Title Slide: Multilevel Interventions: Study Design and Analysis Issues

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Slide 2: Background

- Intervention Level = social units that affect health related behavior or activity to which intervention is applied
- Common levels in cancer prevention and care: individual, family, physician, clinic, health care organization, community
- "Level" can also refer to level at which an outcome or effect is measured or inferred (e.g., doctor reports might be used to characterize a clinic)

Slide 3: Methodological Decisions

- Foci of Assessment
- Net effect of multiple interventions on, for example, patients
- Effect of specific components on level at which they are focused (e.g., health clinic)
- Additive or synergistic effect of different components
- Mechanisms leading to net effect

Slide 4: Methodological Decisions

- Levels to which interventions are applied

- Unit of treatment assignment
- Levels at which measurement is done
- Types of measures: structure, process, outcomes
- Unit of aggregation of data (e.g., individual physician characteristics vs. aggregated as a clinic characteristic)
- Levels evaluated and ways of making comparisons (e.g., randomization, quasi-experiments, temporal change)

Slide 5: Capabilities and Challenges

- Well developed analytic methods for multilevel interventions
- Well developed research designs
- Foci of interventions, especially higher level units (e.g., states) often difficult to randomize or develop control units for
- Multilevel interventions much more difficult and expensive to implement and evaluate

Slide 6: Observation

- Empirical evaluations of multilevel interventions in different fields provide surprisingly little information about impact of intervention components on different levels and rarely evaluate influence of separate intervention components on main outcome
- The cost-effectiveness of different components rarely is evaluated

Slide 7: Overarching Issues

- Must we sacrifice resolution in evaluation designs to achieve maximum impact?
- Should we emphasize starting with the maximum impact and then try to understand components or evaluate components first and then develop more complex designs?

Slide 8: Discussion Questions

- Is there adequate data about the additive or synergistic effects of multilevel interventions?
- Should there be more emphasis on understanding effects of components and mechanisms?
- Should we focus more on the cost-effectiveness of different approaches to multilevel interventions?