



The right program in the wrong circumstances

A reviewer's reflection on the importance of context

Prof. Dr. Karin Hannes
Methodology of Educational Sciences Research Group
Faculty of Psychology and Educational Sciences
KU Leuven, Belgium



Meet Emma

Born the 6th of October 2010



Meet Emma

Born the 6th of October 2010
Little sister of Door and Polle



MAIN QUESTION:

How do I get rid of the extra pounds I gained after having delivered a couple of children?



Meet Emma

Born the 6th of October 2010
Little sister of Door and Polle



'BIASED' TRANSLATION:
What interventions have
proven to be effective to
lose weight post-partum?



Evidence of what?

- **Evidence of 'effectiveness':** the extent to which an intervention, when used appropriately, achieves the intended effect.



If you don't know the answer to your question

Where would you go look for it?

I'd go to the Cochrane or Campbell library!

Wiley InterScience home

My Profile Log In

Home | About Cochrane | Access to Cochrane | For Authors | Help | Save Title to My Profile



The Cochrane Library

Evidence for healthcare decision-making



BROWSE

Cochrane Reviews: [By Topic](#) | [New Reviews](#) | [Updated Reviews](#) | [A-Z](#) | [By Review Group](#)

Other Resources: [Other Reviews](#) | [Clinical Trials](#) | [Methods Studies](#) | [Technology Assessments](#) | [Economic Evaluations](#)

? [More Info](#)

SEARCH

[Advanced Search](#) | [MeSH Search](#) | [Search History](#) | [Saved Searches](#)

[Intervention Review]

Diet or exercise, or both, for weight reduction in women after childbirth

Amanda R Amorim¹, Yvonne M Linne², Paulo Mauricio C Lourenco³

¹Epidemiology, UERJ-IMS, Rua São Francisco Xavier, Rio de Janeiro, Brazil. ²Obesity Unit, Karolinska University Hospital, Stockholm, Sweden. ³Department of Epidemiology, University of State of Rio de Janeiro, Rio de Janeiro, Brazil

Contact address: Miss Amanda R Amorim, PhD Student, Epidemiology, UERJ-IMS, Rua São Francisco Xavier, 524 7º andar Bloco D e E, Maracanã, Rio de Janeiro, CEP: 20559-900 RJ, Brazil. amanda@ims.uerj.br. aar@ipm.regionh.dk.
(Editorial group: [Cochrane Pregnancy and Childbirth Group](#).)

Cochrane Database of Systematic Reviews, Issue 2, 2008 (Status in this issue: *Edited, commented*)

Copyright © 2008 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.

DOI: 10.1002/14651858.CD005627.pub2

This version first published online: 18 July 2007 in Issue 3, 2007. Re-published online with edits: 4 February 2008 in Issue 2, 2008. Last assessed as up-to-date: 22 April 2007. ([Dates and statuses?](#))

This record should be cited as: Amorim AR, Linne YM, Lourenco PMC. Diet or exercise, or both, for weight reduction in women after childbirth. *Cochrane Database of Systematic Reviews* 2007, Issue 3. Art. No.: CD005627. DOI: 10.1002/14651858.CD005627.pub2.

The answer to my question

- Women who exercised did not lose significantly more weight than women in the usual care group.
- Women who took part in a diet or diet plus exercise program, lost more weight than women in the usual care.
- There was no difference in the magnitude of weight loss between diet and diet plus exercise group.
- The interventions seemed not to affect breastfeeding performance adversely.

The answer to my question

- Women who exercised did not lose significantly more weight than women in the usual care group.
- Women who took part in a diet or diet plus exercise program, lost more weight than women in the usual care.
- There was no difference in the magnitude of weight loss between diet and diet plus exercise group.
- The interventions seemed not to affect breastfeeding performance adversely.

A study in the Journal of the American College of Nutrition found that **those who ate cereals were lower in weight compared to those who ate meat and eggs, bread or skipped breakfast.**

The answer to my question

SIMPLE logical reasoning:

- IF a diet helps to loose weight after pregnancy
- IF cereals have proven to work well as a diet
- THEN the consumption of cereals will lead to weight loss after pregnancy!
- Right?

Wrong effect!
And then you panic...



... Or you'd go and dig a little deeper!

Weight, Diet, and Physical Activity-Related Beliefs and Practices Among Pregnant and Postpartum Latino Women: The Role of Social Support

Pamela L. Thornton,^{1,8} Edith C. Kieffer,² Yamir Salabarría-Peña,³
Angela Odoms-Young,⁴ Sharla K. Willis,⁵ Helen Kim,⁶
and Maria A. Salinas⁷

Weight Loss Programs for Urban-based, Postpartum African-American Women: Perceived Barriers and Preferred Components

Rosanna Setse · Ruby Grogan · Lisa A. Cooper ·
Donna Strobino · Neil R. Powe · Wanda Nicholson

You'd go and dig a little deeper!

Study 1 (Thornton)

- Husbands and female relatives were the primary sources of emotional, instrumental and informational support.
- Holistic health beliefs and the opinions of others strongly influenced the mothers in their perception about the need to remain healthy.
- Absence of mothers, female relatives, friends to do child care, companionship for exercise and advice about food were barriers limiting women's ability to maintain healthy practices



You'd go and dig a little deeper...



Study 2 (Setse)

- Postpartum depression
- Desire to loose weight
- Cost of weight programs
- Negative impact of media covering celebrity post partum weight loss
- Family behaviours that promote unhealthy eating
- Impact of child care facilities on ability to exercise

You'd go and dig a little deeper

Conclusion study 1 (Thornton)

We need community-based, family oriented programs to increase the chance of successful weight reduction.

Conclusion study 2 (Setse)

Weight loss interventions should address the psychological effects of childbearing, affordability and perceptions of body image. They should incorporate family-centred approaches.

Variability in effects

Evidence of 'effectiveness': the extent to which an intervention, when used appropriately, achieves the intended effect.

Variability in effects

Non-avoidable

TEXT MESSAGE:
Honey, I'm running late - please put the chicken on the stove. Love you!



Context!



If context is always at play when evaluating an intervention in real life circumstances

How are we going to deal with that in our systematic reviews?

The answer to the question

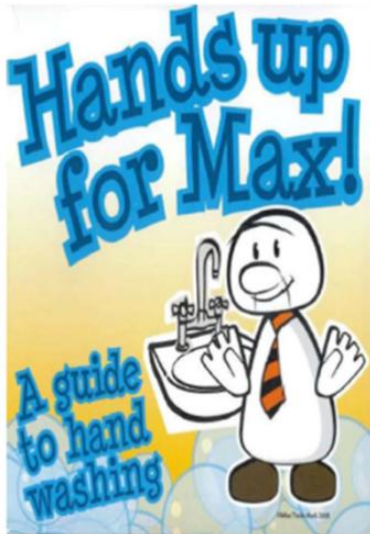
SIMPLE logical reasoning:

- IF an intervention or program has been proven to work in experimental conditions
- THEN there is no valid reason not to adopt it.
- Right?

Wrong!

The answer to the question

- Programs may fail if
 - A. one or more components are not delivered adequately to activate intervening variables.
 - B. factors internal and external to the implementing environment play a powerful role in how providers deliver programs to reach their target group.

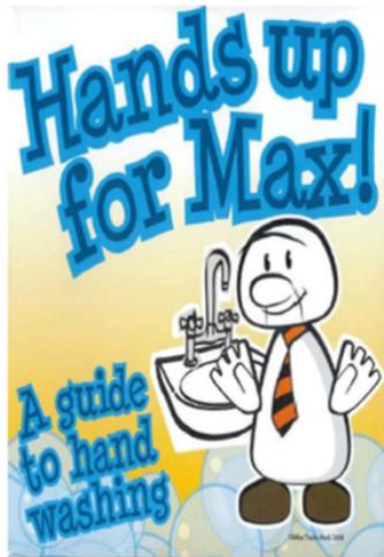


Supported by evidence!



- Reduction of viral infection rate
- Decreasing absence of children and teachers
- Decreasing cost to families and society

The answer to the question

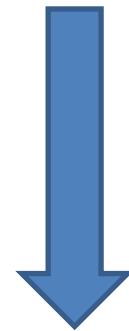


- ~~Reduction of viral infection rate~~
- ~~• Decreasing absence of children and teachers~~
- ~~• Decreasing cost to families and society~~

The answer to the question

MORE ADVANCED logical reasoning:

- IF an intervention or program has been proven to work in experimental conditions
- IF the intrinsic qualities of the program are good
- THEN it may still fail to work in some regions or situations or populations or...
- Because the context in which it is applied varies and some aspects of programs are not automatically transferable to other contexts



Type 3 error: an error related to process and implementation aspects of the intervention or program

The answer to the question

Conclusion:

To inform evidence-based decision-making it is crucial for intervention outcomes to be evaluated in relation to the way they were implemented.

Option 1

Take these program and implementation aspects into account in your synthesis.

Option 2

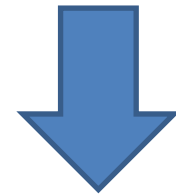
Conduct or read a context-specific systematic review.

Option 1:

Incorporating process and implementation aspects

Why?

- The most simple interventions are already covered to a large extent, by organizations such as Cochrane, Campbell and JBI.



- We need to invest more in programs that are considered complex:
 - Complicated = many components, but mostly under control
 - Complex= emergent aspects, not fully under our control
 - affected by differences in setting, providers of different qualifications, countries with potentially different economic, social, political and cultural circumstances, values and funding mechanisms.
- These are indeed much more prone to the impact of process and implementation aspects.

Option 1:

Incorporating process and implementation aspects

- Process and implementation evaluation measures and a priori intervention models can strengthen the internal and external validity of systematic reviews of complex interventions, however, little is known about the extent to which these are formally addressed in reviews. To address this gap, a checklist for implementation (Ch-IMP) was developed.



A checklist for assessing the extent to which process and implementation measures are taken into account in systematic reviews, that can be used as an instrument to develop review protocols that are more sensitive to these measures.

Cargo M, Stankov I, Thomas J, Rogers P, Saini M, Mayo-Wilson E & Hannes K. Checklist to assess implementation in systematic reviews of complex interventions (ChIMP): Development and inter-rater reliability. Submitted to BMC Medical Research Methodology, 2014.

Extraction Tool for Campbell Collaboration Review of Childhood and Youth Reviews: Part II

Campbell Collaboration
Process & Implementation
Methods Group

Margaret.cargo@unisa.edu.au

Instruction Guide
for Campbell
Collaboration
Review of
Childhood and
Youth Reviews:
Part I

Campbell Collaboration Process &
Implementation Methods Group

Prepared by:

Margaret Cargo & Ivana Stankov
School of Health Sciences
University of South Australia

Prepared by:

Margaret Cargo & Ivana Stankov
School of Health Sciences
University of South Australia

With input from:

Patricia Rogers, RMIT
James Thomas, EPPI-Centre
Karin Hannes, K.U. Leuven
Mike Saini, University of Toronto

Option 1:

Incorporating process and implementation aspects

EXTERNAL ENVIRONMENT

Years in publication range, Country of implementation, Consideration of country regions/ areas

ACTION MODEL

Implementing Organization
Leadership
Resourcing
Training
Intervention Development
Quality of Intervention Materials
Cultural Sensitivity of Materials
Intervention Improvement
Processes
Technical Support/ Guidance

Partnerships
Presence/absence of
partnerships
Consideration of
community or institutional
partnerships in decision-
making

Intervention
Specification of intervention
messaging, strategies,
activities
Service Delivery Protocols
Steps to deliver intervention
in the field

Implementers
Who are the implementers?
Age, Gender, SES, Ethnicity
Qualifications/ Experience/
Competence
Technical Support/ Guidance

Ecological Context
Settings
Types of settings

Participants
Age, Gender, SES,
Demographics,
Risk Status

PROGRAM

IMPLEMENTATION

Fidelity, Dose Delivered, Dose
Received, Recruitment, Attrition,
Reach, Participant Engagement,
Provider Engagement, Adaptation,
Contamination, Co-intervention

CHANGE MODEL

Causal Pathway 2

Causal Pathway 1

Causal Pathway 3

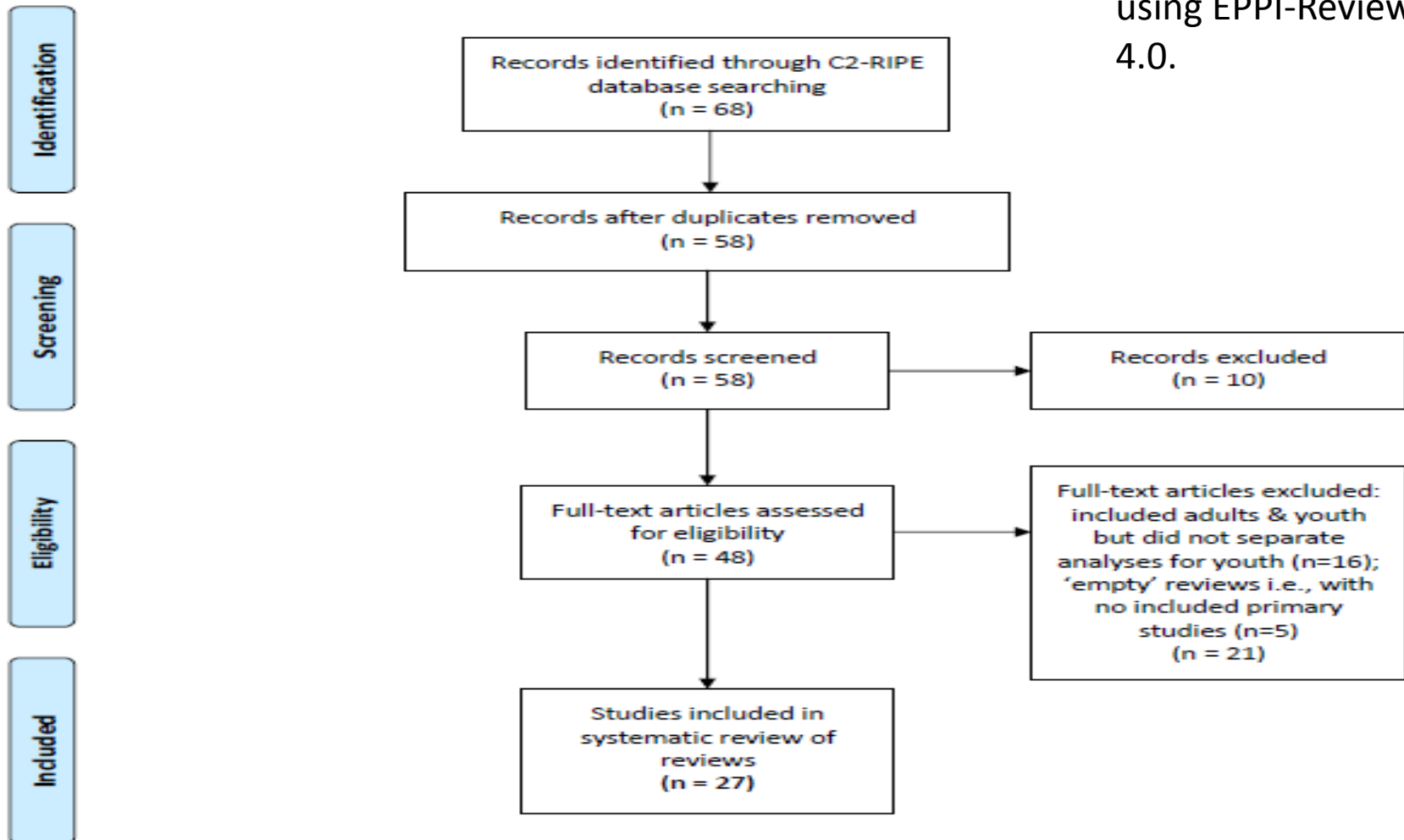
Outcome 1

Outcome 2

Process and Implementation aspects in Campbell systematic reviews

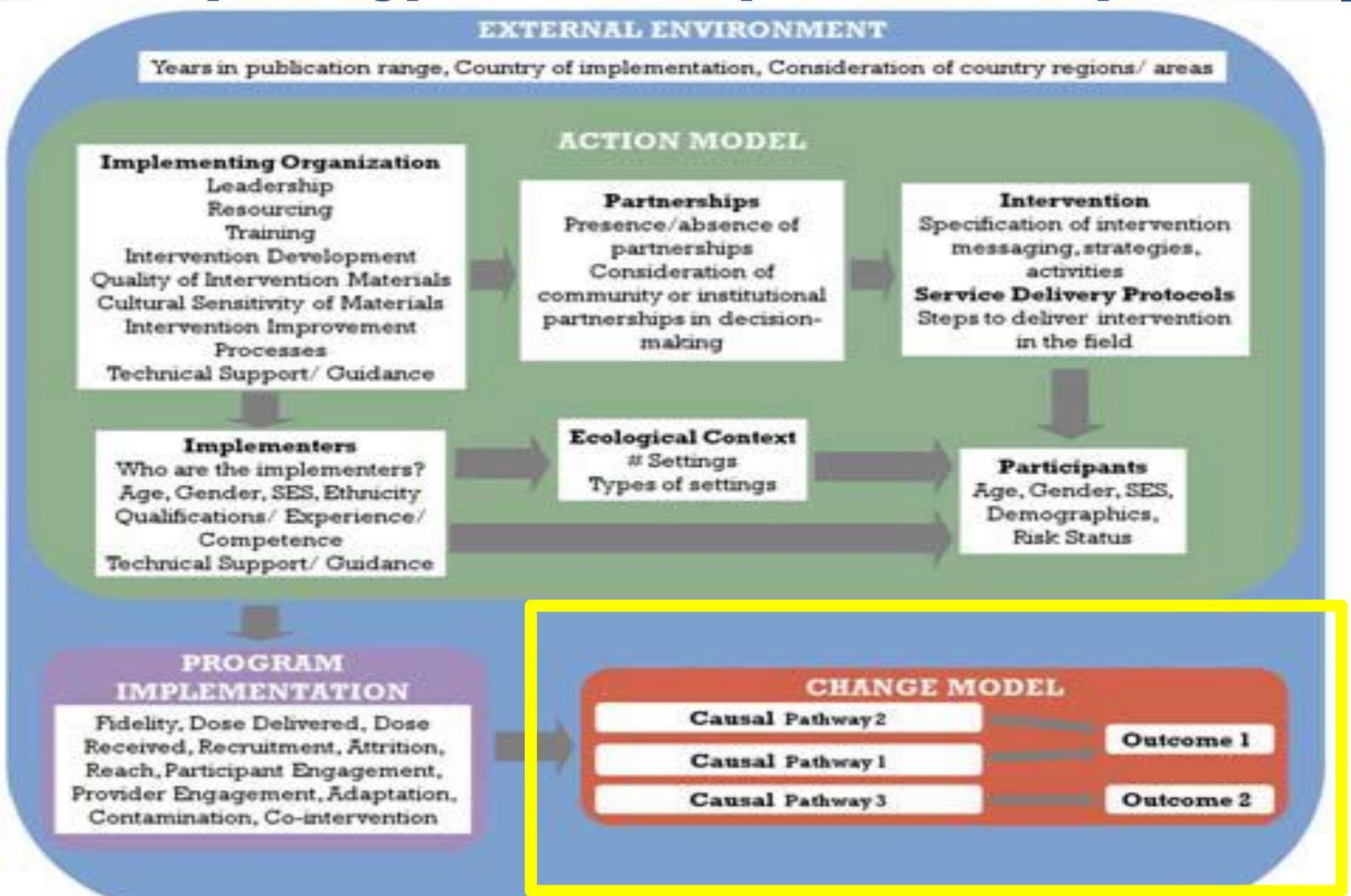
Two reviewers independently evaluated the reviews using EPPI-Reviewer 4.0.

Flow diagram outlining the selection of reviews¹



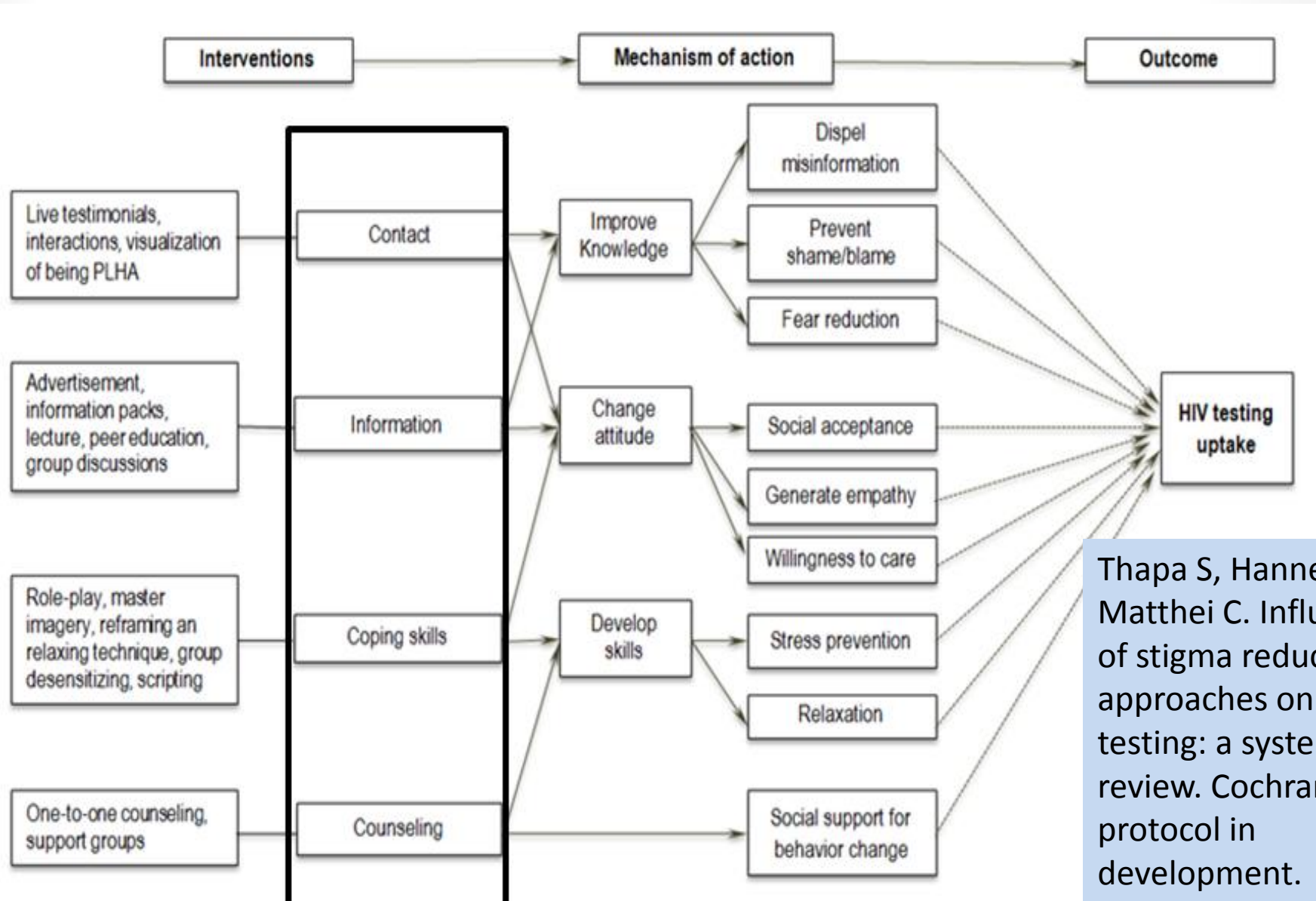
Option 1:

Incorporating process and implementation aspects



Option 1:

Incorporating process and implementation aspects



Thapa S, Hannes K, Matthei C. Influence of stigma reduction approaches on HIV testing: a systematic review. Cochrane protocol in development.

Option 1:

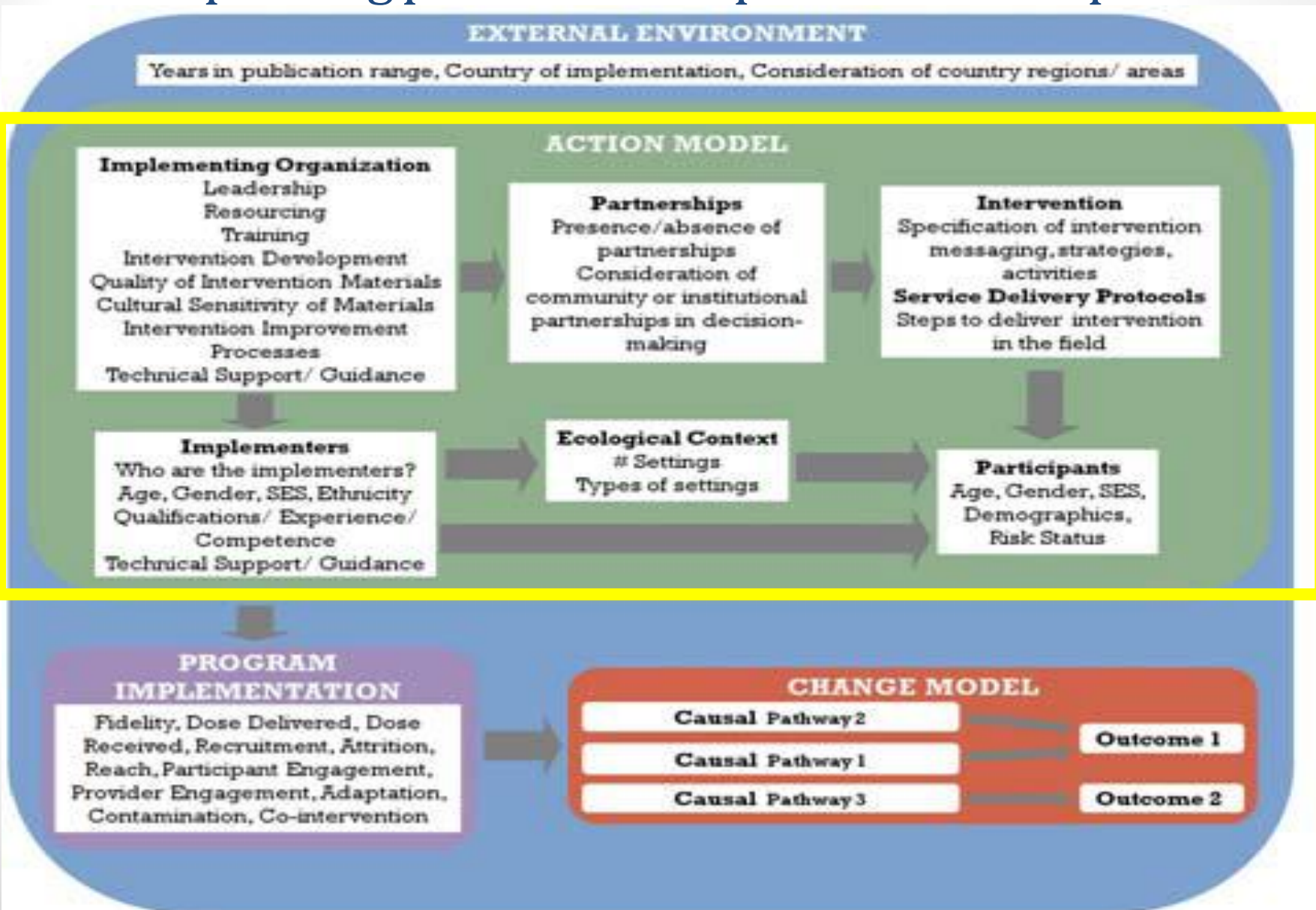
Incorporating process and implementation aspects

- Explaining the effects of interventions across studies requires an explanation of relevant variables and causal pathways in those studies. Causal analysis in intervention research has logical, methodological and empirical components and is strengthened by explicit program theory that specifies how an intervention produces effect(s) through intermediate change mechanism(s) and the factors influencing implementation.
 - **11% of reviews presented intervention models explaining how programs were designed to generate specified outcome(s) in participants. One review provided a logic model. No reviews formally tested intervening mechanisms in relation to one or more distal outcomes.**

Cargo M, Thomas J, Stankov I, Hannes K, Mayo-Wilson E, Rogers P, Saini M. The use of process and implementation information to understand effectiveness in systematic reviews. Submitted to BMC research methodology, 2014.

Option 1:

Incorporating process and implementation aspects



Option 1:

Incorporating process and implementation aspects

- Aspects of the action model (i.e., participants, implementer, intervention, implementing organization, ecological context, partnerships) and process evaluation were considered to varying degrees within reviews.
 - The majority of reviews synthesized a measure of intervention heterogeneity (67%), or at least one process evaluation measure (89%) or participant characteristic (78%).
 - No review formally assessed partnerships.
 - Few reviews synthesized variables related to the implementing organization (22%) or implementers (37%).
 - About one-half of the reviews did not formally consider intervention setting.
 - **No reviews formally utilized qualitative information.**

Option 1:

Incorporating process and implementation aspects

'Variable-oriented' approach

- Create variables that capture discrete aspects of implementation (dose, fidelity etc.) and quantitatively assess these factors in relation to intervention outcomes.

'Theory-oriented' approach

- Include an explicit theory or model of how an intervention contributes to a set of specific outcomes through a series of intermediate results” and “include an explanation of how the program’s activities contribute to the results.


'Mixed method' approach

- Combine insights from quantitative and qualitative studies in one overall synthesis. The qualitative insights will allow you to evaluate potential barriers and facilitators toward an intervention or program

Mixed method oriented


Lay health workers in primary and community health care for maternal and child health and the management of infectious diseases (Review)

Lewin S, Munabi-Babigumira S, Glenton C, Daniels K, Bosch-Capblanch X, van Wyk BE, Odgaard-Jensen J, Johansen M, Aja GN, Zwarenstein M, Scheel IB

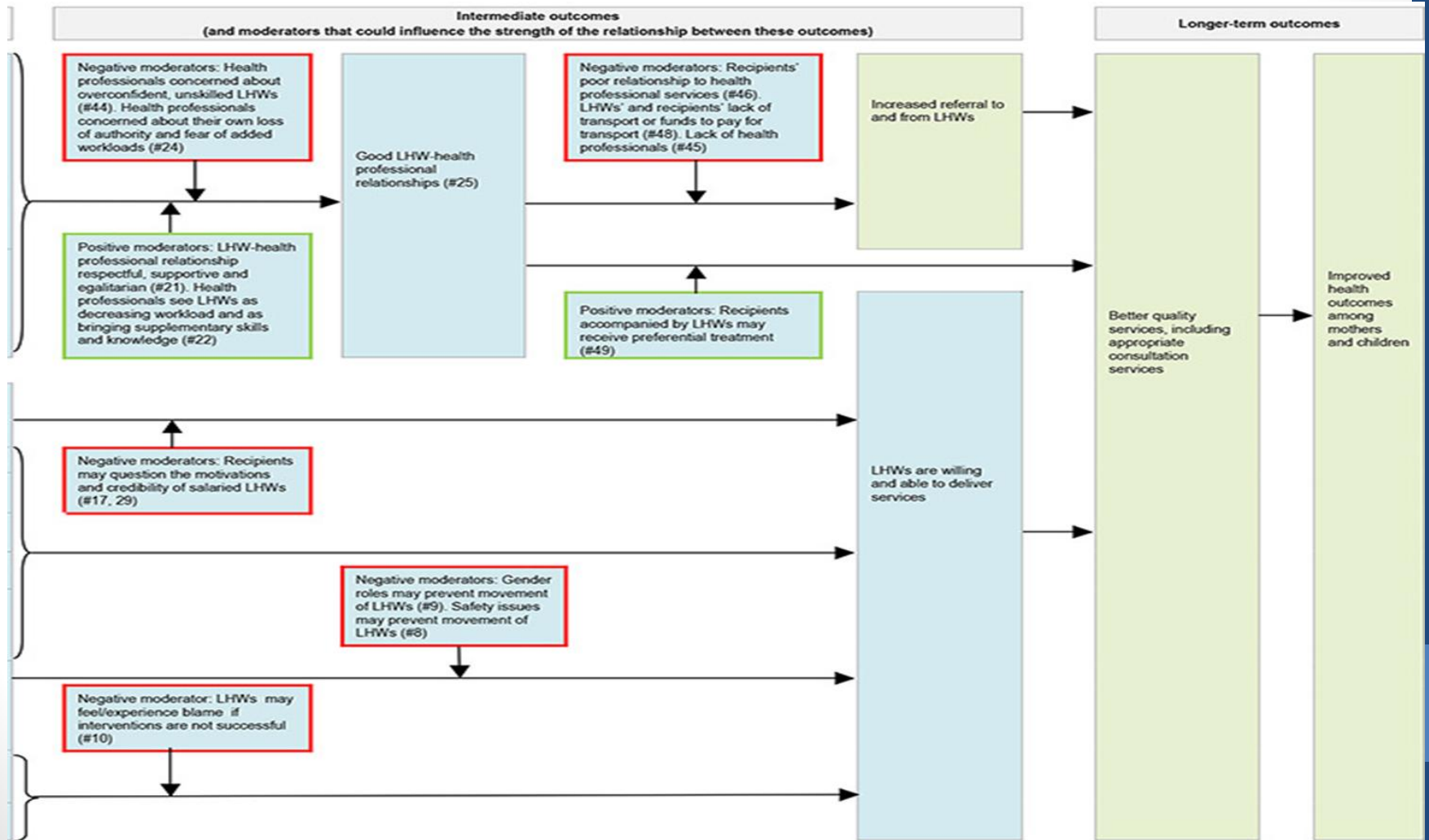


Barriers and facilitators to the implementation of lay health worker programmes to improve access to maternal and child health: qualitative evidence synthesis (Review)

Glenton C, Colvin CJ, Carlsen B, Swartz A, Lewin S, Noyes J, Rashidian A



Mixed method oriented



Option 1:

Incorporating process and implementation aspects

Of course it mixes apples and oranges. In the study of fruit nothing else is sensible. Comparing apples to oranges is the only endeavor worthy of true scientists. Comparing apples to apples is trivial. (Gene Glass, 2000)

Mixed method reviews



***WE HAVE TO in order to
make the findings relevant
to our end-users.***

Option 2: a context-specific systematic review

Original Article

Research
Synthesis Methods

Received 23 September 2011, Revised 2 January 2012, Accepted 17 January 2012 Published online 5 February 2012 in Wiley Online Library

(wileyonlinelibrary.com) DOI: 10.1002/jrsm.55

Multi-context versus context-specific qualitative evidence syntheses: combining the best of both

Karin Hannes^{a*†} and Angela Harden^b

Option 2: a context-specific systematic review

Quantitative Review

Qualitative Evidence Synthesis

Campbell Systematic Reviews

2006:3

First published: 15 February, 2006

Last updated: 15 February, 2006

Impacts of After-School Programs on Student Outcomes

Susan Goerlich Zief, Sherri Lauver, Rebecca A. Maynard

CONTEXT-SPECIFIC OBSTACLES TO EVIDENCE-BASED PRACTICE | 1

Original Article

OBSTACLES TO IMPLEMENTING EVIDENCE-BASED PRACTICE IN BELGIUM: A CONTEXT-SPECIFIC QUALITATIVE EVIDENCE SYNTHESIS INCLUDING FINDINGS FROM DIFFERENT HEALTH CARE DISCIPLINES

Hannes K¹, Goedhuys J², Aertgeerts B²

¹K.U.Leuven, Centre for Methodology of Educational Research and ²K.U.Leuven, Academic Centre for General Practice, Leuven, Belgium

Correspondence and offprint requests to: Karin Hannes, E-mail: Karin.hannes@ped.kuleuven.be

Option 2: a context-specific systematic review

Multi-context reviews

Exhaustive search
Little access to or knowledge of local
databases and experts

Targets a broad audience (but no-one in
particular)
Findings may be too general
Risk of downplaying important local
characteristics by searching for commonalities
Context may get lost
Potential low level of acceptance in end-users

Wide ranging in scope
Ability to cross compare different settings
Works well for topics where little heterogeneity
between settings is expected
Findings are more likely transferable to a
broad range of settings

Context-specific reviews

Selective search
(related to context)
Access to and knowledge of local databases
and experts

Only relevant to the 'happy few'.
Findings are less likely transferable to
other settings

Targeted audience
Highly relevant to practice and policy
Maintains integrity with the context
reported in original studies
Findings may induce a higher level of
acceptance in the end-users

If you ever run into variability of effects again, don't panic

Cause you will know how to deal with it!

Embrace it instead!





Acknowledgements

- The co-conveners of the Campbell Process and Implementation Methods Group (2009-2014)
- The co-conveners of the Qualitative & Implementation Methods Group (2006-ongoing)
- The colleagues of the Joanna Briggs Institute (2009 fellowship)



Thanks for being such a wonderful audience!

Questions?

Karin.hannes@ppw.kuleuven.be