

South-Africa (Goodstart III) trial: community based maternal and newborn care economic analysis

Emmanuelle Daviaud, Lungiswa Nkonki, Petrida Ijumba, Tanya Doherty, Joy E Lawn, Helen Owen, Debra Jackson and Mark Tomlinson

Abstract

In light of South Africa's generalized HIV/AIDS epidemic coupled with high infant mortality, we undertook a cluster Randomized Control Trial (2008–10) assessing the effect of Community Health Worker (CHW) antenatal and postnatal home visits on, amongst other indicators, levels of HIV-free survival, and exclusive and appropriate infant feeding at 12 weeks. Cost and time implications were calculated, by assessing the 15 participating CHWs, using financial records, mHealth and interviews. Sustainability and scalability were assessed, enabling identification of health system issues. The majority (96%) of women in the community received an average of 4.1 visits (target seven). The paid, single purpose CHWs spent 13 h/week on the programme. The financial cost per mother amounted to \$94 (\$23 per home visit). Modelling target coverage (95% mothers, seven visits) and increased efficiency showed that if CHWs spent 25 h/week on the programme, the number of CHWs required would decrease from 15 to 12. The intervention almost doubled exclusive breastfeeding (EBF) at 12 weeks and showed a 6% relative increase in EBF with each additional CHW visit. Home visit programmes improve access and prevention but are not an inexpensive alternative: the observed cost per home visit is twice that of a clinic visit and in target/efficiency scenario decreases to 70% of the cost of a clinic visit. Ensuring sustainability requires optimizing the design of programmes and deployment of human resources, whilst maintaining impact. However, low remuneration of CHWs leads to shorter working hours, low motivation and sub-optimal coverage even in a situation with well-resourced supervision. The community-based care programme in South-Africa is based on multi-purpose CHWs, its cost and impact should be compared with results from this study. Quality of support for multi-purpose CHWs may be the biggest challenge to address to achieving higher efficiency of community-based services.

Trial registration number: ISRCTN41046462

Introduction

South Africa is fighting a generalized HIV/AIDS epidemic with antenatal prevalence rate at 29.5% in 2011 (SANDOH 2012). In recent years, the scale-up of programmes to prevent mother-to-child transmission (MTCT) of HIV has led to a rapid decrease in the number of newly infected children (0–14) (Goga et al. 2012, UNAIDS 2012). Although under 5 mortality has decreased between 6 and 10% per year since 2006 (Kerber et

- WHO. 2013. WHO Recommendations on Postnatal Care of the Mother and Newborn. Geneva: WHO Library Cataloguing-in-Publication Data.
- WHO, UNICEF, USAID & CHILDREN, S. T. 2009. WHO-UNICEF Joint Statement on Home Visits for the Newborn Child: A Strategy to Improve Survival. Geneva: World Health Organization.
- World Development Indicators - Data | The World Bank data.worldbank.org/data-catalog/world-development-indicators- 2015.