

Expediting Knowledge Synthesis and Translation in Pediatric Clinical Care:

Piloting a Living Systematic Review on Interventions for Bronchiolitis



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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.**

Methods

- **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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It's #Valentinesday  Share the #research #love @UofAResearch

A large heart-shaped graphic on a maroon background. Inside the heart, there's text and several icons: a globe, a caduceus, a smartphone, and a magnifying glass. The text reads: "We are looking for UofA students and trainees interested in being part of cutting edge research, to contribute to the production of a living systematic review! Help keep healthcare evidence up to date! www.livingsystematicreviews.com #research #anytime #anywhere". At the bottom of the heart, there are logos for the University of Alberta Faculty of Medicine & Dentistry and Arche (toward knowledge).

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1



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1

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Overview

Enrollment/Informed Consent

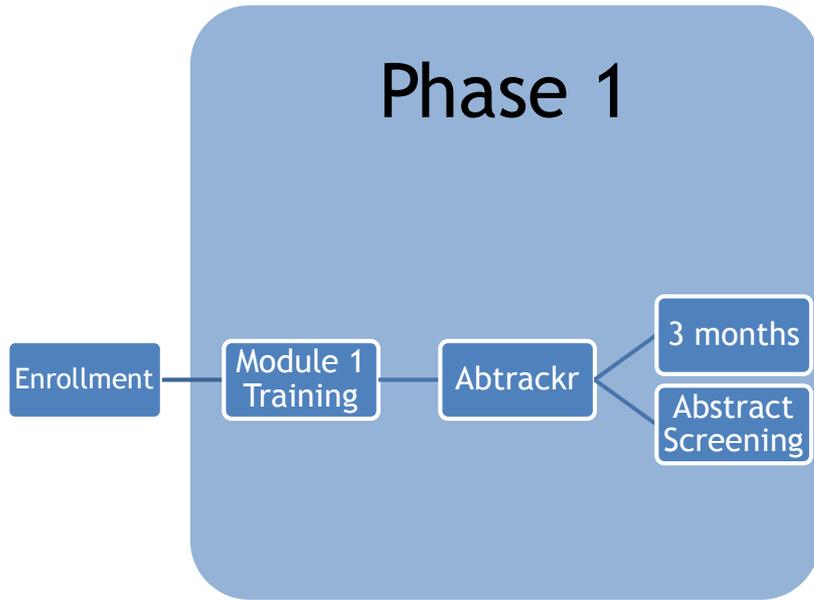
Training Modules

Screening Tool Instructions and Video Tutorials

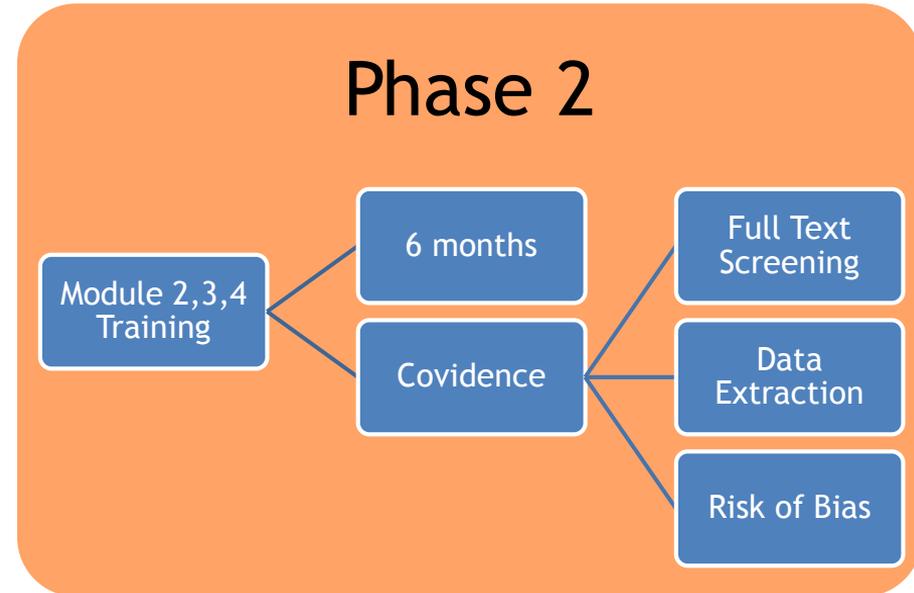
Platform to “host” the LSR

ARCHE Investigator Team





Currently underway.....



.....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

Qualitative component

Exit Survey

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

Q: Did you find the online Abstrakt 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

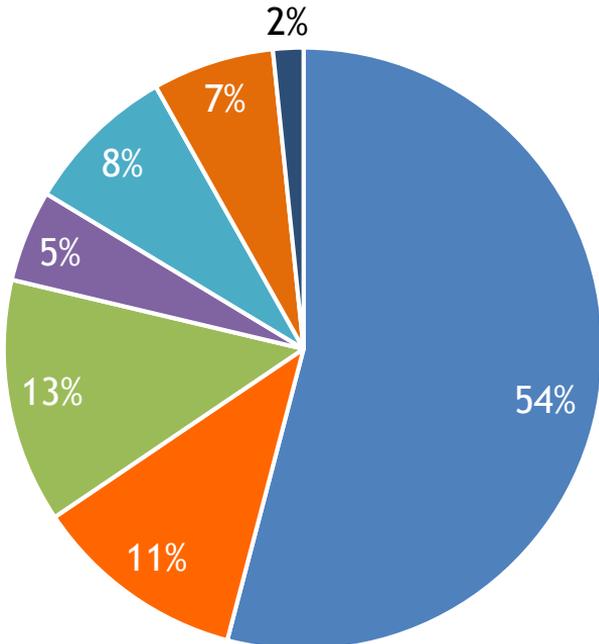
- **Project Management perspective** - Abstrackr not an automated process
 - Abstrackr did not like usernames to be consecutive numbers (Study IDs)

- **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?

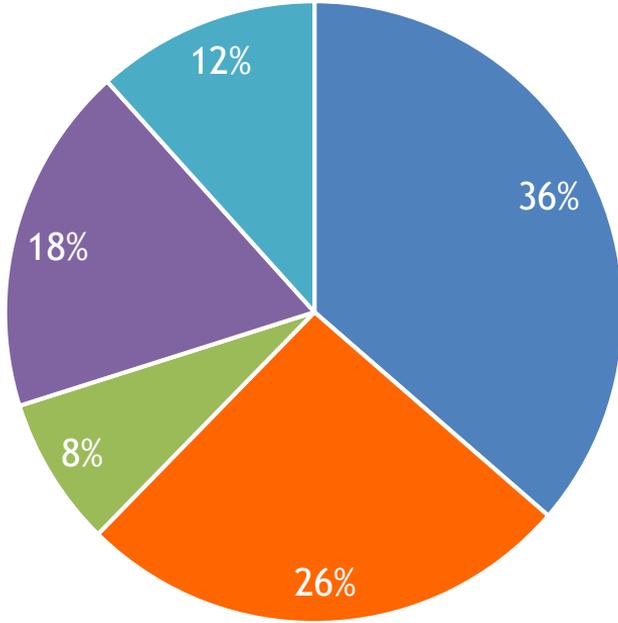
- **Attrition rate:** Incentive to participate and complete tasks
 - Is a certificate enough?
 - Should there be monetary incentives?

Previous Involvement in Systematic Reviews Production



- I have not been previously involved in systematic review production.
- I have been involved in conducting meta-analysis.
- I have been involved in reference screening.
- I have been involved in risk of bias assessment.
- I have been involved in data extraction.
- I have been involved in narrative data synthesis.
- I have been involved in GRADE assessment.

Previous Knowledge of RCT'S



- I know what an RCT is.
- I have read articles reporting on RCT results.
- I have been involved in conducting a RCT.
- I have studied RCT methods.
- I have no knowledge of RCTs.