Expediting Knowledge Synthesis and Translation in Pediatric Clinical Care:

Piloting a Living Systematic Review on Interventions for Bronchiolitis

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Aim

To evaluate technologies and “citizen” engagement in terms of feasibility and impact on the conduct and validity of a systematic review in comparison to conventional methods.

Objectives

1**) Evaluate the feasibility of crowd sourcing (i.e., engaging citizen scientists) for systematic review production.**

1.1.) evaluate the use of social media platforms such as Twitter to recruit and engage citizen scientists

2) Evaluate the inter-reviewer reliability between "citizen" and "control" reviewers for: abstract screening, full text screening, risk of bias assessments and data extraction

3) Evaluate the validity of the meta analysis results derived from "citizen" data extraction compared to "control" data.

4) Evaluate the use of two online software programs for conducting the different steps involved in systematic review production.

- **Ethics**

  University of Alberta Human Ethics Committee

  University Of Alberta Faculty of Medicine and Dentistry Trainee Access Committee

- **Recruitment**

  Contained within the University of Alberta Academic setting
  -Target Audience: undergraduates, graduates and postdoctoral fellows

  Online *only* media campaign
  - emails to university listservs
  - student notices through e class
  - Twitter

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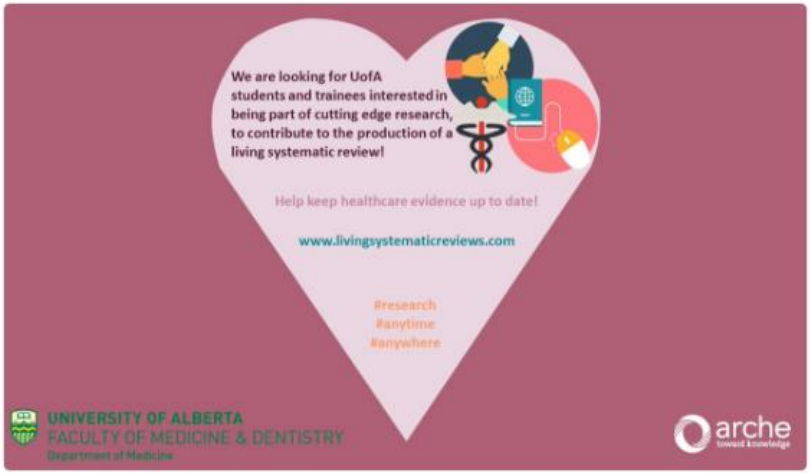

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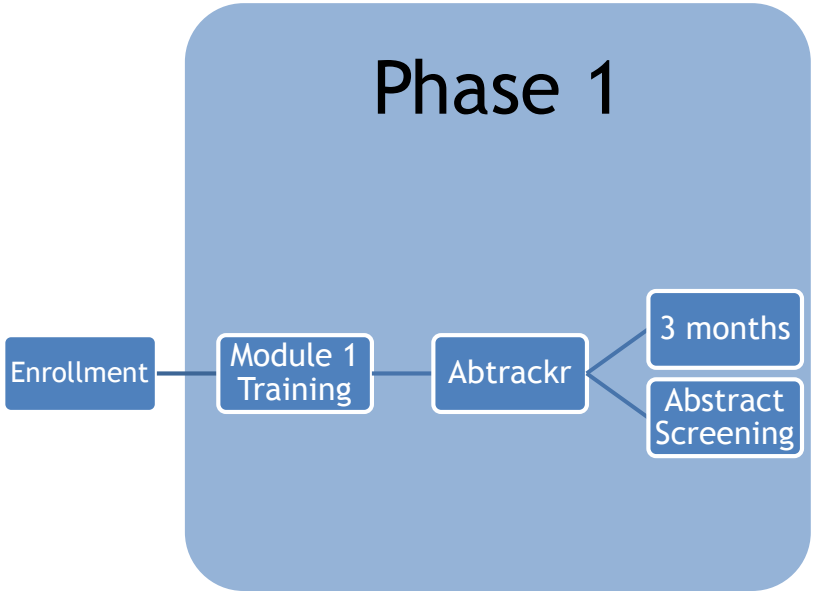
www.livingsystematicreviews.com

Overview
Enrollment/Informed Consent
Training Modules
Screening Tool Instructions and Video Tutorials
Platform to “host” the LSR
ARCHE Investigator Team



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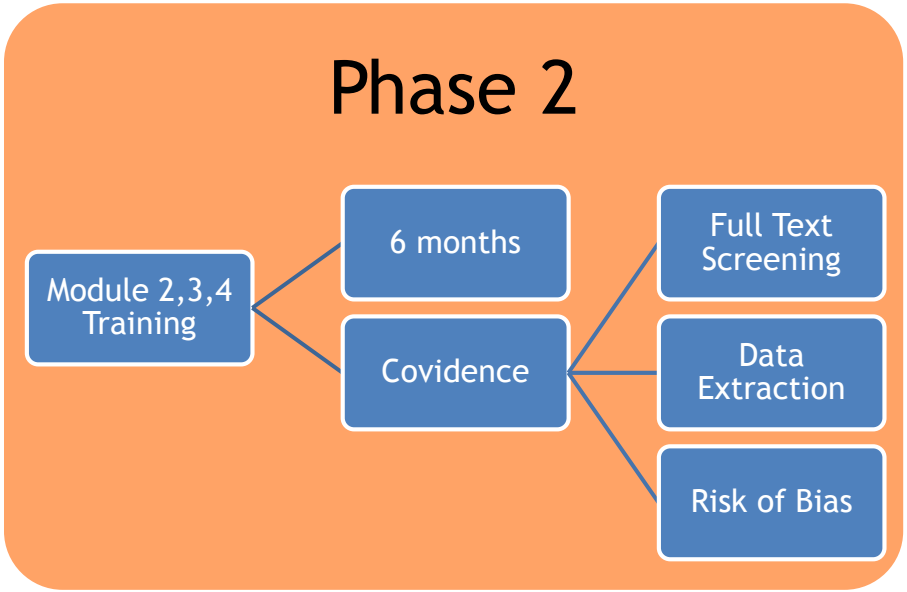


…….starting June 2017

A "control" review is being run in parallel by trained staff at the Alberta Research Centre for Health Evidence

Control Review:

Interventions for bronchiolitis in the acute care setting: a systematic review and network meta-analysis

Results

Primary outcomes

- inter-reviewer reliability between participant and reference reviewer data (all tasks)
- validity of the meta-analyses resulting from the participants' data

Secondary outcomes

- feasibility of social media to crowd source
- number of participants and attrition rate at each step
- average number of references screened and assessed for risk of bias

Exit Survey

Q: Do you think the number of citations to screen was too high?

Q: Did you find the online Abstrakr tool user friendly?

Q: How would you rate the amount of training you received for each review task?

Open ended Questions

Q: What was your favourite part of the study? Why?

Q: What was your least favourite part? Why?

Results to date

Participants	N=41
Age	27 ± 9 (range: 19-54)
Gender (m/f)	6/35
Education	
Undergraduate	22
Graduate	18
Postdoctoral Fellow	1

Participants Field of Study

- Nutrition
- Nursing
- Neuroscience
- Psychology
- Public Health
- Engineering

Phase 1 – Available Results

	No. of Participants		
Enrolled	41		
Completed Training Module 1	21		
Actively Participating	15		
	Total	**Mean**	**Range**
No. of Citations Screened	1927	129	2 - 1457
Kappa Statistic	0.228	0.031 (SE)	0.168 – 0.289 (95% CI)
Sensitivity	0.76	0.68-0.82	(95% CI)
Specificity	0.91	0.89 – 0.92	(95% CI)

Discussion

- **Disconnect between processes**

  Enrollment → completion of Module 1 → Abstrackr → Screening

  - ✓ Systematically sent "friendly" reminder emails every fortnight participants
  - ✓ 3 emails sent before option to "withdraw" and exit survey is sent

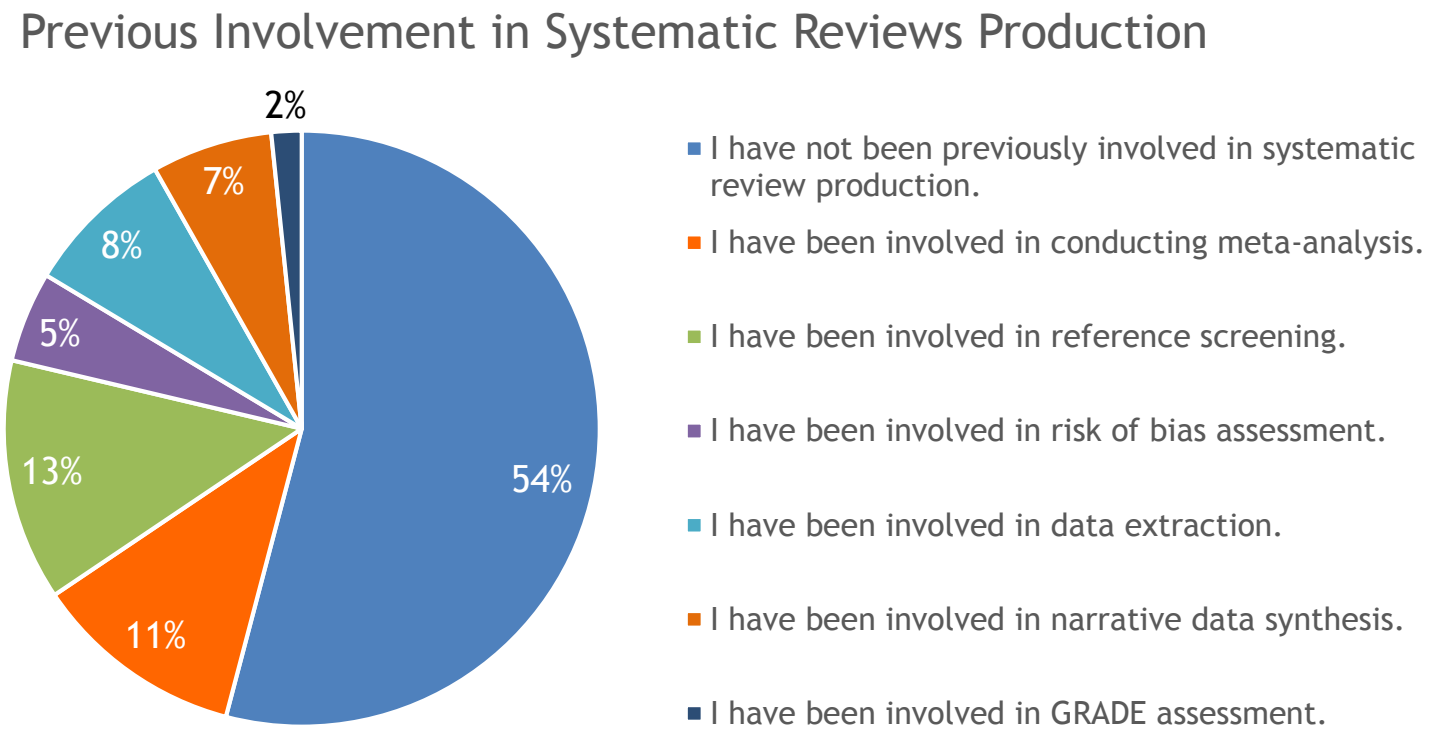
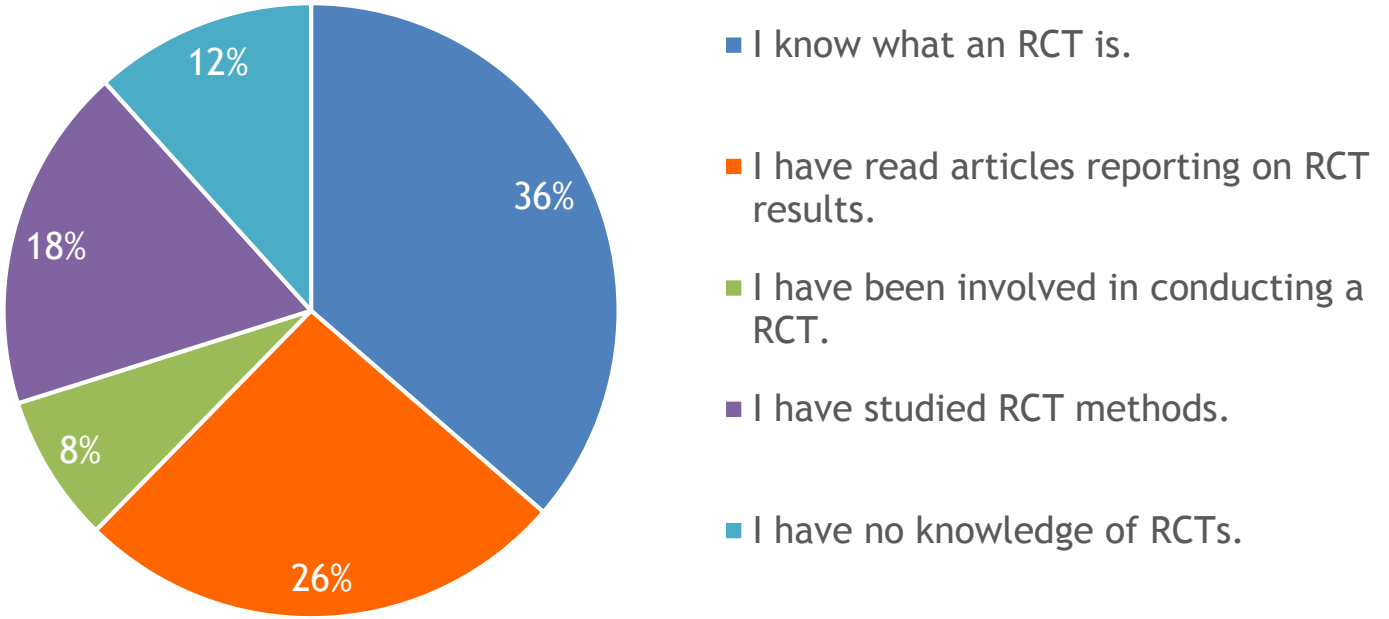
- **Project Management perspective** – Abstrakr not an automated process
  - Abstrakr did not like usernames to be consecutive numbers (Study IDs)

- **Online Training -** how much is enough? Do they need to pass the training before starting to screen?

- **Online recruitment**– University campus student bodies hard to engage via Twitter
  - Direct email to students may be better?

- **Attrition rate:** Incentive to participate and complete tasks
  - Is a certificate enough?
  - Should there be monetary incentives?

Results to date



Previous Knowledge of RCT'S