Section 2.1

The K in KT: Knowledge Creation

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The K in KT: Knowledge Creation

• At the center of the Knowledge-To-Action Cycle is the “Knowledge Funnel”
• This represents the process through which knowledge is refined, distilled, and tailored to the needs of knowledge end-users such as health care professionals and policy makers
1. Knowledge Inquiry

- Describes the act of deriving knowledge from the multitude of primary studies such as randomised trials
- The product of studies such as these is referred to as ‘first generation knowledge’
- This knowledge in its natural state is largely unrefined
The “Knowledge Funnel”

1. Knowledge Inquiry (Con’t)
   
   • Example
     – Primary research studies reported inconsistent effect of antibiotics on URTI such as sore throat
     – Use of antibiotics associated with development of resistant organisms
2. Knowledge Synthesis

- ‘second-generation knowledge’ - it represents the aggregation of existing knowledge
- The process of aggregation involves application of explicit and reproducible methods to identify, appraise, and synthesize studies relevant to a specific question in order to minimize bias and random error
- Examples of knowledge syntheses include systematic reviews, meta-syntheses, scoping reviews, and realist reviews
2. Knowledge Synthesis (Con’t)

- Example
  - When the day-3 and week-1 effects of antibiotics on sore throat were aggregated across all primary studies with respect to their sample size, the meta-analysis revealed only modest effects;
  - The number of patients that needed to be treated for the treatment to be considered beneficial in preventing one sore throat was 6 and 21 for day 3 and week 1 respectively (Arnold & Straus, 2005; Cochrane Database of Systematic Reviews)
The “Knowledge Funnel”

3. Knowledge Tools/Products

• Synthesized knowledge is used to create knowledge tools and products

• Two examples of knowledge translation tools include: clinical practice guidelines and patient decision aids
The “Knowledge Funnel”

3. Knowledge Tools/Products (con’t)

• Clinical practice guidelines:
  – help clinicians and patients make decisions about appropriate health care for specific clinical circumstances
  – inform decisions made by health care policymakers and clinical managers

• Patient decision aids:
  – help clarify the value patients place on benefits versus harm
  – guide the process of decision making
  – translate best available evidence into patient-friendly tools to inform patients about their options
3. Knowledge Tools/Products (con’t)

- Example:
  - The Centers for Disease Control and Prevention in the United States developed a guideline stating that antibiotics should not be prescribed for acute uncomplicated respiratory track infection in otherwise healthy adult patient (see Cooper et al., 2001; Snow et al., 2001a,b)