. They felt that their roles included being a source by which knowledge gaps could be identified and as consultants to ensure relevant topics were covered and resources were tailored to their specific requirements and needs.

> . . . regularly asking clinicians for their feedback is important, but also about their ideas for different or new topics to be covered that might be relevant to them. (C13)

All participants provided their support for involvement in a consultation process for future translation work.

### Topic 3: Gaps identified in current strategy

*Dissemination.* Participants identified limitations in our current strategy used to disseminate the evidence translation

resources. Currently, the resources are promoted through emailed links using an internal collaborative learning network and are available for download from the *headspace* website. Most felt this approach was not optimal, contributing to a lack of awareness of the full range of available resources available. Few resources were actively promoted within clinical teams, leaving it to clinicians to seek out information on their own terms. Participants agreed that an active dissemination strategy might aid the uptake of the resources, suggesting options such as attending interactive webinars discussing resource content or accessing a prerecorded version in their own time.

> Webinars might be a good strategy as they're a bit more interactive . . . which keeps people a little more engaged with the information and talking about these sort of things really helps to build or cement the knowledge. (C5)

It was also suggested to engage clinical managers at each *headspace* center in the promotion of resources, in this way, facilitating the dissemination of the material through team-driven professional development.

> Encouraging teams and clinical managers to discuss the information in the resources, within their clinical teams, I think is really the way to go in terms of disseminating this kind of information. (C5)

*New areas that could benefit from translation resources.* There was consensus that new evidence translation efforts in the *headspace* context should focus on guidance to providing care for same-sex attracted young people and working with psychosocial issues reflecting common presenting problems in young people such as grief, trauma, and bullying. Participants felt these were "high prevalence" issues specific to the types of clients seeking help from their services.

> Bullying is one and probably grief and trauma . . . These are really common issues that a lot of young people are presenting with or are related to a presenting problem. (C12)

> [Resources for] some of the trickier topics where our clinicians might need more knowledge, particularly around gender, sexuality and mental health for those who might be same sex-attracted . . . these are issues that we as a centre come across a lot and really need some more information and clarification around. (C10)

Their new proposals generally reflected areas of clinical uncertainty, where there may be a current lack of empirically derived clinical frameworks and intervention guidance.

## Discussion

The interview process provided an in-depth approach appropriate for exploring individual beliefs and experiences. The results show that our evidence translation resources support clinicians' use of evidence in their clinical practice at *headspace* centers. The utility of the strategy is evident at a number of important levels, namely providing a knowledge base, supporting clinical decision making, and instilling clinical confidence. Aspects of the strategy that may facilitate the use of evidence in routine clinical practice are explored.

Establishing the credibility of the evidence translation process (i.e., the gathering of evidence and its synthesis) can help to provide knowledge seekers and decision makers with confidence in the translation resources and may positively influence their use of such resources (Grimshaw et al., 2012; Lavis, Robertson, Woodside, McLeod, & Abelson, 2003). In this way credibility may be a mechanism that facilitates the dissemination and uptake of translated evidence. Knowing who has carried out the translation process and that appropriate methods have been used may provide knowledge seekers and decision makers with confidence in the resources. This may increase the rate of uptake. In turn, the use of resources that are credible may also provide a mechanism by which clinical confidence is gained, and this may have been reflected in our results regarding instilling clinical confidence.

Knowing that the information contained in an evidence translation resource is based on the best available evidence and best practice recommendations may provide clinicians with considerable confidence, both in using the information to inform decision making and in evaluating their clinical approaches. This may be particularly important when operating in a developing field such as youth mental health, which as a consequence of its rapid growth contains considerable clinical uncertainty.

In terms of ensuring credibility in the current translation strategy, the team responsible for the translation process is made up of researchers and clinicians employed by the University of Melbourne and a well-established research center dedicated to youth mental health. The team's skill set and purpose is disseminated across the *headspace* network, and in combination with the academic affiliations, affords credibility to the translation work undertaken. Sandström, Willman, Svensson, and Borglin (2015) highlight the importance of establishing the credibility of evidence translators by showing that when decision makers do not have trust in those carrying out the translation process, uptake of the translated material may be poor. We have the opportunity to disseminate the translation process in further detail to those who use our translation resources, potentially increasing the level of credibility and confidence clinicians have in our work and improving the uptake of the resources.

Interaction and exchange of information between researchers, knowledge translators, and knowledge users is an important component of knowledge translation (Lavis et al., 2003). This has been termed "integrated knowledge translation" (Graham et al., 2006; Lomas, 1993; McGrath, Lingley-Pottie, Emberly, Thurston, & McLean, 2009) and

describes how active consultation with knowledge seekers and decision makers during the research (evidence creation) and translation (synthesis and recommendation generation) process may facilitate their engagement with the translation resources and promote uptake. This process ensures that the information needs of knowledge seekers and decision makers are identified and their preferences for receiving and using information are taken into account. The result is a tailoring of the translation material and its dissemination to the specific needs of the decision maker, which may facilitate the uptake of the information (Lavis et al., 2003). Clinicians in the current study indicated a preference for consultation during the translation process and our current strategy attempts to achieve this by conducting periodic needs assessments to determine practice gaps that may benefit from targeted evidence translation resources. This finding sits well with other research that has found that evidence resources are unlikely to be used if clinicians are not sufficiently engaged in the knowledge translation process (Armstrong, Waters, Crockett, & Keleher, 2007). Clinician engagement is a core component of our knowledge translation efforts and reflects the foundation or starting point for the knowledge-to-action loop described by Graham and colleagues (2006).

A clear preference for accessible, brief, and digestible summaries was reported. This finding echoes existing translation research, which has identified that decision makers, from the clinician through to the policy maker, prefer short evidence summaries due to the improved clarity of evidence presentation and ease of use when compared with longer forms of evidence presentation (Dobbins, Jack, Thomas, & Kothari, 2007; Opiyo et al., 2013; Rosenbaum et al., 2011). This preference is likely driven by the barriers to knowledge seeking and decision making that clinicians face. These barriers include the time, resources, and expertise required to identify, quality appraise, and synthesize research-generated evidence from primary (individual trials) and secondary (systematic reviews, guidelines) sources and adapt it to the local context to inform clinical decisions (Dobbins, Jack, et al., 2007; Dobbins, Rosenbaum, Plews, Law, & Fysh, 2007; Francke et al., 2008; Grol & Grimshaw, 2003; Wallace et al., 2012). Our evidence translation resources are produced in summary formats, which are easily accessed, require few resources to digest, and include actionable guidance. These features may overcome some of the known barriers associated with knowledge seeking and decision making. In addition, evidence translation resources appear to be an integral entry point used by clinicians to explore an evidence base, which can be used to locate and interrogate specific evidence sources (e.g., systematic reviews, primary research). This is referred to as "graded entry" and has been reported as the preferred method of knowledge seeking by decision makers (Opiyo et al., 2013). Evidence translation resources provide a starting point to getting the best available evidence into practice.

Many clinicians were not aware of the full range of available resources, or could not speak to their clinical utility,

highlighting the limitations of the somewhat passive nature of our current resource dissemination strategy. Although there is the expectation that the provision of new information increases knowledge and promotes behavior change, simple passive education may have limited effects on behavior (Grol & Grimshaw, 2003; Scott et al., 2012). Access to information and knowledge is a necessary ingredient or first step in the process of change (Scott et al., 2012) and incorporating "active" components that aim to change behavior may better facilitate the uptake of the provided evidence into practice (Graham et al., 2006; Lavis et al., 2003). A range of active translation strategies have been identified (Grimshaw et al., 2001), and in the current context could include interaction between decision makers and researchers/knowledge translators, the use of experts and champions to increase engagement during dissemination, and education and training workshops (e.g., professional development; Barwick et al., 2012). All require further testing in the youth mental health context before their ability to effect behavior change can be determined.

Recent systematic reviews (Barwick et al., 2012; Scott et al., 2012) indicate that a range of knowledge translation strategies have been employed in the area of mental health, yet there is insufficient evidence to recommend one strategy over another. Approaches identified by clinicians in the current study that may strengthen our strategy center on improving the dissemination of the evidence translation resources. Promotion of the resources through interactive webinars and formal processes such as professional development and clinical supervision, and the specific recruitment and involvement of clinical team leaders and center managers may facilitate the dissemination and uptake of the resources. We plan to implement and trial these strategies under future evaluation of our knowledge translation strategy. The dissemination gap highlighted in our findings reflects core components of the knowledge-to-action loop that we have yet to achieve. These are the identification of barriers to knowledge use; selecting, tailoring, and implementing interventions; monitoring knowledge use; and evaluating outcomes (Graham et al., 2006). The production of evidence translation resources is only half the job, focusing on how to improve their uptake remains the next step.

In sum, these findings add to the body of work supporting Graham and colleague's knowledge-to-action loop (Graham et al., 2006). Although the current strategy embodies only a small component of this loop, namely knowledge creation and adaption to local contexts through the production of evidence translation resources, it does appear to facilitate the process of getting clinically relevant evidence into the hands of decision makers at the practice level across the *headspace* service. The area of youth mental health is an emerging specialized field and we have developed an evidence translation and dissemination strategy to meet the needs of our clinical decision makers. Ongoing evaluation will allow us to refine this approach.

## Limitations

Several limitations of the current study are worth noting as they may affect the generalizability of the results. A desirability bias may have influenced clinicians' interview responses, particularly when discussing the use of evidence as *headspace* clinicians are mandated to work within an evidence-based practice framework, regardless of their own beliefs and practices. In addition, clinicians with positive resource experiences or a stronger evidence-based practice foundation may have been more likely to participate than those without.

A low response rate to interview recruitment was evident, leading to a small study sample. The interview sample contained the broad range of professions and roles of clinicians across the *headspace* service; however, due to the small size, it is unclear whether this is representative. It is acknowledged that the experiences and preferences unique to this small sample may not be present in the broader service provider population. In addition, the interviews were intended to be 30 min in duration and although most were, a small number of interviews were significantly shorter and less detailed.

We focused here only on clinician experiences and preferences, and although beyond the scope of the current study, we did not measure clinician behavior or client outcomes. The recent introduction of a revised comprehensive data collection approach (Rickwood et al., 2014) across *headspace* services will provide opportunities to measure these outcomes in response to the implementation of a knowledge translation strategy in the near future. This will allow us to go beyond clinician preferences and experiences, and enter the domain of clinical outcomes.

## Conclusion

The findings of this study have important implications for health services attempting to implement a knowledge translation strategy. Knowledge seekers and decision makers require timely access to actionable information regarding the best available evidence to support their knowledge base, to inform their decisions, and to provide confidence when working with clinical uncertainty. Creating and disseminating evidence translation resources can provide this support. Paramount to the implementation of such a strategy is working to engage resources users and building confidence in the translation process. This can be achieved by establishing the credibility of the translation process, facilitating relationships between translators and those using translation resources, and ensuring that the target audience is actively involved in the translation process. In this way, their information needs are identified and preferences for receiving and using information are recognized, which in turn drives the translation and dissemination strategy. In disseminating translational material, the target audience must be actively engaged and the context they operate within should

be considered, at the organizational, team, and individual levels. Appropriate evaluation of the implementation and uptake of the translation material can highlight barriers at each of these levels and identify key gaps in the knowledge-to-action loop.

## Authors' Note

All authors were involved in the development and production of the evidence translation resources.

## References

Armstrong, R., Waters, E., Crockett, B., & Keleher, H. (2007). The nature of evidence resources and knowledge translation for health promotion practitioners. *Health Promotion International*, *22*, 254-260. doi:10.1093/heapro/dam017

Baker, R., Camosso-Stefinovic, J., Gillies, C., Shaw, E. J., Cheater, F., Flottorp, S., & Robertson, N. (2010). Tailored interventions to overcome identified barriers to change: Effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews*, *3*, CD005470. doi:10.1002/14651858.CD005470.pub2

Baker, S. E., Edwards, R., & Doidge, M. (2012). *How many qualitative interviews is enough? Expert voices and early career reflections on sampling and cases in qualitative research*. University of Southampton, ESRC National Centre for Research Methods. Retrieved from http://eprints.ncrm.ac.uk/2273/

Barwick, M. A., Schachter, H. M., Bennett, L. M., McGowan, J., Ly, M., Wilson, A., . . . Manion, I. (2012). Knowledge translation efforts in child and youth mental health: A systematic review. *Journal of Evidence-Based Social Work*, *9*, 369-395. doi:10.1080/15433714.2012.663667

Bauer, M. S. (2002). A review of quantitative studies of adherence to mental health clinical practice guidelines. *Harvard Review of Psychiatry*, *10*, 138-153. doi:10.1080/10673220216217

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*, 77-101. doi:10.1191/1478088706qp063oa

Cabana, M. D., Rand, C. S., Powe, N. R., Wu, A. W., Wilson, M. H., Abboud, P. A. C., & Rubin, H. R. (1999). Why don't physicians follow clinical practice guidelines? *Journal of the American Medical Association*, *282*, 1458-1465. doi:10.1001/jama.282.15.1458

Canadian Institutes of Health Research. (2015). *Knowledge Translation – Definition*. Retrieved from http://www.cihr-irsc.gc.ca/e/29418.html#2

Cook, D. J., Mulrow, C. D., & Haynes, R. B. (1997). Systematic reviews: Synthesis of best evidence for clinical decisions. *Annals of Internal Medicine*, *126*, 376-380. doi:10.7326/0003-4819-126-5-199703010-00006

Davis, D., Evans, M., Jadad, A., Perrier, L., Rath, D., Ryan, D., . . . Zwarenstein, M. (2003). The case for knowledge translation: Shortening the journey from evidence to effect. *British Medical Journal*, *327*(7405), 33-35. doi:10.2307/25454909

Dobbins, M., Jack, S., Thomas, H., & Kothari, A. (2007). Public health decision-makers' informational needs and preferences for receiving research evidence. *Worldviews on Evidence-Based Nursing*, *4*, 156-163. doi:10.1111/j.1741-6787.2007.00089.x

Dobbins, M., Rosenbaum, P., Plews, N., Law, M., & Fysh, A. (2007). Information transfer: What do decision makers want and need from researchers. *Implementation Science*, *2*, Article 20. doi:10.1186/1748-5908-2-20

Dobson, K., & Beshai, S. (2013). The theory-practice gap in cognitive behavioral therapy: Reflections and a modest proposal to bridge the gap. *Behavior Therapy*, *44*, 559-567. doi:10.1016/j.beth.2013.03.002

Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, *5*(1), 80-92. doi:10.1177/160940690600500107

Flodgren, G., Parmelli, E., Doumit, G., Gattellari, M., O'Brien, M. A., Grimshaw, J., & Eccles, M. P. (2011). Local opinion leaders: Effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews*, *8*, CD000125. doi:10.1002/14651858.CD000125.pub4

Francke, A. L., Smit, M. C., de Veer, A. J., & Mistiaen, P. (2008). Factors influencing the implementation of clinical guidelines for health care professionals: A systematic meta-review. *BMC Medical Informatics and Decision Making*, *8*, Article 38. doi:10.1186/1472-6947-8-38

Furber, G., Segal, L., Leach, M., Turnbull, C., Procter, N., Diamond, M., . . . McGorry, P. (2015). Preventing mental illness: Closing the evidence-practice gap through workforce and services planning. *BMC Health Services Research*, *15*, Article 283. doi:10.1186/s12913-015-0954-5

Giguère, A., Légaré, F., Grimshaw, J., Turcotte, S., Fiander, M., Grudniewicz, A., . . . Gagnon, M. P. (2012). Printed educational materials: Effects on professional practice and health-care outcomes. *Cochrane Database of Systematic Reviews*, *10*, CD004398. doi:10.1002/14651858.CD004398.pub3

Goldman, H., Ganju, V., Drake, R., Gorman, P., Hogan, M., Hyde, P., & Morgan, O. (2001). Policy implications for implementing evidence-based practices. *Psychiatric Services*, *52*, 1591-1597. doi:10.1176/appi.ps.52.12.1591

Graham, I. D., Logan, J., Harrison, M. B., Straus, S. E., Tetroe, J., Caswell, W., & Robinson, N. (2006). Lost in knowledge translation: Time for a map? *Journal of Continuing Education in the Health Professions*, *26*, 13-24. doi:10.1002/chp.47

Grimshaw, J. M., Eccles, M. P., Lavis, J. N., Hill, S. J., & Squires, J. E. (2012). Knowledge translation of research findings. *Implementation Science*, *7*, Article 50. doi:10.1186/1748-5908-7-50

Grimshaw, J. M., Shirran, L., Thomas, R., Mowatt, G., Fraser, C., Bero, L., . . . O'Brien, M. A. (2001). Changing provider behavior: An overview of systematic reviews of interventions. *Medical Care*, *39*(8 Suppl. 2), II-2-II-45. doi:10.1097/00005650-200108002-00002

Grol, R. (2001). Successes and failures in the implementation of evidence-based guidelines for clinical practice. *Medical Care*, *39*(8 Suppl. 2), II-46-II-54. doi:10.1097/00005650-200108002-00003

Grol, R., & Grimshaw, J. (2003). From best evidence to best practice: Effective implementation of change in patients' care. *The Lancet*, *362*, 1225-1230. doi:10.1016/S0140-6736(03)14546-1

Guyatt, G. H., Meade, M. O., Jaeschke, R. Z., Cook, D. J., & Haynes, R. B. (2000). Practitioners of evidence based care. Not all clinicians need to appraise evidence from scratch but all need some skills. *British Medical Journal*, *320*, 954-955. doi:10.1136/bmj.320.7240.954

Haynes, R. B. (2001). Of studies, syntheses, synopses, and systems: The "4S" evolution of services for finding current best evidence. *Evidence Based Medicine*, *6*(2), 36-38. doi:10.1136/ebm.6.2.36

Hetrick, S., Thompson, A., Yuen, K., Finch, S., & Parker, A. (2012). Is there a gap between recommended and "real world" practice in the management of depression in young people? A medical file audit of practice. *BMC Health Services Research*, *12*, Article 178. doi:10.1186/1472-6963-12-178

Hoagwood, K., Burns, B. J., Kiser, L., Ringeisen, H., & Schoenwald, S. K. (2001). Evidence-based practice in child and adolescent mental health services. *Psychiatric Services*, *52*, 1179-1189. doi:10.1176/appi.ps.52.9.1179

Holloway, I., & Wheeler, S. (2013). *Qualitative research in nursing and healthcare* (3rd ed.). West Sussex, UK: John Wiley.

Lavis, J. N., Robertson, D., Woodside, J. M., McLeod, C. B., & Abelson, J. (2003). How can research organizations more effectively transfer research knowledge to decision makers? *Milbank Quarterly*, *81*, 221-248. doi:10.1111/1468-0009.t01-1-00052

Lomas, J. (1993). Diffusion, dissemination, and implementation: Who should do what? *Annals of the New York Academy of Sciences*, *703*, 226-237. doi:10.1111/j.1749-6632.1993.tb26351.x

McGorry, P. D., Bates, T., & Birchwood, M. (2013). Designing youth mental health services for the 21st century: Examples from Australia, Ireland and the UK. *British Journal of Psychiatry*, *202*(s54), s30-s35. doi:10.1192/bjp.bp.112.119214

McGorry, P. D., Tanti, C., Stokes, R., Hickie, I. B., Carnell, K., Littlefield, L. K., & Moran, J. (2007). headspace: Australia's National Youth Mental Health Foundation—Where young minds come first. *Medical Journal of Australia*, *187*(7 Suppl.), S68-S70. Retrieved from https://www.mja.com.au/journal

McGrath, P. J., Lingley-Pottie, P., Emberly, D. J., Thurston, C., & McLean, C. (2009). Integrated knowledge translation in mental health: Family help as an example. *Journal of the Canadian Academy of Child & Adolescent Psychiatry*, *18*(1), 30-37. Retrieved from http://www.cacap-acpea.org/en/cacap/Journal_p828.html

McLennan, J. D., Wathen, C. N., MacMillan, H. L., & Lavis, J. N. (2006). Research-practice gaps in child mental health. *Journal of the American Academy of Child & Adolescent Psychiatry*, *45*, 658-665. doi:10.1097/01.chi.0000215153.99517.80

Newnham, E. A., & Page, A. C. (2010). Bridging the gap between best evidence and best practice in mental health.

*Clinical Psychology Review*, *30*, 127-142. doi:10.1016/j.cpr.2009.10.004

Opiyo, N., Shepperd, S., Musila, N., Allen, E., Nyamai, R., Fretheim, A., & English, M. (2013). Comparison of alternative evidence summary and presentation formats in clinical guideline development: A mixed-method study. *PLoS ONE*, *8*(1), e55067. doi:10.1371/journal.pone.0055067

Powell, B. J., McMillen, J. C., Proctor, E. K., Carpenter, C. R., Griffey, R. T., Bunger, A. C., . . . York, J. L. (2012). A compilation of strategies for implementing clinical innovations in health and mental health. *Medical Care Research and Review*, *69*, 123-157. doi:10.1177/1077558711430690

Rickwood, D., Telford, N., Parker, A., Tanti, C., & McGorry, P. (2014). headspace—Australia's innovation in youth mental health: Who are the clients and why are they presenting? *Medical Journal of Australia*, *200*, 108-111. doi:10.5694/mja14.00276

Rosenbaum, S. E., Glenton, C., Wiysonge, C. S., Abalos, E., Mignini, L., Young, T., . . . Meng, Q. (2011). Evidence summaries tailored to health policy-makers in low- and middle-income countries. *Bulletin of the World Health Organization*, *89*(1), 54-61. doi:10.2471/BLT.10.075481

Sandström, B., Willman, A., Svensson, B., & Borglin, G. (2015). Perceptions of national guidelines and their (non) implementation in mental healthcare: A deductive and inductive content analysis. *Implementation Science*, *10*, Article 43. doi:10.1186/s13012-015-0234-0

Scott, S. D., Albrecht, L., O'Leary, K., Ball, G. D., Hartling, L., Hofmeyer, A., . . . Newton, A. S. (2012). Systematic review of knowledge translation strategies in the allied health professions. *Implementation Science*, *7*, Article 70. doi:10.1186/1748-5908-7-70

Straus, S. E., Tetroe, J., & Graham, I. (2009). Defining knowledge translation. *Canadian Medical Association Journal*, *181*, 165-168. doi:10.1503/cmaj.081229

Wallace, J., Nwosu, B., & Clarke, M. (2012). Barriers to the uptake of evidence from systematic reviews and meta-analyses: A systematic review of decision makers' perceptions. *British Medical Journal Open*, *2*(5), e001220. doi:10.1136/bmjopen-2012-001220.

Ward, V. L., House, A. O., & Hamer, S. (2009). Knowledge brokering: Exploring the process of transferring knowledge into action. *BMC Health Services Research*, *9*, Article 12. doi:10.1186/1472-6963-9-12

Weisz, J. R., Ng, M. Y., & Bearman, S. K. (2014). Odd couple? Reenvisioning the relation between science and practice in the dissemination-implementation era. *Clinical Psychological Science*, *2*, 58-74. doi:10.1177/2167702613501307

Woolf, S. H., Grol, R., Hutchinson, A., Eccles, M., & Grimshaw, J. (1999). Potential benefits, limitations, and harms of clinical guidelines. *British Medical Journal*, *318*, 527-530. doi:10.1136/bmj.318.7182.527

Yang, J., Han, C., Yoon, H. K., Pae, C. U., Kim, M. J., Park, S. Y., & Ahn, J. (2013). Experiences and barriers to implementation of clinical practice guideline for depression in Korea. *BMC Psychiatry*, *13*, Article 150. doi:10.1186/1471-244X-13-150

## Author Biographies

**Alan P. Bailey** is a research assistant and PhD candidate at Orygen, The National Centre of Excellence in Youth Mental Health. He is involved in mapping and translating research evidence of interventions for youth mental health disorders to support the use of evidence in clinical practice. His research interests involve lifestyle interventions for mental health disorders. His PhD project focuses on physical activity interventions for young people with depression and an exploration of the potential mechanisms of action.

**Magenta B. Simmons** is a research fellow and the Youth Partnerships in Research coordinator at Orygen, The National Centre of Excellence in Youth Mental Health. Her work focuses on how young people can be meaningfully involved as collaborators in research projects, as consumers in clinical decision making about their own mental health care, and as peer workers supporting other consumers.

**Stefanie De Silva** is a psychologist and project coordinator at Orygen, The National Centre of Excellence in Youth Mental Health. She supports the uptake of evidence-based clinical practice through her work in evidence mapping and evidence translation.

**Sarah E. Hetrick** is a clinical psychologist and senior research fellow at Orygen, The National Centre of Excellence in Youth Mental Health. She is the lead author on a number of systematic reviews about interventions for youth mental health disorders and is an editor with the Cochrane Depression Anxiety and Neurosis Group. She leads the area of knowledge translation and has held an NHMRC training fellowship focused on youth depression. She is the lead investigator on a number of randomised controlled trials of interventions for young people with depression and with suicide related behaviours.

**Alexandra G. Parker** is a psychologist and senior research fellow in knowledge transfer at Orygen, The National Centre of Excellence in Youth Mental Health. Her research work focuses on physical activity interventions for young people with predominantly depressive disordes. She is also invovled with the synthesis, translation and dissemination of evidence for interventions in youth mental health and workforce development through education and training.