Indicators That Measure Initial Outcomes

Overview

Outcomes are benefits to the users that may relate to knowledge, skills, attitudes, behaviors, or health conditions. For any specific project, outcomes are expected at several points, including the initial, intermediate, and end stages.

This section presents indicators that measure the initial outcomes of various KM outputs. One of the key objectives of KM programs is to acquire knowledge and put it to use. Initial outcomes refer to various stages of cognition and behavior identified by behavior change theories, such as the Diffusion of Innovations Theory (Rogers, 2003) and the social cognitive theory (Bandura, b, 2006). The “innovation-decision process” from Diffusion of Innovations informed the identification of two main subcategories of initial outcomes: learning, which is broken down further into awareness, attitudes, and intention; and action, which is applied in decision-making, practice, and policy. Self-efficacy is an important predictor of behavior change, defined in social cognitive theory as one’s belief in one’s ability to succeed in a specific situation (Bandura b 2006).

Learning

- Awareness: This stage constitutes a person’s initial recognition, understanding, and insights about the knowledge/innovation, and the necessary skills and tools that help effective adoption.
- Attitude: This stage occurs when a person forms an opinion about the knowledge/innovation. The basis for that opinion may lie in Rogers's characteristics of an innovation: relative advantage, compatibility, complexity, observability, and trialability.
- Intention: This stage encompasses a person's intention to seek additional information about the knowledge/innovation, and her or his intention to use it. Also, it covers a person's adoption of the new knowledge as his or her own.

Action

- Decision-making: This stage occurs when knowledge is used to inform a decision.
- Practice: This stage occurs when knowledge is used specifically to change global health management and clinical behavior. For example, knowledge about proper infection prevention measures may enable health care providers to adopt appropriate infection prevention techniques.
- Policy: This stage occurs when knowledge is used to inform management and/or procedure. For example, a policy brief on the success of task shifting may support the development of a new policy that allows lower-level health care providers to insert contraceptive implants.

Fully capturing initial learning and action outcomes can be challenging. While it is relatively easy to track the reach of KM outputs, and even to assess how useful they are judged to be, it
can be difficult to monitor the knowledge adoption process and attribute short- or long-term changes in decision making, practice, or policy to a KM product or effort. Even if intended users indicate that they have learned something, the timing and frequency with which they apply that knowledge can be difficult to observe (Machlup, 1993; NCDDR, 2006). It is partially due to the nature of knowledge, which differs from data and information in two ways: knowledge is based on experience and it involves the application of theory or experimental methods (Milton, 2005).

To investigate use of knowledge and outcomes stemming from use of knowledge, KM researchers can ask users or observe their actions. Asking those who have been exposed to knowledge if they have applied it, how they have applied it, and what affect that it had is relatively straightforward. While courtesy bias and recall bias may influence the data collected, in some cases, the reported use or its result can be verified objectively. However, observing use of information and outcomes related to its use in real time is much more challenging, and determining what information and knowledge were factors in generating a change in behavior or an improvement in clinical practice continues to be difficult. One way to address this challenge is to start with the action or project outcome, and work backward to ascertain its influences and contributed factors to find out what specific knowledge inputs were made into the decision-making process by users. Quasi-experimental evaluation design can be used to isolate a causal pathway leading from specific KM activity areas to anticipated project outcomes.

**Subcategories**

Indicators that measure initial outcomes are grouped into two subcategories: 1) learning and 2) action. Altogether, nine indicators are mapped to these subcategories (indicators 34 to 42).

<table>
<thead>
<tr>
<th>Subcategory (Area)</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Learning</strong></td>
<td>Measures learning stages encompassing the progression from awareness of the knowledge/innovation to one’s attitudes toward the knowledge/innovation to their intention to use it.</td>
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<tr>
<td><strong>Action</strong></td>
<td>Captures the adoption of knowledge for decision-making purposes or for application in practice and policy.</td>
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