

# Integrating Consumer Lived Experiences and Stakeholder Perspectives in Policy Simulation



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# Overview

- Integrating the perspectives and lived experiences of consumers is essential to designing policy simulations to inform evidence-based, equitable oral health policies.
- Practical approaches for embedding qualitative and stakeholder-derived insights into modelling workflows, including:
  - o Refining models to reflect real-world behavioural, social, and system-level constraints; and
  - o co-developing priority outcomes with affected communities to guide interpretation of simulation results.

# Why is it important?

- Risk of excluding lived experience:
  - o Relying solely on quantitative data risks reinforcing inequities and missing real-world constraints in policy models
- Value of experiential knowledge
  - o Lived experience captures context, feasibility, acceptability and barriers
  - o Equity-informed simulation reveals differential impacts across diverse groups
- Prioritisation of interventions and implementation

<sup>1</sup>Deutsch, A. R., Frerichs, L., Perry, M., & Jalali, M. S. (2024). Participatory modeling for high complexity, multi-system issues: challenges and recommendations for balancing qualitative understanding and quantitative questions. *System dynamics review*, 40(4), e1765.

<sup>2</sup>Esensoy, A. V., & Carter, M. W. (2015). Health system modelling for policy development and evaluation: using qualitative methods to capture the whole-system perspective. *Operations Research for Health Care*, 4, 15-26.

<sup>3</sup>Freebairn, L., Atkinson, J.-A., Kelly, P. M., McDonnell, G., & Rychetnik, L. (2018). Decision makers' experience of participatory dynamic simulation modelling: methods for public health policy. *BMC Medical Informatics and Decision Making*, 18(1), 131. <https://doi.org/10.1186/s12911-018-0707-6>

# Hypothetical – *Sugar and Caries*

- Modelling the impact of removing sugar from schools on dental caries



# What are Qualitative Methods?

- Broadly, qualitative methods systematically generate evidence about perspectives, behaviours, and systems.
  - o Semi-structured interviews, focus groups, co-design workshops, and ethnographic studies
  - o Human interaction, engaging multiple perspectives
- “Qualitative work challenges norms and assumptions of dental public health practice”<sup>4</sup>
  - o Answers policy-relevant questions not answerable by quant alone
  - o Strengthens models by informing assumptions

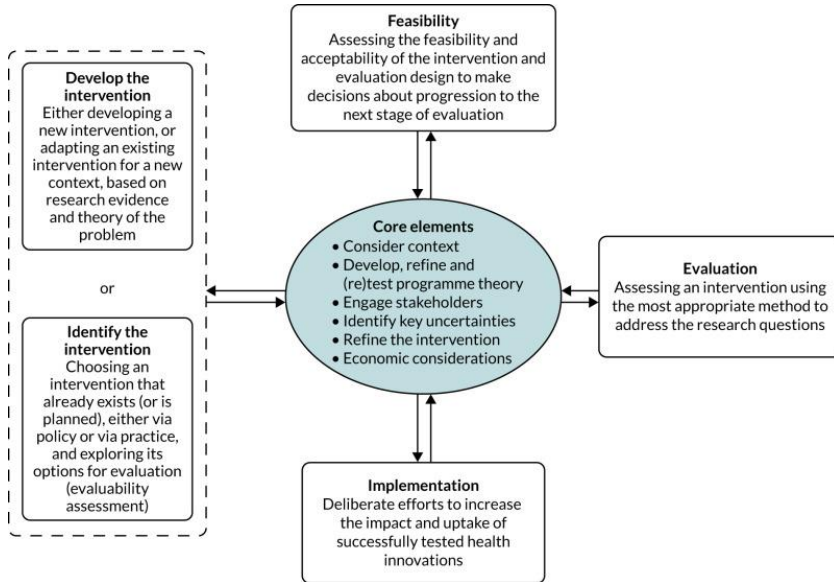
<sup>4</sup>Bower, E. and Scambler, S. (2007), The contributions of qualitative research towards dental public health practice. *Community Dentistry and Oral Epidemiology*, 35: 161-169. <https://doi.org/10.1111/j.1600-0528.2006.00368.x>

# Who Participates?

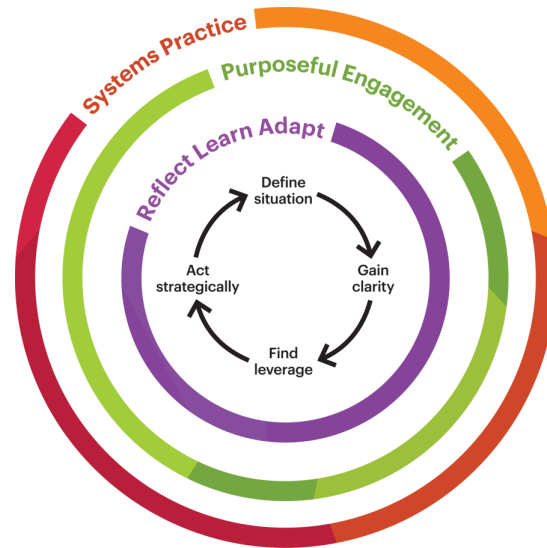
- Individuals with lived experience:
  - o Individuals with lived experience of oral health issues or services
  - o Patients, carers, and families
- Stakeholders
  - o Broader groups to whom the research/policy is relevant
  - o Policymakers, clinicians, and community leaders
- Representation
  - o Diversity and intentional inclusion are essential
  - o Avoid heterogeneity

# Frameworks to Consider

## Complex Intervention Theory<sup>5</sup>



## Systems Thinking<sup>6,7</sup>



<sup>5</sup>Skivington K, Matthews L, Simpson SA, et al. Framework for the development and evaluation of complex interventions: gap analysis, workshop and consultation-informed update. Southampton (UK): NIHR Journals Library; 2021 Sep. (Health Technology Assessment, No. 25.57.) Chapter 2, The new framework. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK574189/>.

<sup>6</sup>World Health Organization. Regional Office for E. Systems thinking for noncommunicable disease prevention policy: guidance to bring systems approaches into practice. Copenhagen: World Health Organization. Regional Office for Europe; 2022.

<sup>7</sup>The Australian Prevention Partnership Centre. A systems thinking approach. Available at <https://preventioncentre.org.au/work/systems-thinking/>

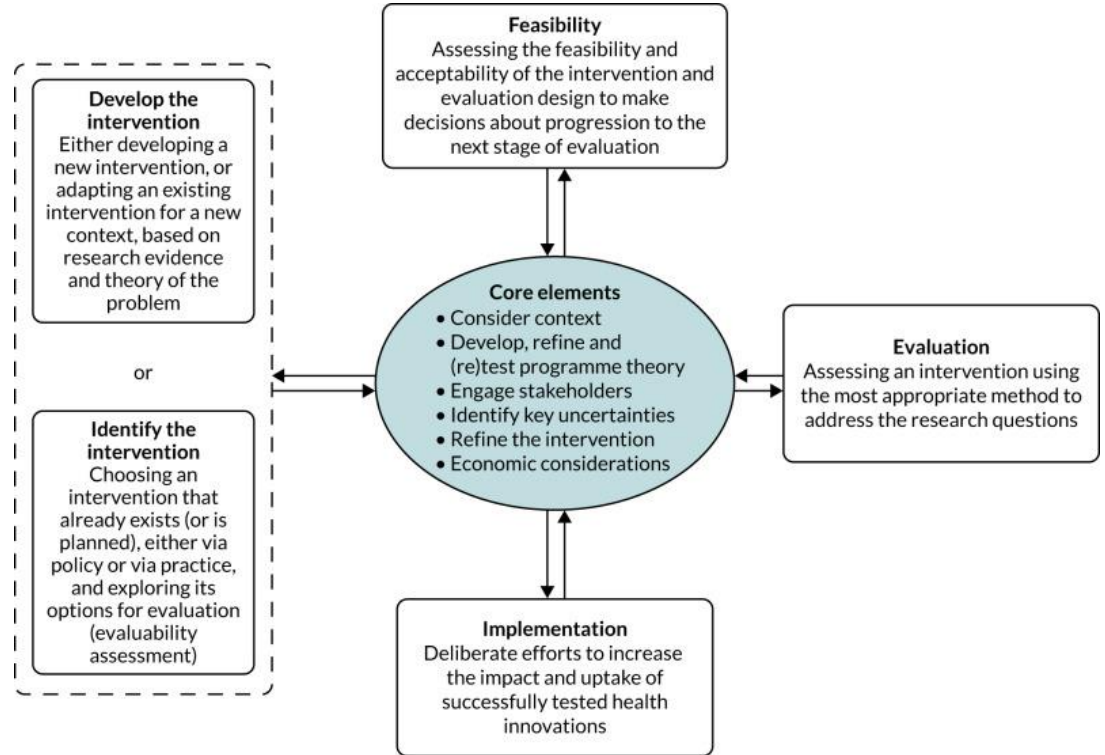
# Complex Intervention Theory

## - Phases:

- Development
- Feasibility
- Evaluation
- Implementation

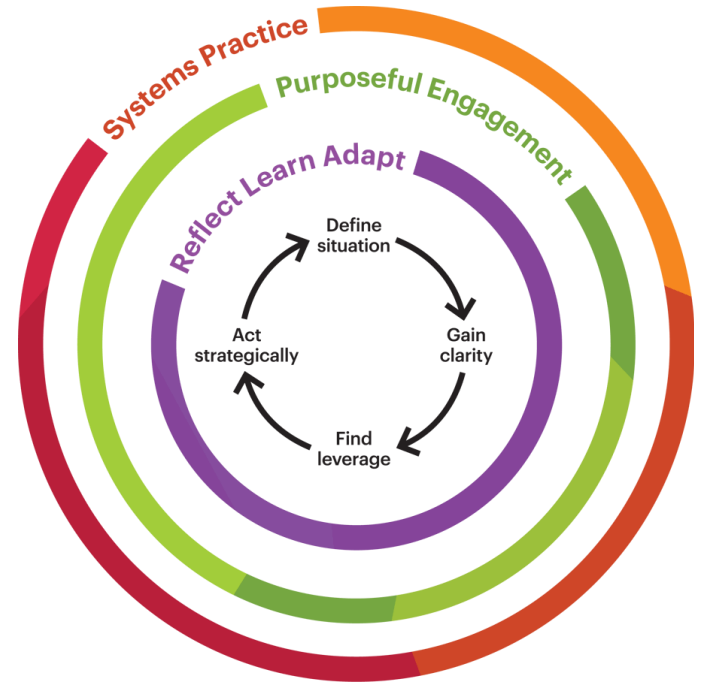
## - Programme Theory

- Iterative process
- (Re)testing

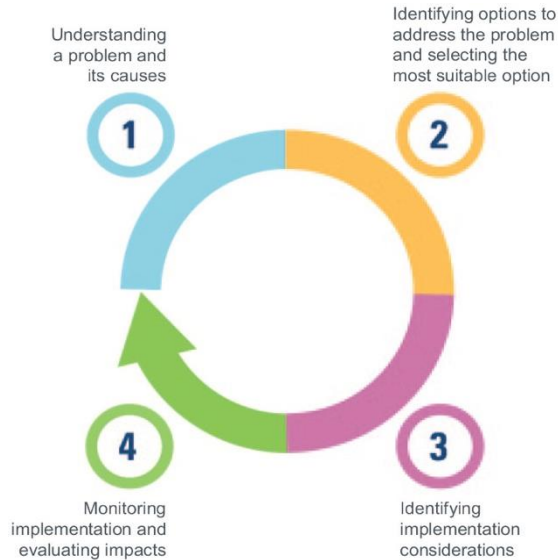







# Systems Thinking

- Mapping system characteristics
- Harnesses participatory approaches across all stages
- Informed by diverse stakeholders



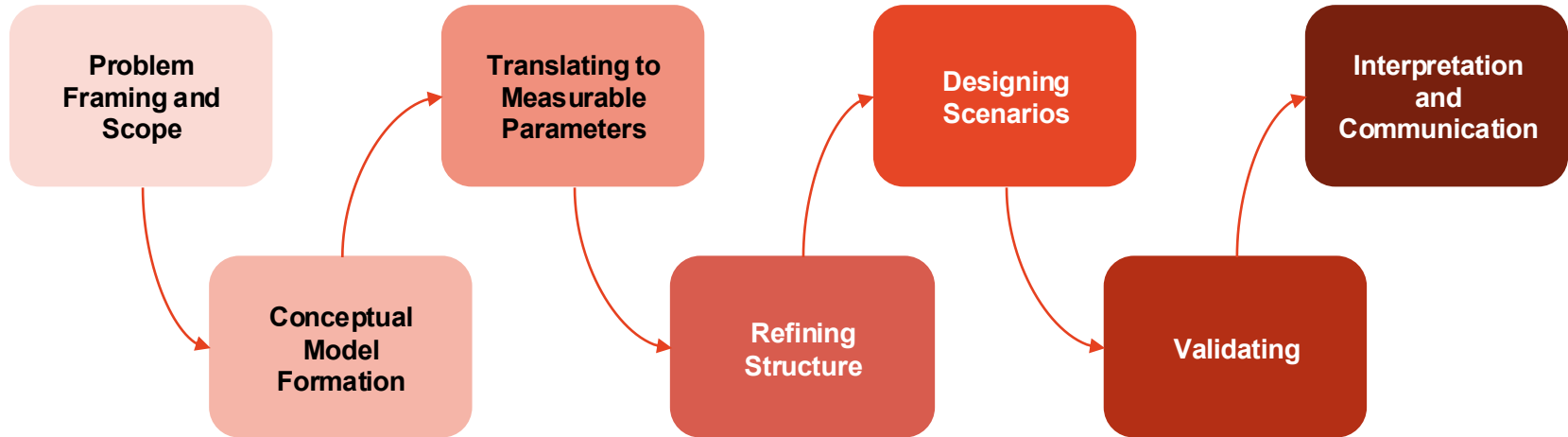
# Ensuring Evidence-Informed Policies



| Forms of evidence   | Steps where it adds the greatest value |   |   |   |
|---|--|---|---|---|
|  Data analytics                        | 1                                      |   |   | 4 |
|  Modelling                             | 1                                      | 2 |   |   |
|  Evaluation                            |  | 2 |   | 4 |
|  Behavioural / implementation research |  |   | 3 |   |
|  Qualitative insights                  | 1                                      | 2 | 3 | 4 |

# Integrating Frameworks into Simulation Models

- Embedding throughout the model development, not as an afterthought
- Integrating qualitative and quantitative evidence produces credible, transparent, and policy-relevant simulations reflecting real system complexity



# Integrating Lived Experience and Stakeholders

- Identify stakeholders' priority outcomes prior to simulating to ensure dental caries is a top priority
- Identify equity subgroups which should be considered
- Understand real-world context and constraints to design a model that can be directly applied to the school
- Interpret the results of the model with stakeholders



# Integrating Lived Experience and Stakeholders

- Stakeholder analysis
- Semi-structured interviews
- Focus groups
- Reviews of past qual work
- Map system pathways
- Policy roundtable
- Co-design workshops
- Interpret results with communities
- Validation sense-check

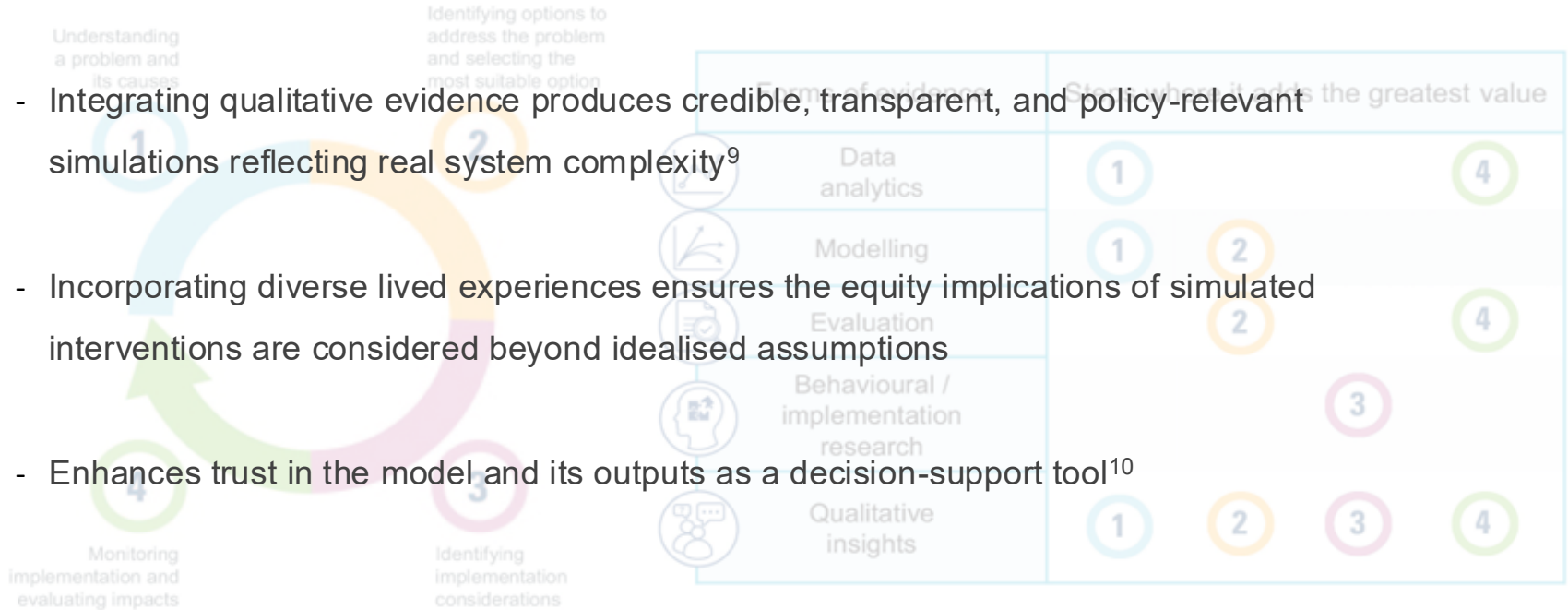


# When to Involve Consumers and Stakeholders

- Early
- Often
- Imbued with decision-making power
  
- Minimum engagement:
  - o Pre-modelling: scope, outcomes, equity lens.
  - o Mid-modelling: structure/parameter sense-checks; scenario realism.
  - o Post-modelling: interpretation, risk-of-harm review, messaging, advocacy framing.

# Value

- Integrating qualitative evidence produces credible, transparent, and policy-relevant simulations reflecting real system complexity<sup>9</sup>
- Incorporating diverse lived experiences ensures the equity implications of simulated interventions are considered beyond idealised assumptions
- Enhances trust in the model and its outputs as a decision-support tool<sup>10</sup>



<sup>9</sup>Olakunle Alonge, Tingting Ji, Meibin Chen, Takeru Igusa, Integrating systems and implementation science in modeling and evaluating complex health interventions: methodological reflections from service delivery redesign in Kakamega, Kenya, Health Policy and Planning, Volume 41, Issue 2, February 2026, Pages 346–358, <https://doi.org/10.1093/heapol/czaf099>

<sup>10</sup>Freebaim, L., Atkinson, JA., Kelly, P.M. et al. Decision makers' experience of participatory dynamic simulation modelling: methods for public health policy. BMC Med Inform Decis Mak 18, 131 (2018). <https://doi.org/10.1186/s12911-018-0707-6>

Thank you

Feedback



Resources

