

# Optimizing behavioural trials with qualitative research methods: Examples from cardiovascular science

**Dr. Karen Bouchard**

**Associate Scientist**

**Division of Cardiac Prevention and  
Rehabilitation**

**University of Ottawa Heart Institute**

**Assistant Professor**

**School of Epidemiology and Public Health**

**Faculty of Medicine**

**University of Ottawa**



uOttawa

Faculté de médecine  
Faculty of Medicine



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# Cardiovascular Disease in Canada

- Second leading cause of death in Canada (1st for women)
- 2.4 million Canadian adults live with ischemic heart disease
- Leading cause of hospitalization
- Symptoms can impair activities of daily living and reduce QoL
- Up to 70% of premature cases could be avoided



# The University of Ottawa Heart Institute



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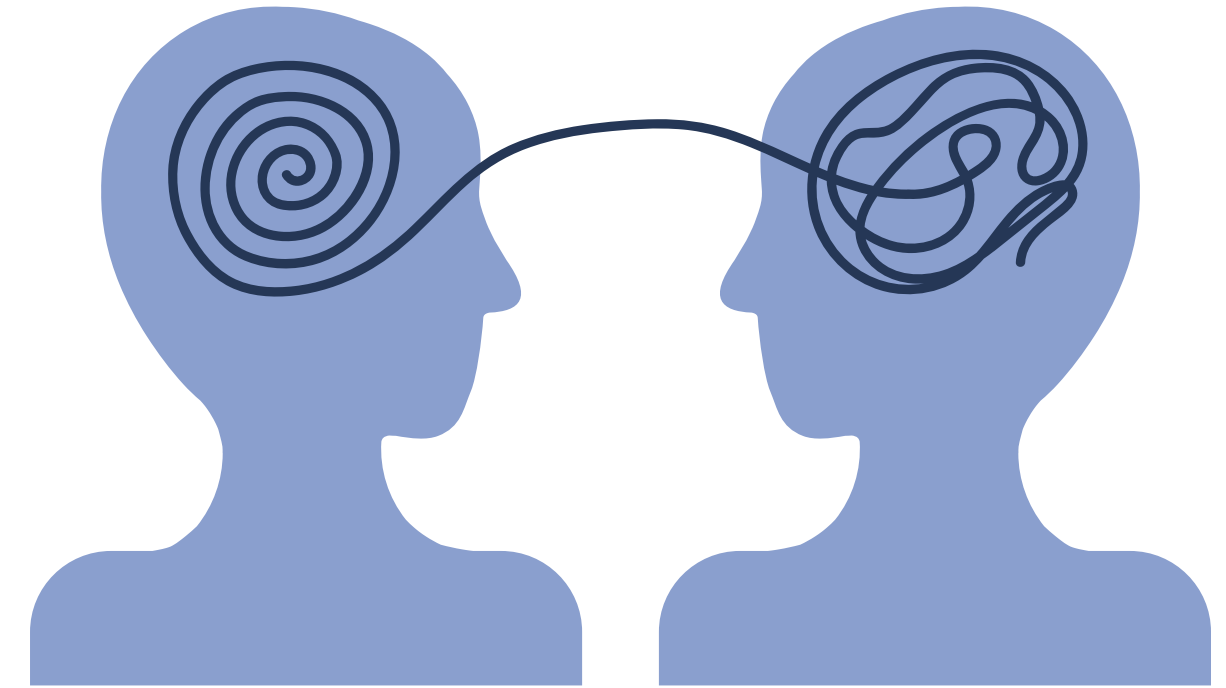
**Dr. Heather Tulloch**



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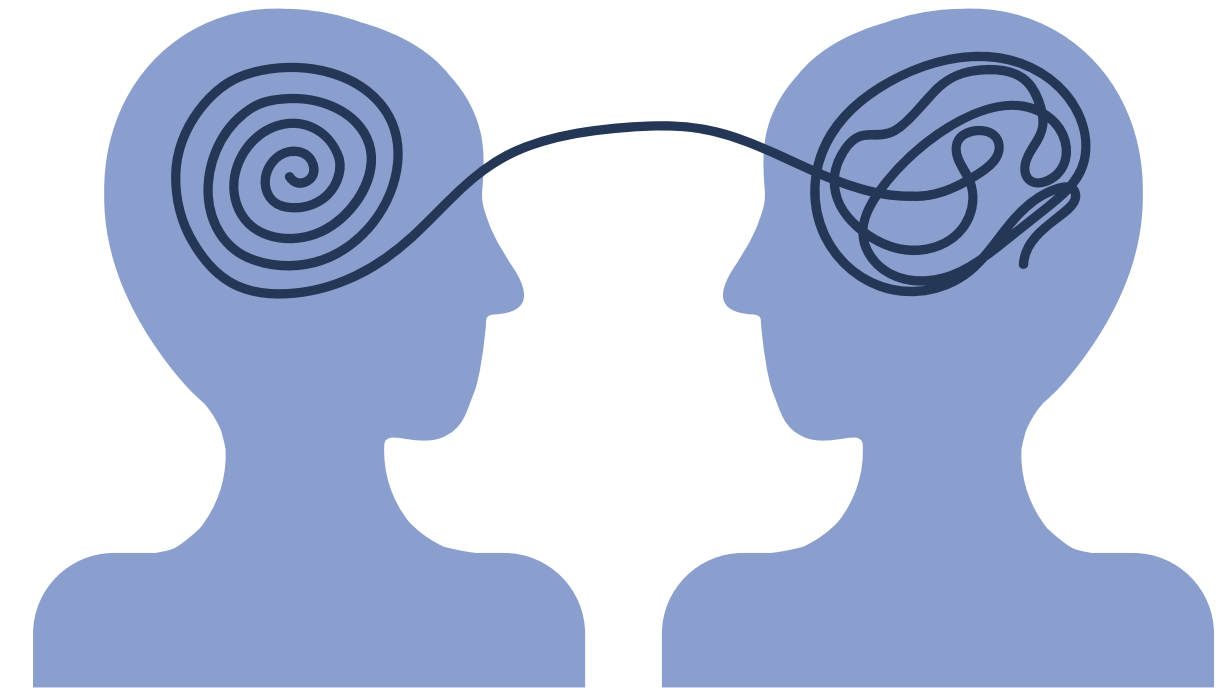
**Dr. Heather Tulloch**



# The University of Ottawa Heart Institute



**Dr. Heather Tulloch**



# Qualitative Research Methods

A process of **naturalistic** inquiry that involves the collecting and analyzing of **non-numerical** data to understand phenomena



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- beliefs
- experiences
- attitudes
- behaviour
- interactions
- processes
- meanings





# Qualitative Research Methods

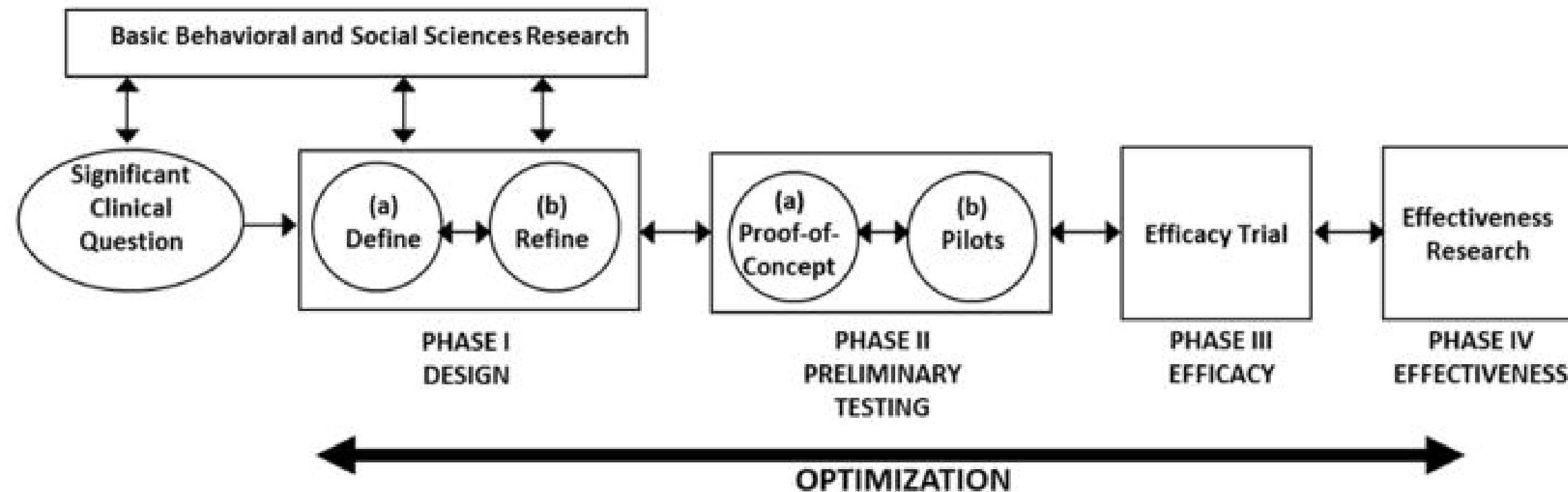
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# Qualitative Research Methods in Behavioural Trials



## Research Methods & Reporting

**A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance**

*BMJ* 2021 ; 374 doi: <https://doi.org/10.1136/bmj.n2061> (Published 30 September 2021)



# Qualitative Research Methods in Behavioural Trials



What is qualitative research really good at?

- **Developing interventions**
- **Improving interventions**
- **Describing interventions**
- **Understanding how an intervention works/doesn't work**



# Qualitative Research Methods in Behavioural Trials



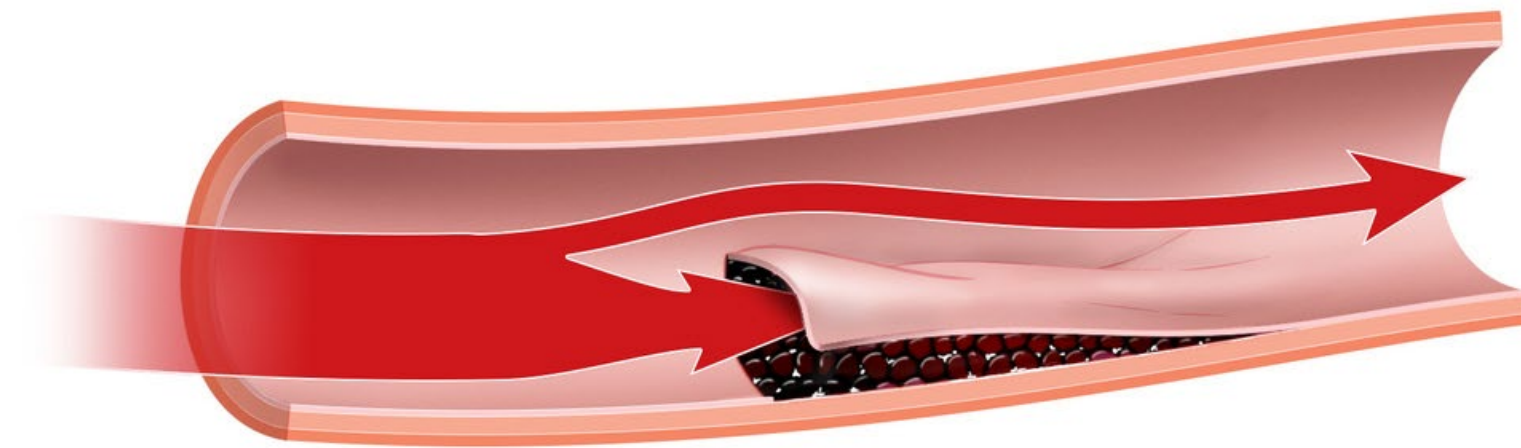
What is qualitative research really good at?

- Desired/required intervention components
- Value and benefits of intervention
- Acceptability of intervention
- Feasibility of intervention
- Fidelity of intervention
- Dose of intervention
- Identify outcomes
- Implementation of intervention in real world
- Strategies for recruitment and retention
- Ethical conduct of the intervention
- Adaptation of trial to local context
- Underlying theory informing intervention
- Impact of the intervention on researchers & participants



# Qualitative Research Methods in Behavioural Trial **Development**

## Example 1



**What do patients with SCAD need?**  
**What should we target in a support program?**





# Qualitative Research Methods in Behavioural Trial **Development**

## Example 1

### What did we learn?

- Post-event psychological distress, particularly anxiety (fear of recurrence), was evident
- Family-based, vocational, and peer support was indicated
- Low completion rates of cardiac rehabilitation and current programming was deemed inadequate



# Qualitative Research Methods in Behavioural Trial **Development**

## Example 1

> [Health Psychol.](#) 2021 Jul;40(7):472-479. doi: 10.1037/hea0001086.

### Recovering from spontaneous coronary artery dissection: Patient-reported challenges and rehabilitative intervention needs

Karen Bouchard <sup>1</sup>, Thais Coutinho <sup>1</sup>, Jennifer Reed <sup>1</sup>, Kathleen Lalande <sup>1</sup>,  
Chowdhury Nishwara Tarannum <sup>2</sup>, Derek So <sup>1</sup>, Jacqueline Saw <sup>3</sup>, Sharon Mulvagh <sup>4</sup>,  
Heather Tulloch <sup>1</sup>

> [Can J Cardiol.](#) 2020 Jul;36(7):1156-1160. doi: 10.1016/j.cjca.2019.11.004. Epub 2019 Nov

### Secondary Preventative Care for Patients After Spontaneous Coronary Artery Dissection: A Qualitative Analysis of Health Care Providers' Perspectives

Karen Bouchard <sup>1</sup>, Chowdhury Nishwara Tarannum <sup>2</sup>, Thais Coutinho <sup>3</sup>, Derek So <sup>3</sup>,  
Heather Tulloch <sup>4</sup>

[J Am Heart Assoc.](#) 2023 Dec 19; 12(24): e032141.

PMCID: PMC10863752

Published online 2023 Dec 12. doi: [10.1161/JAHA.123.032141](#)

PMID: [38084731](#)

### Spontaneous Coronary Artery Dissection Across the Health Care Pathway: A National, Multicenter, Patient-Informed Investigation

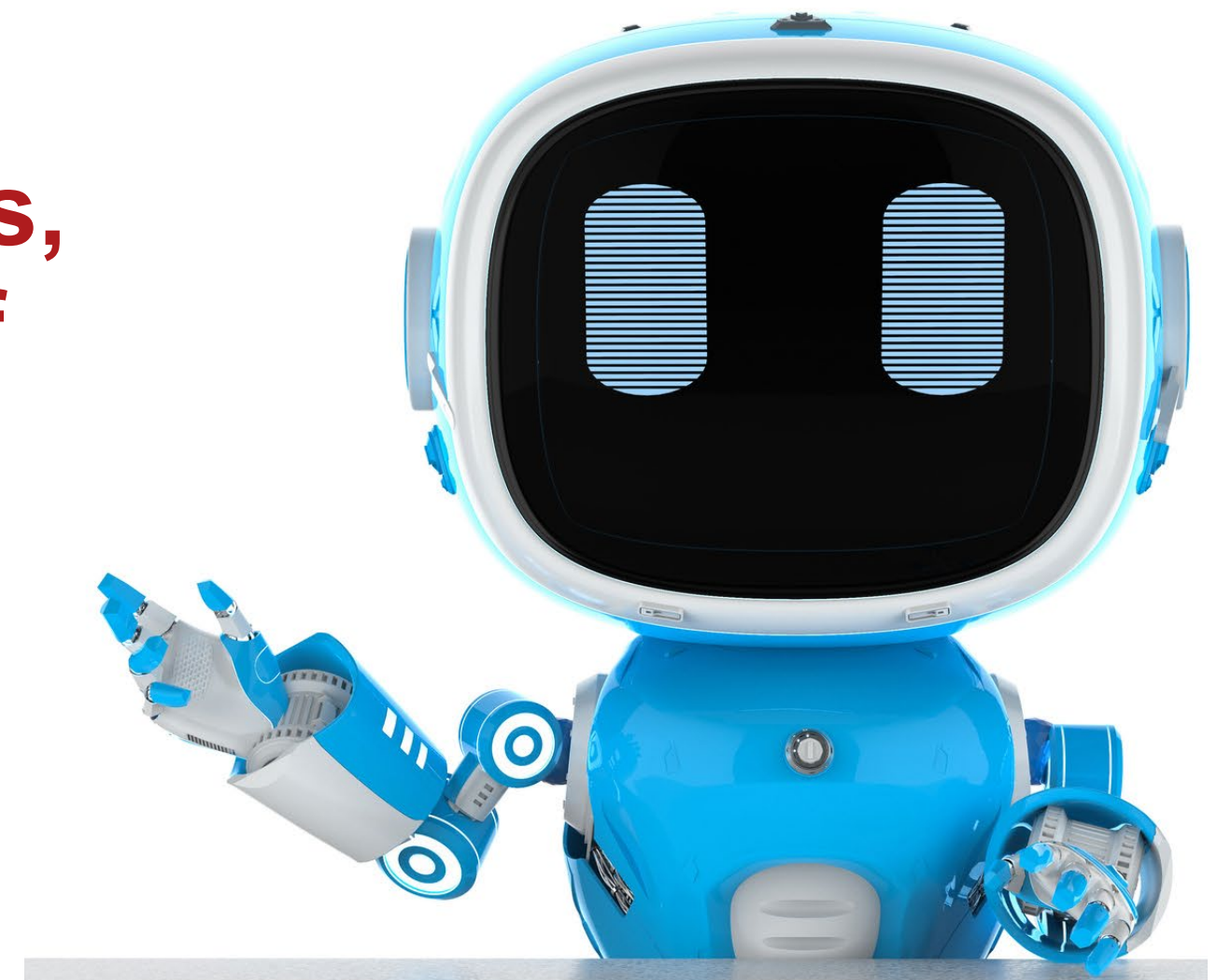
[Karen Bouchard](#), PhD, <sup>1, 2</sup> [Kathleen Lalande](#), PhD, C.Psych, <sup>1</sup> [Thais Coutinho](#), MD, <sup>1, 2</sup> [Sharon Mulvagh](#), MD, <sup>3</sup>  
[Christine Pacheco](#), MD, <sup>4</sup> [Shuangbo Liu](#), MD, <sup>5</sup> [Jacqueline Saw](#), MD, <sup>6</sup> [Derek So](#), MD, <sup>1, 2</sup> [Jennifer L. Reed](#), PhD, <sup>1, 2</sup>  
[Alexandra Chiarelli](#), MSc, <sup>1</sup> [Elisa Stragapede](#), BSc, <sup>1, 2</sup> [Helen Robert](#), <sup>7</sup> [Nadia Lappa](#), <sup>7</sup> [Louise Sun](#), MD, <sup>8</sup> [George Wells](#),  
PhD, <sup>1, 2</sup> and [Heather Tulloch](#), PhD, C.Psych<sup>1, 2</sup>



# Qualitative Research Methods in Behavioural Trial **Development**

## Example 2

**Among cardiology healthcare professionals, what factors influence the acceptability of social robots in augmenting heart failure patient care?**





# Qualitative Research Methods in Behavioural Trial **Development**

## Example 2

### What did we learn?

Providers were accepting of social robots if:

- They collected pertinent real-time health data, provided patient and family education, and used self-management prompts
- Limited responsibility for direct patient care


Providers required robust evidence of value-added beyond current remote patient monitoring devices



# Qualitative Research Methods in Behavioural Trial **Development**

## Example 2

### Cardiology professionals' views of social robots in augmenting heart failure patient care

Karen Bouchard, Peter P Liu, Kerstin Dautenhahn, Jess G Fiedorowicz, Jenifar Afrin, Michael Dans, Caroline McGuinty, Heather Tulloch  [Author Notes](#)

*European Heart Journal - Digital Health*, Volume 5, Issue 1, January 2024, Pages 69–76,  
<https://doi.org/10.1093/ehjdh/ztad067>

**Published:** 28 October 2023    **Article history** ▼

> *Circulation*. 2022 Apr 26;145(17):1291-1293. doi: 10.1161/CIRCULATIONAHA.121.057629.  
Epub 2022 Apr 25.

### The Social Robots Are Coming: Preparing for a New Wave of Virtual Care in Cardiovascular Medicine

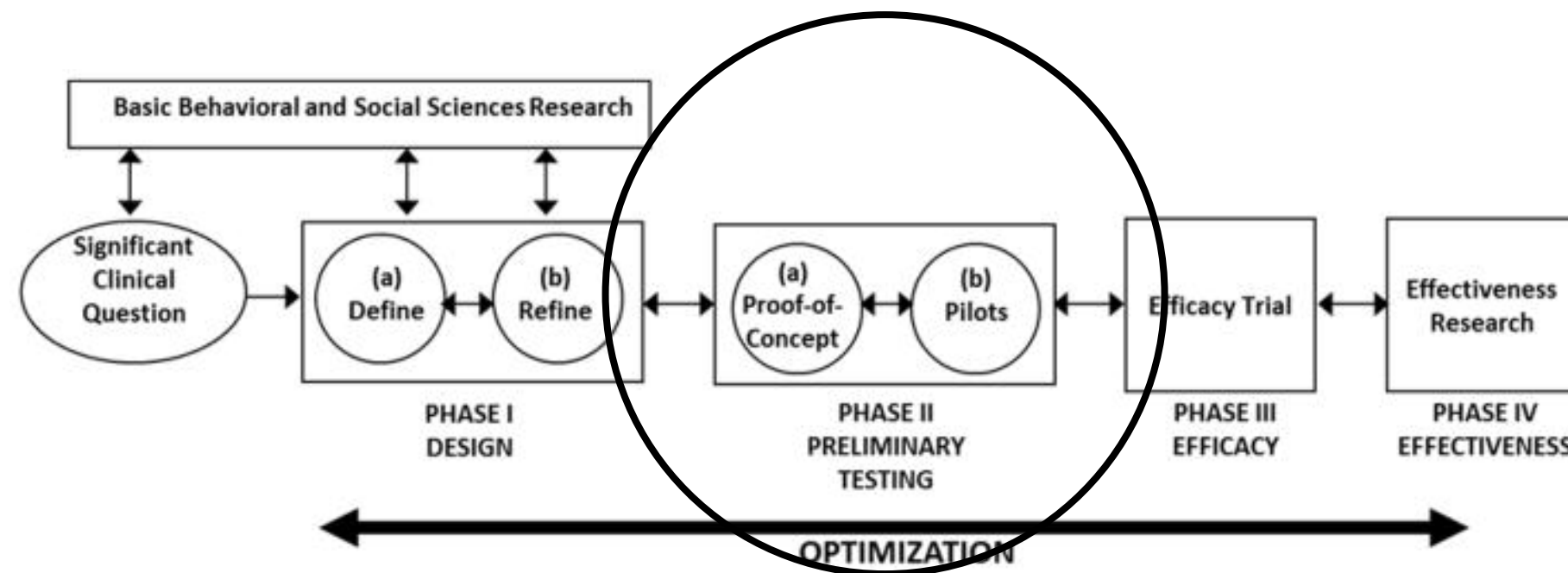
Karen Bouchard <sup>1 2</sup>, Peter P Liu <sup>1 2</sup>, Heather Tulloch <sup>1 2</sup>



# Qualitative Research Methods in Behavioural Trials

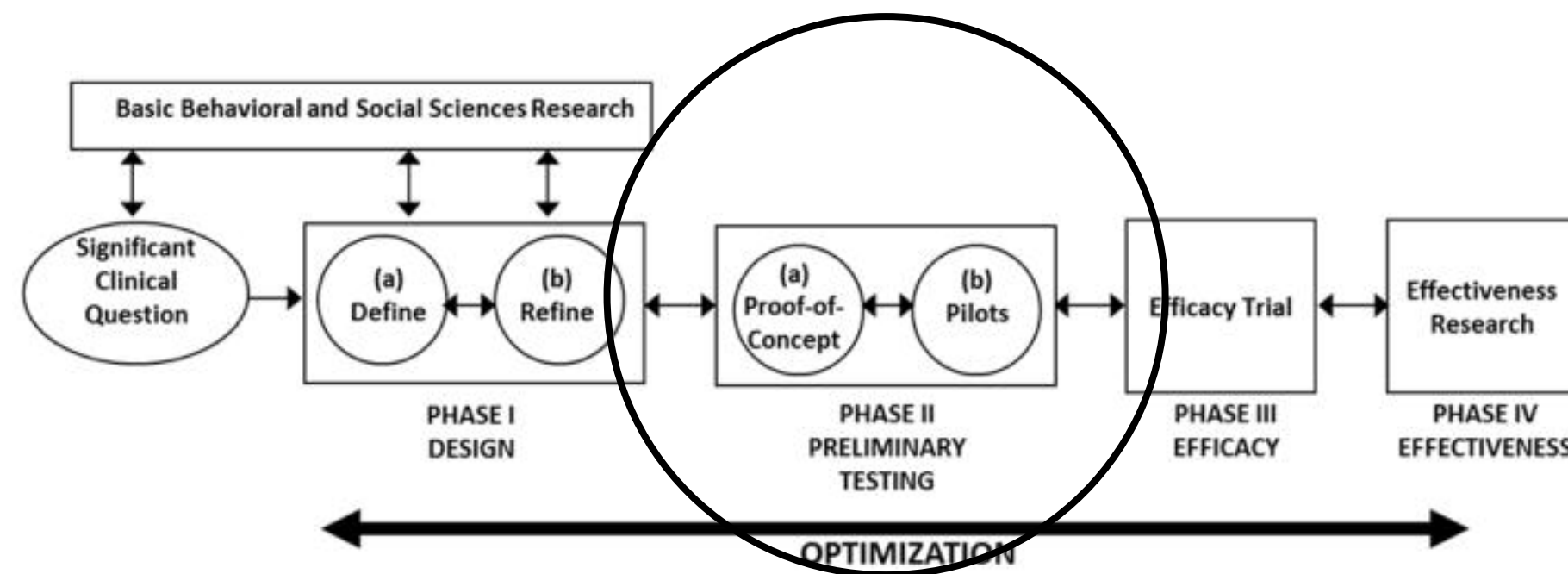
## What about Beyond ‘Development’?

**Acceptance of the Healing Hearts Together Intervention**



# Qualitative Research Methods in Behavioural Trials

## What about Beyond ‘Development’?



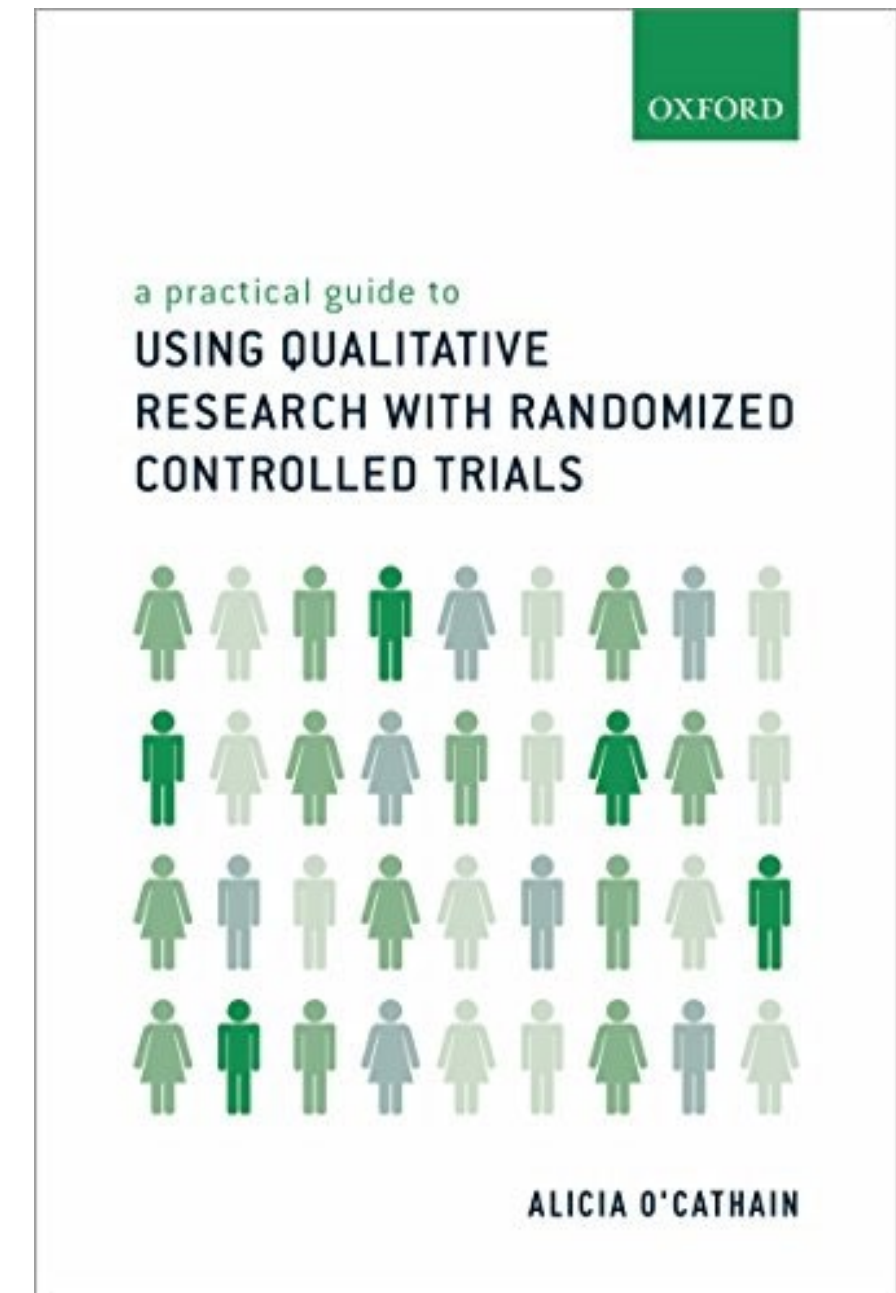
### Acceptance of the Healing Hearts Together Intervention

- manage expectations (not therapy)
- partners only classes
- ‘tune-up’ classes



# Lessons Learned

- Essential, complementary work
- Costs \$ and time but may save \$ and time down the road
- Grant writing woes - limited space and reviewers may not have expertise
- Publishable on its own!
- Qualitative research needs to be strategic, well resourced, and embedded from the outset
- There is guidance to support





# Acknowledgements





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CIHR IRSC



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Instituts de recherche en santé du Canada



HEART & STROKE  
FOUNDATION



# Postdoctoral Fellow in Patient-Oriented Cardiovascular Research



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CARDIOVASCULAR HEALTH PROMOTION,  
EDUCATION, & SOCIAL DETERMINANTS

