SUMMARY REPORT

Knowledge Translation in Environmental Design of Residential Aged Care Facilities for People with Dementia

Dementia Collaborative Research Centre
Assessment and Better Care

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Translating dementia research into practice
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BACKGROUND The NSW/ACT Dementia Training Study Centre (DTSC) delivers a national education and consultancy service aimed at providing residential aged care facilities (RACF) with evidence based information on the design of new and re-furbished environments for people with dementia. The service is delivered in three ways:-

1. Workshops – typically of three hours duration

2. On-site consultation of 7 hours duration comprising a workshop, followed by an audit of the facility utilising the Environmental Audit Tool (EAT) (Fleming, 2011) and concluding with a discussion of what might be done in the short, medium and long term to overcome the weaknesses identified in the audit.

3. iPhone Plus – the user downloads the app from the Apple Store, registers as a user, receives a copy of the literature review and supportive material provided during the workshops and consultations and carries out an environmental audit using the EAT guided by the app. The results of the audit, and photographs taken to illustrate good and bad features of the environment, are uploaded and processed in the DTSC and a report identifying the strengths and weaknesses of the environment is sent back to the user. The user is invited to take part in a two hour telephone consultation aimed at beginning the development of short, medium and long term plans to address the identified weaknesses.

This project aimed to assess the effectiveness of these interventions in relation to the Knowledge Translation framework of Pathman (Pathman, Konrad, Freed, Freeman, & Koch, 1996). This describes the process of translating knowledge into practice as occurring in four stages:-

- **Awareness**: raising the awareness of a potential knowledge user of new or relevant evidence
- **Agreement**: bringing the potential user to an agreement that new knowledge is relevant and useful to them
- **Adoption**: changing practice in response to the new knowledge
- **Adherence**: sustaining practice change with policy, guidelines or regulations

STUDY DESIGN Everyone who participated in the interventions during February 2012 to August 2013 was invited to participate in a survey designed to assess Knowledge Translation (KT) outcomes and thirty qualitative telephone interviews (n=10 for each intervention group) were undertaken. An adapted version of the ‘Awareness to Adherence’ model was utilised to guide the development of survey and interview questions to assess the KT outcomes. Outcomes of interest included: participant awareness and agreement with the Environmental Design principles that underpin the EAT and the information provided during the workshops and consultancies; participant adoption of the use of the EAT; participant action to modify their environment or intention/plans to modify; and other
reported changes within the work environment that may indicate adherence through longer term impacts on policy and practices within the facilities or organisations involved in the interventions. Both the survey and the interviews were undertaken within 6-12 months of participation in the intervention to allow time for changes in the environment to be made.

RESULTS/DISCUSSION The workshops were attended by 165 people across three states, the consultancy service was taken up by 64 individuals and the iPhone Plus was downloaded by 226 people (16 of whom uploaded data from an audit).

Awareness of and Agreement with the knowledge available to guide the design of environments for people with dementia (Environmental Design Principles)

Of those who responded to the survey, the overwhelming majority of participants in all three interventions ‘agreed’ the intervention had increased their awareness of the principles for designing environments to support people with dementia [Workshop 87%, Consultancy 85%, iPhone Plus 78%]. The overwhelming majority also ‘agreed’ or ‘strongly agreed’ that the ten ED principles were important for people with dementia. The vast majority of survey respondents in all three intervention groups also ‘agreed’ that participation had increased their awareness of the use of evidence-based tools to assess the application of ED principles [Workshop 92%, Consultancy 83%, iPhone Plus 78%]. iPhone Plus interviewees were particularly motivated to access a tool that could provide them with evidence to both guide an intervention and to generate evidence that could be used to strengthen their recommendations to management. The vast majority of survey respondents from all three intervention groups also agreed that they had more positive attitudes towards the use of environmental design principles to improve the quality of life for people living with dementia in RACFs as a result of participating in an intervention [Workshop 87%, Consultancy 80%, iPhone Plus 78%].

Adoption of Environmental Design knowledge
Use of the EAT to assess the RACF environment

The aim of the Workshops was primarily to improve the participant’s awareness and agreement with the ED principles and ways in which they can be applied in a residential aged care facility. The Consultancy and iPhone Plus interventions were seen as more likely to bring about Adoption and Adherence because of their stronger linkage with immediate intentions to change the environment. This was borne out in the findings that Consultancy and iPhone Plus respondents were more likely to indicate their involvement in personal use of the EAT to audit their environment as a result of participating in the interventions [Workshops 26%, Consultancy, 75%, iPhone Plus 78%]. iPhone Plus interviewees highlighted the use of the app and the audit reports in informing their environmental modifications by identifying action areas and providing confidence and validation for design choices. There was also evidence that the Workshop participants and iPhone Plus users had used the EAT
as an educational tool to inform other staff, indicating successful adoption of the environmental design knowledge. Following their mainly educational intervention, 26% of workshop survey respondents used the EAT to audit the RACF environment, and a further 29% intended to use it. The interviews revealed that 67% of Workshop participants had either made or were actively planning to make modifications. This is a surprising rate of adoption and indicates that the Workshops were able to support use of the EAT and consequent modifications.

**Conduct of Environmental Design Modifications**

In regards to modifications to the environment, the Consultancy and iPhone Plus respondents were again more likely than the Workshop participants to have initiated modifications [Consultancy 47.5%, iPhone Plus 56%, Workshop 37%]. Lower rates for Consultancy than iPhone Plus respondents may be explained by the nature of the planned interventions; with more ‘new builds’ and larger modifications being planned by Consultancy respondents who were still in the process of planning or commissioning alterations at the time of the follow-up evaluation. From the interviews, it was evident that the modifications planned by workshop participants were more likely to be minor changes to the RACF environment, rather than larger refurbishments or new builds.

Of those that hadn’t made any modifications most still expressed an intention to do so [Workshop 87%, Consultancy 85%, iPhone Plus 78%]. This is a strong indication that respondents believed that it was important to take action, i.e. move to the adoption stage of the knowledge translation process.

**Adherence**

There is evidence from the interviewees in all interventions that participation had influenced their ongoing practice and those of others in their workplaces. This included not only repeated use of the EAT to inform specific environmental modifications in other facilities but also the more subtle influence of the philosophy of care within the RACFs. The consultancy service appeared to support adherence through a ‘top down’ approach whereas adherence within the other intervention groups appeared to be promoted more through ‘bottom up’ strategies.

**Barriers to knowledge translation**

Barriers to the translation of environmental design knowledge into practice were most frequently identified by Workshop survey respondents. They most commonly included a lack of authority to either audit or make changes in their workplaces or a lack of confidence or perceived ability to use the EAT (or the feedback obtained from use of the EAT) to modify the environment. This is likely to relate to both the nature of the respondents who attended the workshops and the relative weakness of the educationally focused Workshop in translating knowledge into practice. Common barriers experienced by respondents in all
interventions included: financial barriers, incompatible or non-existent philosophy of care, staff attitudes and culture, and lack of organisational support.

**Facilitators of knowledge translation**

Whilst awareness raising activities within the Workshop intervention were ‘transformative’ for some of the Workshop interviewees, the use of the EAT was the main facilitator of Adoption of the new knowledge. Use of the tool provided interviewees with confidence that their design endeavours were evidence-based. The data provided by the use of the EAT tool was also utilised in advocacy for change at an organisational level. Tool usability was particularly emphasised by iPhone Plus interviewees including user friendly language and the value of the portability of the tool.

Interviewees appreciated the nature of the recommendations from the audit report. These were appreciated as they were considered both plausible and flexible for implementation within a range of timeframes and budgets. A team approach involving communication and collaboration at multiple levels within a facility or organisation was also highlighted as a facilitator of change.

Consultancy interviewees emphasised the undeniable role of the expert in assisting them to translate the recommendations report into practical, site specific and workable strategies. Respondents believed the expert advice led them to make specific changes they would never have thought about had they been left to respond to the recommendations report on their own. They emphasised the positive impact this had on producing results.

Both the iPhone Plus and Consultancy service interviewees also appeared more ‘ready for change’ than those who attended the Workshops. This state of readiness was associated with their perception that they were likely to receive support from their organisations to make environmental changes – with most either preparing for, or in the process of, making environmental changes, i.e. they were primed for Adoption.

**Conclusion**

The evaluation of these three interventions has revealed a high level of engagement on the part of those who have accessed them with the task of improving the built environment to improve quality of life for people with dementia. The interventions have all been shown to be effective ways of providing education and support to staff in RACFs and to introduce change to the organisations that own the facilities.

While perhaps it is not surprising that the intensive Consultancy intervention produced a high level of knowledge translation it is surprising that the much less intensive, and much cheaper to offer, iPhone Plus rivalled it in supporting all four stages of the Knowledge Translation process from awareness and agreement to adoption and adherence of the environmental design principles.
References
