

# Population Health Intervention Research Challenges

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# Population Health Intervention Approaches

## A Quick Recap

- Targeted approaches
  - Appropriate adaptations of interventions for vulnerable populations
  - What community engagement approaches are optimal?
- “Universal” approaches
  - Who benefits, are the interventions pro-poor?
  - Are socio-structural determinants addressed and health equity gaps reduced?
- Proportionate universalism
  - Universal actions but with a scale and intensity that is proportionate to level of disadvantage
  - Is attention paid to both supply and demand?

# Critical Challenges

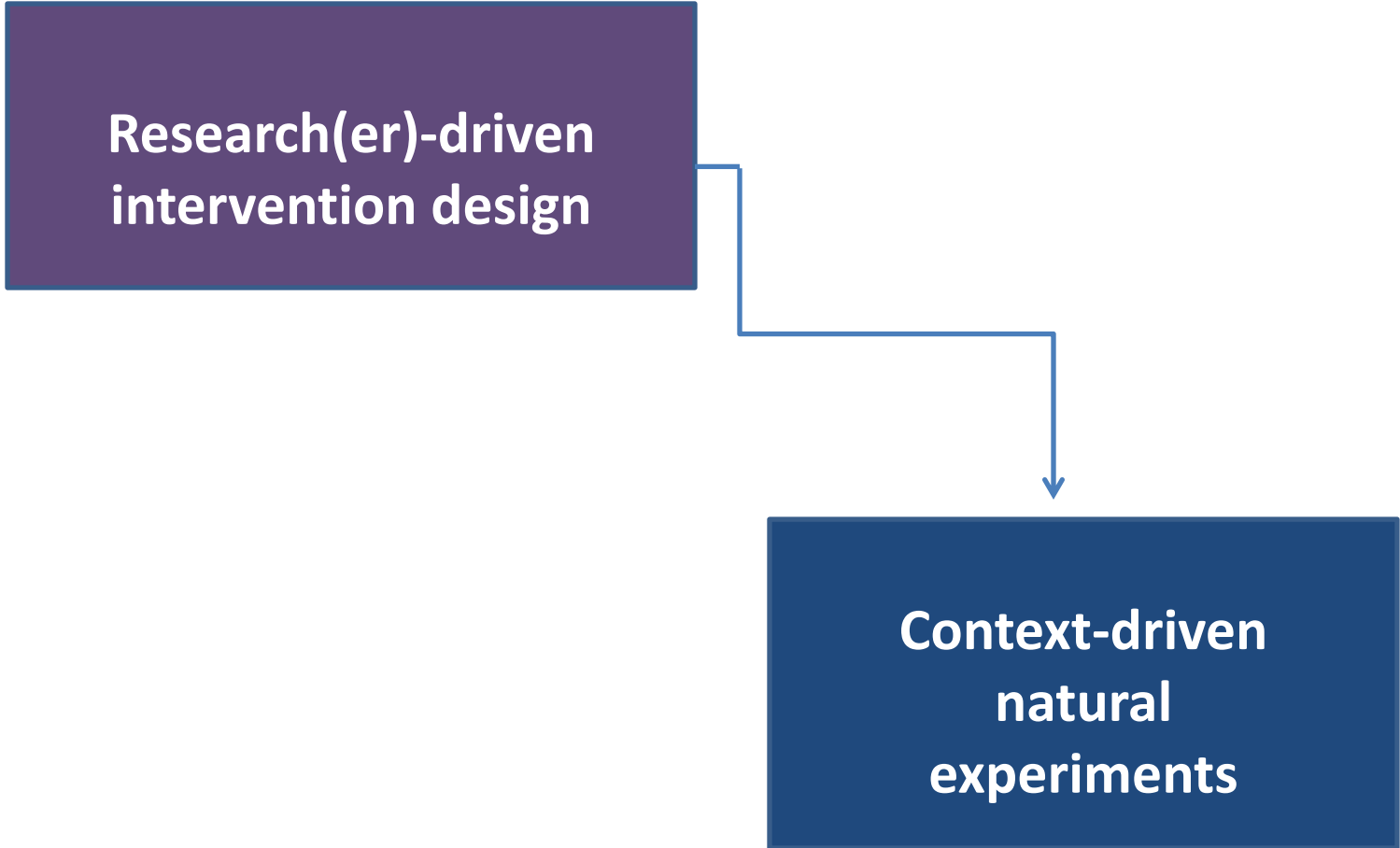
- Focusing on natural experiments or interventions designed by researchers
- Determining when the intervention begins and ends
- Using cohort and administrative data to assess outcomes
- Tackling complexity, using a systems orientation

Focusing on natural experiments or interventions designed by researchers

# My Premise

- Natural experiments are more deeply contextualized interventions than interventions designed by researchers

# Intervention Design



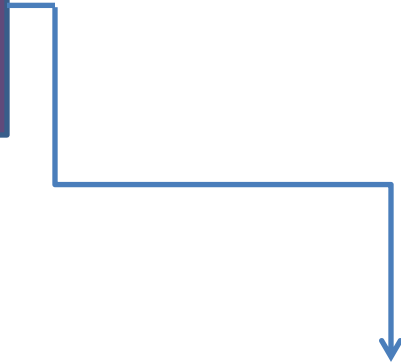
**Research(er)-driven  
intervention design**

**Context-driven  
natural  
experiments**

**Research(er)-driven  
intervention design**

**Intervention  
layering**

**Context-driven  
natural experiments**





**Research(er)-driven  
intervention design**



**Intervention  
layering**



**Context-driven  
natural experiments**





# Contextualized Interventions and Research Designs

Edwards, 2015

Context-rich research design

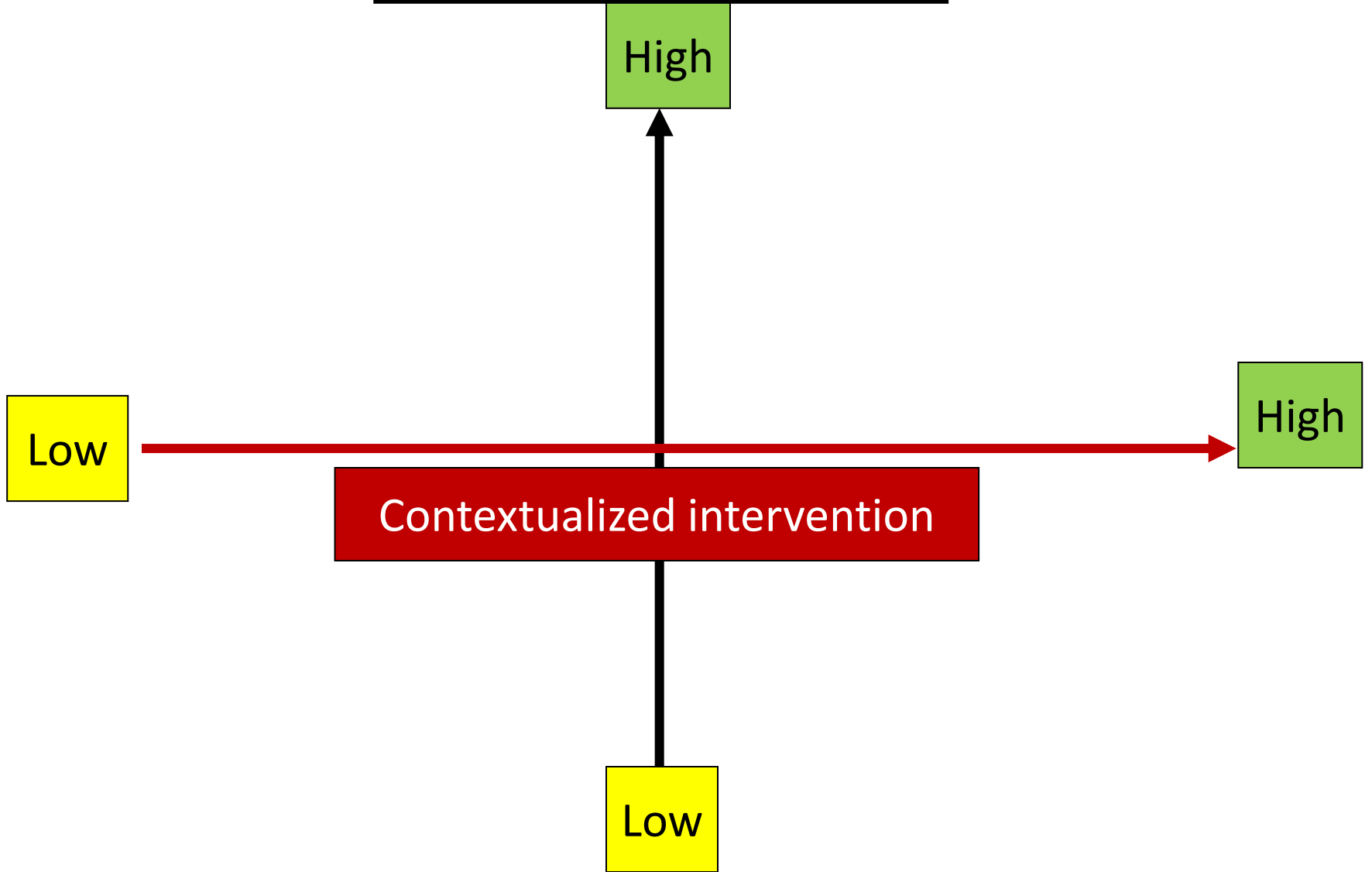
High

Low

High

Contextualized intervention

Low



# Context -rich research design

High

Lower attribution potential  
Higher community  
engagement potential  
?? Scalability potential

Low

High

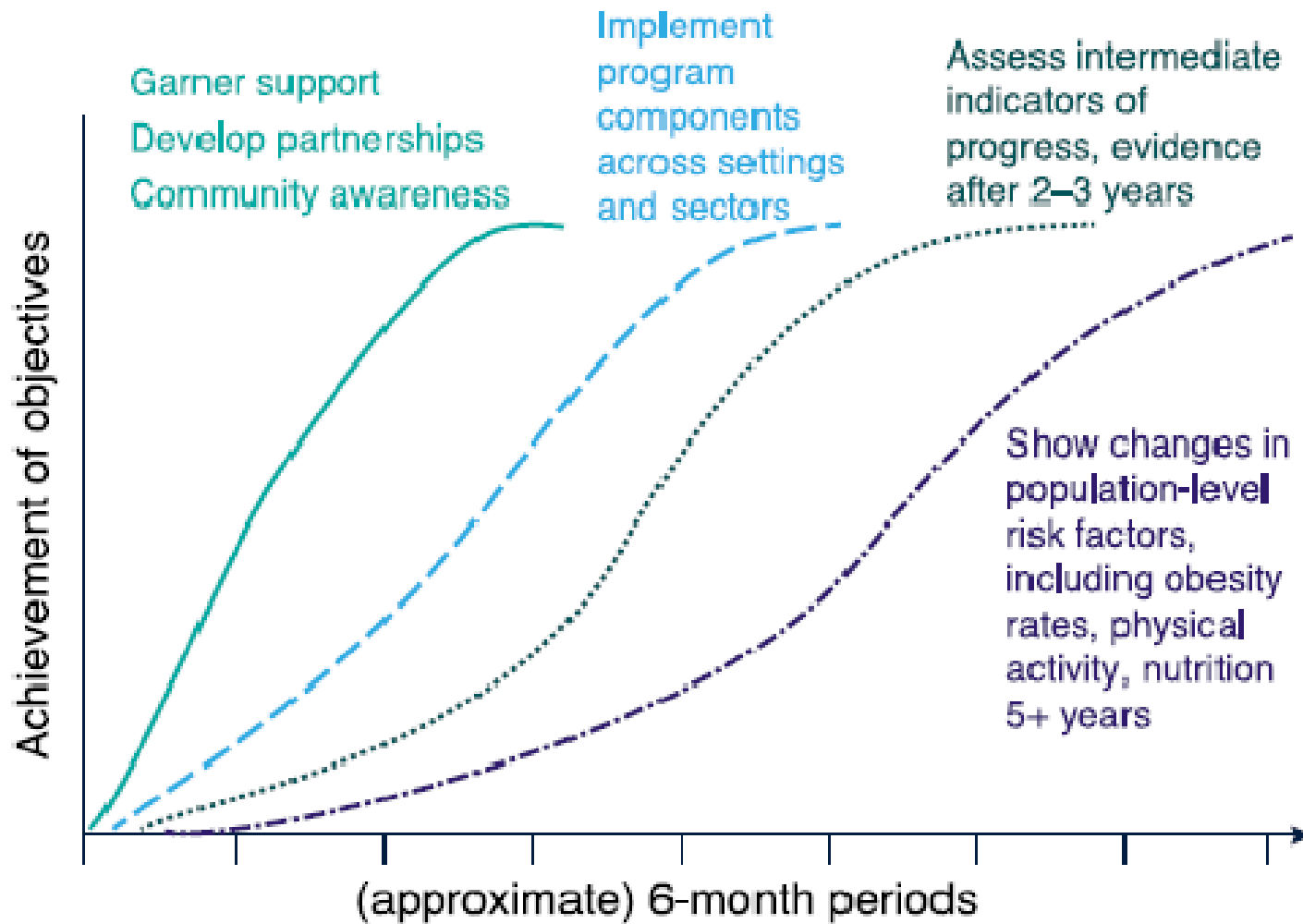
# Contextualized intervention

Higher attribution potential  
Lower community  
engagement potential  
?? Scalability potential

Low

Determining when the intervention  
begins and ends

**Figure 2.** Hypothetical changes — the time course for assessing outcomes following complex population interventions



# Community and Other Stakeholder Engagement



<https://www.emaze.com/@AZFFCZFC/JustAsk-copy1>



<http://www.modern2020.eu/activities/wp5-local-stakeholders-engagement.html>

# Citizen Science



- Authentic community engagement is essential to inform interventions and their equitable scale up
  - Understand perceived risks, harms and benefits of engagement
  - Consider how different kinds of research designs and approaches engage or disengage those who “bear the brunt” of the issue
- What funding models stipulate requirements of public engagement and governance in population health intervention research and does this enhance authentic engagement?

Using cohort and administrative data  
to assess population health outcomes

# ***PATHS Equity for Children:***

What Works to Reduce the Gap for Manitoba's Children?

Equity Concentration Index  
***Manitoba for Health Policy Research (see examples on website)***





Assessing whether intervention is scalable requires population health data....the equity dimension



<https://textise.wordpress.com/2011/10/>

# Tackling complexity and using a systems orientation



<http://www.integra-co.com/en/Strategic-interventions>

# Features of Complexity

- Complexity has two meanings: a property of the intervention, and property of the system in which the intervention is implemented. (Shiell, Hawe & Gold, 2008)
- Interventions take place in “networked places” and are embedded in “networked processes”

# Improvement Interventions

- “...are social treatments.... Strict adherence to study protocols freezes interventions in their initial form, negating the possibility of using sequential, experientially-informed ***[and contextually informed]*** improvements.”  
(Davidoff, Ann Intern Med, 2014)

# Planning and evaluating population interventions to reduce noncommunicable disease risk – reconciling complexity and scientific rigour?

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# Take context into account

<http://www.bmj.com/content/350/bmj.h1258>

- Context affects how we understand the problem and the system
- Context informs intervention design
- Context shapes implementation
- Context interacts with interventions
- Context moderates outcomes

*(Forthcoming NIHR-CIHR guidance document)*

# Enlarging the focus on systems


- 
- Interventions without attending to systems
  - Interventions constrained or supported by systems
  - Interventions targeting systems
  - Interventions designed for system attributes
  - Interventions dynamically adapted to emergent properties of systems
  - Intervention-system integration

# Purposefully Target Population Health System Dimensions



## Equity systems

- system features that produce or perpetuate health equity or inequities



## Organizational (delivery) systems

- system(s) within which the interventions of interest are primarily delivered including those likely to affect scale-up



## Regulatory, governance & political systems

- contextual influences on interventions and their scale-up





**USAID**  
FROM THE AMERICAN PEOPLE

HEALTH CARE  
IMPROVEMENT  
PROJECT



FINAL REPORT

## Improving Health Care: The Results and Legacy of the USAID Health Care Improvement Project

SEPTEMBER 2014

This final report was prepared by University Research Co., LLC (URC) for review by the United States Agency for International Development (USAID). It was authored by Lani Marquez, Silvia Holschneider, Edward Broughton, and Simon Hillebeitel of URC. The USAID Health Care Improvement Project was made possible by the generous support of the American people through USAID.

“**Leadership** creates the will needed to improve health systems and has a crucial role in facilitating and enabling change.” (p. 17)

“To impact service quality and outcomes, improvement approaches need a **strong engine for introducing change in processes and systems.**” (p. 34)

# Preliminary Propositions

- Studies of natural experiments yield a deeper understanding of dynamic context than studies of interventions designed by and under the control of investigators
- Cross-jurisdictional research is an effective means to vary context and understand its mediating effects
- Different context X intervention interactions are pertinent to studies of effectiveness than studies of scale up
- **What would you add to this list?**

# Some New Directions Required of Researchers and Funding Agencies

- Support studies that examine intersections of natural experiments and researcher-design interventions.
- Develop funding models that support research on both early phase stakeholder engagement; and longer-term scale up, sustainability, ripple effects and feedback loops.
- Incentivize use of linked administrative and cohort data across varying contexts for PHIR.

# Unfinished Business

