Shining a light on the implementation to scale-up continuum:
How does it apply to health promoting Innovations?

KTConnects
Knowledge Translation Webinar Series

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TRANSLATION TO POPULATIONS

65%
Descriptive

23%
Efficacy

Will it work in a controlled setting?

13%
Effectivenes

Will it work in a 'real world' setting?

3%
Scale-up

How will benefits reach the whole population?

Institutionalization

Adapted from Milat AJ et. al. BMC Public Health 2011
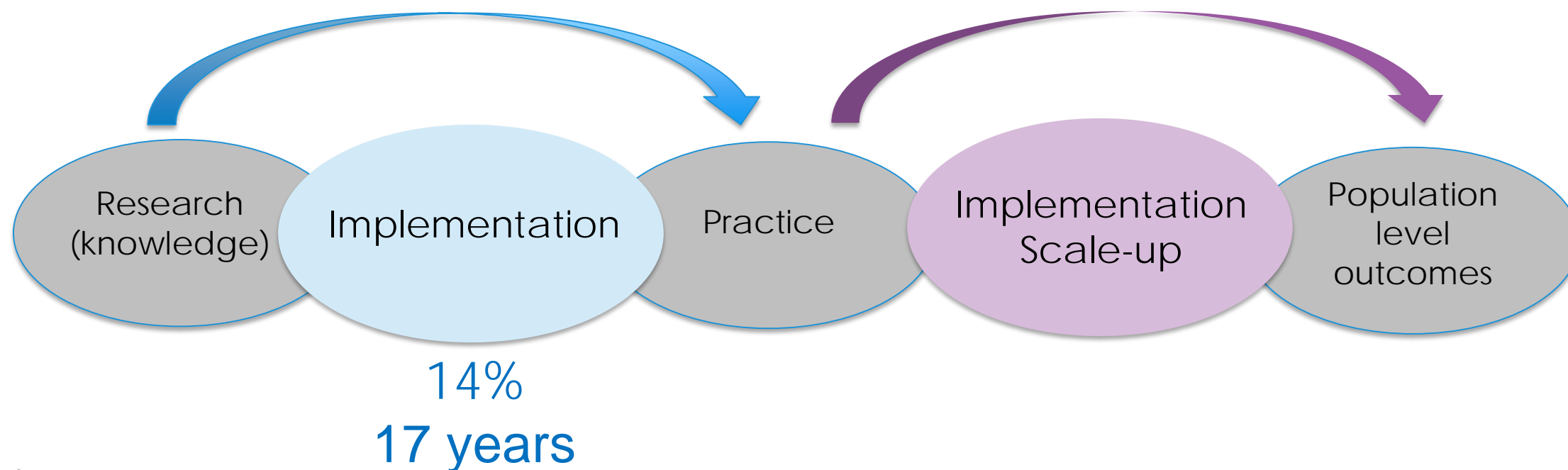
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Why study implementation and scale-up?

Research-to-Practice gap
What is known is
not what is adopted

Implementation gap
Not used as intended,
not sustainable,
not at scale

Research (knowledge) — Implementation — Practice — Implementation Scale-up — Population level outcomes

14%
17 years

Balas EA, Boren SA. Managing clinical knowledge for health care improvement. In: Bemmel J, McCray AT, eds. Yearbook of medical informatics. Stutt gart: Schatt auer; 2000:65–70.
Fixsen & Blase, 2012. http://2012.blueprintsconference.com/presentations/DeanFixsen.pdf

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By the end of my presentation learners will be able to:

- define implementation, implementation science, scale-up and scalability;
- describe the central tenets of implementation and scale up frameworks in health promotion;
- describe central tenets of implementation and scale-up evaluation;
- apply their learning to a real world setting (?)

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What is implementation practice?

- The use of strategies to adopt and integrate evidence-based interventions and change practice within specific settings. *National Institutes of Health*

- The process of putting to use or integrating evidence-based interventions within a setting. *Rabin et al.*

Implementation science

"The scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practices, and hence, to improve the quality and effectiveness of health service (health promotion interventions)."

Source:
Research Dissemination and Implementation (R18) Grants. https://www.nhlbi.nih.gov/grants-and-training/policies-and-guidelines/research-dissemination-and-implementation-r18-grants
Durlak and DuPre. American Journal of Community Psychology 2008, 41:327-350
Rabin et al. Journal of Public Health Management and Practice. 2008 Mar-Apr;14(2):117-23.
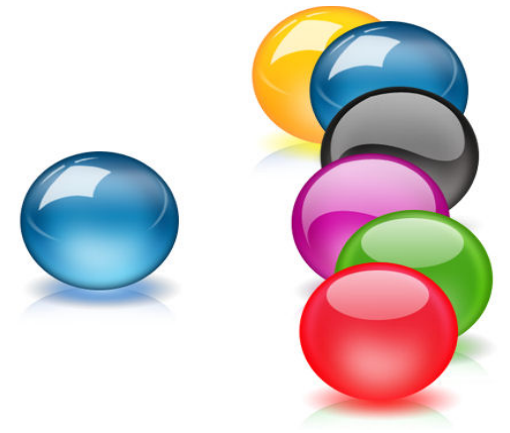
What is implementation science?

...a focus on developing and testing methods to broadly spread successful implementation across diverse settings

*Damschroder LJ 2019 Clarity out of chaos. Psychiatry Research*

What is scale-up?

- Process of expanding the coverage of health intervention *Mangham & Hanson. Health Policy Plan. 2010, 25(2):85-96.*

- Deliberate efforts to increase the impact of innovations successfully tested in pilot or experimental projects to benefit more people and to foster policy and program development on a lasting basis. *ExpandNet: http://expandnet.net*

What is scalability?
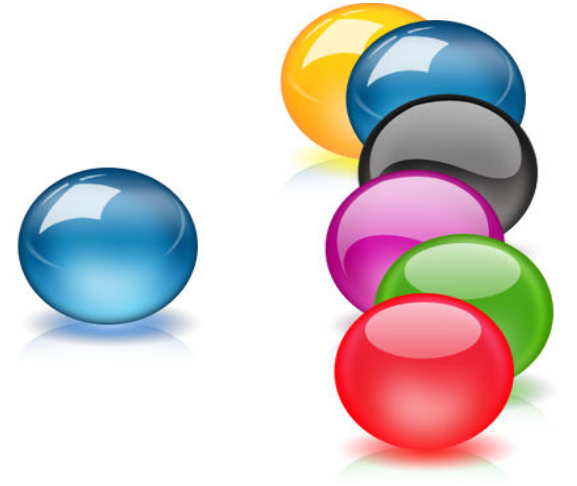
The potential suitability of an intervention for scaling up.

Milat A, King L, Bauman A and Redman S. The concept of scalability: increasing the scale and potential adoption of health promotion interventions into policy and practice. Health Promotion International, Vol. 28 No. 3

Based on its effectiveness and cost-effectiveness and 'filter criteria' such as political acceptability and feasibility.

Vos et. al. 2010

Frameworks

More than 60 health promotion, health services implementation models (frameworks)

*Tabak et.al. **Am J Prev Med 2012;43(3):337–350***

Modified Delphi process

Three rounds of
online surveys

Two rounds of
expert group meetings

McKay HA et al. Implementation and scale-up of physical activity and behavioural nutrition interventions: an evaluation roadmap. International Journal of Behavioral Nutrition and Physical Activity (2019)16:102

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Implementation frameworks & models

- **Framework for Effective Implementation**
  Durlak and DuPre. Am J Community Psychol. 2008 41(3-4):327-50

- **Consolidated Framework for Implementation Research (CFIR)**
  Damschroder et al. Implement Sci. 2009 4:50

- **Dynamic Sustainability Framework**
  Chambers et al. Implement Sci. 2013;8:117

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Frameworks

CFIR- 5 FACTORS
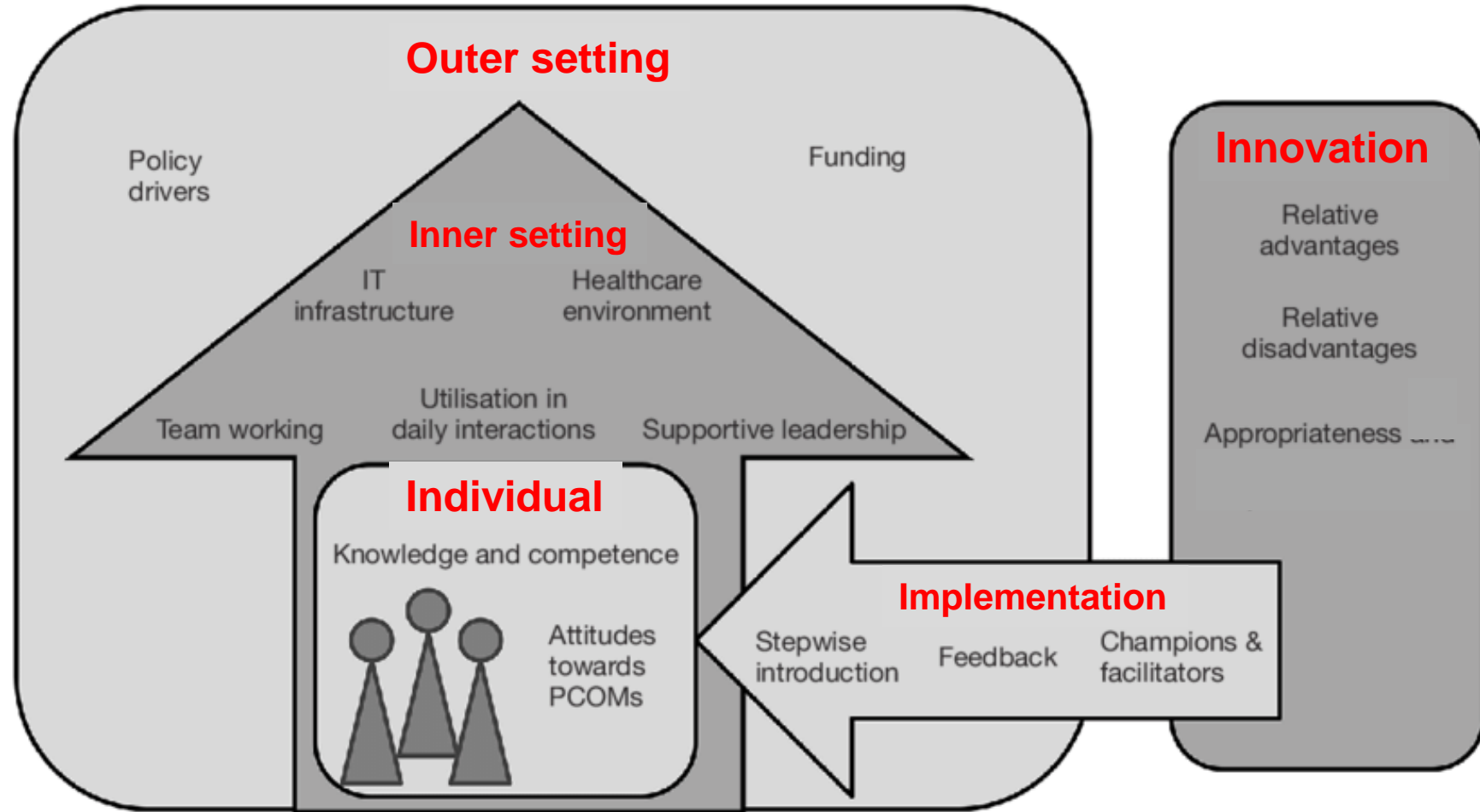
Damschroder LJ et. al. Implementation Science 2009

Framework for effective implementation

Community Factors

Provider characteristics

**Innovation characteristics
(interactive System Framework)**

Prevention Delivery System **+** Prevention Support System **+** Knowledge synthesis and translation system **→** **Effective Implementation**

Durlak and DuPre. Am J Community Psychol, 2008
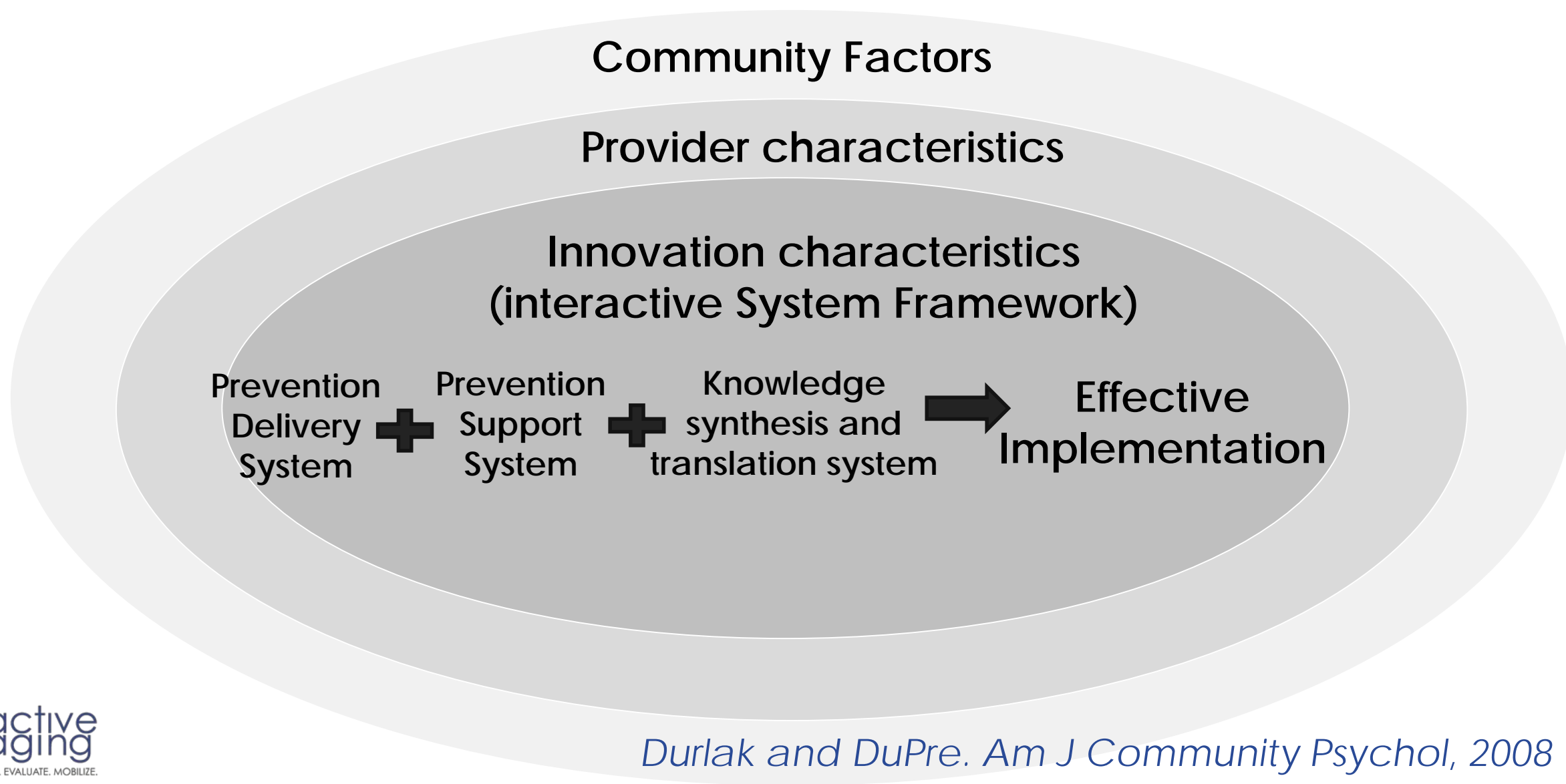
CONTEXT

ADDITIONAL FILE 2: Matrix of Constructs from Models in the Literature to CFIR Constructs

Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC: **Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science**

See Table 1 in main paper for full citations:

Code	Topic/Description	1 Greenhalgh et al.[13]	2 Klein, Conn & Sorra[10,67]	3 Pettigrew & Whipp[26]	4 Leeman[44]	5 PARIHS Model[14,15]	6 Ottowa Model[50]	7 Simpson[70]	8 Kochevar & Yano[46]	9 Stetler[39]	10 Edmondson et al.[19]	11 Kilbourne et al.	12 VanDeusen Lukas et al.[80]	13 Grol, et al[7,106]	14 Mendel et al.[27]	15 Fixsen et al[16]	16 Brach et al.[99]	17 Glisson et al.[100]	18 Feldstein & Glasgow[43]	19 Frambach & Schillewaert[85]
	INTERVENTION CHARACTERISTICS			√																
A	Intervention Source									√	√			√						
B	Evidence Strength & Quality				√	√	√			√		√					√	√		
C	Relative advantage	√				√				√		√		√	√		√	√		√
D	Adaptability	√	√	√	√	√				√		√		√			√	√		√
E	Trialability	√	√		√	√				√		√		√				√		√
F	Complexity	√	√						√	√	√			√			√	√		√
G	Design Quality and Packaging		√				√					√		√						
H	Cost							√				√		√	√		√	√		
	II. OUTER SETTING			√						√					√	√				
A	Patient Needs & Resources				√	√						√	√		√			√	√	√
B	Cosmopolitanism	√		√				√										√	√	√
C	Peer Pressure	√		√									√	√						√
D	External Policies & Incentives	√		√									√	√				√	√	√
	III. INNER SETTING			√						√			√	√	√					
A	Structural Characteristics	√		√										√						√
B	Networks & Communications	√	√	√	√	√	√						√	√			√	√	√	√
C	Culture	√	√	√		√	√	√					√	√				√	√	√
D	Implementation Climate			√																√
1	Tension for Change	√								√			√				√			
2	Compatibility	√	√				√	√	√	√			√	√			√	√		
3	Relative Priority		√							√				√				√		
4	Organizational Incentives & Rewards		√	√	√							√		√				√		
5	Goals and Feedback	√	√			√		√	√			√		√				√		
6	Learning Climate	√	√			√							√					√		
D	Readiness for Implementation			√															√	
1	Leadership Engagement	√	√	√	√	√		√		√			√				√			√
2	Available Resources	√	√	√	√	√	√			√	√	√					√			√
3	Access to knowledge and information	√	√		√		√						√				√			
	IV. CHARACTERISTICS OF INDIVIDUALS			√			√													
A	Knowledge & Beliefs about the Intervention	√												√	√	√		√	√	√
B	Self-efficacy	√	√											√	√	√			√	
C	Individual Stage of Change	√	√											√	√				√	
D	Individual Identification with Organization														√		√	√		
E	Other Personal Attributes													√	√					√
	V. PROCESS			√			√													
A	Planning	√		√						√		√		√	√	√	√	√	√	
B	Engaging	√		√						√	√	√	√	√	√	√				
1	Opinion Leaders	√					√							√			√			
2	Formally appointed internal implementation leaders			√												√	√	√	√	
3	Champions	√												√			√			
4	External Change Agents	√																		
C	Executing	√		√						√	√									
D	Reflecting & Evaluating	√		√						√	√	√		√	√	√	√	√	√	

Scale-up frameworks

- Scaling Up Health Service Innovations - A Framework for Action. *Simmons et al. WHO; 2007*

- Interactive Systems Framework for Dissemination and Implementation

  Wandersman et al. Am J Community Psyc. 2008;41:171-81

- Scaling-Up: A Framework for Success

  Yamey. PLoS Med. 2011;8(6):e1001049.)

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Process models & theories

- ## Steps to Developing a Scale-Up Strategy

  WHO, EXPANDNET, 2010

- ## Review of Scale-Up/Framework for Scaling Up Physical Activity Interventions

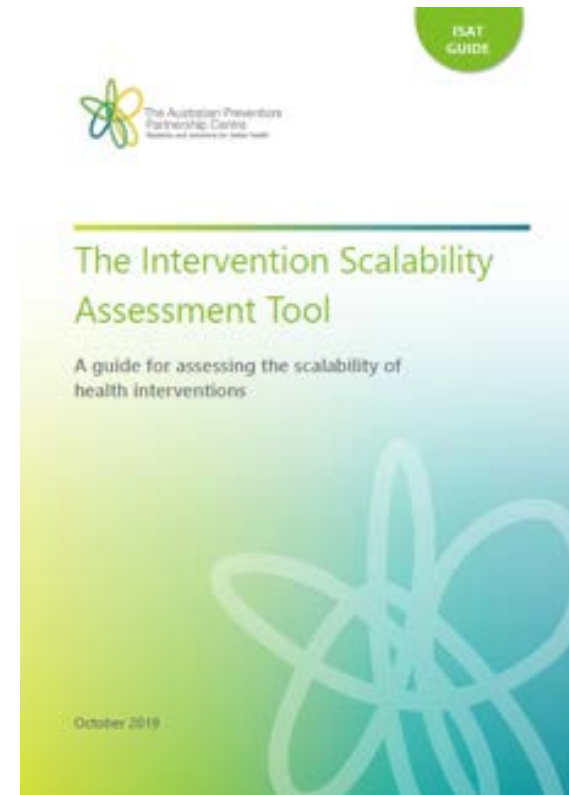 *Reis et al. The Lancet. 2016; 388 (10051):1337-48*

- ## A Guide to Scaling Up Population Health Interventions

  Milat et al. Health Res Policy Syst. 2014;12:18;
  Milat et al. Public Health Res Pract. 2016;26(1)

Intervention Scalability Assessment Tool

A tool for policy makers, practitioners and program managers to help them determine 'scalability' of a discrete health program or intervention.

The Intervention Scalability
Assessment Tool

A guide for assessing the scalability of health interventions

October 2019

A Guide to Scaling Up Population Health Interventions Milat et al. Health Res Policy Syst. 2014;12:18; Milat et al. Public Health Res Pract. 2016;26(1)

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Key Elements of Successful Scale-Up

THE INNOVATION
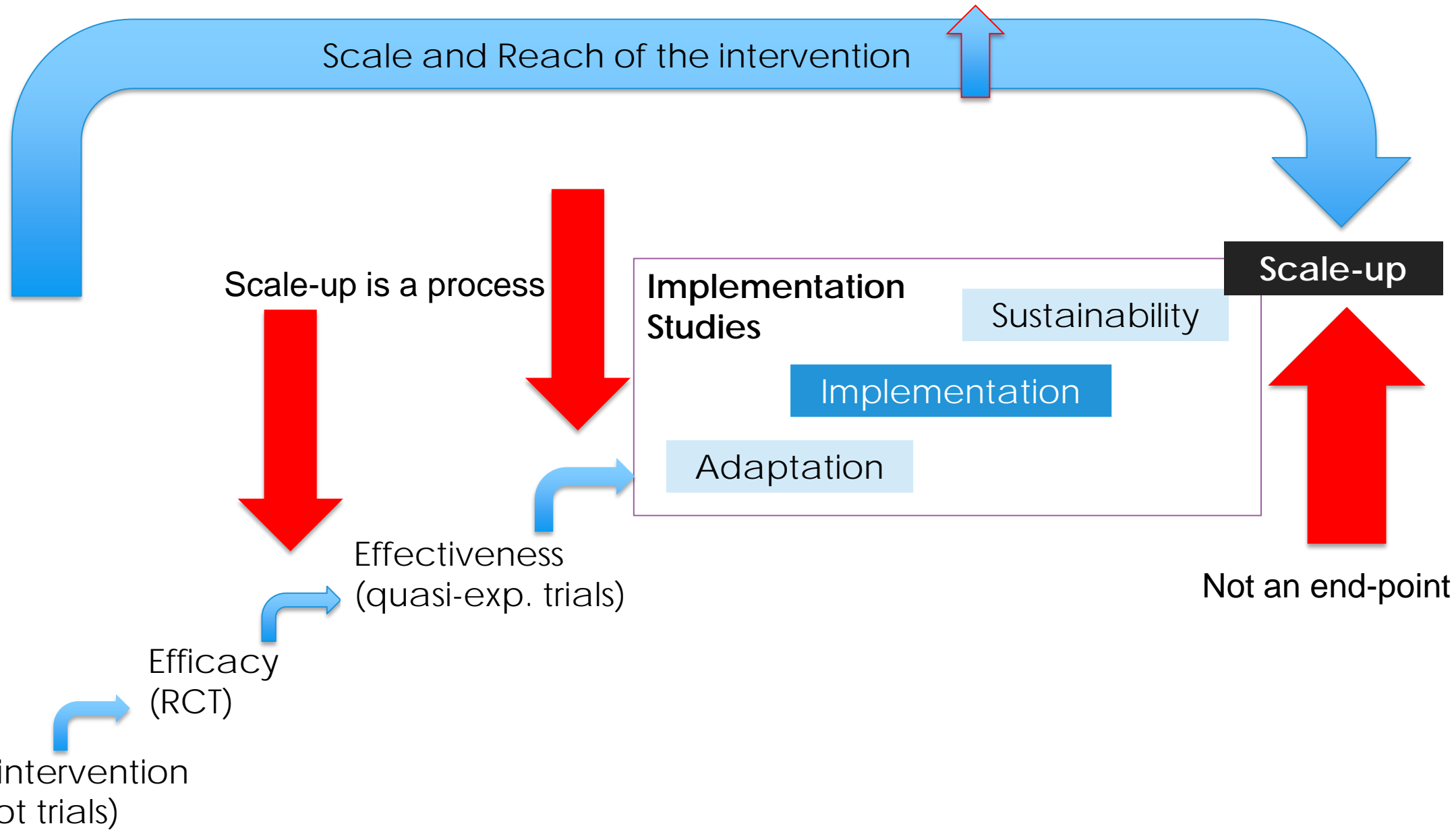
Adaptable
Feasible
Affordable

PROVIDER CHARACTERISTICS

Partnerships
Training and technical support
Communication across multiple audiences
Champions
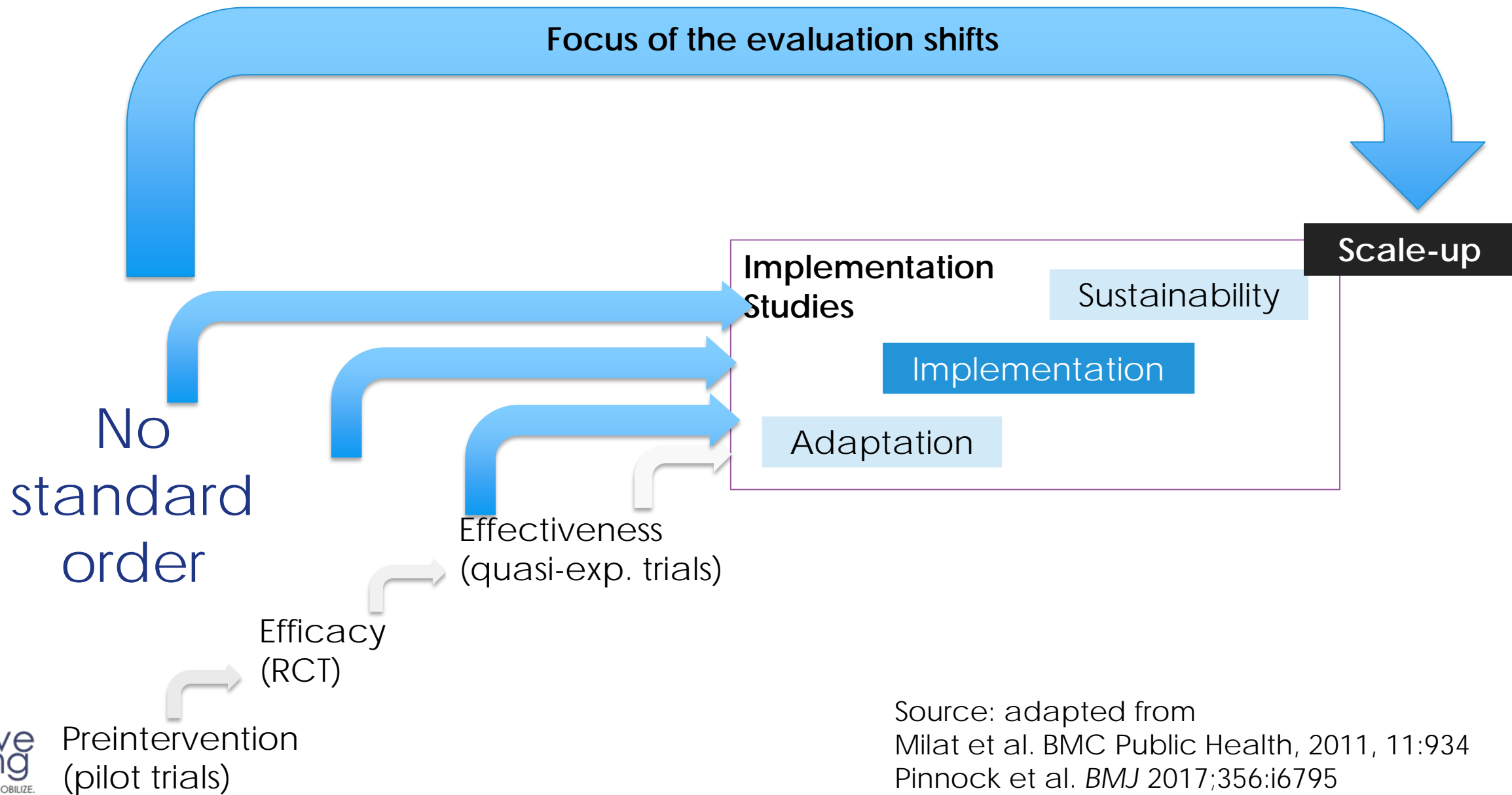Leadership
Evaluation and feedback

COMMUNITY LEVEL

Sound theory and research
Political will
Funding
Policy

Naylor et. al. and McKay 2006

Scale-up

WHERE DOES SCALE-UP BEGIN?

Focus of the evaluation shifts

Scale-up

Implementation Studies

Sustainability

Implementation

Adaptation

No standard order

Effectiveness (quasi-exp. trials)

Efficacy (RCT)

Preintervention (pilot trials)

Source: adapted from
Milat et al. BMC Public Health, 2011, 11:934
Pinnock et al. *BMJ* 2017;356:i6795
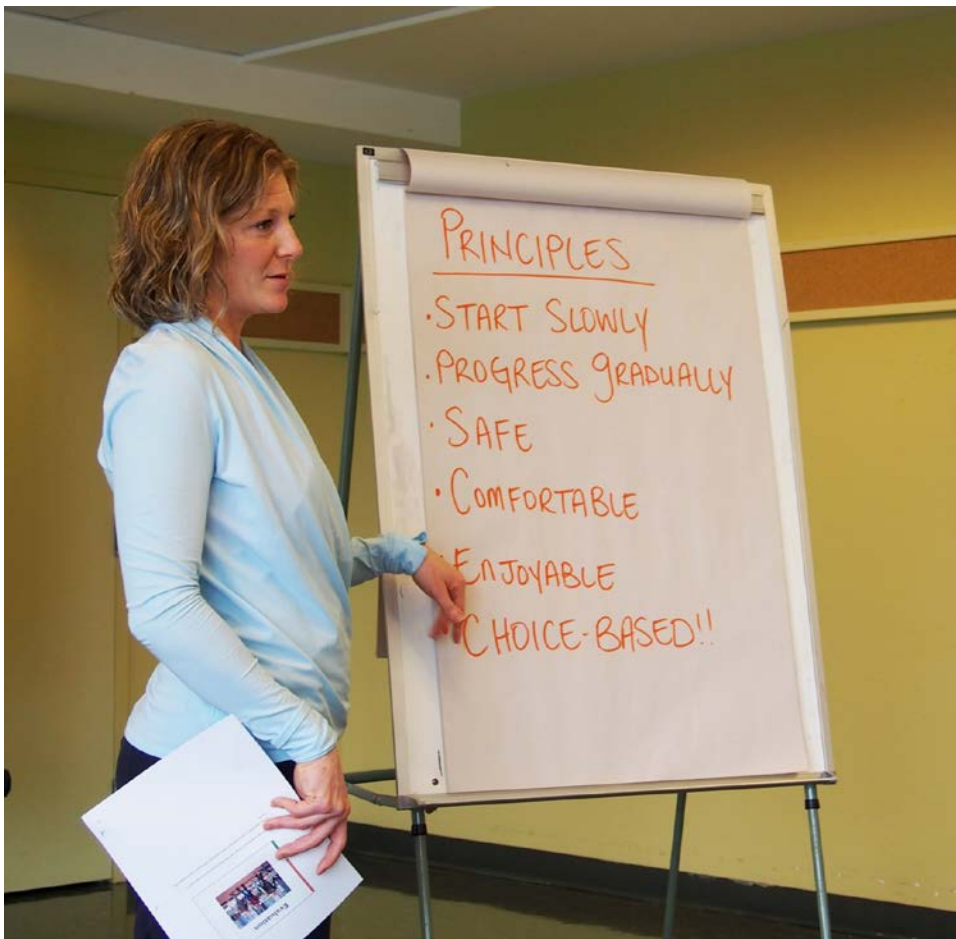
Fidelity

Adaptation

Implementation

Intervention

Stirman et al., 2013; Castro et al., 2004; Harden et al., 2017

A CASE STUDY

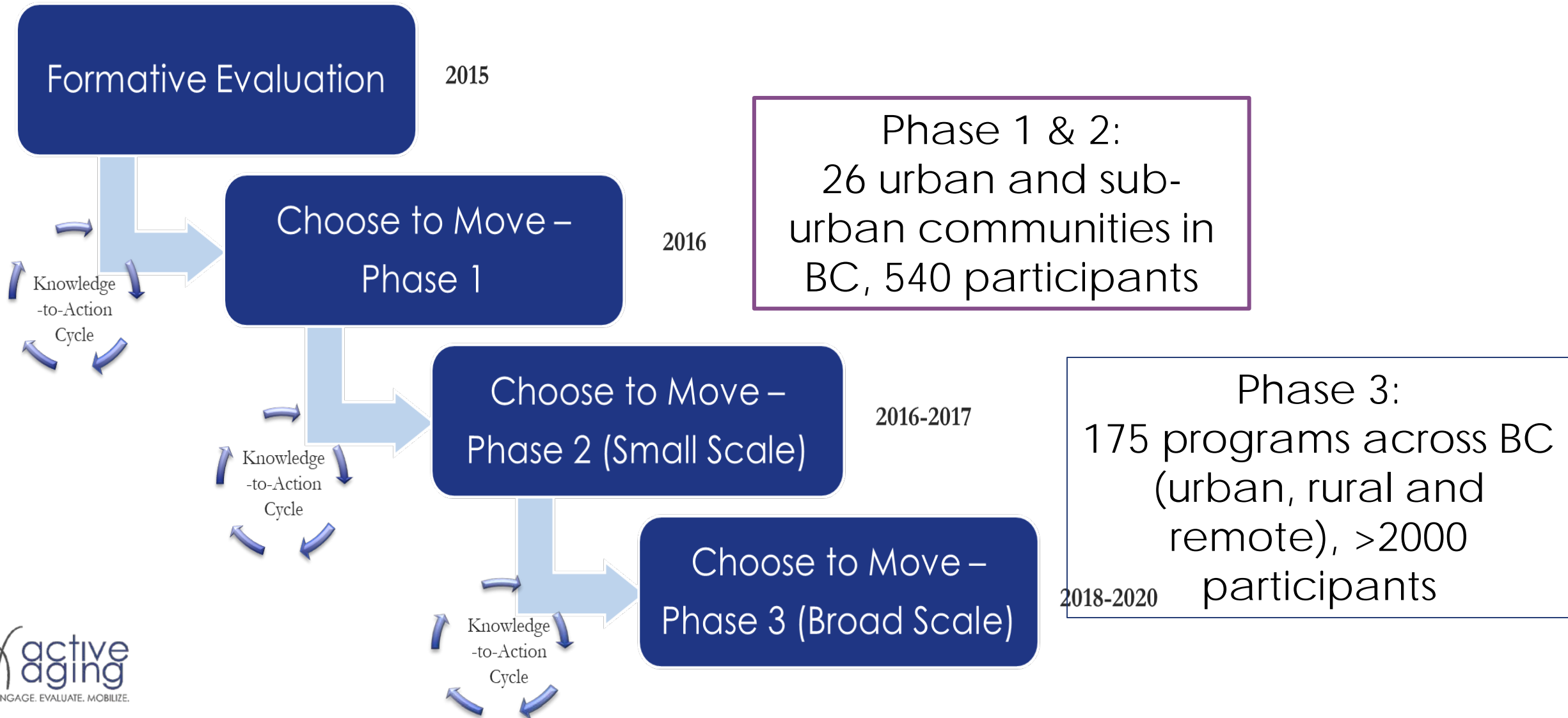## CHOOSE to MOVE

Choose to Move

One-on-one Consultation (x1)

Motivational Group Meetings (x4)

Telephone Check-ins (x10)

x3   x2   x2

Active Phase

Maintenance Phase

Baseline

3 months

6 months

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Choose to Move Phases

Formative Evaluation — 2015

Knowledge-to-Action Cycle

Choose to Move – Phase 1 — 2016

Knowledge-to-Action Cycle

Choose to Move – Phase 2 (Small Scale) — 2016-2017

Knowledge-to-Action Cycle

Choose to Move – Phase 3 (Broad Scale) — 2018-2020

Phase 1 & 2:
26 urban and sub-urban communities in BC, 540 participants

Phase 3:
175 programs across BC (urban, rural and remote), >2000 participants

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Choose to Move: implementation structure

Prevention Delivery System

Community organizations
Provincial coordinator
Recreation manager/coordinator
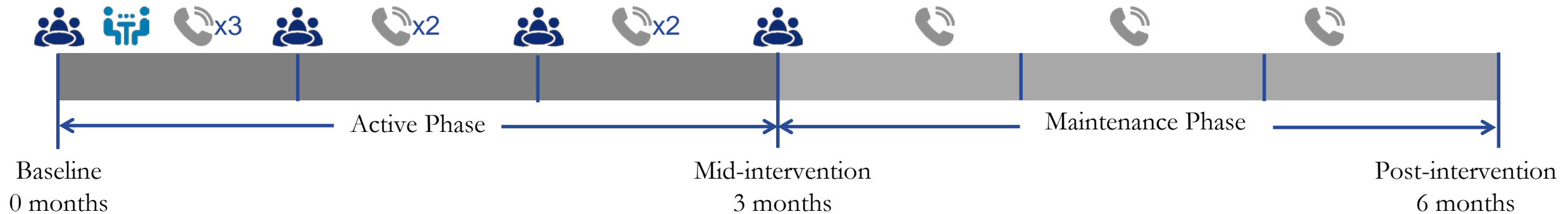Activity coaches

Prevention Support System

CTM project team: two principal investigators, program manager and RAs

Prevention Synthesis and Translation System

Active Aging Research Team

Wandersman et al. (2008) *Am J Community Psychol*, 41(3-4):171-81

Choose to Move: evaluation design

- Type 2 hybrid effectiveness-implementation study design

- Mixed methods (surveys, interviews and audits)

- Measurement at 0, 3 and 6 months

Active Phase — Maintenance Phase

Baseline
0 months

Mid-intervention
3 months

Post-intervention
6 months

Motivational Group Meetings   One-on-one consultation   In-person/phone check-ins

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LEVEL	INDICATOR	DESCRIPTION
DELIVERY SYSTEM	Reach	- # of older adults and # of organizations
	Recruitment	- Strategies planned and used
	Fidelity	- e.g. Dose delivered; quality; adaptations
	Training	- e.g. Satisfaction
SUPPORT SYSTEM	Central support	- e.g. Role of AART; support received
	Contextual factors	- Characteristics of the organization; perception of CTM (e.g. feasibility, appropriateness, acceptability, policy)
	Adaptation	- Of the intervention and its implementation
	Partnerships	- Process of engagement; partner characteristics
	Sustainability	- Participant level benefits; organizational
INDIVIDUAL	Impact	Change: mobility, social isolation, loneliness, physical activity
	Economic evaluation	Cost, cost effectiveness, return on investment

Results

IMPLEMENTATION EVALUATION

- **McKay HA et. al.** (2017) *Implementing and Evaluating an Older Adult Physical Activity Model at Scale: Framework for Action.* Translational Journal of the American College of Sports Medicine.

- **McKay HA, et. al..** (2018) *Bright Spots, Physical Activity Investments that work: Choose to Move – Scaling-up a physical activity model for older adults.* British Journal of Sports Medicine.

- **Sims-Gould J, McKay HA, et. al. (2019)** *Factors that influence implementation of a community-based health promotion intervention for older adults.* BMC Public Health.

- **Gray SM, McKay HA, et. al. (2020)** *Getting ready for scale-up of an effective older adult physical activity intervention: Characterizing the adaptation process to achieve 'best fit'.* Prevention Science.

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Reach (organization level)
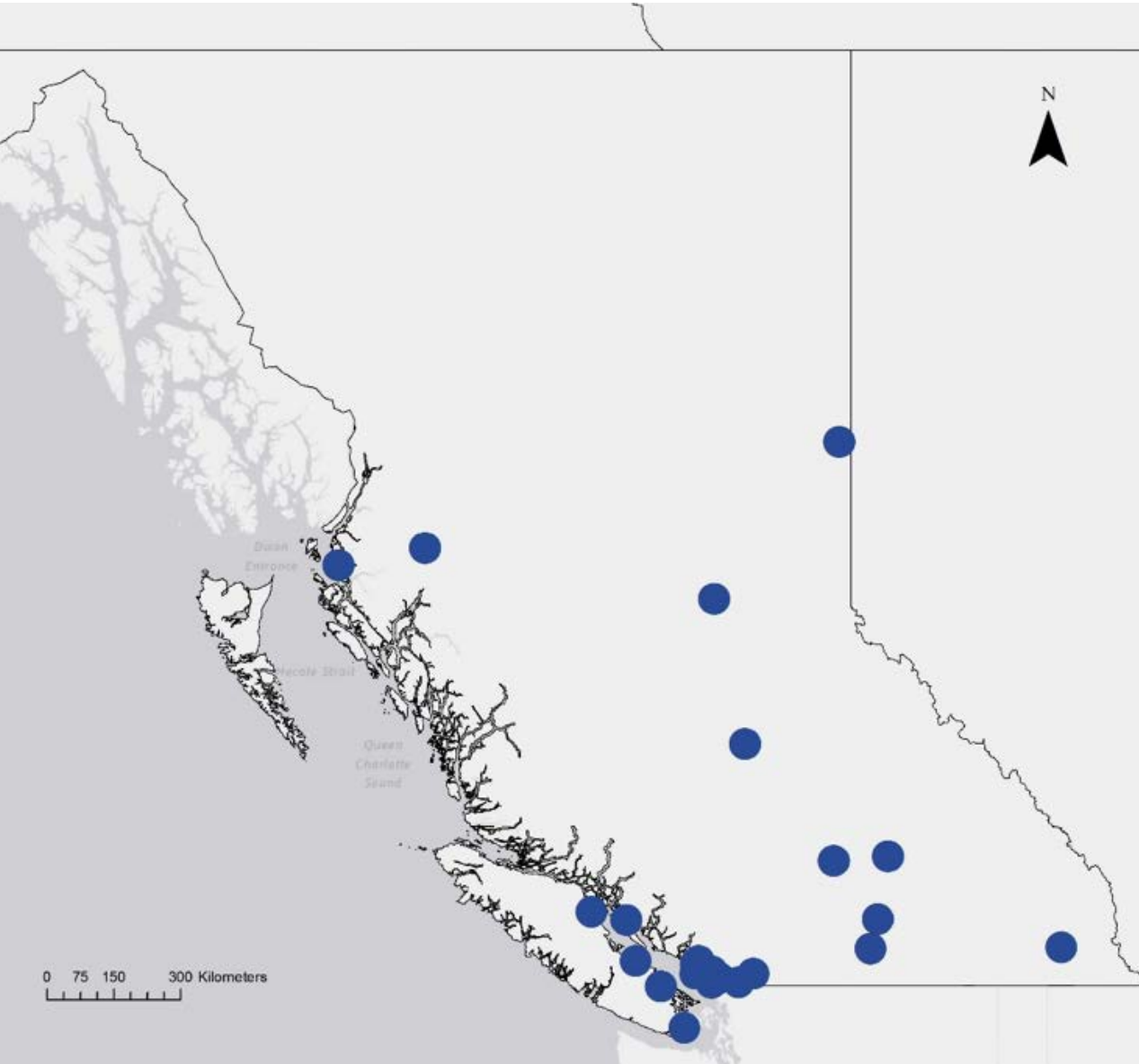
26 communities

30 coaches trained

55 programs

540 participants

[In my] 12 years in the fitness industry, being a CTM Activity Coach is far and above **the most rewarding thing I've done**.
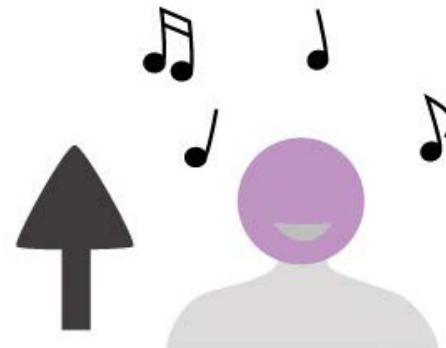
— CTM Activity Coach

Results

IMPACT EVALUATION

McKay HA et.al. (2018) *Implementation of a Co-Designed Physical Activity Program for Older Adults: Positive Impact When Delivered at Scale.* BMC Public Health.
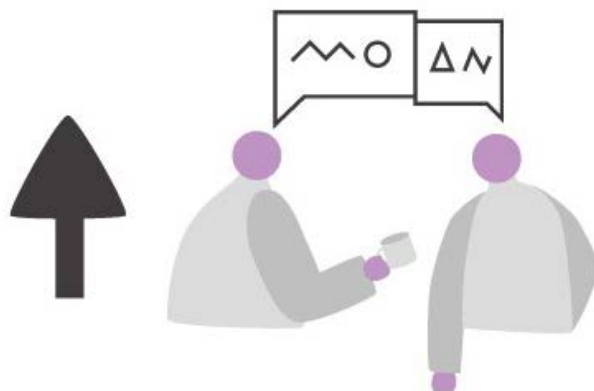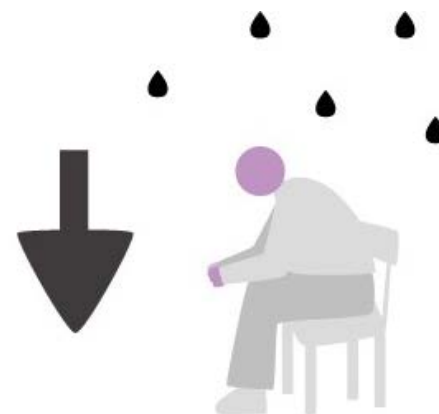
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McKay et al. (2018) BMC Public Health, 18:1289

Choose to Move next phase
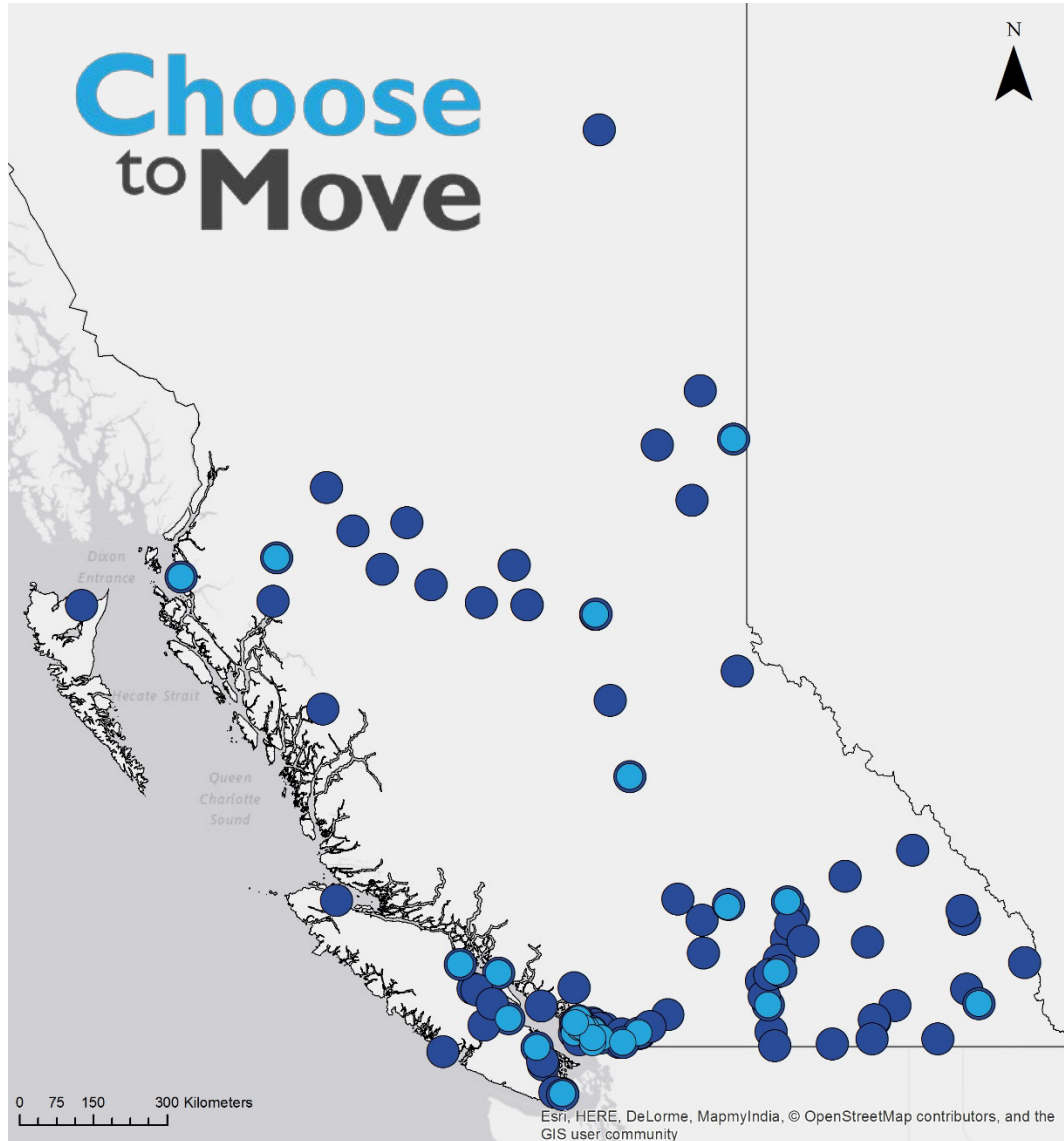
Targets

175+ programs

2300+ participants
(urban, small urban,
rural, remote)

Thank you!

Active Aging Research Team

Principal Scientists:
Heather McKay, PhD
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Team Members:

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Samantha Gray	Avery MacKenzie	Venessa Wong
Christa Hoy	Caroline McLennan	Chariisa Yu
Erica Lau	Lindsay Nettlefold	
	Callista Ottoni	

Funding

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Ministry of Health

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UBC THE UNIVERSITY OF BRITISH COLUMBIA

CENTRE for HIP Health and Mobility

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