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## Raising awareness of research evidence among health professionals delivering dementia care: Are knowledge translation workshops useful?

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### ABSTRACT

Providing information about the latest research via educational sessions to health professionals caring for people with dementia may be insufficient to drive change. This project explored self-reported impacts on practice change of adding information about knowledge translation (KT) to a national dementia education program. Six national workshop days were held. Each provided the option of participating in a Principles of KT and innovation implementation seminar in addition to a clinical topic update (sexualities and dementia, or managing behavioral and psychological symptoms of dementia). Six months postworkshop, 321 participants were invited to complete a research utilization survey. Seventy-five responded. KT seminar participants were more likely to report instrumental outcomes (e.g. changed policies, procedures) than those who did not participate in the KT seminar. Including KT information in educational sessions for health professionals may increase the likelihood of practice change in the field of dementia care and warrants further research.

### KEYWORDS

Dementia; knowledge translation; professional development; education; evidence-based practice

## Introduction

Dementia care pathways involve many disciplines and health sectors, and a global priority is the continuing education of professionals delivering care (World Health Organisation [WHO], 2012). Although cure and prevention are enduring dementia research targets, knowledge dissemination about best care for the currently diagnosed population is a vital investment as rates for dementia are projected to increase (Alzheimer's Association, 2015)—to get the right information to the right people, in the right format, at the right time (Illes, Chahal, & Beattie, 2011). In 2008 the Australian Government established a national network of five Dementia Training Study Centres (DTSCs). This initiative aims to improve the knowledge and skills of tertiary qualified health and aged care staff providing dementia care in Australia. The *raison d'être* for the DTSCs is translation of research-generated knowledge into practice. This goal is supported by a range of educational activities, topical workshops, bespoke consultancies, and dissemination of purpose-specific resources.

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Delivering “latest news” about dementia to health professionals is an essential yet typically insufficient first step for evidence-based care—a situation described as “knowledge obstinately refuses to be driven unproblematically into practice” (Greenhalgh & Wieringa, 2011). We propose that health professionals who become aware of the latest relevant dementia research may need additional nonclinical knowledge and competencies to support implementation. Informed by our stakeholder engagements in aged/dementia care and a recent evidence review (Low et al., 2015), a range of factors indexing resistance to change and understanding innovation implementation affect success of research-based policies and procedures.

Knowledge translation (KT) has been identified as the mechanism for putting evidence to work in health (Davis et al., 2003). Referencing up to 100 different concepts (McKibbon et al., 2013), KT also connects with the fields of measurement in research utilization and human resources (e.g., change readiness). Although there are many examples of dementia education initiatives targeting health professionals (e.g. Ward & Dobson, 2014), few (if any) have examined the value of including KT-related education. Following our recent review of KT principles in dementia education for health professionals (Phillipson, Goodenough, Reis, & Fleming, 2016), this project is a “proof of concept” exploration of the potential benefits of adding KT information to a national dementia education program for health professionals. It included an introduction to basic change management for promoting use of research-derived evidence in line with the stages of DTSC KT framework (see next section). Due to ongoing aged care reforms in Australia (e.g., consumer-directed care), clinical managers and educators seem to be increasingly expected to have knowledge and competencies for implementing and sustaining practice change.

### ***The DTSC knowledge translation framework for dementia education***

The educational portfolio of the DTSCs is guided by a KT framework (Table 1) comprising four cognitive-behavioral stages. The KT journey starts with fostering awareness of new evidence (including “knowing what you don’t know”), which provides an essential platform for the second stage of forming agreement about the relevance and value of that evidence. These first two cognitive stages are precursors for the latter two behaviorally oriented stages: adoption of the evidence into practice, followed by adherence where evidence is integrated into a sustained practice change to become “business as usual” (e.g., organization-level impacts for dementia care policy and regulatory requirements). As part of the Australian government contract, the DTSCs invite (noncompulsory) feedback from end users of products and services using an impact assessment survey tool (see below).

The DTSCs KT workshop program was developed as part of a “whole of journey” approach to health professional education in dementia care (as per the framework in Table 1). The primary goal of the workshops was to raise awareness of latest research-derived evidence for best-quality frontline dementia care. To potentially assist participants to test new knowledge as relevant to their practice and able to be implemented in their work setting (i.e., the awareness and adoption stages of the KT framework), the workshop syllabus offered an optional seminar on KT principles and practical issues for implementing a care-related innovation (see Table 1). This seminar was based on the seven-step approach of the Innovation-to-Implementation [i2i] KT guide of the Canadian Mental Health Commission (Goldner, Jenkins, & Fischer, 2014)—originally developed with examples for the mental health and adapted with permission for wording and examples

**Table 1.** Knowledge translation (KT) framework for the dementia training study centres (DTSC) (Panel A), and overview of the content and learning objectives for the “Principles of KT” seminar (Panel B).

Panel A. The four-stage DTSC knowledge translation framework <sup>a</sup>				
Stage	Awareness →	Agreement →	Adoption →	Adherence
Hallmarks	Thinking (cognitive) to become aware that a thing or idea exists—only needs to be ‘new’ for the person or situation. Can include becoming aware of knowledge gaps (know what don’t know)	Thinking (cognitive) to form an opinion or a conviction that a thing or idea is useful, better, or true—and sits with values. Leads to planning and commitment, and can include a need for more education	Doing (behavioral) to adopt a different way of thinking or doing. Possibly effortful. Can include trial & error actions and efforts to education others. Can include actions at individual or organizational level	Doing (behavioral) to sustain a change of mind or practice. Possibly seems “automatic.” Can include implementing procedural, policy and regulatory supports for “business as usual”
Panel B. Principles of knowledge translation seminar: Learning objectives and the seven-step innovation to implementation approach				
Learning objective				
Background	What is KT?	Be able to define the term and understand relevant history in evidence-based practice. Understand the stages of the DTSC KT framework (See Panel A, this table)		
Innovation to implementation (I2I)	Change and communication	Understand responses to change (readiness /resistance) from viewpoint of managers and nonmanagers		
Step 1:	Purpose of KT plan	Set a goal, e.g., which stage of the DTSC KT framework is the realistic goal and how to measure it		
Step 2:	Select an innovation	Choose a specific resource, idea, or “thing” to implement and why (the evidence base).		
Step 3:	Key players & actions	Define stakeholders (and team) who need to be involved, and the roles and competencies required		
Step 4:	Agents of change	Identify potential change related factors and who may be a key influencer or leader		
Step 5:	Design KT plan	Nominate specific methods that will be used for each stakeholder group, in line with available resources		
Step 6:	Implement KT plan	Commence the innovation and collect feedback as to how it is tracking		
Step 7:	Evaluate success	Use RE-AIM model to assess KT plan reach—explore impact via DTSC KT framework stages (see Step 1)		
Additional topics:	KT readiness	Issues to consider when deciding if an innovation is ready to be implemented, e.g., the quality of the evidence base		
	Change readiness	Issues to consider when deciding if an organisation is ready for an innovation, e.g., previous efforts and types of change-related measures		
	Dissemination	Ideas for reporting on outcomes, from local to peer review		

Note. a. these stages are informed by early work on clinical guidelines implementation by (Pathman, Konrad, Freed, Freeman, & Koch, 1996).

more relevant for the Australian dementia and age care setting (Goodenough & Young, 2014)

The routine feedback collected 6 months from workshop participants (those available to be contacted) allowed us to carry out a “proof of concept” assessment of the value of this KT-specific education. We were able to compare two groups of participants: those who opted in or out of this KT seminar. The feedback survey comprised items from two validated scales of research utilization (Estabrooks, 1999; Squires, Estabrooks, Hayduk, Gierl, & Newburn-Cook, 2014) to measure potential impact of the dementia education in three domains and map onto the stages of the DTSC KT framework:

- Conceptual – indirect application via mind-set (e.g., knowledge-based change in beliefs about dementia care that map onto Awareness and Agreement KT impact outcomes)
- Instrumental – direct practice or policy change (e.g., concrete application of knowledge to dementia care that generally map onto adoption and adherence KT impact outcomes)
- Persuasive – educate or influence (e.g. use of knowledge to legitimise a decision, and generally map onto adoption and adherence KT impact outcomes).

We explored the question: “Did providing education about knowledge translation principles facilitate uptake of dementia care knowledge into practice?” Although the workshops were designed to raise awareness of latest clinical evidence (i.e., expect CONCEPTUAL impact outcomes), we expected that exposure to practical KT principles, including topics in change management, might increase self-reported scores for instrumental or persuasive applications of workshop learnings. We formulated this hypothesis on the basis of a wide range of KT research and scholarly debate about potential common “active ingredients” driving successful innovations and change management in health contexts (e.g., Colquhoun et al., 2014; Gagnon et al., 2014; Low et al., 2015).

## Method

### Program

The national workshop program reflected a knowledge translation partnership between an academic center (the Australian Dementia Collaborative Research Centres) and the NSW/ACT Dementia Training Study Centre (both Australian government funded). Face-to-face workshop days were held in six national locations (Sydney, Canberra, Brisbane, Perth, Adelaide, Melbourne) at central venues offsite to participant workplaces. Registration involved a nominal fee (to cover practical costs, e.g., catering), typically paid by the employer, with negotiable fee waivers.

The workshop day allowed participants to attend up to two out of three 2-hour seminars. Each seminar was led by the same research active facilitator for the full program. Two seminar topics were clinical updates in domains of dementia-related behaviours (sexualities and dementia, or managing behavioral and psychological symptoms of dementia)—providing participants with “take-away” guidelines and best evidence summaries, with an interactive session to field questions. The third seminar

topic was Principles of Knowledge Translation (presented by author BG). It included an overview of concepts in KT, and how to plan a KT project using the seven-step Innovation to Implementation approach developed by the Canadian Mental Health Commission and adapted for the Australian dementia aged care context (Goodenough & Young, 2014). The content of the KT seminar and seven-step approach (summarized in Table 1) addressed elements of project scoping, innovation roll out, and identifying change agents. Each KT seminar participant received a copy of a planning guide in a workbook format, with encouragement to use materials postworkshop to guide implementation effort. All KT seminar materials are freely available from the website for [DementiaKT.com.au](http://DementiaKT.com.au)

### **Study participants**

Participants were workshop attendees who supplied an e-mail address at registration (note: some were generic institutional or for a manager). Invitations for feedback were sent to 321 e-mail addresses, and 75 people engaged (see Results for available demographics). Recipients were advised that they were being contacted as part of routine follow-up for contractual reporting obligations from the DTSCs to the Australian government, and participation was voluntary by clicking a link in the e-mail to an online survey. Secondary analysis of deidentified feedback was approved by the Human Research Ethics Committee of the University of Wollongong, NSW (HREC 15/416).

### **Measures and data collection**

Around 6 months postworkshop, participants were e-mailed (with one reminder at 2 weeks) to complete an anonymous online two-page 20-item Feedback Survey.

The first five items on page one of the survey (see Table 2) comprised the Conceptual Research Utilization scale (Squires et al., 2014; Squires et al., 2011). These comprised the minimum data set and mapped onto the awareness stage of the DTSC KT framework (see Table 1). The stem question was “How often in a typical work week has the information gained from the workshop influenced your practice in the following ways,” followed by five statements with each to be rated on a 5-point scale (*never, rarely, occasionally, frequently, almost always*). These items have a strong psychometric profile that meets conventions for reliability, validity, and acceptability and can be averaged to a single score out of 5 (Estabrooks et al., 2015; Squires et al., 2014; Squires et al., 2014).

The next 14 items on page two of the survey were forced choice questions (Yes or No) about specific knowledge uses (see Table 3), plus space to explain why *Yes* or *No* was chosen. Thirteen items were the Kinds of Research Use scale (Estabrooks, 1999) which measures three use domains of instrumental (five items), persuasive (eight items), and conceptual (one item) (for definitions please see the Introduction). The items have undergone rigorous validity and reliability testing (Estabrooks, 1999; Squires et al., 2011). The 14th item was developed by the DTSCs to address policy and guideline development as an instrumental use (absent in Estabrooks, 1999). From a KT impact perspective, the Kinds of Research Use items generally map onto DTSC KT framework stages beyond awareness, such as self-reported practice change (adoption). Item #20 on the feedback survey was a global frequency of use rating

**Table 2.** Results for items on the conceptual research use scale.

How often in a typical work week has information gained from the workshop influenced your practice in the following ways					
(Item and source of rating)	Never %	Rarely %	Occasionally %	Frequently/ almost always %	Significance
1. Give you new knowledge or information about how to care for residents/clients					
All seminars, all participants ( $N = 100$ )	9	7	40	44 <sup>a</sup>	$p < .001$
Participants who attended only clinical topic seminars ( $n = 50$ )	8	6	48	38 <sup>a</sup>	$p < .001$
Participants who also attended Principles of KT ( $n = 50$ )	10	8	32	50 <sup>a</sup>	$p < .001$
2. Raise your awareness about new ways to care for residents/clients					
All seminars, all participants ( $N = 100$ )	7	9	33	51 <sup>a</sup>	$p < .001$
Participants who attended only clinical topic seminars ( $n = 50$ )	6	12	36	46 <sup>a</sup>	$p = .001$
Participants who also attended Principles of KT ( $n = 50$ )	8	6	30	56 <sup>a</sup>	$p = .001$
3. Help to change your mind about how to care for residents/clients					
All seminars, all participants ( $N = 100$ )	12	13	36	39 <sup>a</sup>	$p < .001$
Participants who attended only clinical topic seminars ( $n = 50$ )	16	10	34	40 <sup>a</sup>	$p = .003$
Participants who also attended Principles of KT ( $n = 50$ )	8	16	38	38 <sup>a</sup>	$p = .001$
4. Give you new ideas about how to care for residents /clients					
All seminars, all participants ( $N = 100$ )	9	9	32	50 <sup>a</sup>	$p = .001$
Participants who attended only clinical topic seminars ( $n = 50$ )	10	10	30	50 <sup>a</sup>	$p = .028$
Participants who also attended Principles of KT ( $n = 50$ )	8	8	34	50 <sup>a</sup>	$p = .001$
5. Help you make sense of things you have been doing to care for residents/clients					
All seminars, all participants ( $N = 100$ )	9	8	31	52 <sup>a</sup>	$p = .001$
Participants who attended only clinical topic seminars ( $n = 50$ )	10	12	24	54 <sup>a</sup>	$p = .029$
Participants who also attended Principles of KT ( $n = 50$ )	8	4	38	50 <sup>a</sup>	$p = .029$

Note.  $n$  values refer to sets of ratings;  $p$  values are binomial tests of the proportion of the response for each item (with superscript letter) in the upper end of the scale, combining *frequently* and *almost always* (see Analysis in Method).

a. Median ratings.

(Estabrooks, 1999): “Overall, in the past 3 to 6 months, how often have you used the knowledge or skills gained from the workshop in some aspect of your professional practice” rated on a 4-point scale (*never*, *1–2 times*, *half the time*, *nearly all the time*). The items on the Kinds of Research Use scale have been subjected to rigorous reliability and validity testing and can be treated as singly or aggregated into subscales (Squires et al., 2014; Squires et al., 2011): total number of uses, instrumental and persuasive (on this scale, conceptual use is a single item).

The feedback survey was piloted for utility with a similar Australian professional sample ( $N = 106$ ) who completed a Sexualities and Dementia education course (Phillipson & Jeavons, 2014). This pilot confirmed that the item wording and format were clearly understood, able to be completed within a time period acceptable to the respondent (fewer than 15 minutes).

Workshop participants completed the feedback survey separately for each seminar that they attended. To prevent missing values, the respondent could only progress from a page (i.e., scale) when all items had been answered (written responses were optional). Some participants submitted only the items on page one (the Conceptual Research Use scale, targeting awareness raising, which was the minimum data set for the survey), and declined to complete the items on page two for Kinds of Research Use (targeting ADOPTION). Before exiting the feedback survey, there was a request for demographic details of interest to the Australian government about work setting, role, and regional location should the participant feel comfortable in disclosing this information.



**Table 3.** Results for Items from the Kinds of Research Use Scale ( $p$  = significance of binomial test of difference from expected proportion of 25% of participants responding Yes—the reported  $p$  values are adjusted in line with the Holm-Bonferroni correction for multiple comparisons, see Analysis).

Item on the Kinds of Research Use Scale	Domain	Source of Yes rating		
		All seminars, All participants ( $n = 83$ )	Participants who attended only clinical topic seminars ( $n = 43$ )	Participants who also attended principles of KT ( $n = 40$ )
1. Changed an aspect of your own personal professional practice	Instrumental	54% ( $p < .001$ )	56% ( $p < .001$ )	53% ( $p = .002$ )
2. Changed a practice or routine on your “unit” or in your workplace	Instrumental	33% ( $p = .226$ )	28% ( $p = .771$ )	38% ( $p = .272$ )
3. Tried a new procedure, technique, or other intervention	Instrumental	43% ( $p = .002$ )	42% ( $p = .057$ )	43% ( $p = .069$ )
4. Changed a procedure, technique, or other intervention	Instrumental	29% ( $p = .240$ )	23% ( $p = .771$ )	35% ( $p = .310$ )
5. Changed your beliefs or thinking about a particular approach or procedure	Conceptual	53% ( $p < .001$ )	54% ( $p = .001$ )	53% ( $p = .002$ )
6. Educated or informed a patient or client	Persuasive	54% ( $p < .001$ )	54% ( $p = .001$ )	55% ( $p = .001$ )
7. Educated or informed another member of staff (same discipline)	Persuasive	82% ( $p < .001$ )	82% ( $p < .001$ )	83% ( $p < .001$ )
8. Educated or informed another member of staff (different discipline)	Persuasive	59% ( $p < .001$ )	61% ( $p < .001$ )	58% ( $p < .001$ )
9. Educated or informed a member of the public	Persuasive	52% ( $p < .001$ )	49% ( $p = .004$ )	55% ( $p = .001$ )
10. Supported/assisted another staff member (same discipline) to make a change to their own practice	Persuasive	60% ( $p < .001$ )	67% ( $p < .001$ )	53% ( $p = .002$ )
11. Supported/assisted another staff member (different discipline) to make a change	Persuasive	46% ( $p < .001$ )	54% ( $p < .001$ )	38% ( $p = .272$ )
12. Persuaded/supported a patient or client or resident to make a change	Persuasive	46% ( $p < .001$ )	42% ( $p = .057$ )	50% ( $p = .004$ )
13. Persuaded/supported a member of the public to make a change	Persuasive	31% ( $p = .232$ )	33% ( $p = .497$ )	30% ( $p = .597$ )
14. Created a new policy or guideline to support a new practice or procedure	Instrumental	15% ( $p = .058$ )	9% ( $p = .053$ )	20% ( $p = .597$ )
Global rating: Overall, in the past 3 to 6 months, how often have you used the knowledge or skills gained in some aspect of your professional practice?	All uses	Never = 17% 1 to 2 times = 31% Half the time = 19% Nearly always = 33% Don't know = 2%	Never = 18% 1 to 2 times = 26% Half the time = 26% Nearly always = 30% Don't know = 0%	Never = 15% 1 to 2 times = 35% Half the time = 10% Nearly always = 35% Don't know = 5%

Note.  $n$  values refer to sets of ratings;  $p$  values are binomial tests of the proportion of the “Yes” response for each item (see Analysis in Method).

## Analysis

The total survey engagement yielded 100 sets of analysable ratings, each treated as an independent observation. This data set was not a factorial combination of group and seminar topic (see  $n$  values in the Tables 2 and 3) and comprised 28 sets of ratings from 28 participants who attended only one seminar topic, and 72 sets of ratings from 36 participants who attended two topics. All respondents completed the minimum data set (the 5-item Conceptual Research Use scale on page one of the feedback survey), and 17 did not provide ratings for the Kinds of Research Use scale (resulting in 83 sets of analyzable ratings for these items). Due to the modest sample size and a mild positive skew in score distributions, the outcome measures



were summarized using medians and frequency counts (percent response). Each participant was coded with a “group” membership variable, comprising two levels: did versus did not participate in the KT seminar. Informed by our pilot data, we used a criterion of “25% of participants” (rather than zero) as the likely minimum proportion who would respond of with a ratings of *frequently* or greater for Conceptual Research Use scale items, or respond *Yes* for Kinds of Research Use items. We used binomial single sample tests to compare the proportion of actual responses against this likely 25% criterion. We tested for the hypothesized group difference (that self-reported scores for research utilization would increase if participating in the Principles of KT seminar) using nonparametric tests (e.g., chi-square, Kendall’s Tau-b for correlations). To reduce risk for Type I errors, we used the Holm-Bonferroni correction to adjust  $p$  values (Gaetano, 2013), applying a family-wise correction ( $\alpha = .025$ ) for multiple comparisons within each of two groups. As the feedback survey was anonymous, and demographic data was limited, there were no planned analyses possible for workplace variables (e.g., setting, role)—where relevant we have included notes on description observations.

## Results

### *Sample characteristics*

Demographic details were disclosed by 88% participants ( $n = 66$ ). Work settings comprised residential aged care (39.4%), primary/community care (22.7%), multiple health care settings (22.7%), and acute care (4.5%), with 10.6% selecting “other” (e.g., accreditation agency). The role mix included nursing staff (48.4%: registered, enrolled, assistant), dementia care specialist (16.6%: care coordinator/planner, behavior consultant, educator), allied health (12.1%: social worker, psychologist, occupational therapist), personal care/support worker (9.1%), and other roles (13.6%: advocate, accreditor, researcher). As the demographic variables reflected government-related interests (not research objectives), no information was available for workplace seniority or experience.

### *Overall ratings of perceived workshop impact*

Results are summarized in Table 2 (Conceptual Research Use) and Table 3 (Kinds of Research Use). More than 80% of participants reported having used some aspect of workshop-based knowledge (any seminar topic) in daily practice during the 3-to-6 months preceding the feedback survey: nearly all the time (33%), half the time (19%), one to two times (30%). Median scores on the Conceptual Research Use scale (Table 2) showed that participants reported that knowledge and skills from the workshop influenced their practice *occasionally* to *frequently* in a typical work week. Some written examples corroborating these mind-set-oriented ratings were received for the single-item indexing conceptual use on the Kinds of Research Use scale (see Item #5, Table 3) included:

- [P1]: “I was ... not aware of the many alternative ways we can deal with this type of behaviour. Very insightful.”
- [P2]: “Made me question thinking around ‘informed consent’ and its definition for a person with dementia.”
- [P3]: “I have more conviction (sic) and belief (*m*)y thinking is on the correct path.”

There was a positive correlation ( $r = .60$   $p < .001$ ) between the global frequency rating and the overall tally of use types, that is, number of activities endorsed with *Yes*. Participants who reported more frequent overall use of knowledge gained from the workshop also reported higher tallies of use types. The median tally of use types across seminar topics was seven (out of a possible 14). There was greater endorsement of persuasive (five out of a maximum of eight, e.g., educate others) than instrumental uses (one out of maximum of five, e.g., personal practice change). Examples of persuasive uses included:

[P4]: “Raised this topic at a staff forum.”

[P5]: “Briefed new members of my team.”

[P6]: “Discussion/Brainstorming—Feedback at discipline specific meeting within organisation.”

Inspection of individual items indicated that *Yes* endorsements varied widely (see Table 3). The majority exceeded the minimum expected proportion of 25% of participants (the null hypothesis). For the instrumental use items, the highest level of overall endorsement (54%) was for Item #1 “Changed an aspect of your own personal professional practice,” and lowest level (15%) was for Item #14 “Created a new policy or guideline to support a new practice or procedure” (see below). For the persuasive domain, the highest level of overall endorsement (82%) was for Item #7 “Educated or informed another member of staff (same discipline),” and the lowest level (31%) was for Item #13 “Persuaded/supported a member of the public to make a change.”

### ***Perceived impact of participating in the Principles of KT seminar***

Overall, 48% of workshop participants opted for the KT-plus-clinical seminar combination. This group reported the highest median number of overall uses of workshop information in daily practice, relative to those who participated in only the clinical update seminars: 7.5 versus six kinds of use. Although this was not a statistically significant main effect, there was evidence that the correlation between scores for total number of uses on the Kinds of Research Use scale and the individual’s mean score (across the five items) on Conceptual Research Uses scale was stronger for respondents who did rather than did not participate in the KT seminar ( $r = .66$  vs.  $r = .49$ ,  $p < .001$ ). To better understand whether this group difference was meaningfully linked to particular use types, we examined the proportion of the *Yes* response due to participants who attended the KT Seminar. Three items stood out, all in the instrumental domain: Item #2 “changed a practice or routine on unit or in workplace” (70% of *Yes* response); Item #4 “changed a procedure, technique or other intervention” (72%); and Item #14 “created a new policy or guideline” (73%). As instrumental activities, efforts to change policy and care guidelines showed the lowest rate of endorsement overall (15%), but some specific examples were described by the participants who also did rather than did not participate in the KT seminar (see Item #14, Table 3):

[P7]: “currently creating new (suppressed) and dementia policy.”

[P8]: “Encouraged ... my work facilities to ... review procedures to obtain better outcomes.”

[P9]: “I am working with another (colleague) to pull together a programme for services with dual diagnosis.”

Using correlational analysis we explored relationships between responses to the five items on Conceptual Research Use scale and total tally scores for the Kinds of Research Use scale, comparing participants who or did not attend the KT seminar. Although the results showed moderate positive correlations overall ( $r$  range 0.46–0.67, all  $p < .001$ ), all associations in the magnitude of  $r = .6$  or greater were for ratings from participants who attended the KT seminar. The highest correlations were associated with the following two items on the Conceptual Research Use scale were #1 “Give you new knowledge or information about how to care for residents/clients” and #2 “raise your awareness about new ways to care” (both  $rs = .67$ ).

Finally, when looking at the qualitative descriptions of perceived impact provided by participants, we noticed several “persuasive” examples from those participants who also identified themselves as working in teams within residential or community based aged care settings, for example, “I have supported or assisted another staff member to make a change to their own practice?” Due to the less than 100% voluntary disclosure of work setting demographics, it was not possible to thoroughly explore the potential work setting by item interaction, but written examples of persuasive-oriented efforts for postworkshop knowledge sharing included:

[P10]: “shared knowledge from (suppressed) in Community of Practise (sic) meeting with colleagues.”

[P11]: “The way in which I view this often callenging (sic) area has changed. I encourage others to view these challenges in a more open and accepting (sic) way.”

## Discussion

Guided by a four-stage knowledge translation (KT) framework (see [Table 1](#)), the DTSCs are funded by the Australian government to develop and deliver dementia education to health professionals. This article reports on a “proof of concept” syllabus for a national workshop program on research-derived clinical updates which also offered education about principles of knowledge translation and innovation implementation. Using routine feedback at 6-month follow-up via a survey comprising items from research utilization scales, we explored the question: Did providing education about knowledge translation principles facilitate uptake of dementia care knowledge into practice? We propose that the emerging answer is *Yes*—and further research is warranted. Three elements of the data are discussed below.

Firstly, the overall educational goal of the workshops as an awareness-raising activity for latest research-based evidence in dementia care was achieved. The KT stage of awareness (see [Table 1](#)) maps onto items measuring conceptual research use. Across all five items of the Conceptual Research Use scale ([Table 2](#)), there is consistent feedback that the majority of participants reported some degree of “mind-set” value for their care delivery. For example, over 50% of respondents selected *frequently* or *almost always* for Item #2 “Raise your awareness about new ways to care for residents/clients”—with an additional third or respondents selecting *occasionally*. As corroboration, one half of the participants responded *Yes* to the single conceptual item on the Kinds of Research Use scale (Item #5, [Table 3](#)): “Changed your beliefs or thinking about a particular approach or procedure.”

Secondly, and demonstrating a KT impact beyond the awareness raising stage, there was substantial self-report of applied use of materials postworkshop—more than one half

(52%) of participants claiming daily practice use ranging from *half the time* to *nearly all the time* (see Table 3). There were high levels of endorsement of *Yes* (greater than the predicted 25%) for items in the instrumental and persuasive domains on the Kinds of Research Use scale. These impact types tend to map on to the agreement and adoption stages of the DTSC KT framework (Table 1). Written examples from workshop participants indicated agreement that learnings were relevant and that they had returned to the workplace to “give it a try” for themselves or to pass on information to colleagues.

Thirdly, there was some support for our intuitive prediction that exposure to practical KT principles would enhance self-reports of instrumental applications of workshop learnings. The majority of a (small number) of reported policy/guidelines-related activities also came from respondents who attended the KT seminar in combination with a clinical information update. These perceived KT impacts lie beyond awareness raising and lean toward practice adherence (Table 1)—and for a workshop program of this sort, may conform to the use of research in a positive yet “unanticipated” way (Morton, 2015).

### ***How might participants approach or use the workshops?***

There were several reports of efforts to share workshop learnings with others, that is, persuasive uses. Educating others (rather than personal practice change) was more commonly endorsed by those who opted only to attend clinical update seminars—with a small suggestion of highest likelihood for participants who worked in residential care. One possible explanation is that the person who attended the workshop day was a team messenger sent to an offsite activity to learn on behalf of a group. This would make ecological sense as the workshops were held offsite and release/backfill for staff can be difficult for residential aged care teams.

Another possibility is that participants find it easier to identify needs for practice change in peers rather than themselves. This warrants further investigation given the growing interest in social drivers in culture change and adaptive leadership models in aged care (Corazzini, Twersky, White, Buhr, McConnell, Weiner, & Colón-Emeric, 2015). Overall the largest single item response was for Item #7 on the Kinds of Research Use scale (see Table 3) was for educating or informing a staff member of the same discipline—endorsed by 82%. This was comparatively higher than the *Yes* responses for this same item when the target was changed to staff from a different discipline (59%), a member of the public (52%), or a patient (54%). It is not clear whether this result pattern reflects the nature of the workshop material (e.g., clinical updates more relevant to residential aged care), relatively higher confidence of the participants to relate to their “own kind,” or a potential confound with the (unknown) roles or responsibilities that the participant may have had for delivering education in their workplaces or direct clinical contact. This warrants further research.

### ***What is the “value add” of the KT topic to a clinical update?***

We have no information about what drove topic choices at the time of workshop registration. It is possible that the KT seminar attracted people from “change ready” organizations or who had channels of influence relating to policy and action.

The results do suggest that a clinical research update which gives “implementable” material will benefit from support with practical education about KT that touches on “how

to lead change.” Health professionals may need a spectrum of practical nonclinical information—ranging from how to plan and oversee an innovation rollout, through to managing individual emotional reactions to transition. Given the distinction outside the health arena between contextual (or organizational) factors in change readiness and individual dispositional characteristics (e.g. Oreg, Vakola, & Armenakis, 2011), future evaluations might consider preworkshop measures of “change readiness” as KT predictors (Gagnon et al., 2014). Promising research involving the present authors has identified key factors about organizations, individuals, and innovations that influence change adoption. Key factors include certain leadership behaviors, the type and scale of change, trait characteristics of individuals, organization type, and complexity of the new practices (Low et al., 2015; Young, 2015). To enhance efforts to implement new dementia care practices and potentially decommission non-evidence-based procedures or retire outdated policies, we need a better understanding of individual employee and sector-specific organizational factors (e.g., residential aged care). In the Australian setting for this study, this type of capacity building for knowledge translation by workforce education will be imperative for navigating potential barriers to the uptake of the new national clinical practice guidelines for dementia (Laver, et al., 2016).

This workshop program is part of a “whole of journey” approach to KT within health professional education in dementia care. Applying the KT framework in Table 1, the results suggest it is possible to build awareness of a research-practice gap in a single learning encounter (i.e., transfer new knowledge via one clinical update seminar), but additional information may be needed to support implementation (and deimplementation, see below). The KT seminar may have assisted end-user engagement with knowledge products in more ways than just as a “handoff of research findings” (Morton, 2015). This is supported by the examples of the small number of spontaneous policy and guideline related use of the workshop materials.

## Conclusions, limitations, and future research

Practice change in dementia care may be complex. Before new information gets traction, older care behaviors may need “deimplementation” (Montini & Graham, 2015). This stage of health professional practice change is analogous to the initial “unfreezing” stage of Lewin’s three-stage model of organizational change (see Burnes, 2004). Achieving deimplementation goals may benefit from a tailored rather than generic type of change management training for health professionals—with attention to individual adaptability and organizational readiness factors (Young, 2015). This study did not collect information about potential deimplementation activities. The topic could be added to future KT seminar content.

Although it is difficult to define which elements of any workshop might lead to greater practice-based change, it is speculated that the KT seminar played a measurable role for driving instrumental (adoption) outcomes for participants. Key steps in the Innovation to Implementation approach (see Table 1) focus on introducing and identifying “change” elements, including barriers and enablers for a nominated innovation, and focused consideration (via seminar exercises) about resistance to change in the health professional’s own work setting. Future research could explore the best targets for KT-oriented information—we presume it would be persons with some sort of management role within an

organisation, or who influence management “buy in” relevant to adoption and adherence outcomes. For enhancing policy-related impacts, possible interactions with work setting warrant attention, for example, residential, community, and primary care settings.

Generalization from self-selected samples is often limited for retrospective subjective reports (like this study). This article is a modest “proof of concept” on a convenience sample, without access to a range of baseline data that could give insight into why participants selected seminar topics, and their prospective intentions with new knowledge. The data-set was of modest size (100 sets of analyzable seminar ratings), due to difficulties in contacting participants for follow-up (common in aged care with staff turnover) and their ability or willingness to engage in a “survey for the government.” As a partial offset to sampling limitations, unlike other studies of research utilization outcomes (e.g., see review by Squires et al., 2011), our outcomes measures were not based on a single item for each domain. We were able to obtain response profiles of reasonable breadth including examples of learnings in practice. Obtaining these snapshots after a time frame of some months is encouraging.

In this area there is a lack of randomized control designs with longitudinal or patient outcomes. We cannot claim that KT-oriented education for health professionals directly benefits people with dementia, as studies (like this one) tend to focus on the “low-hanging fruit” of the perspective of care deliverers. Although preworkshop data was not available, and therefore possible group differences are unknown (between participants who did or did not attend the KT seminar, e.g. role in organization to effect change), a “personally relevant baseline” is implied where participants gave hindsight analyses of perceived practice change in favor of the care recipient. The scales in the feedback survey do not have baseline versions but are designed to facilitate reflection on knowledge used at certain point in time. The current data afford a cross-sectional baseline for future follow-up, which will be useful for considering matters of sustained practice change. Efforts to explore more subtle aspects of the potential relationships between responses to item (use) types will benefit from larger cohorts that will enable more powerful multi-variate repeated measures design components (e.g., more data points over time).

Finally, we ask the question: “Who is responsible for ensuring KT outcomes?” There is little guidance on this topic of health professional education in dementia care. Contemporary moves in Australia toward consumer-directed care models might imply concomitant expectations for “practitioner-directed” education. This is unlikely to be useful without proactive mechanisms to support health professionals at the awareness stage of knowledge translation, that is, how to “know what you don’t know.” There is scope for an independent agency like the Dementia Training Study Centres to provide ongoing synthesis and linkage in dementia education. Driven by a KT agenda, this agency type can monitor credible evidence sources, proactively keep health professionals in touch with the relevant practice–knowledge gaps, and benchmark progress via KT-oriented impact measures.

A survey of research and teaching faculty involved in dementia education identified preference for in-person workshops, where the value of knowledge gained “increases with the capacity to link it to practical contexts” (Illes et al., 2011). Education for frontline care staff may benefit from regular gap analysis to inform education needs (Ward & Dobson, 2014). This study suggests that education in KT principles and basic change management are practical “nonclinical” competencies worth considering for supporting practice change in dementia care.



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