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Replication of an RCT in Knowledge Translation for Technological Innovation: Does Tailoring Knowledge to Stakeholder Context Matter?

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Background: The technological innovation process involves use of knowledge (K) by multiple stakeholders, as K gets transformed between three states of concept, prototype and product/service (Lane and Flagg, 2011). Such K use is critical for ensuring the expected impacts on beneficiaries, which makes effective communication of K to these stakeholders equally critical. Recently, Knowledge Translation (KT) has been proposed (Graham et al, 2006) as an alternative to currently ineffective dissemination methods that rely on passive diffusion to reach stakeholders.

The Center on Knowledge Translation for Technology Transfer (KT4TT) at the University at Buffalo is evaluating KT strategies through a series of randomized controlled investigations (RCTs), for effectiveness with relevant stakeholder participants. In the first RCT related to new knowledge in augmentative and alternative communication (AAC) technology, the authors found two KT methods effective compared to passive diffusion (Stone and colleagues, 2011), although the methods were not significantly different from each other. The two methods were: (1) a targeted and tailored dissemination (TTDK) method, where the knowledge (published findings) is tailored to the context of specifically targeted stakeholder groups; and (2) a targeted dissemination (TDK) method, where targeted stakeholders receive the published findings (the article) with no tailoring.

Purpose: This poster presents the results from the second RCT which replicated the above investigation in Environmental Access Technology. The new knowledge referred to findings from Dr. James Rimmer's research, published in the article: *Development and validation of AIMFREE: Accessibility Instruments Measuring Fitness and Recreation Environments.* The AIMFREE tool targets improved access of persons with mobility impairments to fitness and recreation environments. The RCT replicated the previous investigation comparing TTDK and TDK strategies to passive diffusion.

Participants: were 288 individuals representing five stakeholder categories - industry professionals (fitness facility owners and manufacturers), brokers, prescribers, consumers, and researchers.

Method: The design compared the two strategies to passive diffusion, by randomly assigning participants to TTDK, TDK and Control groups and measuring K use three times, four months apart - baseline, follow up 1 and follow up 2. An online measuring tool, the Level of Knowledge Use Survey (LOKUS) which was developed in the previous RCT was updated and used for measuring and documenting the change in K use by participants. The

TTDK group received a Contextualized Knowledge Package (CKP) during the first half of the experiment between baseline and follow up 1, a tailored webinar during the second half of the experiment between follow ups 1 and 2 as well as offer of technical assistance. The TDK group received the original article by Dr. Rimmer but no tailored material. The control group did not receive anything in the RCT. This group represented stakeholders that typically receive K through a passive diffusion method.

Results: Were consistent with those of the RCT in AAC technology. Both TTDK and TDK were effective compared to diffusion. TTDK was slightly more effective, but the difference was not statistically significant. Both were effective in raising awareness as well as in moving non-users to use level. Qualitatively, the number of people moving up from non-awareness level was greater than the number moving up from non- use to use. As in the previous RCT, the CKP component of TTDK was found effective.

Conclusion: Targeting stakeholders systematically for dissemination seems an effective KT strategy. Tailoring also is effective when combined with targeting, but whether it is effective standing alone is unclear. Also, moving people to use seems more difficult than raising people's awareness through these strategies.

References:

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