

## **Section 2.1**

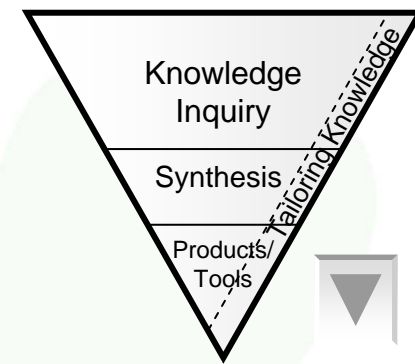
# **The K in KT: Knowledge Creation**

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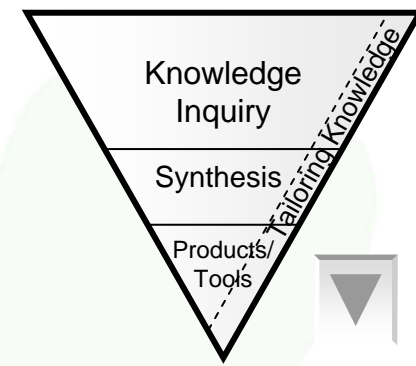
# The K in KT: Knowledge Creation



- 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



# The “Knowledge Funnel”

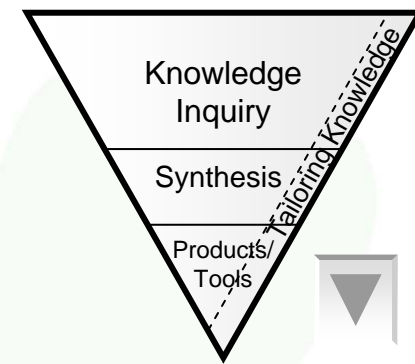


## 1. Knowledge Inquiry

- 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”

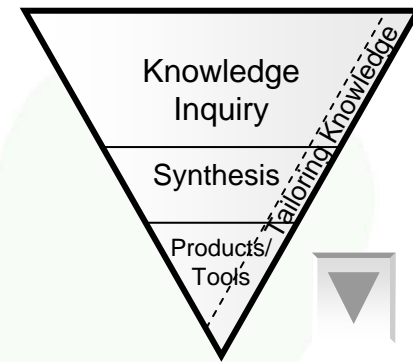


## 1. Knowledge Inquiry (Con't)

- Example
  - Primary research studies reported inconsistent effect of antibiotics on URTI such as sore throat
  - Use of antibiotics associated with development of resistant organisms



# The “Knowledge Funnel”

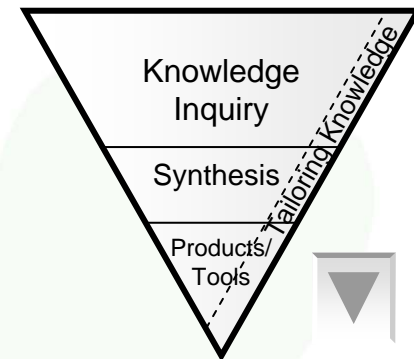


## 2. Knowledge Synthesis

- ‘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



# The “Knowledge Funnel”



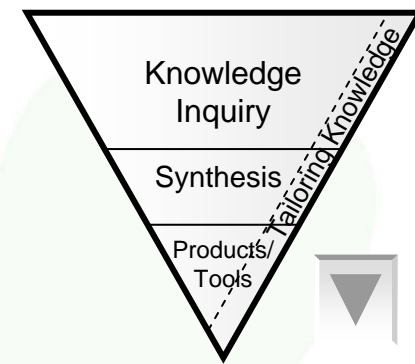
## 2. Knowledge Synthesis (Con't)

- 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”

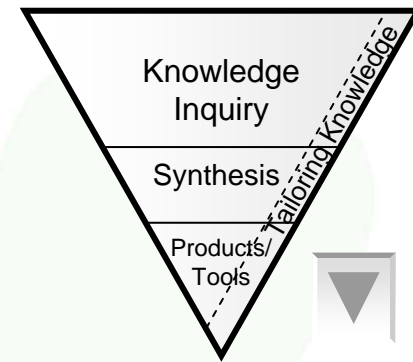


## 3. Knowledge Tools/Products

- 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”



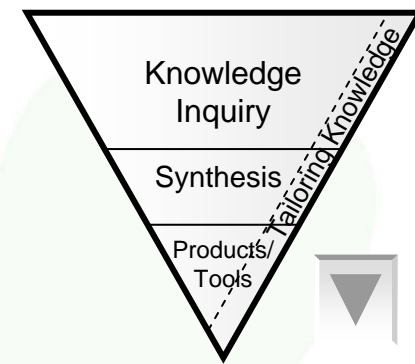
## 3. Knowledge Tools/Products (con't)

- 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





# The “Knowledge Funnel”



## 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)

