



The Sanitation Hygiene Infant Nutrition Efficacy (SHINE) Trial

Source: Sanitation Hygiene Infant Nutrition Efficacy (SHINE) Trial Team. The Sanitation Hygiene Infant Nutrition Efficacy (SHINE) Trial: Rationale, Design, and Methods. *Clin Infect Dis*. 2015 Dec 15;61 Suppl 7:S685-702. doi: 10.1093/cid/civ844. <http://www.ncbi.nlm.nih.gov/pubmed/26602296>

Child stunting and anemia are intractable public health problems in developing countries and have profound short- and long-term consequences. The Sanitation Hygiene Infant Nutrition Efficacy (SHINE) trial is motivated by the premise that environmental enteric dysfunction (EED) is a major underlying cause of both stunting and anemia, that chronic inflammation is the central characteristic of EED mediating these adverse effects, and that EED is primarily caused by high fecal ingestion due to living in conditions of poor water, sanitation, and hygiene (WASH). SHINE is a proof-of-concept, 2 × 2 factorial, cluster-randomized, community-based trial in 2 rural districts of Zimbabwe that will test the independent and combined effects of protecting babies from fecal ingestion (factor 1, operationalized through a WASH intervention) and optimizing nutritional adequacy of infant diet (factor 2, operationalized through an infant and young child feeding [IYCF] intervention) on length and hemoglobin at 18 months of age. Within SHINE we will measure 2 causal pathways. The program impact pathway comprises the series of processes and behaviors linking implementation of the interventions with the 2 child health primary outcomes; it will be modeled using measures of fidelity of intervention delivery and household uptake of promoted behaviors and practices. We will also measure a range of household and individual characteristics, social interactions, and maternal capabilities for childcare, which we hypothesize will explain heterogeneity along these pathways. The biomedical pathway comprises the infant biologic responses to the WASH and IYCF interventions that ultimately result in attained stature and hemoglobin concentration at 18 months of age; it will be elucidated by measuring biomarkers of intestinal structure and function (inflammation, regeneration, absorption, and permeability); microbial translocation; systemic inflammation; and hormonal determinants of growth and anemia among a subgroup of infants enrolled in an EED substudy. This article describes the rationale, design, and methods underlying the SHINE trial.

Emerging Infections Program Efforts to Address Health Equity

Source: Hadler JL, Vugia DJ, Bennett NM, Moore MR. Emerging Infections Program Efforts to Address Health Equity. *Emerg Infect Dis*. 2015 Sep;21(9):1589-94. doi: 10.3201/eid2109.150275. <http://www.ncbi.nlm.nih.gov/pubmed/26291875>

The Emerging Infections Program (EIP), a collaboration between (currently) 10 state health departments, their academic center partners, and the Centers for Disease Control and Prevention, was established in 1995. The EIP performs active, population-based surveillance for important infectious diseases, addresses new problems as they arise, emphasizes projects that lead to prevention, and develops and evaluates public health practices. The EIP has increasingly addressed the health equity challenges posed by Healthy People 2020. These challenges include objectives to increase the proportion of Healthy People-specified conditions for which national data are available by race/ethnicity and socioeconomic status as a step toward first recognizing and subsequently eliminating health inequities. EIP has made substantial progress in moving from an initial focus on monitoring social determinants exclusively through collecting and analyzing data by race/ethnicity to identifying and piloting ways to conduct population-based surveillance by using area-based socioeconomic status measures.