

Methods

The search methodology consisted of an academic database search, citation tracking of relevant articles, an examination of existing evidence reviews for relevant primary articles, and a gray literature search. The initial search was completed using nine academic databases. Four consistent search strings were entered into each database using a list of HES interventions, plus terms associated with different HIV outcomes or population groups. Articles from this initial search were screened for inclusion based on a review of the title and abstract by two reviewers. Relevant records then underwent a full text review and were included if they 1) evaluated one or more HES intervention of interest, 2) reported on at least one HIV outcome of interest, and 3) were available in English.

Using a citation tracking approach, the reference sections of each of the selected papers were screened for additional pertinent research. In addition, five existing reviews were reviewed and all source studies meeting the criteria were included. Recommendations for additional citations were solicited from experts in this field through a half-day consultative meeting to discuss a draft of the evidence review. Finally, a gray literature search was conducted. All evidence was assessed using the Department for International Development's (DFID's) Assessing the Strength of Evidence methodology to critically and consistently appraise evidence from a wide range of study designs. The half-day consultative meeting of experts fielded recommendations for research and programming based on the state of evidence.

Results and Discussion

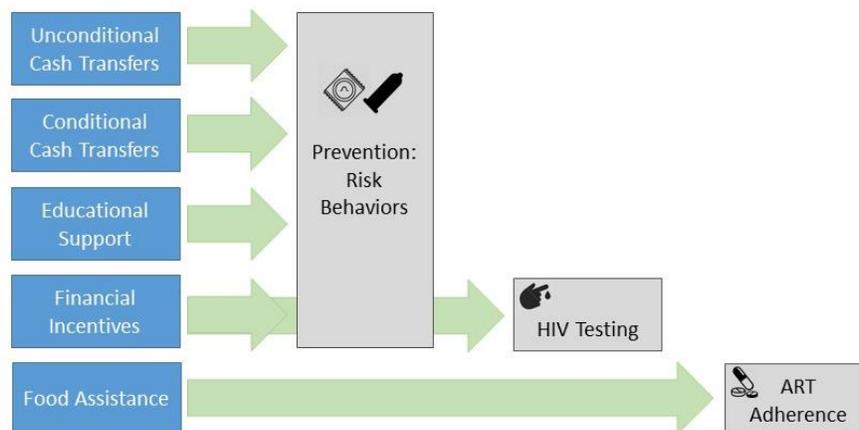
The search methodology yielded 108 pieces of evidence. The studies used a range of research methods, studied different applications of HES interventions with wide ranging target groups and contexts, and used various outcome indicators. While comparability was limited, the data were analyzed according to identified themes.

- ❖ **Interventions:** Most studies (67%) featured “provision” interventions that can be both costly to deliver at scale and difficult to sustain. Rigorous studies are scarce for “protection” and “promotion” interventions, which are more cost-effective and have the potential to support long-lasting benefits for a range of outcomes.
- ❖ **Outcomes:** The majority (54%) of studies measured a prevention outcome and antiretroviral adherence was also frequently studied. Evidence related to onward transmission of the virus by people living with HIV, and other steps of the care and treatment cascade is lacking.
- ❖ **Biomarkers:** Few studies (n = 13) assessed biological outcomes for prevention, while the majority relied on self-reported behavioral outcomes; many studies that assessed biomarkers yielded null findings or lacked power to detect an effect. There was greater use of biomarkers for care and treatment outcomes, though compared to self-reported behavioral data on care and treatment, biomarker data for CD4 counts and viral suppression were less conclusive.
- ❖ **Independent Effects:** 46% of studies assessed combined interventions (multiple services delivered together); the vast majority of these (78%) did not use research designs that isolate the effects of specific intervention components on the outcomes, limiting understanding of direct associations between specific interventions and outcomes.

- ❖ **Qualitative Evidence:** The overall qualitative evidence base within this review is extremely thin. Limited evidence on the causal pathways by which HES interventions affect HIV outcomes demand further qualitative inquiry.
- ❖ **Study Length:** Most studies are characterized by short study periods, following participants for two years or less after baseline. Longer-term studies are needed to understand the more gradual effects and sustainability of HES interventions.

Conclusions

The strongest and most conclusive evidence in this review comes from provision interventions. Specifically, there are robust and positive results related to unconditional cash transfers (UCTs), conditional cash transfers (CCTs), financial incentives, and educational support on risk behaviors with known linkages to HIV prevention. In addition, compelling evidence links financial incentives to HIV testing services (HTS), and food assistance to antiretroviral therapy (ART) adherence. Collectively, provision interventions demonstrate a roundly positive effect on ongoing care and treatment outcomes. The evidence is more conclusive for care-seeking behaviors but there is also a positive trend for biological outcomes of improved CD4 counts and viral suppression. Beyond provision, the evidence is far less conclusive though some evidence does link vocational and entrepreneurial training to risk reduction, and microcredit to improved care and treatment outcomes. Despite their popularity, the evidence on both income-generating activities (IGAs) and savings interventions is less abundant, of modest quality, and highlights contrasting findings.



Research in this field should focus on how HES is working within an integrated package of interventions, while seeking to understand the contributions of specific HES components. This requires more innovative and rigorous designs, including rich qualitative data. For research on prevention, a few strong biomarker studies are needed to prove effectiveness, at the same time, greater rigor should be used to measure self-reported behavioral outcomes. For prevention and ongoing care and treatment, longer studies are needed to understand the behavioral effects of these interventions over time, as well as the sustainability of those effects. Throughout this field, greater standardization is needed in how outcomes are measured, along with better documentation of the programs or interventions on which the research was based, to be able to draw more definitive comparisons across studies.