



Case Studies in Total Worker Health[®]

Study Design Advantages, Disadvantages, and Limitations

Total Worker Health[®] Research Methodology
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Case Study

- In-depth investigations of a single person, group, event or community. Typically, data are gathered from a variety of sources and by using several different methods (e.g., observations and interviews).
- Case studies explore and investigate contemporary real-life phenomena through detailed contextual analysis of a limited number of events or conditions, and their relationships



Case Studies

Design

- Single-case design
 - Adopted when no other cases are available for replication (i.e., a single unique event)
- Multiple-case design
 - Adopted with real-life events that show numerous sources of evidence through replication rather than sampling logic

Categories

- Exploratory case studies
 - E.g., a pilot study that is crucial in determining a protocol to be used
- Descriptive case studies
 - Describe the natural phenomena which occur within the data in question
- Explanatory case studies
 - Describe and examine data closely at both the surface and deep level in order to explain the phenomena observed in the data



Case Study Method Design Must:

- Be a viable method to elicit implicit and explicit data from the subject(s)
- Be appropriate to the research question
- Follow scientific conventions used on social sciences
- Record systematically a “chain of evidence” (either qualitative or quantitative)
- Be linked to theoretical framework



Advantages of Case Studies

- Examination of the data is conducted within the context of its use (as opposed to deliberately isolating a phenomenon from its context, focusing on a limited number of variables, as in experimentation)
- Allow for both quantitative and qualitative analyses of data
- Detailed qualitative accounts help to explore and explain complexities of real-life situations



Disadvantages of Case Studies

- Often accused of lack of rigor
- Often labelled as being too long, difficult to conduct and producing a massive amount of documentation
- Provide little basis for scientific generalization since they use a single or small number of subjects
 - Commonly criticized for its dependency on a single case making it difficult to reach a generalizing conclusion

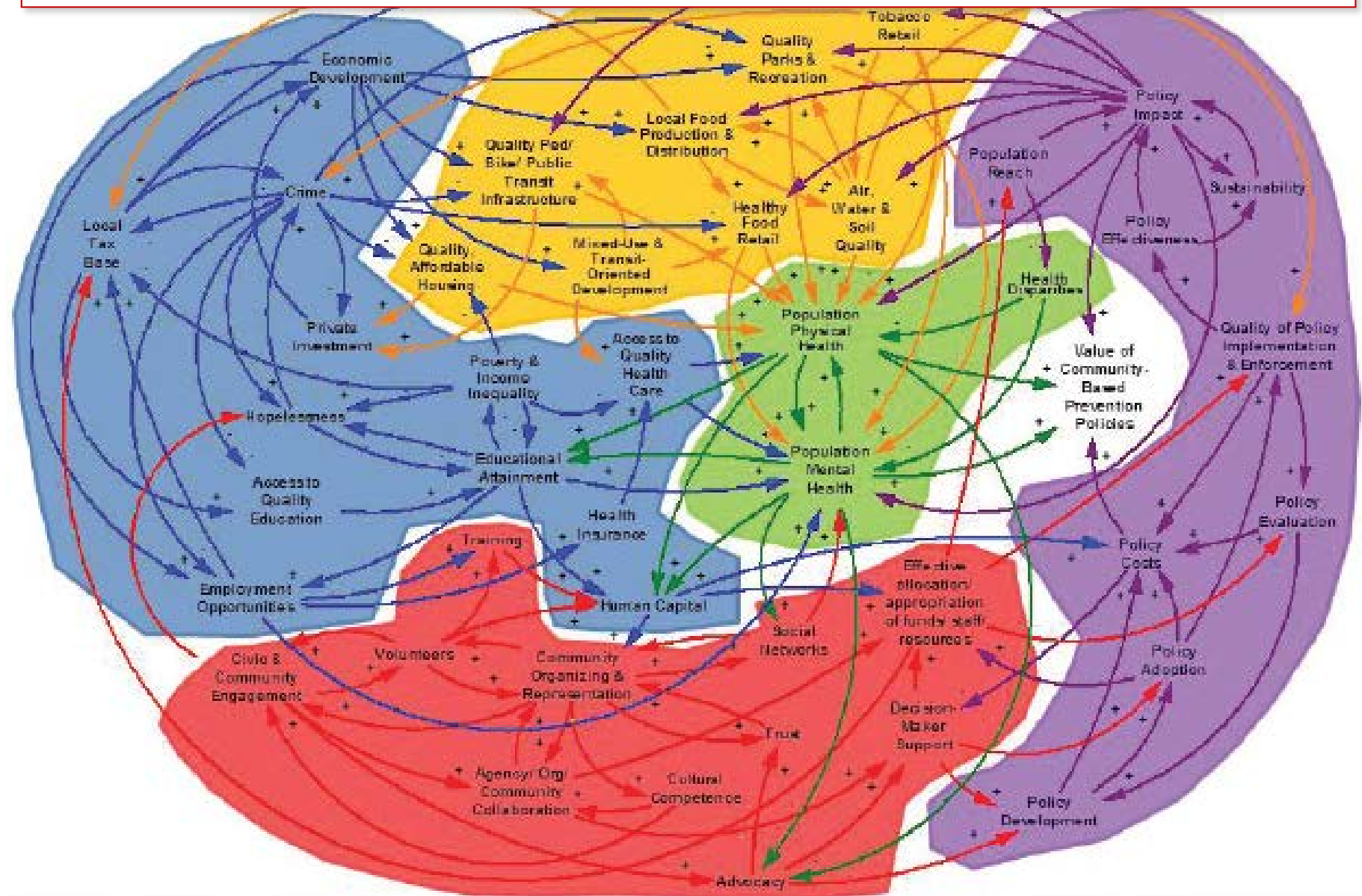


Alternatives and Options

- Triangulation
 - Align with other methods to confirm validity of the process and findings
- Interrupted time series [with comparison group]
- Application of systems sciences
 - E.g., Systems mapping
 - Causal loop diagrams
 - Help visualize relationships
 - Help identify leverage points and prioritized areas of intervention
 - Help anticipate unintended consequences
 - Help identify reasons for unexpected results
 - Provide comprehensive view of elements and stakeholder involved or affected



Example of causal loop diagram for assessing value in community-based prevention policies (IOM, 2013)



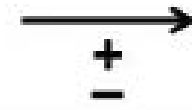
KEY:

System variables
 Prevention policies
 Health
 Community Process



Community Well-Being
 Physical environment
 Social, educational, and economic environments

System pathways
 Causal direction
 Same direction
 Opposite directions



Discussion and Dialogue

- **Desired output**

- A critique of current designs utilized in TWH research resulting in identification of new methods
- Consensus on appropriate use of case study methods in TWH research including approaches, limitations, advantage, disadvantages, and exploration of alternative methods

