



MEETING ABSTRACT

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Knowledge translation approaches to implement guidelines? Plan, assess, tailor, and learn

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Passive dissemination of guidelines to health care professionals is insufficient to change practice. Three weeks after the mailing of national *Asthma Diagnosis and Treatment Guidelines* to New Zealand general practitioners, only 46% of survey responders were able to locate the received guidelines, 12% had read them in detail, and only 20% indicated that it would change their practice [1]. In the face of information overload and guideline burnout among physicians [2], there is evidence that active dissemination with a simple actionable message may be more effective [3]. The Knowledge-to-Action cycle (see Figure 1 below) promoted by Graham and colleagues and strongly endorsed by the Canadian Institutes of Health Research, provides a framework for effective active dissemination [4]. It can be conceptualised in four main steps - namely planning, assessing, tailoring and learning.

The planning phase involves 1) selecting one or a few key messages as priorities for implementation from the list of guideline recommendations (*e.g.*, long-term daily controller medication for children with asthma); 2) identifying the target population of health care professionals (*e.g.*, general practitioners) and settings (*e.g.*, community practice); 3) adapting the message to the target audience (*e.g.*, prescribing by physicians; verifying adherence by pharmacists; and patient understanding of the role, safety and side effects of asthma medications by educators); and 4) selecting the action(s) to be taken and the outcomes to be measured to document adherence to the target implementation priority and its health impact.

The assessment phase includes: 1) assessing the baseline status of implementation of the selected priority(ies) preferably using objective, rather than reported, uptake by the

target audience (for example, reviews of medical charts or prescriptions are superior to reported actions, which are influenced by the social desirability bias); the objective assessment of implementation may be done pre- and post-intervention or in an iterative fashion, sometimes by interrupted time series analysis, to document not only the impact of an intervention but also the sustainability of the implementation intervention. 2) Secondly, the intention to implement the specific action is an important guide to predict action. Indeed, in a large systematic review, by simply asking the target audience Sheehan discovered that 97% of those who did not intend to implement a specific action never did, while only 53% of those who intended to take the action actually did [5]. This is important as the barriers are different for intenders and non-intenders. According to the Cabana taxonomy [6,7], non-intenders face seven internal barriers related to beliefs, knowledge and attitudes and three external barriers affecting health care professionals' ability to conform, namely barriers related to patient, guideline and environmental factors. For intenders, the intention-behaviour gap results from two main problems that can be addressed, failing to get started and getting derailed. It is critical to assess the barriers and facilitators faced by the target audience as well as the potential solutions proposed ideally by the target audience, in order to tailor the KT intervention. The omission of the assessment step is believed to explain the low success rate of a variety of KT interventions, which hovers around 10% [8].

Tailoring the KT intervention, by selecting both the KT strategy and change theory⁹ that best fit the target audience, is thus critical. The *Cochrane Effective Practice and Organization of Care Review Group* is an outstanding source of reference to select KT interventions, displaying summary estimates for various interventions tested by randomized controlled trials [8-11]. Unfortunately, it is far easier to change intention than it is to

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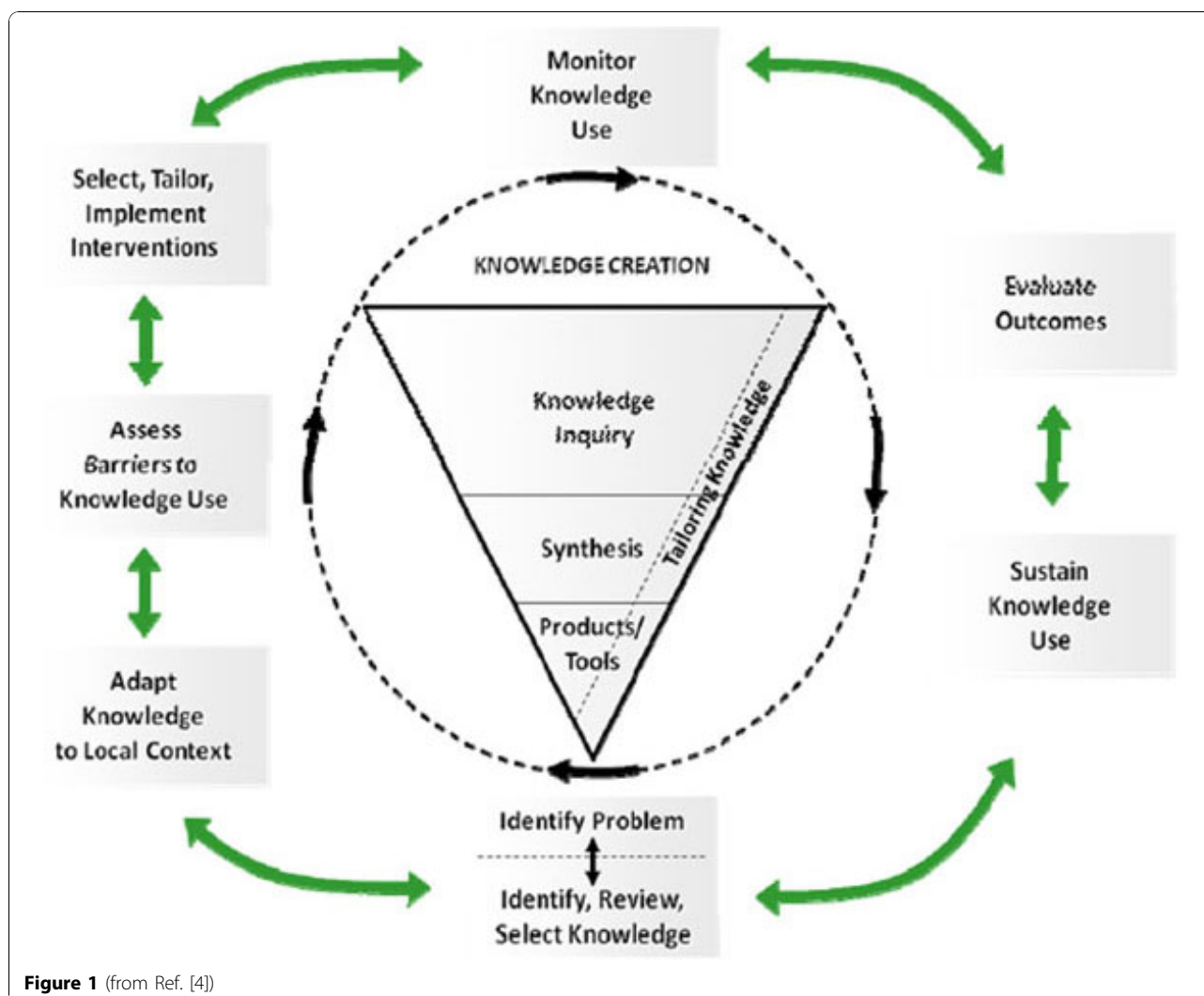


Figure 1 (from Ref. [4])

change behaviour [12]. The use of action theories to bridge the intention-behaviour gap has been well described [13]. For example, implementation intentions also called the “if-then plan” has been shown to significantly improve goal attainment [12]. It consists of four steps: identifying the self-regulatory problem Y (seeing a patient with poorly controlled asthma); identifying a cognitive/behavioural response X that would help resolve the problem (write a prescription of inhaled corticosteroids); identifying a good opportunity to instigate the response, serving as a cue (asthma quiz score of two or more filled in the clinic setting) [14]; and making a plan by generating in writing a contingency plan - if it is a situation Y, then I will do X (if I see a patient with poorly controlled asthma, that is, with an asthma quiz score of two or more, I will write a prescription for the inhaled corticosteroids) [14].

Finally, both uptake and outcome measures should be monitored for sustainability. We should learn from

successes and failures as the knowledge to action cycle implies improvement through iterative rotation around the cycle. Ideally, the intervention should be tested in the context of a randomized controlled trial to best assess the impact of the intervention; because of the likelihood of contamination between health care professionals working in the same setting (clinic, hospital, *etc.*), cluster randomisation may be ideal to address this issue [15]. Whenever possible, having a third arm to examine barriers and facilitators to the uptake of the intervention is useful to better learn from our endeavour. Alternatively, such qualitative analysis of barriers and facilitators can be done after a successful or failed intervention to understand the mechanistic pathway.

In summary, the Knowledge-to-Action cycle provides the framework for designing and testing effective intervention strategies to improve implementation of guidelines by any audience, including health care professionals. The key decision remains to select a simple actionable message.

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