



Interventions at different levels

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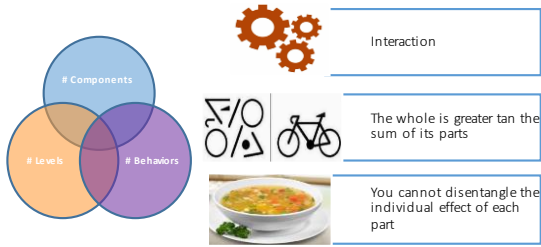
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Complex interventions

What makes an intervention complex?



Embracing complexity

1. **Intervention Complexity**
Multiple components, levels and behaviors
2. **Contextual Complexity**
Dynamic, multidimensional environments
3. **Implementation Complexity**
Multi-component strategies and actors
4. **Pathway Complexity**
Feedback loops, mediators, moderators, etc.
5. **Population Complexity**
Focus on multiple groups w/ distinct characteristics

Adapted from Butler, 2017

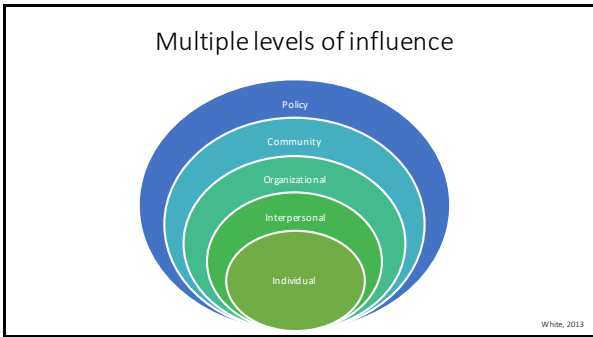
Complex Adaptive System

A dynamic and constantly emerging set of processes and objects that not only interact with each other, but come to be defined by those interactions.

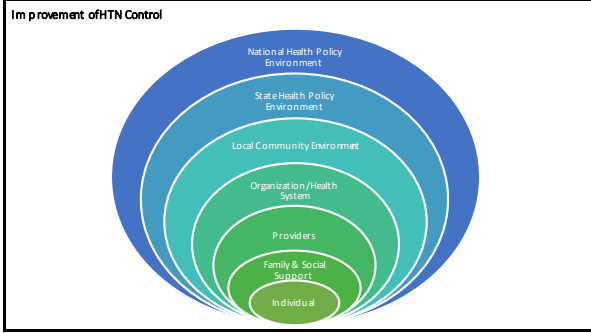
- Fuzzy, rather than rigid, boundaries
- Actors' actions are based on internalized rules
- Systems are embedded in other systems and co-evolve
- Inherent non-linearity and unpredictability

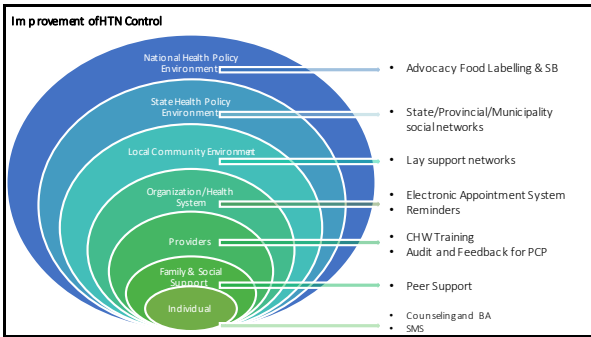
Cohn et al, 2013

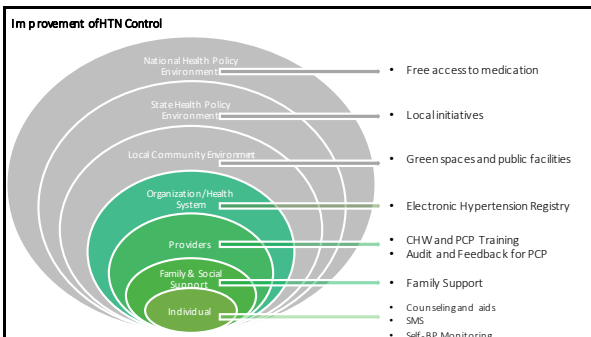
Different levels of intervention



Example





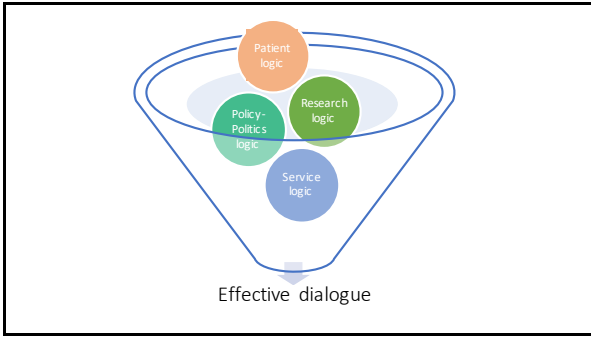


Examples of measurements

RE-AIM Component	Quantitative approach	Qualitative approach
Examples of data collection methods	Study forms, medical records, local registries	In-depth interviews, focus groups, observations
Reach: number & representativeness of participants	# people participating/# eligible % of participants with certain characteristics	Factors that influence participation in total and by certain characteristics
Effectiveness: effects of the intervention (positive & negative)	Changes in health and other outcomes (intended & unintended)	Factors that influence on positive and negative outcomes
Adoption: Uptake or institutionalization of the intervention (providers & settings)	# settings that tried the intervention # providers that delivered the intervention	Reasons why providers/organizations adopted (or not) their intervention
Implementation Fidelity: extent to which the intervention is implemented as intended in the real world	% delivery & adherence to each component # drop-outs	Factors that allowed the intervention to go well (or not) Barriers & factors that interfered Adaptations
Maintenance: extent to which an intervention and the benefits it generates are sustained over time	# sites that continue the intervention past the study	Factors that affected continuation and/or adaptations of the intervention past the study
Key Questions	What happened? How did it happen?	Why did it happen? What influenced happening?

Complexity is a feature of the system(s), not only a characteristic of the interventions.

Shell et al, 2008



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Thank you!

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