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Priority setting for Cochrane Review Groups

1. Introduction

The number of clinical questions is almost infinite, whereas the resources to answer them are limited. Accordingly, Cochrane Review Groups (CRGs) must establish priorities. To do so, we need to understand the information needs of patients, their clinicians, and perhaps health administrators responsible for prioritizing health resources. In the past, this was undertaken implicitly, mostly based on pragmatic considerations (Can the proposed team achieve the review without gargantuan input from the CRG? Is there any evidence for the question? Is the question addressing currently used, or at least contemplated, clinical practice?), but we now know that clinicians and clinical researchers make errors in assuming what is important to know for patients. For example, priority setting of an organization setting research outcome measures in rheumatology (OMERACT, https://omeract.org/) had to be completely rejigged after patients with rheumatoid disease were explicitly asked for their research outcome priorities (tiredness being reported by patients as much more important than pain and function, their previously assumed priorities) [1]. This is true for many other clinical areas [2,3].

The acute respiratory infections (ARIs) CRG editorial executive set out to objectively prioritize information needs of patients, clinicians, clinical researchers, and health administrators. The task is not straightforward for two reasons: (1) the range of ARI illnesses and treatments is very large and heterogeneous; (2) simply people find it difficult to declare what they want to know (''I don't even know what I don't know''). Lists generated as a starting point for prioritization to make this easier risk prejudice. We decided to limit our investigation to intervention questions, which make up most Cochrane reviews (although diagnostic and prognostic reviews are being produced now).

We first undertook an audit of the ARI Group's Cochrane (systematic) reviews and compared the topics here with randomized controlled trials (RCTs) that are collected in the ARI CRG's trial register, the largest collection of RCTs available, containing not only what is in standard databases (such as Medline and Embase), but unpublished trials (such as conference proceedings). This identified gaps between the RCTs (a proxy for what research trialists thought important) and Cochrane reviews, which was 41% of the RCTs [4]. There was overrepresentation of some topics (eg, antibiotic vs. placebo for pneumonia had 11 Cochrane Reviews and 205 RCTs), whereas in six Cochrane reviews, there were no RCTs (so-called ''empty reviews'') [4].

The next step was to present a list of the 649 systematic review topics (selected for lacking a Cochrane Review but with existing RCT evidence), generated by the audit, to stakeholders (who were contacted electronically through listservs inside and outside Cochrane, to obtain as much diversity as possible from consumers, clinicians, researchers—including Cochrane authors—and health administrators) [5]. Stakeholders were given a month to respond for each of the two rounds. The first identified the top 25 systematic review topics, with an option to add in extra topics not listed, and the second round asked the participants to each nominate their top 10, yielding a collective top 20. There was a broad representation with 154 respondents from 33 countries—clinicians and researchers as well as those classifying themselves as ''other.'' That list of 20 priority topics is now available for decision making [5].

Finally, we analyzed a data set of 314,346 clinical questions about ARIs asked by clinicians (and an unknown proportion of consumers) from an evidence-answering service (TRIP database www.tripdatabase.com/). The searches were difficult to analyze, requiring us to infer the question being asked when an illness and clinical management could be identified, which was possible in a minority of patients (45,497). We set out the inferred questions by illness along one axis and management along the other. When both illness and treatment were the same for different clinical questions, we classified them as identical. This method allowed us to address not only treatment questions (which made up 91%) but also diagnostic (5%) and prognosis questions (2%). The 20 most common questions (which addressed 67%) partly overlapped some common questions of the stakeholder survey. All but two already had Cochrane reviews addressing them [6].

These three studies have provided us with objectively derived priority lists, not perfect (eg, we could have collected the data in many other ways, probably yielding different priorities), but providing three incompletely overlapping lists to support our prioritization decisions (Table 1). Clearly, these cannot be used

Conflicts of interest: Members of the Cochrane ARI Group are funded by the Australian NHMRC (for the Cochrane work) and for research into antibiotic resistance in the community. The authors have been funded to prepare evidence of antibiotic resistance reversal in food animal farming (WHO, Geneva) and for preparing patient decision aids (Australian Commission for Safety and Quality in Health Care, and BUPA UK).

Table 1
Items ranked from the three priority setting exercises of the Cochrane Acute Respiratory Infections Group, for comparison

Diseases			Managements		
TRIP analysis	**Delphi Survey**	**RCTs unreviewed by Cochrane**	**TRIP analysis**	**Delphi Survey**	**RCTs unreviewed by Cochrane**
Pneumonia	ARI nonspecific	Pneumonia	Antiviral	Antibiotics	Antibiotic vs. antibiotic
Influenza	Influenza	Bronchitis, acute	NSAID	Nonspecific treatment	Vaccination
Common cold	Otitis media	Pharyngitis/sore throat	Vitamins/ Supplements	Vaccination	Immunotherapy
Acute Otitis Media	Sore throat	Otitis media	infection control	Corticosteroid	NSAID
Pharyngitis	Sinusitis	ARI nonspecific	Saline/Steam/lavage	Vitamins/Supplements	Antiviral
Sinusitis	Bronchiolitis	Sinusitis	Sore throat	Probiotic	Vaccination
Meningitis	ARI nonspecific	Polio	Complementary/ Alternative	Physiotherapy	Vitamins/supplements
Bronchiolitis	Influenza	Bronchiolitis	Corticosteroid	Procalcitonin	Antitussive/decongestant
Croup	Pneumonia	Common cold	Diagnostic test	Antitussive	Complementary/ Alternative
Mortality outcomes	Common cold	Pharyngitis/sore throat	Vaccination	Surgery	Vaccination reminder
Pneumococcus		Common cold		Immunotherapy	Humidification/steam
Cough		Herpes simplex		CPAP	Antiviral
Respiratory tract infection		Otitis media		Antihistamine	Vaccination
Diagnostic questions		ARI nonspecific		Antiviral	
Pertussis		Staphylococcus		Paracetamol	
Bronchitis		Bronchiolitis		Complementary/Alternative	
Measles		Influenza		Immunoglobulin	
Wheeze		Pneumonia		Radiography	
Prognosis questions		Respiratory syncytial virus		Nasal irrigation	
Rubella		Staphylococcus		Humidification	
Respiratory syncytial virus		Streptococcus		Barrier masks	
Mumps				Bronchodilator	
Infectious mononucleosis				Education	
Laryngitis				Exercise/Positioning	
SARS				NSAID	
Rhinorrhea				Oxygen therapy	
Nasopharyngitis				Heliox	
				Infection control	
				Hand washing	
				Vitamin A	
				Xylitol	
				Leukotriene	
				Fluid therapy	
				Surfactant	
				Statins	
				Public health	
				Glycerol	
				Anticholinergics	
				Immunostimulant	

Abbreviations: ARI, acute respiratory infection; RCT, randomized controlled trial.
The data from the Delphi survey were taken from round 2 (the final) table; from the Cochrane ARI Group were of RCTs with no reviews.

slavishly—they do not form an algorithm, and there are other important factors to consider, including the ability of the proposed team to successfully complete and update a review.

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