The effect of an integrated multisector model for achieving the Millennium Development Goals and improving child survival in rural sub-Saharan Africa: a non-randomised controlled assessment

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Summary

Background

Simultaneously addressing multiple Millennium Development Goals (MDGs) has the potential to complement essential health interventions to accelerate gains in child survival. The Millennium Villages project is an integrated multisector approach to rural development operating across diverse sub-Saharan African sites. Our aim was to assess the effects of the project on MDG-related outcomes including child mortality 3 years after implementation and compare these changes to local comparison data.

Methods

Village sites averaging 35 000 people were selected from rural areas across diverse agroecological zones with high baseline levels of poverty and undernutrition. Starting in 2006, simultaneous investments were made in agriculture, the environment, business development, education, infrastructure, and health in partnership with communities and local governments at an annual projected cost of US$120 per person. We assessed MDG-related progress by monitoring changes 3 years after implementation across Millennium Village sites in nine countries. The primary outcome was the mortality rate of children younger than 5 years of age. To assess plausibility and attribution, we compared changes to reference data gathered from matched randomly selected comparison sites for the mortality rate of children younger than 5 years of age. Analyses were done on a per-protocol basis. This trial is registered with ClinicalTrials.gov, number NCT01125618.

Findings

Baseline levels of MDG-related spending averaged $27 per head, increasing to $116 by year 3 of which $25 was spent on health. After 3 years, reductions in poverty, food insecurity, stunting, and malaria parasitaemia were reported across nine Millennium Village sites. Access to improved water and sanitation increased, along with coverage for many maternal-child health interventions. Mortality rates in children younger than 5 years of age decreased by 22% in Millennium Village sites relative to Millennium Village sites averaging 35 000 people were selected from rural areas across diverse agroecological zones with high baseline levels of poverty and undernutrition. Starting in 2006, simultaneous investments were made in agriculture, the environment, business development, education, infrastructure, and health in partnership with communities and local governments at an annual projected cost of US$120 per person. We assessed MDG-related progress by monitoring changes 3 years after implementation across Millennium Village sites in nine countries. The primary outcome was the mortality rate of children younger than 5 years of age. To assess plausibility and attribution, we compared changes to reference data gathered from matched randomly selected comparison sites for the mortality rate of children younger than 5 years of age. Analyses were done on a per-protocol basis. This trial is registered with ClinicalTrials.gov, number NCT01125618.

Interpretation

An integrated multisector approach for addressing the MDGs can produce rapid declines in child mortality in the first 3 years of a long-term effort in rural sub-Saharan Africa.

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