GACD Implementation Science e-Hub

FUNDAMENTALS PROGRAMME

GLOBAL ALLIANCE FOR CHRONIC DISEASES
AN ALLIANCE OF HEALTH RESEARCH FUNDERS

MODULE 1 | LECTURE 1A

Implementation as a science: key concepts, ideas, and issues

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START HERE

1 The science of implementation

2 Stakeholder engagement

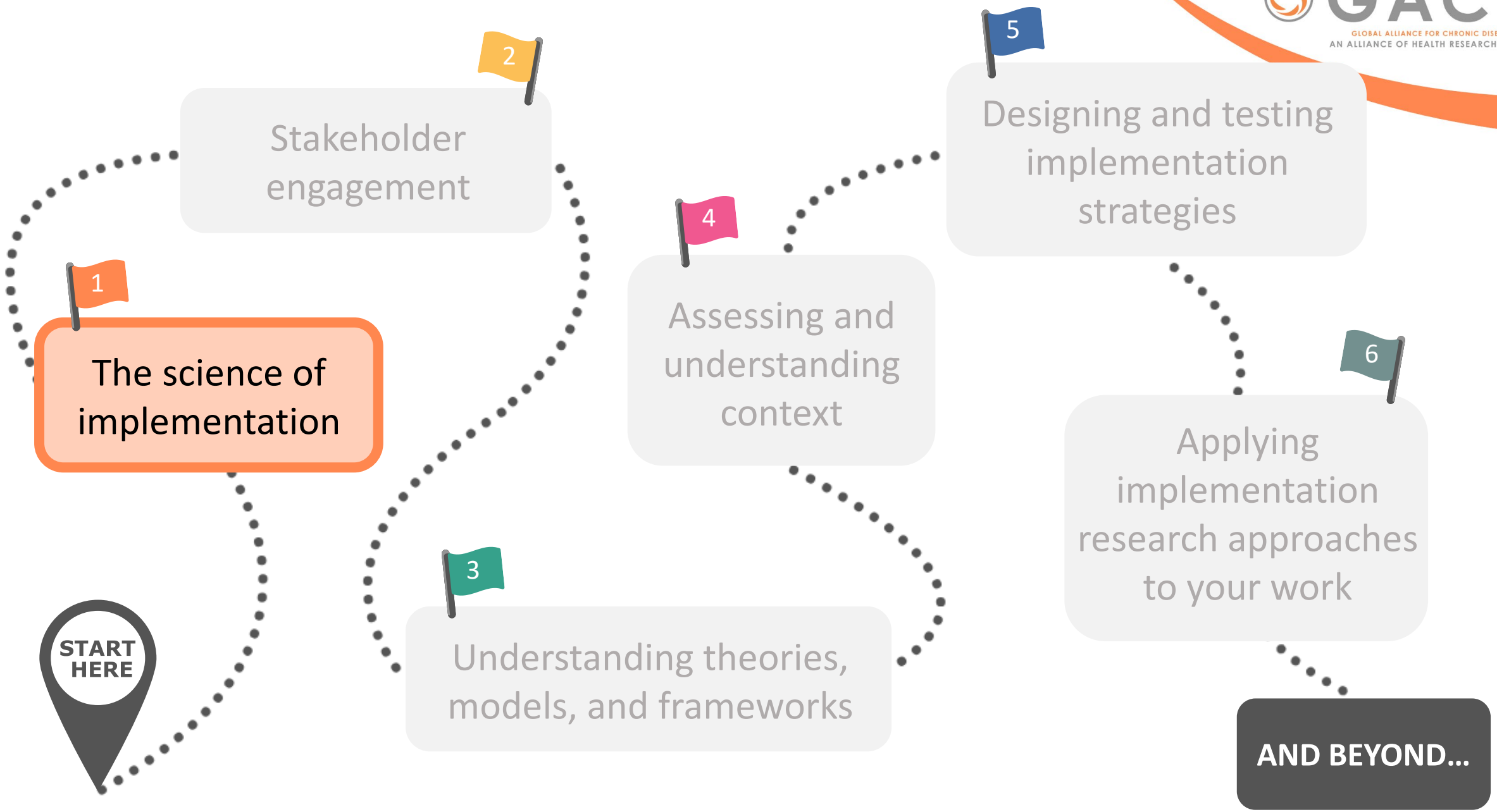
3 Understanding theories, models, and frameworks

4 Assessing and understanding context

5 Designing and testing implementation strategies

6 Applying implementation research approaches to your work

AND BEYOND…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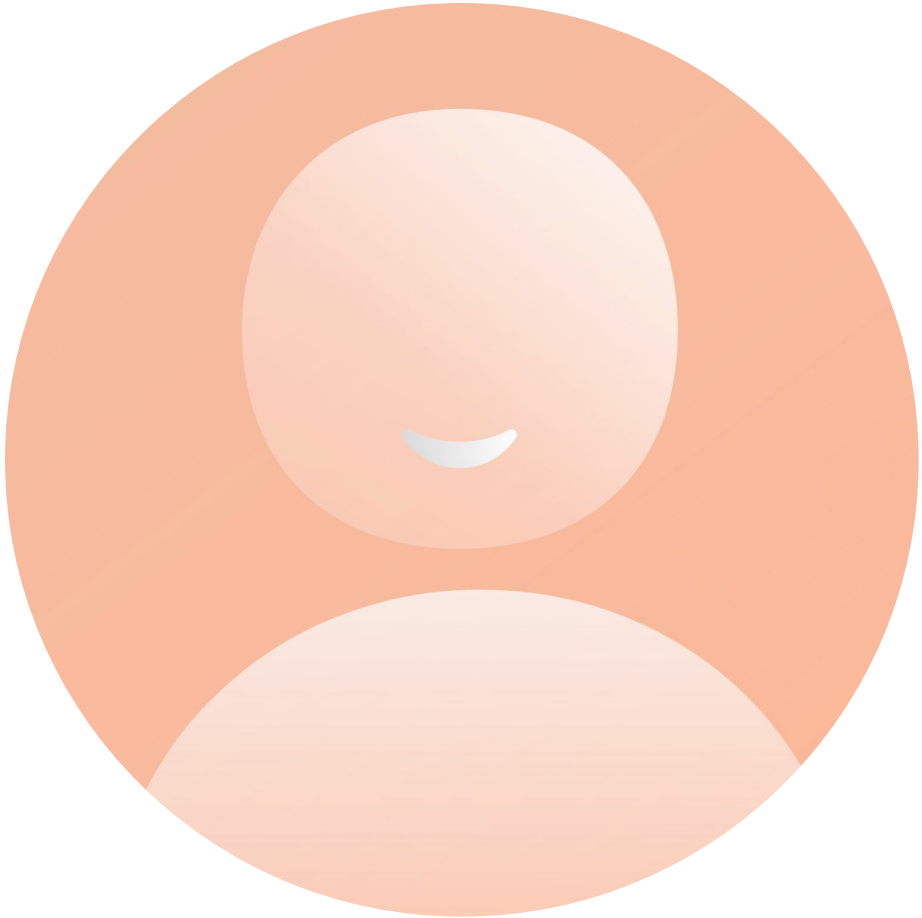
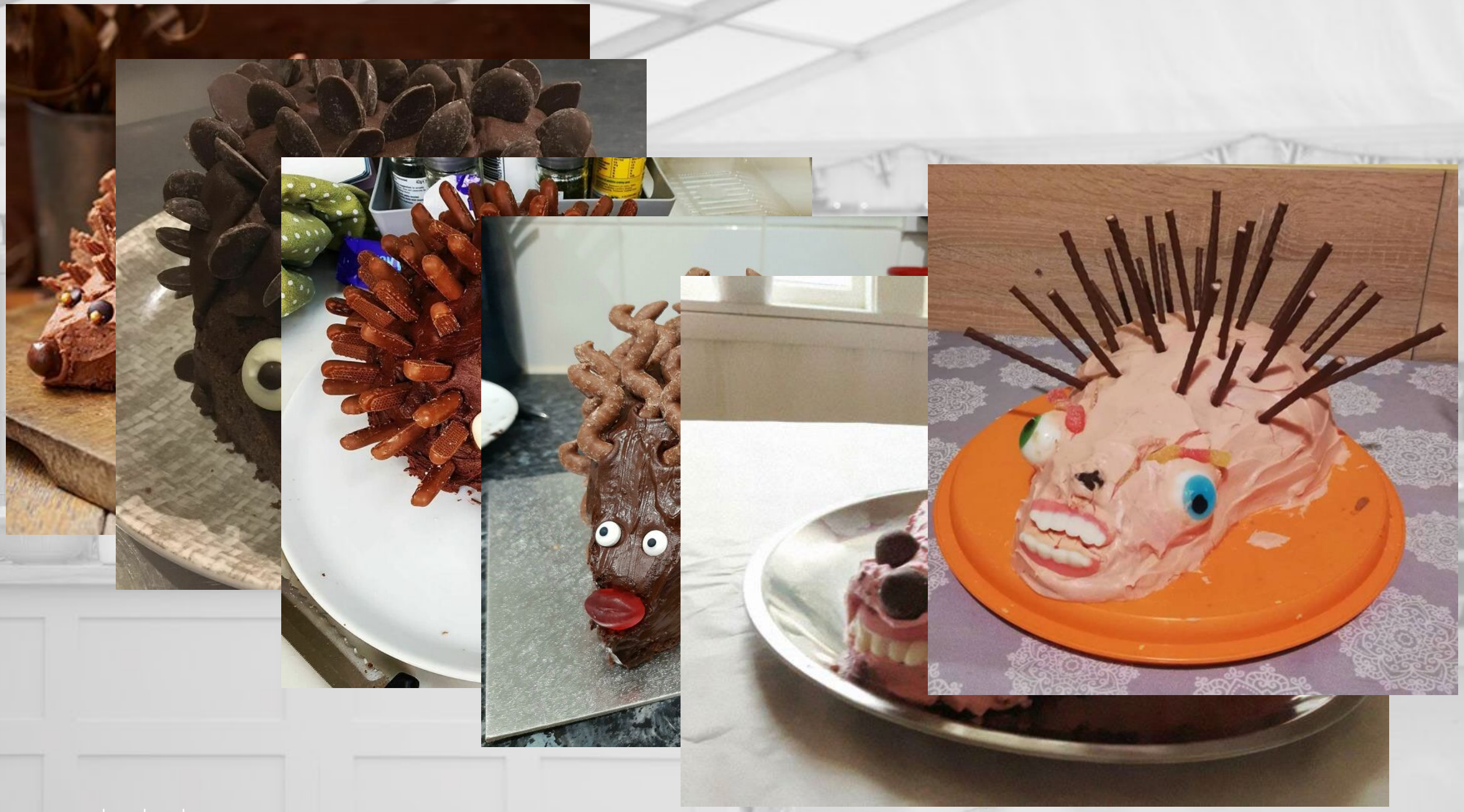
Lecture overview



- Understanding the ‘know-do’ gap in healthcare
- Exploring how implementation as a science can help to bridge the ‘know-do’ gap
- Comparing implementation science with efficacy and effectiveness research
- Defining characteristics and core components of implementation research

Image: www.channel4.com/press/news/great-british-bake-fourth-and-fifth-baker-leave-tent



Images: www.boredpanda.com


KNOW
DO

KNOW

Ingredients

150g unsalted butter, plus extra for greasing

150g plain chocolate, broken into pieces

150g plain flour

½ tsp baking powder

½ tsp bicarbonate of soda

200g light muscovado sugar

2 large eggs

150g soured cream

1 tsp vanilla extract

For the icing and decoration

2 tbsp cocoa powder

2 tbsp hot water

150g unsalted butter, softened

300g icing sugar, sieved

2 x 134g boxes chocolate Flake bars

2 chocolate chips

2 gold or silver balls

1 round chocolate

Method

STEP 1

Heat the oven to 160C/140C fan/gas 3. Grease and base line a 1 litre heatproof glass pudding basin and a 450g loaf tin with baking parchment.

STEP 2

Put the butter and chocolate into a saucepan and melt over a low heat, stirring. When the chocolate has all melted remove from the heat.

STEP 3

In a large bowl mix together the flour, baking powder, bicarbonate of soda and muscovado sugar. In another bowl beat together the eggs, soured cream and vanilla extract. Pour the egg and chocolate mixtures into the flour and mix thoroughly together.

STEP 4

Weigh 250g into the loaf tin, then spoon the rest of the mixture into the pudding basin.

DO

KNOW

- PROCEDURES
- PROGRAMS
- POLICIES
- PRINCIPLES
- PRACTICES
- PRODUCTS
- PILLS

DO

Patient and public health outcomes

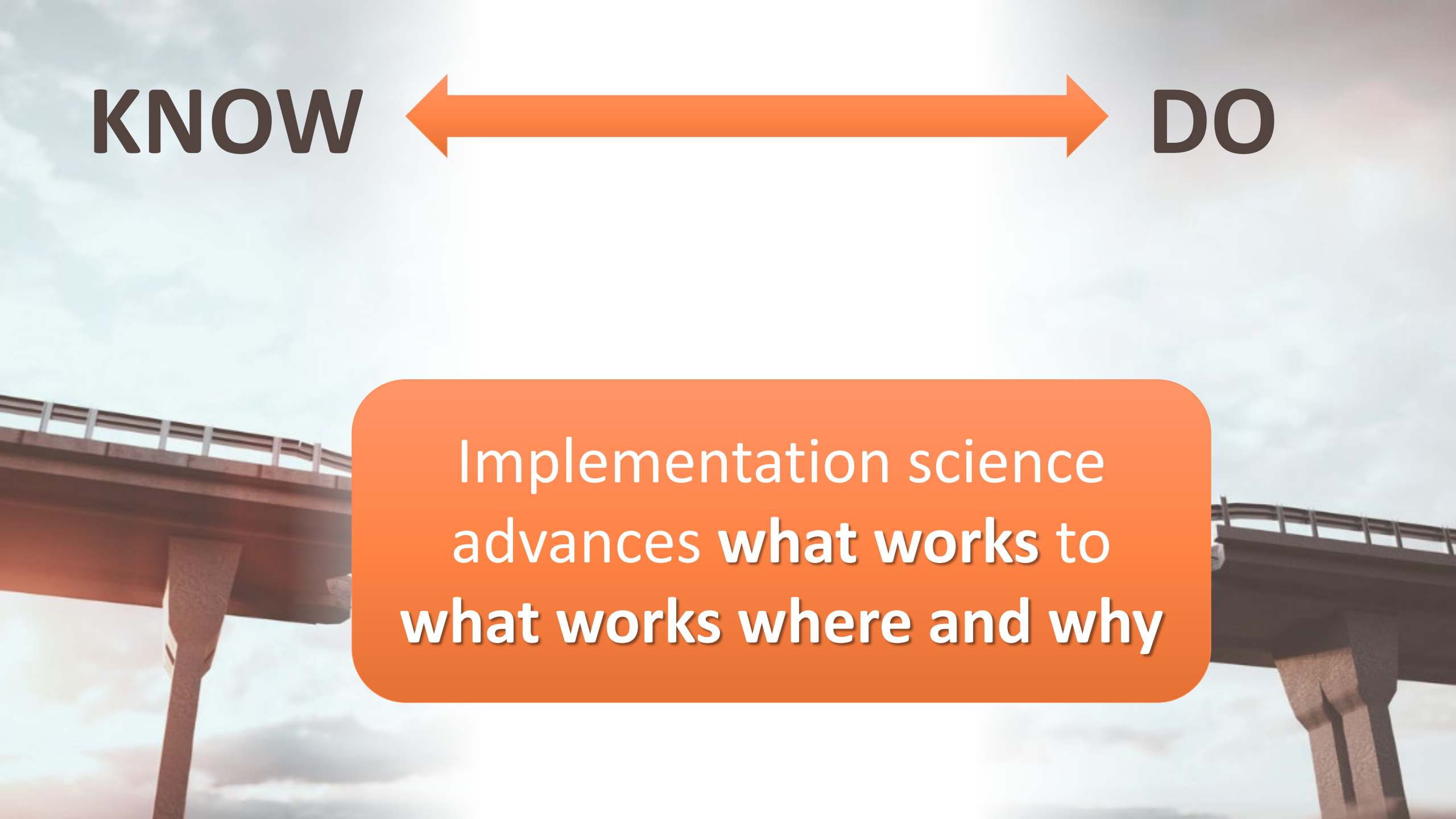
Longer, healthier lives, for all

KNOW

DO

17 YEARS

Morris ZS et al. (2011) J R Soc Med. 104(12):510-20.


KNOW
DO
Implementation science advances **what works** to **what works where and why**

Examples of implementation gaps addressed by implementation research

Inequitable access to essential medicines for NCDs

Ineffective integration of NCD services

Low awareness and prevention efforts

Insufficient human resources for NCD care

Weak health information systems for NCDs


PROCEDURES


PROGRAMS


POLICIES


PRINCIPLES


PRACTICES


PRODUCTS


PILLS

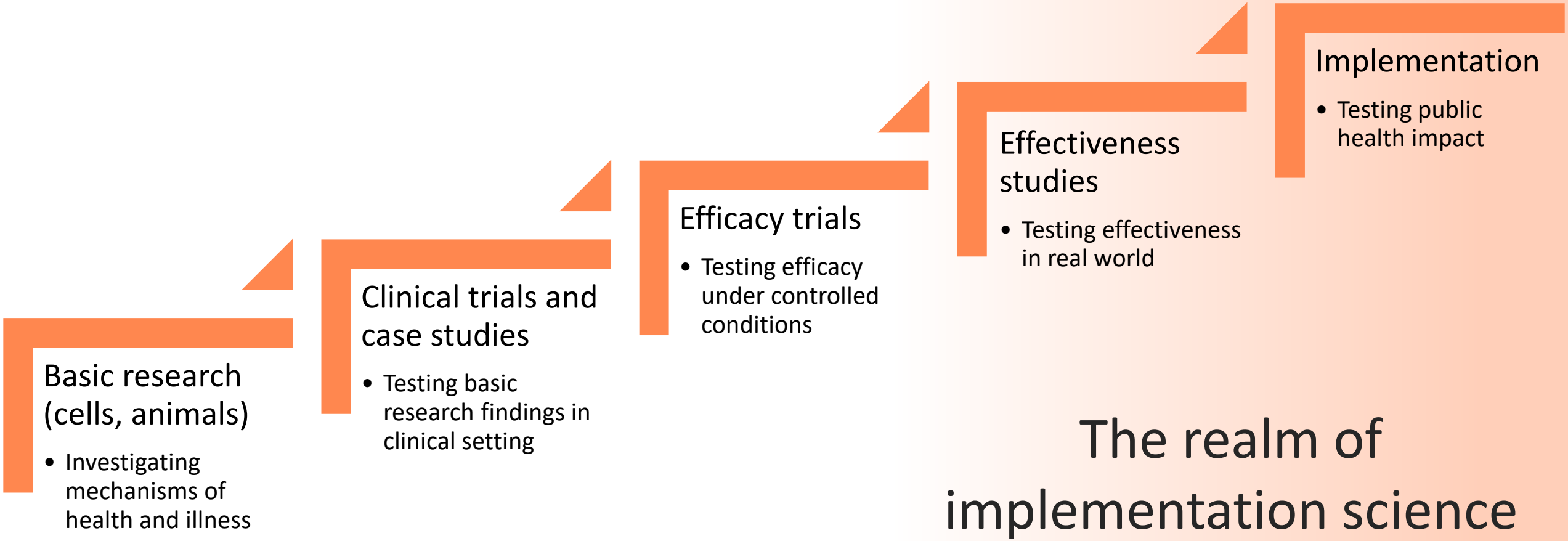
Does THE THING ***work***?

How can we best help people and places to ***do*** THE THING?

Implementation strategies are the ***stuff we do*** to help people and places do THE THING

Implementation outcomes are ***how much*** and ***how well*** they do THE THING

Explanation: Implement Sci Commun 2020;1:27 // 7 'P's: Annu Rev Public Health 2017;38:1-22 // Graphics: impsciuw.org



The realm of implementation science

Study aim	Efficacy	Effectiveness	Implementation
Hypothesis	Innovation beats control	Innovation beats control	A multifaceted implementation strategy increases use of the innovation, compared to availability alone
Setting	Usually academic centres or closely affiliated sites	More typical clinical sites, similar to those in which the innovation would be used	More typical clinical sites, similar to those where the intervention would be used
Population	Exclude many participants, strict inclusion criteria	Include most comorbidities, minimise exclusion criteria	Unit of observation may be patients, providers, or clinical sites; patient population is broad
Clinical intervention	Clinicians are hired and trained by research study	Clinicians provided by sites, typically paid for by research study	Clinicians provided by the sites and typically paid for by the site
Intervention fidelity	Trained to criterion, monitored closely for fidelity	Trained to criterion, quality improvement monitoring as would be used in usual practice	Monitor and intervene to improve fidelity; accommodate adaptations to delivery
Outcome measures	Health outcomes are extensive in order not to miss unexpected positive or negative effects	Health outcomes focused, often due to lower research tolerance of more typical participants	Innovation usage measures; may also include health outcomes
Healthcare context	Control the context to achieve study goals	Work within 'typical' healthcare conditions	Work within typical health conditions and intervene to make them more favourable to the innovation
Research infrastructure	Intense subject engagement and follow-up to maximise retention	Some research support but aim to prevent intense engagement	Research support only for implementation tasks
Validity emphasis	Internal >> external	External > internal	During the study, the implementation strategy may be changed to maximise usage, while maintaining the innovation's core characteristics

Defining characteristics of implementation research

- ✓ Context specific
- ✓ Relevant agenda setting
- ✓ Methods fit for purpose
- ✓ Demand-driven
- ✓ Multi-stakeholder and multi-sectoral
- ✓ Real world
- ✓ Real time
- ✓ Focus equally on process and outcomes

Typical implementation research foci

Aim
To evaluate implementation strategies

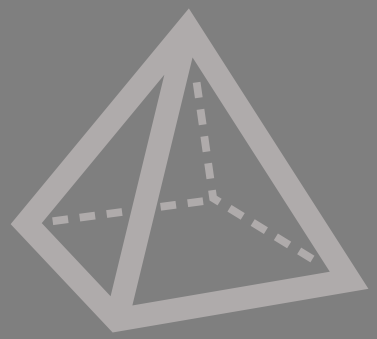
Intervention
Often directed at clinician behaviour and/or organisational practice change

Outcomes
Acceptability, adoption, appropriateness, feasibility, fidelity, reach, cost, sustainability

Unit of analysis and randomisation
The clinician, team, facility, or organisation

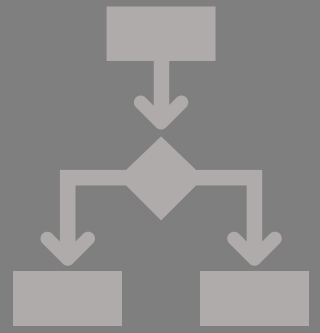
Core components

Meaningful stakeholder engagement



Using theories, models, and frameworks

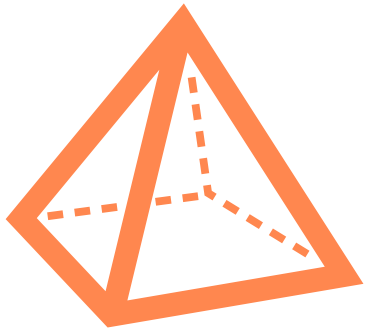
Assessing and understanding context



Testing implementation strategies

Core components

Meaningful stakeholder engagement



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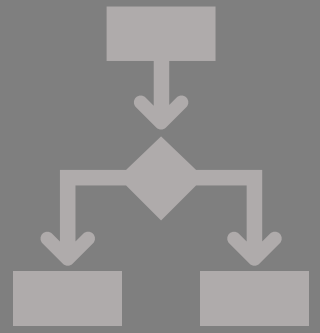

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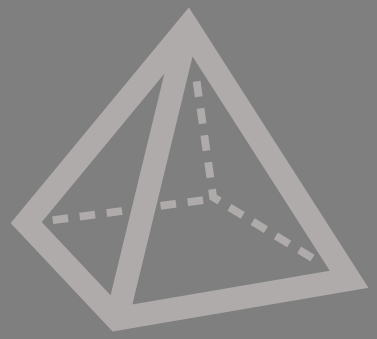

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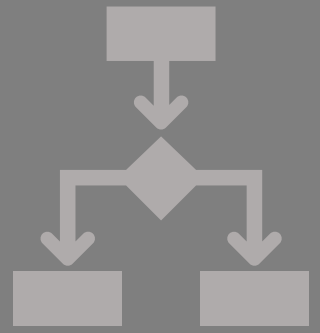

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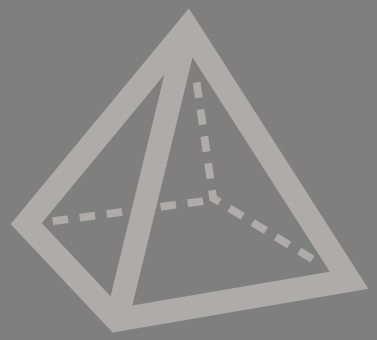

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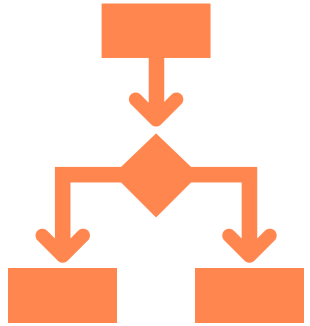

Testing implementation strategies

Key messages

1	Evidence alone is insufficient to combat NCDs; a significant gap exists between knowledge and action in healthcare
2	Implementation science focuses on how to apply evidence-based interventions
3	Unlike efficacy and effectiveness research, implementation science actively considers the real-world environment when introducing new interventions and practices
4	Implementation science is not just new empirical research, it is “the science of implementation”

Reference list

- WHO (2013) Implementation research in health: A practical guide. Accessible here: https://ahpsr.who.int/publications/i/item/9789241506212
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- Lane-Fall MB, Curran GM, Beidas RS. (2019) Scoping implementation science for the beginner: locating yourself on the "subway line" of translational research. BMC Med Res Methodol. 19(1):133.
- Brown CH et al. (2017) An Overview of Research and Evaluation Designs for Dissemination and Implementation. Annu Rev Public Health. 38:1-22.