ECONOMIC STRENGTHENING INTERVENTIONS TO ADDRESS KNOWN BARRIERS TO PMTCT AND IMPROVE HEALTH OUTCOMES: WHAT DO WE KNOW AND WHAT ARE THE KNOWLEDGE GAPS?

FHI 360, April 2018

Evidence brief

Prevention of mother-to-child transmission (PMTCT) services offer interventions to prevent transmission of HIV from an HIV-positive mother to her infant, which can occur during pregnancy, labor and delivery, or breastfeeding. Without PMTCT interventions, as many as 45 percent of infants born to HIV-positive women will become infected with HIV during gestation, delivery and through breastfeeding. With specific interventions, the risk of mother-to-child transmission can be reduced to less than 2 percent in non-breastfeeding populations, and to 5 percent or less in breastfeeding populations.[1]

The possibility of having a healthy child born free of HIV is a strong motivator for PMTCT services, nevertheless, substantial barriers to uptake of PMTCT services persist.[2]

This brief provides an overview of the key findings from a literature review conducted by the Accelerating Strategies for Practical Innovation & Research in Economic Strengthening (ASPIRES) project, implemented by FHI 360 with funding from PEPFAR and USAID.[3] The review considered evidence on economic barriers to PMTCT and examined available evidence on the effects of economic strengthening (ES) interventions applied within PMTCT settings and other relevant services, such as antenatal care (ANC), antiretroviral therapy (ART), or HIV counseling and testing services. While all these services are available as stand-alone, they are also integral elements of the PMTCT cascade, thus the outcomes of ES interventions offered within these services may be applicable to PMTCT at least to some degree. Identifying ES interventions that positively affect all or any of the steps of the PMTCT cascade can strengthen PMTCT programs, contributing to better health outcomes and further reduction in HIV transmission from mother to child. At the same time, identifying evidence gaps helps to inform future research in the area of ES and PMTCT.

Key findings on economic barriers to PMTCT and related services:

- The most commonly cited barriers to accessing and adhering to PMTCT, ART and ANC services are distance to clinics and transportation costs. While very few studies quantify travel costs and identify what proportion of household income these costs represent, the expenses associated with reaching PMTCT services are likely to be significant. Effective use of PMTCT services requires multiple visits for women who may already be experiencing economic hardship. For example, 93 percent of HIV-positive mothers interviewed for a qualitative study in Uganda, said that transport fees were the major factor preventing them from enrolling in a PMTCT program.[4]

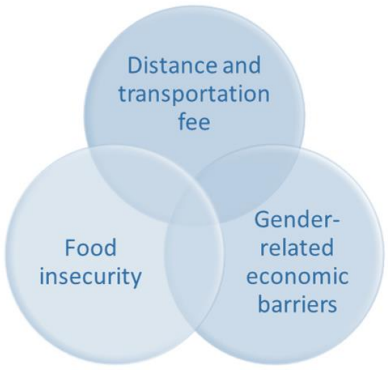

Fig 1. Common economic barriers to PMTCT

- Food insecurity represents a significant barrier to adherence to ART. It was commonly found that the perceived need to take antiretroviral drugs (ARVs) with food and the increased appetite associated with ARVs often lead to treatment interruption. Low-income clients were often forced to choose between food and ARVs. One study also indicates that food insecurity can undermine women's ability to breastfeed exclusively[5] and, as a result,

This brief was produced under United States Agency for International Development (USAID) Cooperative Agreement No. AID-OAA-LA-13-00001 and was made possible by the generous support of the American people through USAID and the United States President's Emergency Plan for AIDS Relief. The contents are the responsibility of FHI 360 and do not necessarily reflect the views of USAID or the United States Government.

supplementary foods is added to breastmilk too early – a practice that is shown to increase risk of HIV transmission to infant.

❖ Gender-related economic barriers affect a woman's access to and use of PMTCT and other relevant health services. Many women are financially dependent on their husbands or partners, and fear that revealing their HIV status will lead to abandonment makes it less likely that they will access and adhere to PMTCT services. In addition, while partner participation was considered to be a positive factor in PMTCT utilization and adherence, economic factors, such as fear of losing an opportunity to earn money or inability to afford the transportation fee for two people, made it less likely that a man will accompany his female partner to access PMTCT services.

Key findings on economic strengthening interventions

Among 16 studies and five program evaluations on ES interventions identified by the review, only three were done within PMTCT settings. The rest were conducted in settings relevant to the PMTCT cascade, mostly within ART services (n=14). The majority of the studies (n=11) examined whether food assistance might increase ART adherence and access to services. Six studies looked at cash transfers as a means to increase access to and retention in services, and four studies assessed the effects of transportation assistance on the use of health services.

Cash transfers and adherence to ART

A study in rural Uganda compared adherence to ART and loss to follow-up among 146 patients who received cash transfers ($5-8 US dollars for 12 months) and those who didn't. As a result, the HIV treatment adherence scores and retention in care were higher among the participants in intervention group compared to controls. Only 18% of patients were lost to follow-up from the intervention group, versus 34% lost from the control group. (Emenyonu et al., 2009)

❖ The evidence on cash transfers is limited, but promising. While only one study[6] out of six was done within a PMTCT setting, it showed that offering cash transfers to women with HIV increased their retention in care and uptake of available services (see text box).

There is also evidence that cash transfers improve utilization of health services relevant to the PMTCT cascade:

- A large randomized trial in Honduras[7] concluded that direct small payments to households had a significant impact on the uptake of ANC and routine well-child check-ups. Both of these indicators increased by 18–20 percentage points in the groups receiving payments.
- Program evaluations in Peru[8] and Bangladesh[9] confirmed that cash transfers can have a positive effect on the use of ANC services.
- An RCT in Uganda[10] demonstrated that adherence to ART was better among recipients of cash transfers (see text box).
- A prospective study in Malawi[11] showed that small monetary incentives increase HIV result-seeking behaviors. Individuals who received any cash value voucher were twice as likely to obtain their HIV test results as individuals receiving no incentive.

Cash transfers for PMTCT

A study in Kinshasa randomized 433 women who attended a PMTCT program into two groups: the intervention group received the equivalent of US$5 cash incentive (increased by US$1 at every subsequent visit), and the control group did not. Compensation was dependent on clinic attendance, adherence to antiretroviral prophylaxis and return at six weeks postpartum for infant HIV testing. Retention in care and adherence was 30% higher in the intervention group, and loss to follow-up at delivery and at six weeks postpartum was 47% lower in the intervention group compared to the control group. (Yotebieng et al., 2016)

- ❖ Three studies and one program evaluation documented positive effects of transportation assistance on access and adherence to either ANC or ART services:
    - A quasi experimental pilot study in Uganda found that transport vouchers led to a substantial increase in attendance of ANC services.[12]
    - Prospective study in Tanzania[13], qualitative study in Zambia[14], and a program evaluation in Haiti[15] all showed that transportation allowances increased the uptake of ART referral and adherence to treatment.

- ❖ Ten out of 11 interventions involving food assistance resulted in either improved adherence to ART or better service utilization.
    - A qualitative study in Kenya[16], three prospective non-randomized studies in Zambia[17], Haiti[18] and Niger[19], two retrospective studies in Zambia[20-21] and two program evaluations on Uganda and Kenya[22-23] all found better adherence to ART among food recipients.
    - In addition, two small qualitative studies—one in Malawi[24] and another in Zimbabwe, Malawi and Zambia[25]—reported that food aid facilitated access to PMTCT services.

Is there need for more evidence?

The evidence base on the impact of ES interventions on HIV-related health outcomes, including PMTCT outcomes, remains limited due to the small number of studies, study design and small population size. Only one study on the effects of conditional cash transfers on PMTCT retention and adherence was a RCT. The other two studies, which found that food assistance improved PMTCT access, were very small, qualitative studies. The RCT[5] demonstrated that conditional cash transfers can significantly increase the rates of retention in care and adherence to PMTCT services and decrease loss to follow-up at delivery and at six weeks postpartum. However, it does not provide enough data to determine the most effective cash transfer amount or the cost effectiveness of the approach. Also, more research is needed to measure the economic consequences as PMTCT programs transition from single-dose nevirapine or short course of zidovudine regimens to combination ART. Adherence to more complex drug regimens will require increased visit frequency, at least for the duration of pregnancy and breastfeeding.

RESEARCH QUESTIONS

- **How do different ES interventions affect women's access and adherence to PMTCT as programs transition to combination ARV regimens?**
- **What are the most effective models for delivery of cash transfers and transportation/food support to women entering PMTCT programs?**
- **What are the minimum requirements for cash transfer or/and food assistance to lead to the desired outcomes in PMTCT settings?**
- **What would guide the decisions about the amount, frequency, and conditionalities of ES interventions?**
- **What are sustainability needs for effective ES interventions in PMTCT settings?**
- **How do direct payments made to households affect pregnant women's ability to access PMTCT services?**

All other data on economic strengthening intervention effects on the PMTCT cascade are coming from ART, ANC, and HIV counseling and testing programs. Even though ANC and ART programs have much in common with PMTCT programs and ES interventions within these programs provide some valuable insights, the results may not be fully applicable to PMTCT settings. Pregnant women with HIV may experience different facilitators and barriers to access and adherence than pregnant women without HIV, non-pregnant women with HIV or men with HIV who receive ART. It is hard to know how ES interventions will interact with these facilitators and barriers and to what degree the knowledge gained within ANC or ART programs is applicable to PMTCT until these interventions are tested among women in need of PMTCT services.

Less targeted approaches, such as providing unconditional cash transfers or food aid to households in need (or improving their overall economic well-being through other ES interventions), may or may not have a desired effect on

women's access and adherence to PMTCT services. Research comparing these approaches to assistance tied to utilization of PMTCT would address this gap.

Moving forward, it is likely that there is a role for ES interventions in facilitating women's access to PMTCT services and in improving their adherence to the PMTCT cascade; however, the evidence base is relatively weak and will remain so until these interventions are tested directly within PMTCT settings. Answering some of the research questions that this review generated will strengthen the evidence base and help guide programmatic decisions about ES interventions to enhance access and adherence to PMTCT services by women.

References:

1. World Health Organization. Global guidance on criteria and processes for validation: elimination of mother-to-child transmission (EMTCT) of HIV and syphilis. Geneva: World Health Organization, 2014.
2. Ferguson, L. 2012. Women's experiences in services for preventing the mother-to-child transmission of HIV: a literature review. California, USA: Prepared for the World Health Organization.
3. Irina Yacobson, Morrisa Malkin, and Elena Lebetkin, Increasing Access and Adherence to the PMTCT Cascade: Is There a Role for Economic Strengthening Interventions? International Journal of Population Research, vol. 2016, Article ID 4039012, 8 pages, 2016.
4. Duff P, Kipp W, Wild TC, Rubaale T, Okech-Ojony J. Barriers to accessing highly active antiretroviral therapy by HIV-positive women attending an antenatal clinic in a regional hospital in western Uganda. J Int AIDS Soc. 2010; 13:37.
5. Webb-Girard A, et al., Food insecurity is associated with attitudes towards exclusive breastfeeding among women in urban Kenya. Matern Child Nutr, 2012. 8(2): p. 199-214.
6. Yotebieng, M., et al., Conditional cash transfers and uptake of and retention in prevention of mother-to-child HIV transmission care: a randomised controlled trial. Lancet HIV, 2016. 3(2): p. e85-93.
7. Morris SS, et al., Monetary incentives in primary health care and effects on use and coverage of preventive health care interventions in rural Honduras: cluster randomised trial. Lancet, 2004. 364(9450): p. 2030-7.
8. Jones N, Vargas R, and Villar E, Cash transfers to tackle childhood poverty and vulnerability: an analysis of Peru's Juntos programme. Environment and Urbanization, April 2008. 20(1): p. 255-73.
9. Davies M, Working Paper 31: DFID Social Transfers Evaluation Summary Report. July 2009, DFID.
10. Emenyonu N, et al., Cash transfers to cover clinic transportation costs improve retention in care in a HIV treatment program in rural Uganda. Poster presentation at Conference on Retroviruses and Opportunistic Infections (CROI); Montreal. Abstract no. 831, 2009.
11. Thornton RL, The Demand for, and Impact of, Learning HIV Status. Am Econ Rev, 2008. 98(5): p. 1829-1863.
12. Pariyo GW, et al., Exploring new health markets: experiences from informal providers of transport for maternal health services in Eastern Uganda. BMC Int Health Hum Rights, 2011. 11 Suppl 1: p. S10.
13. Nsigaye R, et al., From HIV diagnosis to treatment: evaluation of a referral system to promote and monitor access to antiretroviral therapy in rural Tanzania. J Int AIDS Soc, 2009. 12(1): p. 31.
14. Sanjobo N, Frich JC, and Fretheim A, Barriers and facilitators to patients' adherence to antiretroviral treatment in Zambia: a qualitative study. SAHARA J, 2008. 5(3): p. 136-43.
15. Mukherjee JS, et al., Antiretroviral therapy in resource-poor settings. Decreasing barriers to access and promoting adherence. J Acquir Immune Defic Syndr, 2006. 43 Suppl 1: p. S123-6.
16. Byron E, Gillespie S, and Nangami M, Integrating nutrition security with treatment of people living with HIV: lessons from Kenya. Food Nutr Bull, 2008. 29(2): p. 87-97.
17. Cantrell RA, et al., A pilot study of food supplementation to improve adherence to antiretroviral therapy among food-insecure adults in Lusaka, Zambia. J Acquir Immune Defic Syndr, 2008. 49(2): p. 190-5.
18. Ivers LC, et al., Food assistance is associated with improved body mass index, food security and attendance at clinic in an HIV program in central Haiti: a prospective observational cohort study. AIDS Res Ther, 2010. 7: p. 33.
19. Serrano C, et al., Family nutritional support improves survival, immune restoration and adherence in HIV patients receiving ART in developing country. Asia Pac J Clin Nutr, 2010. 19(1): p. 68-75.
20. Tirivayi N, Koethe J, and Groot W, Food Assistance and its effect on the Weight and Antiretroviral Therapy Adherence of HIV Infected Adults: Evidence from Zambia. March 2010, The Maastricht Graduate School of Governance: The Netherlands.
21. Tirivayi N, Koethe JR, and Groot W, Clinic-Based Food Assistance is Associated with Increased Medication Adherence among HIV-Infected Adults on Long-Term Antiretroviral Therapy in Zambia. J AIDS Clin Res, 2012. 3(7): p. 171.
22. Bergmann H and Stone-Jiménez M, NuLife—Food and Nutrition Interventions for Uganda: Nutritional Assessment, Counseling, and Support. 2011, USAID's AIDS Support and Technical Assistance Resources, AIDSTAR-One, Task Order 1.: Arlington, VA.
23. Gerberg L and Stansbury JP, Food by Prescription in Kenya. 2010, USAID |AIDSTAR-ONE PROJECT, Task Order 1: Arlington, VA.
24. Iroezi ND, et al., A qualitative analysis of the barriers and facilitators to receiving care in a prevention of mother-to-child program in Nkhoma, Malawi. Afr J Reprod Health, 2013. 17(4 Spec No): p. 118-29.
25. Egge K and Strasser S, Measuring the Impact of Targeted Food Assistance on HIV/AIDS-Related Beneficiary Groups: Monitoring and Evaluation Indicators in AIDS, poverty, and hunger: Challenges and responses. Highlights of the International Conference on HIV/AIDS and Food and Nutrition Security, Durban, South Africa, April 14–16, 2005, S. Gillespie, Editor. 2006, International Food Policy Research Institute: Washington, D.C. p. 305-24.