STRUCTURAL INTERVENTIONS (SI) CHAPTER BACKGROUND

National HIV prevention goals call for the expansion of targeted efforts to prevent HIV infection using a combination of effective, evidence-based approaches. Structural approaches, or those that do not rely on individual behavior change to alter the environment, can be used to enhance the effectiveness of biomedical and behavioral interventions. The Structural Interventions (SI) Chapter for the PRS Compendium provides visibility and easy access to evidence-based interventions (EBIs) and evidence-informed interventions (EIs) that are considered structural.

Between 2016 and 2017, activities were conducted to develop criteria to evaluate evidence from published HIV prevention SIs. The activities involved utilizing the efficacy and best practices criteria used in the PRS Risk Reduction (RR), Medication Adherence (MA), or Linkage to, Retention in, and Re-engagement in Care (LRC) Reviews as an initial framework for evaluating HIV prevention SIs. The existing PRS criteria regarding quality of the study design, quality of study implementation and analysis, and strength of evidence were determined to be applicable to SIs. The criteria were expanded to include outcomes relevant to existing PRS Chapters, as well as outcomes pertinent to addressing HIV that were not exclusive to medication adherence, risk reduction, or linkage to, retention in, or re-engagement in care intervention studies (i.e., HIV pre-exposure prophylaxis [PrEP] uptake, HIV Stigma, HIV antiretroviral treatment [ART] uptake, ART prescriptions, CD4 count, and AIDS mortality). Following internal determination the efficacy criteria were reviewed and finalized after numerous consultations with CDC scientists with substantial expertise in HIV prevention and structural interventions.

Two sets of evaluation criteria are used to evaluate the SI research literature. Evidence-Based (EB) criteria evaluate intervention studies that have a comparison group similar to PRS RR, MA, and LRC evidence-based reviews. Reflecting the nascent state of the literature on SIs, and following the approach used to evaluate LRC interventions, we also identify interventions deemed as Evidence-Informed (EI). EI-criteria evaluate SI studies lacking a comparison group, but for which there are pre-post intervention data. EI criteria are also used for SI studies with a comparison arm that did not meet EB criteria for sample size, but met all other EB criteria. Intervention studies that meet EB criteria are considered to be scientifically rigorous and provide the strongest evidence of efficacy. Intervention studies that meet EI criteria also provide some evidence of effectiveness. Ideally, rigorously designed studies would provide the strongest evidence but it may be difficult to implement such studies for structural interventions in real-world settings. SIs that meet EB criteria are considered Structural Evidence-Based Interventions or S-EBIs, and SIs that meet EI criteria are considered Structural Evidence-Informed Interventions or S-EIs.

The best practices (EBIs and EIs) presented in this chapter are the results of a systematic evaluation of each eligible SI study. This evaluation involved assessing the risk of bias and findings of each individual study against *a priori* criteria. Healthcare prevention service providers and policy-makers can use the best practices identified as a resource when making decisions to meet the needs of people living with or at risk for HIV infection.

Additional details about the SI Chapter or the Prevention Research Synthesis (PRS) Project can be obtained by contacting PRS.