‘The concept of scalability: assessing the readiness of health innovations for scale up across systems’

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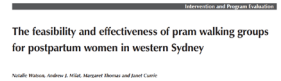
THE UNIVERSITY OF SYDNEY

Health Initiatives

Good for kids good for life



Social marketing

Research Partnerships

PANORG
Physical Activity Nutrition Obesity Research Group

The Australian Prevention Partnership Centre

Evaluations and impact assessment

Research funding schemes

Translational Research Grants Scheme

Funds research projects that will translate into better patient outcomes, health service delivery, and population health and wellbeing

Prevention Research Support Program

Early-Mid Career Grants

Promoting participation of early-mid career researchers in high quality research projects across the spectrum.

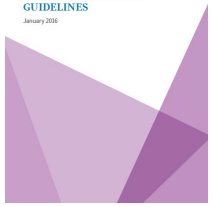
Training programs

NSW Public Health Training Program

NSW Biostatistics Training Program

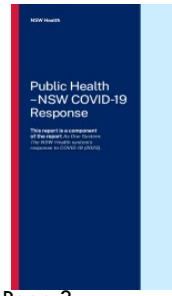
APHTI

Government guidelines and guides



NSW COVID-19 Response

- Workforce surge
- COVID-19 Research PMO
- Priority emergency response research
- Modelling Science Table



Why scale up is important?

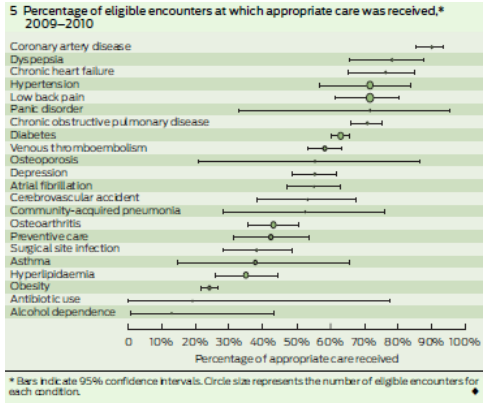
- **The lag between evidence generation and implementation at scale is a considerable impediment to health improvement as it denies or delays community access to effective services**

(Sanson-Fisher et al 2008; McKeon, 2013; Milat et al 2011; Runciman et al, 2012)

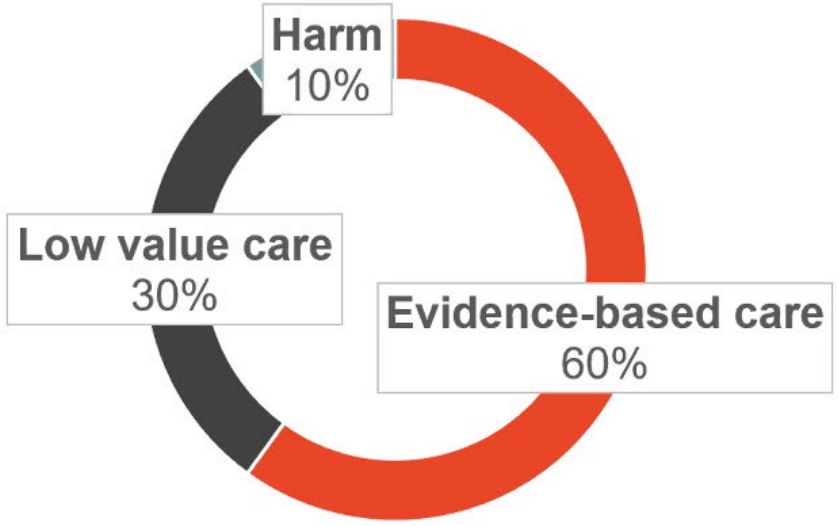
Source: Runciman et al (2012). Care track study
https://www.mja.com.au/system/files/issues/197_02_160712/run10510_fm.pdf

Braithwaite J,et al. Quality of Health Care for Children in Australia, 2012-2013. JAMA. 2018 Mar 20;319(11):1113-1124. doi: 10.1001/jama.2018.0162. PMID: 29558552; PMCID: PMC5885883.

The 60-30-10 challenge in healthcare



Source: Runciman et al (2012). Care track study
https://www.mja.com.au/system/files/issues/197_02_160712/run10510_fm.pdf



Braithwaite et al. BMC Medicine (2020) 18:102
https://doi.org/10.1186/s12916-020-01563-4

BMC Medicine

OPINION Open Access

The three numbers you need to know about healthcare: the 60-30-10 Challenge

Jeffrey Braithwaite[1*], Paul Glasziou[2] and Johanna Westbrook[3]

■ Evidence-based care ■ Low value care ■ Harm

The challenge of implementing existing evidence at scale

In the past two decades, it has been estimated that more than half of cancers could have been prevented by applying knowledge that we already have (Emmons and Colditz, 2017)

Evidence-practice gap amplified in low and middle-income country contexts

Docherty et al. Int J Ment Health Syst (2017) 11:8
DOI 10.1186/s13033-016-0115-1

International Journal of Mental Health Systems

REVIEW Open Access

Evidence-based guideline implementation in low and middle income countries: lessons for mental health care

Mary Docherty[1], Kate Shaw[2], Lucy Goulding[2], Hannah Parke[2], Erica Eassom[2], Farnoosh Ali[2] and Graham Thornicroft[3*]

The injustice of unfit clinical practice guidelines in low-resource realities

Nanna Maaløe, Anna Marie Rønne Ørtved, Jane Brandt Sørensen, Brenda Sequeira Dmello, Thomas van den Akker, Monica Lauridsen Kujabi, Hussein Kidanto, Tarek Meguid, Ib Christian Bygbjerg, Jos van Roosmalen, Dan Wolf Meyrowitsch, Natasha Howse

Erismann et al. Health Res Policy Sys (2021) 19:29
https://doi.org/10.1186/s12961-020-00646-1

Health Research Policy and Systems

RESEARCH Open Access

How to bring research evidence into policy? Synthesizing strategies of five research projects in low-and middle-income countries

Séverine Erismann[1,2*], Maria Amalia Pesantes[3], David Beran[4], Andrea Leuenberger[1,2], Andrea Farnham[1,2], Monica Berger Gonzalez de White[1,2,5], Niklaus Daniel Labhardt[1,2,6], Fabrizio Tediosi[1,2], Patricia Akweongo[7], August Kuwawenaruwa[1,2,8], Jakob Zinsstag[1,2], Fritz Brugger[9], Claire Somerville[10], Kaspar Wyss[1,2] and Helen Prytherch[1,2*]

Semahegn et al.
Health Research Policy and Systems (2023) 21:131
https://doi.org/10.1186/s12961-023-01084-5

Health Research Policy and Systems

RESEARCH Open Access

Challenges for research uptake for health policymaking and practice in low- and middle-income countries: a scoping review

Agumasie Semahegn[1,2,3*], Tsegahun Manyazewal[1], Charlotte Hanlon[1,4,5], Eyerusalem Getachew[1], Bethelhem Fekadu[1], Esubalew Assefa[1,6,7], Munir Kassa[8], Michael Hopkins[9], Tassew Woldehanna[10], Gail Davey[11,12] and Abebaw Fekadu[1,5,11]

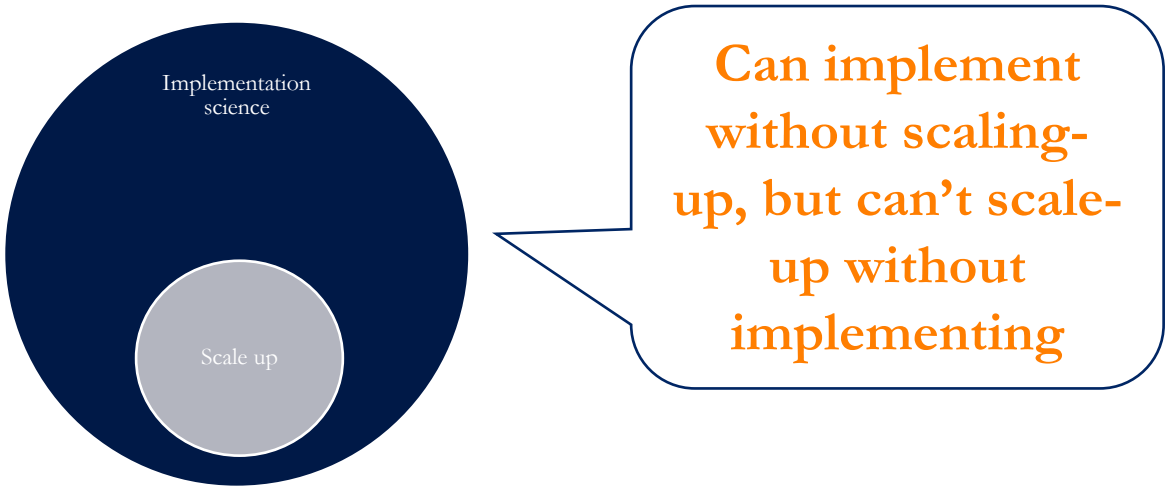
Scaling up

'…deliberate efforts to increase the impact of successfully tested health interventions so as to benefit more people and to foster policy and program development on a lasting basis.'

(WHO, 2010)

Implementation science & scale-up

Conceptually distinct, but not mutually exclusive

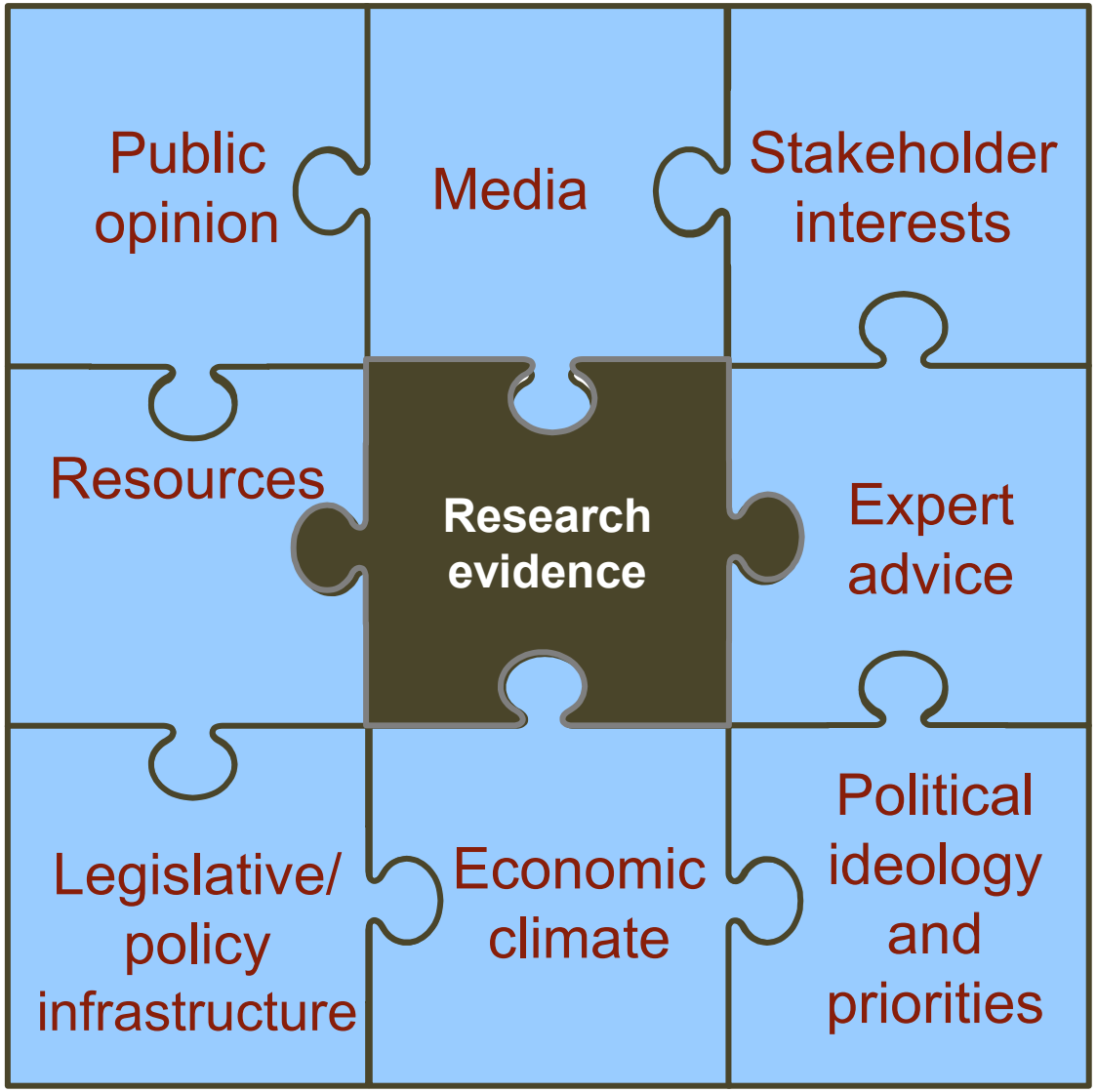


The scale up process

- Scale-up can be nonlinear, and is inherently complex and often political (Shaw et al, 2017)

- **Health interventions types:** public health and clinical care measures - drugs, technology, testing, models of care, vaccines, vector control, health education, behaviour change strategies, regulation, and better health planning and management methods

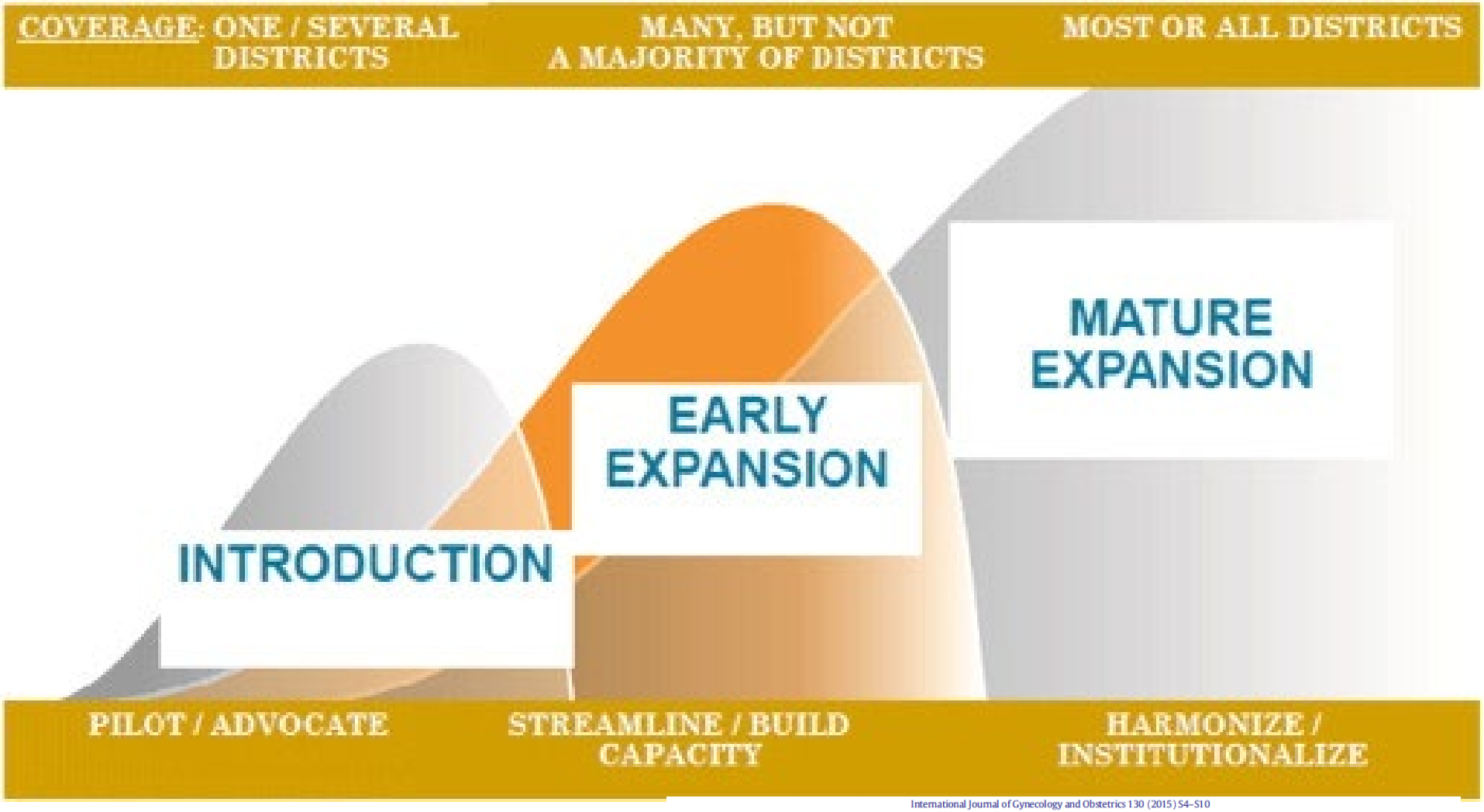
Many types of evidence



Source: CIPHER, Sax Institute

Figure 1. Translational Research Framework: testing policy, program and service innovation

https://www.medicalresearch.nsw.gov.au/app/uploads/2019/02/Translational-Research-Grants-Scheme-translation-research-framework.pdf



International Journal of Gynecology and Obstetrics 130 (2015) S4–S10

Contents lists available at ScienceDirect

International Journal of Gynecology and Obstetrics

journal homepage: www.elsevier.com/locate/ijgo

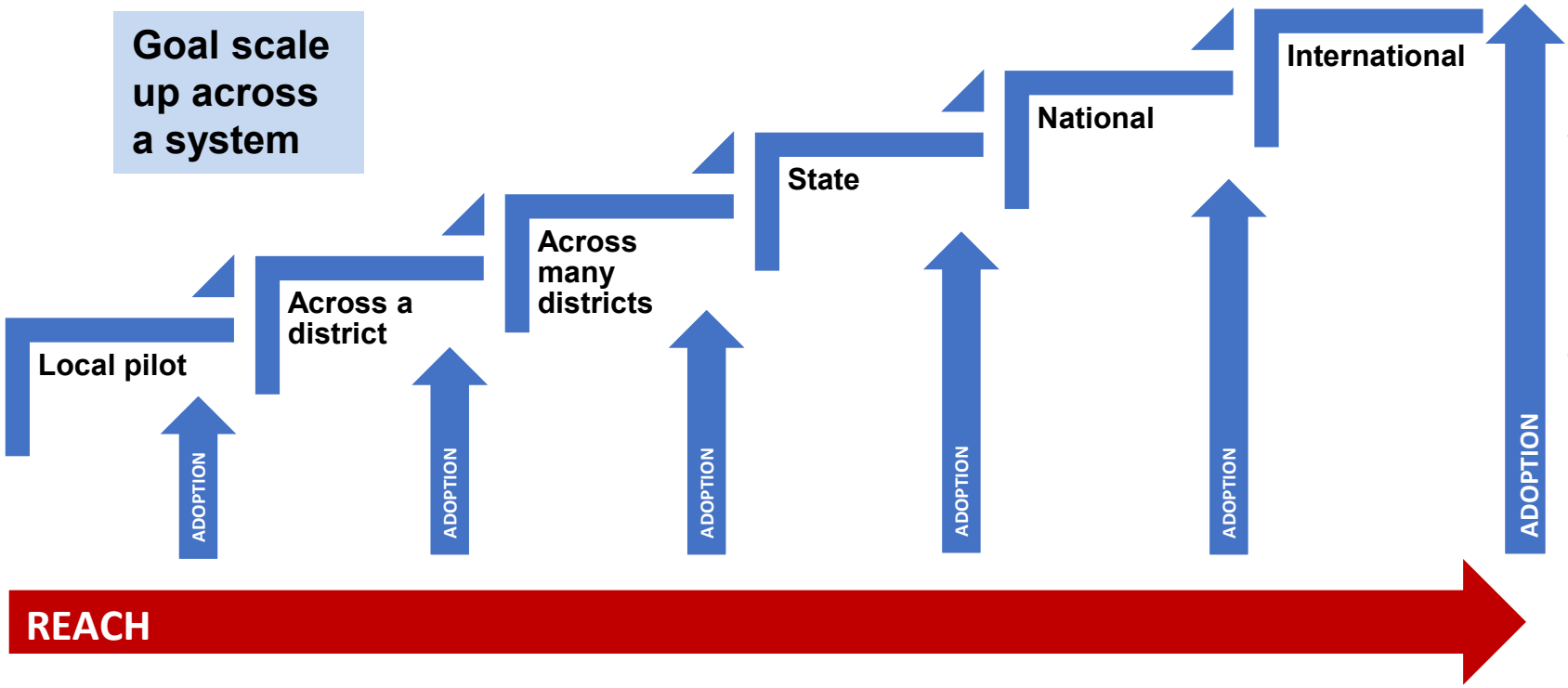
www.figo.org

SUPPLEMENT ARTICLE

Scaling up high-impact interventions: How is it done?

Jeffrey Michael Smith [a,*], Joseph de Graft-Johnson [b], Pashtoon Zyaee [c], Jim Ricca [a], Judith Fullerton [d]

Scale up occurs along a continuum



Adoption: absolute number and proportion of **settings and staff willing to implement an intervention**

Reach: absolute number and proportion of **individuals from the target population** who are willing to participate in a given initiative

Indig et al. BMC Public Health (2018) 18:68
DOI 10.1186/s12889-017-4572-5

BMC Public Health

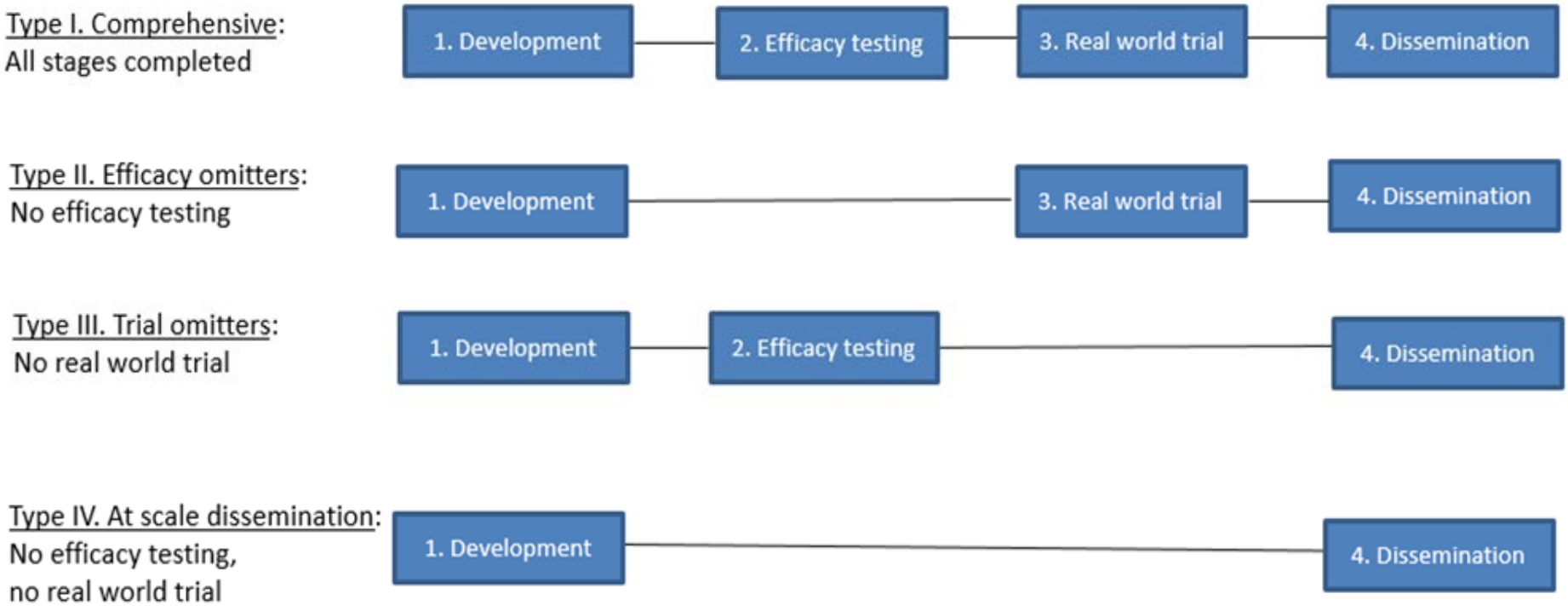
RESEARCH ARTICLE Open Access

Pathways for scaling up public health interventions

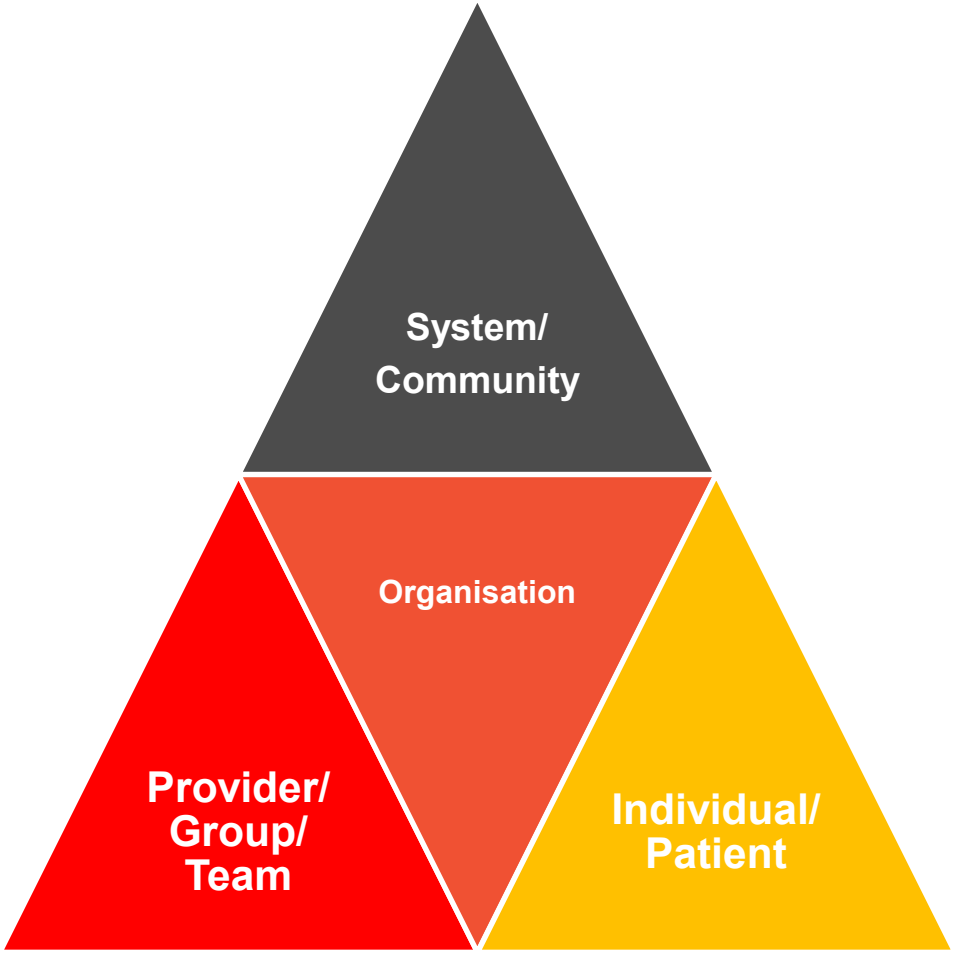
Devon Indig[1*], Karen Lee[2], Anne Grunseit[1], Andrew Milat[2,3] and Adrian Bauman[1]

POLL: Which scale up pathway is most common?

- Type 1 55%
- Type 2 5%
- Type 3 25%
- Type 4 15%



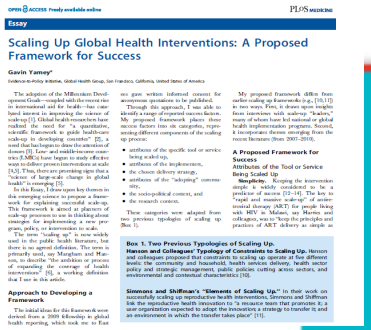
Multiple levels of action

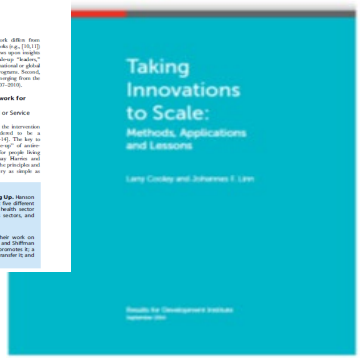


Change in focus as interventions are implemented at scaled

Small scale	System level
Controlled delivery	Less control over delivery
Efficacy	Monitoring system implementation
Bidirectional relationships	Dynamic relationships across systems
Single setting	Diverse settings
Individual capacity	Organisational culture and capacity
Intervention	Changes in systems to achieve an outcome
Focus on early adopters	Focus whole workforce

Scaling up frameworks





Milat *et al. Implementation Science* (2015) 10:113
DOI 10.1186/s13012-015-0301-6

IMPLEMENTATION SCIENCE

SYSTEMATIC REVIEW | Open Access

Narrative review of models and success factors for scaling up public health interventions

Andrew J. Milat[1,2*], Adrian Bauman[1] and Sally Redman[3]

Scaling up population health interventions: guide, New South Wales Ministry of Health	A 4-step process for scaling up interventions: ➢ Step 1. Scalability assessment: to assess the suitability of the intervention/s for scaling up ➢ Step 2. Develop a scaling up plan: create a vision of what scaling up will look like and a compelling case for action ➢ Step 3. Prepare for scaling up: securing resources and building a foundation of legitimacy and support for the scaling up plan ➢ Step 4. Scale up: the main tasks that should be addressed during scale up	Public health: generic
9 steps to scaling up, WHO ExpandNet	ExpandNet framework involves 9 steps: ➢ Planning actions to increase the scalability of the innovation ➢ Increasing the capacity of the user organisation to implement ➢ Assessing the environment and planning actions to increase the potential for success ➢ Increasing the capacity of the resource team to support scaling up ➢ Making strategic choices to support vertical scaling up (institutionalisation) ➢ Making strategic choices to support horizontal scaling up (expansion/replication) ➢ Determining the role of diversification ➢ Planning actions to address spontaneous scaling up ➢ Finalising the scaling-up strategy and identifying next steps	Health services and public health: generic
Scaling up management (SUM) framework	Includes 3 key steps: ➢ Step 1: developing a scaling up plan ➢ Step 2: establishing the preconditions for scaling up ➢ Step 3: implementing the scaling up process based on the identification of factors that can promote extension and sustainability	Health services and public health: generic

Conceptual frameworks

Original research

BMJ Global Health

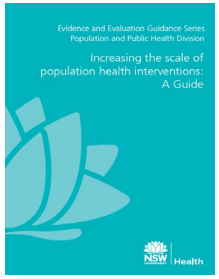
Prioritising and planning scale-up research projects targeting non-communicable diseases: a mixed-method study by the Global Alliance for Chronic Diseases upscaling working group

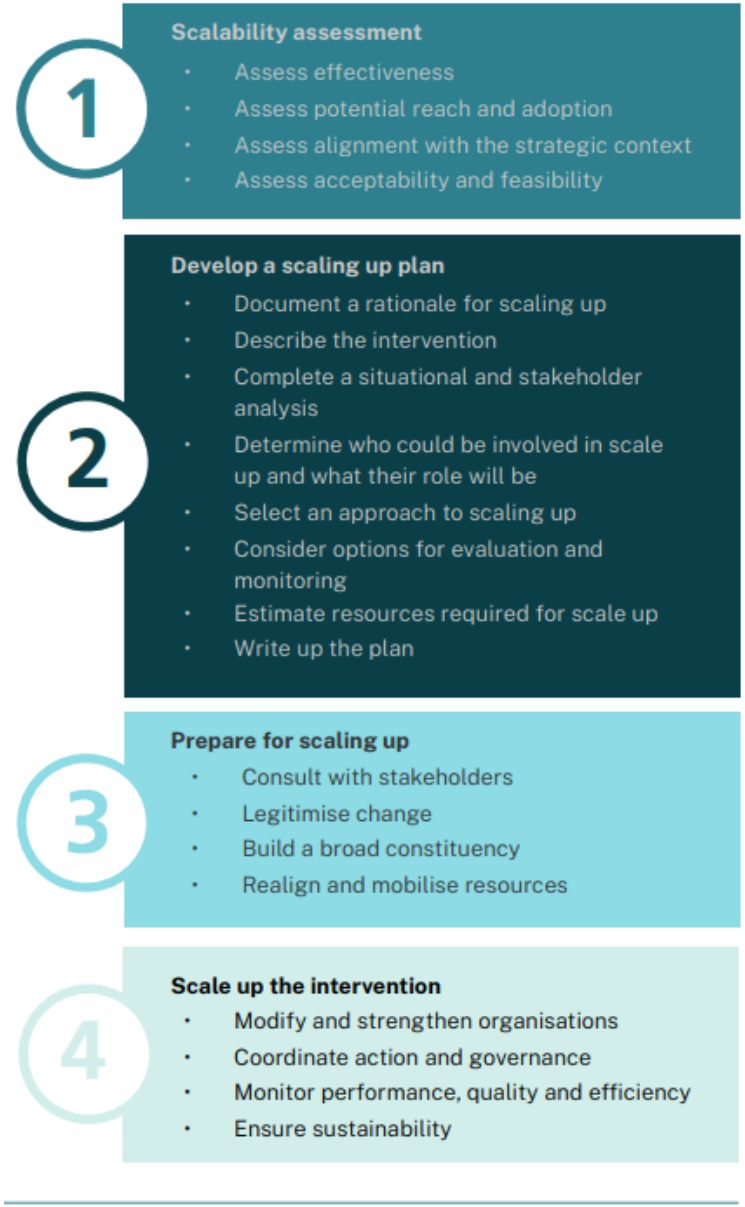
Anusha Ramani-Chander ,[1] Amanda Thrift,[1] Josefien van Olmen ,[2] Edwin Wouters,[3] Peter Delobelle,[4,5] Rajesh Vedanthan ,[6] J Jaime Miranda ,[7,8] Stephen Sherwood,[9,10] Helena J Teede,[11] Rohina Joshi,[12,13] on behalf of the Global Alliance for Chronic Diseases Upscaling Working Group

- Reach, Effectiveness, Adoption, Implementation, Maintenance (RE-AIM)
- Consolidate Framework for Implementation Research (CFIR)
- WHO ExpandNet
- Institute of Healthcare Improvement going-to-full scale
- Medical Research Council framework Complex Interventions

Common features of frameworks

1. **Scalability assessment - select the right intervention**
2. Build a case for change
3. Develop a scale up plan with stakeholders
4. Understand the context and establish the preconditions for scale up
5. Realign and mobilise resources to support at scale implementation
6. Increase capacity of the system and workforce to support scale up
7. Drive change using data and monitor performance
8. Coordinate action and governance





Scalability

'Ability of a health intervention shown to be efficacious on a small scale and/or under controlled conditions to be expanded under real world conditions to reach a greater proportion of the eligible population, while retaining effectiveness'.

(Milat et al 2012)

Why assess scalability?

Scalability Assessment

Are interventions are suitable for scale up?

Decisions should be evidence informed

Identify factors that may help or hinder scale up

Who should be involved?

Scalability Assessment Tools

Table 2 (continued)

Name (abbreviation)[a] [References]	Type and source						Scalability component targeted by tools[b]											Number of items	Pitfall predictions[c]
	Type	Year of issue or publication	Source of funding	Language	Type of stakeholder	Open-access source	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	C_9	C_{10}	C_{11}		
Baker et al. [47]	Criteria	2011	Governmental organization	English	Not found	ResearchGate			✓					✓	✓	✓		16	$P_{1,2,6,7,8}$
Bennett et al. [48]		2017	Governmental organization	English	Not found	Peer-reviewed journal			✓		✓	✓	✓	✓		✓	✓	8	$P_{3,8}$
Burchett et al. [50]		2011	Not found	English	Researcher	ResearchGate			✓		✓	✓	✓	✓	✓		✓	17	$P_{3,5,8}$
Burchett et al. [51]		2012	Governmental organization	English	Clinician, policy-maker, researcher	Not found	✓		✓		✓	✓	✓	✓	✓		✓	15	$P_{3,6,7,8}$
Cambon et al. [52]		2012	Governmental organization	English	Not found	Peer-reviewed journal	✓	✓	✓	✓		✓	✓	✓	✓	✓		32	$P_{1,3,6,7,8}$
Process model for the assessment of transferability (PIET-T) [55]		2018	Governmental organization	English	Not found	Peer-reviewed journal	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14	$P_{2,8}$
Spicer et al. [56]		2014	Non-governmental organization	English	Policy-maker, researcher, civil society organizations	Peer-reviewed journal	✓		✓	✓	✓	✓	✓	✓	✓			22	$P_{3,8}$
Wang et al. [58]		2005	Not found	English	Not found	Not found	✓			✓			✓	✓	✓	✓		12	$P_{6,8}$
Milat et al. [20, 21, 120]		2012	Governmental organization	English	Policy-maker, researcher	Peer-reviewed journal, ResearchGate, organizational website				✓	✓	✓	✓	✓	✓	✓	✓	21	$P_{3,5,8}$
CORRECT attributes[d] [6, 121, 122]		2010	Governmental organization	English, French, Spanish	Not found	Organizational website	✓		✓		✓	✓	✓		✓	✓		17	$P_{3,6,8}$

Ben Charif *et al.*
Health Research Policy and Systems (2022) 20:34
https://doi.org/10.1186/s12961-022-00830-5

Health Research Policy and Systems

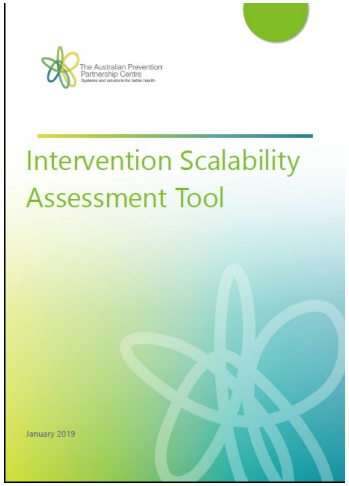
REVIEW Open Access

Tools for assessing the scalability of innovations in health: a systematic review

Ali Ben Charif[1], Hervé Tchala Vignon Zomahoun[2,3,4], Amédé Gogovor[5,6,7,8], Mamane Abdoulaye Samri[5,6,7], José Massougbodji[9], Luke Wolfenden[10,11,12], Jenny Ploeg[13], Merrick Zwarenstein[14], Andrew J. Milat[15,16], Nathalie Rheault[5,8], Youssoufa M. Ousseine[17], Jennifer Salerno[13], Maureen Markle-Reid[13,18] and France Légaré[5,6,7,8,19*]

Intervention Scalability Assessment Tool

A tool for policy makers, practitioners and researchers.



Designed to:

- Assist in making assessment of scalability of an intervention
- Identify and assess contextual factors that may help or hinder scale up
- Determining how to design a program or intervention for implementation and future scale up
- Making comparisons across multiple programs and interventions
- Completed through a group consensus process (where possible) or through survey process

https://preventioncentre.org.au/our-work/research-projects/scaling-up-public-health-interventions/

ISAT - Part A: Setting the scene

Domain A1: The Problem

Domain A2: The Intervention

Domain A3: Strategic Context

Domain A4: Evidence

Domain A5: Cost and benefits

ISAT - Part B: Implementation Planning

Domain B1: Fidelity & Adaptation

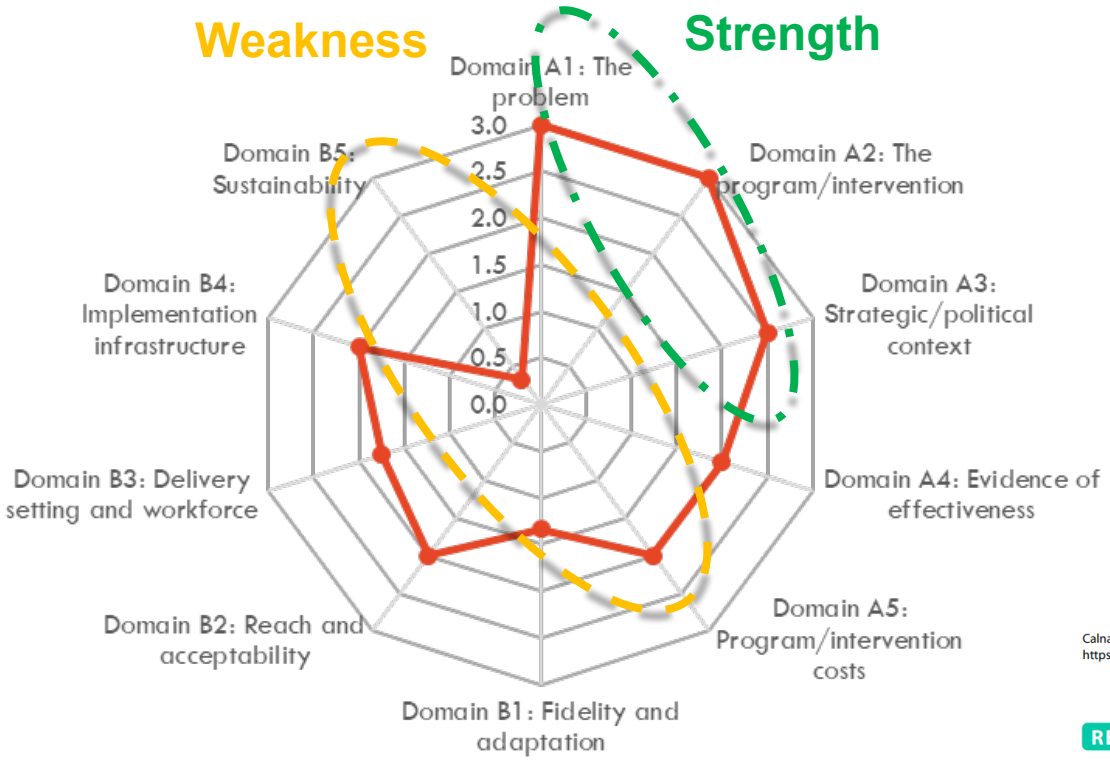
Domain B2: Reach & Acceptability

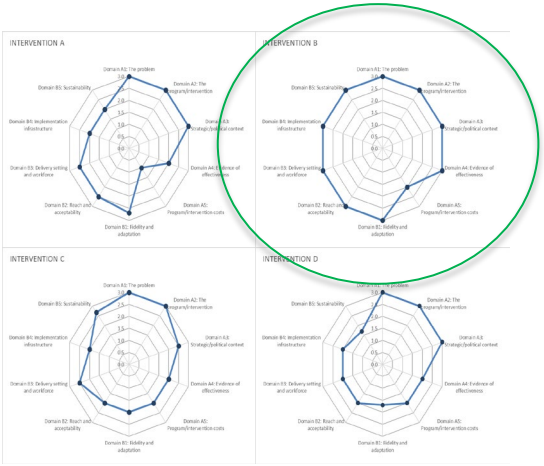
Domain B3: Delivery setting & Workforce

Domain B4: Infrastructure

Domain A5: Sustainability

ISAT – Part C: Scalability Assessment





Calnan *et al. BMC Geriatrics* (2022) 22:17
https://doi.org/10.1186/s12877-021-02717-6

BMC Geriatrics

RESEARCH Open Access

Assessing the scalability of an integrated falls prevention service for community-dwelling older people: a mixed methods study

Susan Calnan[1*], Karen Lee[2] and Sheena McHugh[1]

Conclusion

- **Implementation of effective health interventions at scale is essential to improving population health outcomes**
- **Investigation of optimal ways to expand programs continues to receive inadequate attention** in the literature
- **Effective scale up requires the systematic use of evidence in many forms**—linked to decision-making throughout the process