

Comparison of Indicator Gap Closure in USAID CSHGP-funded Care Group and Non-Care Group Approach Projects (1997-2011)

Tom Davis, MPH, Senior Consultant to Gavi (December 2022) and Phil Moses, MPH, Director of Health, Food for the Hungry, 7 December 2022

Key message: An analysis of 13 projects using the Care Group approach and 50 projects using other approaches for behaviour change shows that indicator gap closure for immunisation and nutrition indicators was higher among projects using the Care Group approach.

Introduction

A Care Group (CG) is a group of 10–15 volunteer, community-based health educators who regularly meet together with project staff for training and supervision. They are different from typical mother's groups in that each volunteer is responsible for regularly visiting 10–15 of her neighbours, sharing what she has learned and facilitating behaviour change at the household level. The Care Group approach was fully described in the literature by Perry et al. in 2015. (Perry, Morrow, Borger, et al. 2015). A summary of the child survival outcomes achieving using this approach was published by Perry et al. in 2015, as well. (Perry, Morrow, Davis, et al. 2015) In the same year, George et al. published research comparing the results of ten Care Group approach projects and nine non-Care Group projects (matched in five countries by years of implementation) which were funded by USAID's Child Survival & Health Grants Program (CSHGP). That analysis showed that Care Groups had double the behaviour change when compared to the non-CG projects, and may have had 53% better child mortality reduction ($p=0.09$), as well. This current review expands that analysis (albeit without matching countries and time periods) comparing 50 CSHGP-funded projects in 33 countries by 29 organizations¹ that did not use the Care Group approach to 13 CSHGP-funded projects that used the CG approach in 10 countries by nine organizations between 1999 and 2011, focusing only on five nutrition and five immunisation indicators.

Methods

¹ Organizations that implemented CSHGP-funded projects during this period but did not use Care Groups included: ACTS, Adventist Development and Relief Agency, Africare, Agha Khan Foundation, African Methodist Episcopal Service and Development Agency, American Red Cross, CARE, CFI, Counterpart, Catholic Relief Services, Christian Reformed World Relief Committee, Curamericas, CWI, Future Generations, Health Partners, Haiti Health Foundation, Helen Keller International, HOPE Worldwide, International Eye Foundation, International Rescue Committee, Mercy Corps, Medical Care Development International, Project Concern International, Plan International, Project Hope, Population Services International, Salvation Army World Service Organization, and Save the Children.

In this study, a performance index (indicator gap closure) was compared on five nutrition and five immunisation indicators in 50 CSHSP-funded projects in 33² countries by 29 organizations³ that did not use the Care Group approach to 13 CSHGP-funded projects that used the Care Group approach in 10 countries⁴ by 9 organizations⁵ between 1999 and 2011. The data used for this comparison is from a database of baseline and endline indicator values collected on a set of 23 “RapidCATCH” child survival indicators that every CSHGP-funded project was asked to collect during project implementation.⁶ During the time of the CSHGP, Johns Hopkins University and the Child Survival Technical Support programme under Macro International (now ICF) maintained this database of indicators of project performance. The indicators were scientifically-based and most were consistent with those used by the World Health Organization and/or the Demographic Health Survey at the time. Project coverage data at baseline and endline were obtained from the project household KPC surveys. The methodology used for KPC survey sampling is described elsewhere.⁷

This analysis focused on ten of those indicators: DPT1, DPT3, measles vaccine, tetanus toxoid, full immunization, exclusive breastfeeding, complementary feeding, infant and young child feeding, vitamin A supplementation, and underweight. The definitions and codes used for these indicators are provided in the Table 1.

Table 1

Indicator name	Excel Table Abbreviation	Indicator Definition ⁸
DPT1	DPT1	The percentage of children age 12-23 months who received DPT1 vaccination before the first birthday as verified by vaccination card or mother’s recall

² Non-CG countries included: Afghanistan, Albania, Azerbaijan, Bangladesh, Benin, Bolivia, Cambodia, Cameroon, DRC, Ethiopia, Georgia, Guatemala, Haiti, India, Indonesia, Kenya, Kyrgyzstan, Madagascar, Malawi, Mali, Nepal, Nicaragua, Niger, Peru, Philippines, Rwanda, Senegal, Sierra Leone, South Africa, Tajikistan, Uganda, Uzbekistan, and Vietnam.

³ Organizations that implemented CSHGP-funded projects during this period but did not use Care Groups included: ACTS, Adventist Development and Relief Agency, Africare, Agha Khan Foundation, African Methodist Episcopal Service and Development Agency, American Red Cross, CARE, CFI, Counterpart, Catholic Relief Services, Christian Reformed World Relief Committee, Curamericas, CWI, Future Generations, Health Partners, Haiti Health Foundation, Helen Keller International, HOPE Worldwide, International Eye Foundation, International Rescue Committee, Mercy Corps, Medical Care Development International, Project Concern International, Plan International, Project Hope, Population Services International, Salvation Army World Service Organization, and Save the Children.

⁴ Care Group countries included: Cambodia, Ethiopia, Guatemala, Kenya, Liberia, Malawi, Mozambique, Niger, Rwanda, and Zambia

⁵ CG implementing organizations were: Concern Worldwide, Curamericas, Food for the Hungry, Goal, Medical Teams International, PLAN, Relief International, World Relief, and Salvation Army World Service.

⁶ Data is available for download here: <https://bit.ly/CG-Pls>.

⁷ Ricca J, Kureshy N, Leban K, Prosnitz D, Ryan L. Community-based intervention packages facilitated by ngos demonstrate plausible evidence for child mortality impact. Health Policy Plan. 2014;29(2):204–16. <https://pubmed.ncbi.nlm.nih.gov/23434515/>

⁸ Indicator definitions are taken from the internal review report, *Summary of Rapid CATCH Indicators from CSHGP Projects ending in October 2010*: http://pdf.usaid.gov/pdf_docs/PA00JXK1.pdf.

Indicator name	Excel Table Abbreviation	Indicator Definition ⁸
DPT3	DPT3	The percentage of children age 12-23 months who received a DPT3 vaccination before they reached 12 months, as confirmed by the child's vaccination card OR the mother's recall.
Measles vaccine	MEAS	The percentage of children age 12-23 months who received a measles vaccination
Tetanus toxoid (maternal)	MTT	The percentage of mothers with children age 0-23 months who received at least two TT vaccinations prior to the birth of their youngest child
Full immunization	FULLV	The percentage of children age 12-23 months who are fully vaccinated (having received OPV3, DPT3, and measles vaccinations) before the first birthday, as confirmed by the child's vaccination card
Exclusive breastfeeding	EBF	The percentage of children age 0-5 months who were exclusively breastfeed during the last 24 hours
Complementary feeding	CF	The percentage of children age 6-9 months who received breastmilk and complementary foods during the last 24 hours
Infant & Young Child Feeding (IYCF)	IYCF	The percentage of infants and young children age 6-23 months fed according to a minimum of appropriate feeding practices
Vitamin A supplementation	VITA	The percentage of children age 6-23 months who received a dose of Vitamin A in the last six months by the mother's recall
Underweight	UW	The percentage of children age 0-23 months who are more than two standard deviations below the median weight-for-age according to the WHO/NCHS reference population

An indicator gap closure indicates the amount of change in an indicator from baseline to endline in relation to the amount of change that was possible given the baseline level. Projects that begin with lower baseline levels usually require less effort to improve population levels of health practices or coverage than projects beginning at higher levels. The rationale for the performance index is to have an index of change that is comparable across projects. The difference index – the absolute change between baseline and final – is not comparable between projects since it becomes increasingly difficult to improve levels of coverage (e.g. DPT3) as the upper limit of 100% is approached. A project with a baseline level of 20% immunization coverage will require less effort to achieve a 10-percentage point improvement than a project

with a baseline level of 80%.⁹ For this reason, for indicators that are intended to increase (all but underweight) the performance index was used in this review, and calculated as follows:

$$PI = (Endline\ level - Baseline\ level) / (100 - Baseline\ level)$$

For indicators that are intended to decrease – underweight – the performance index was calculated as follows:

$$PI = (Baseline\ level - Endline\ level) / (Baseline\ level)$$

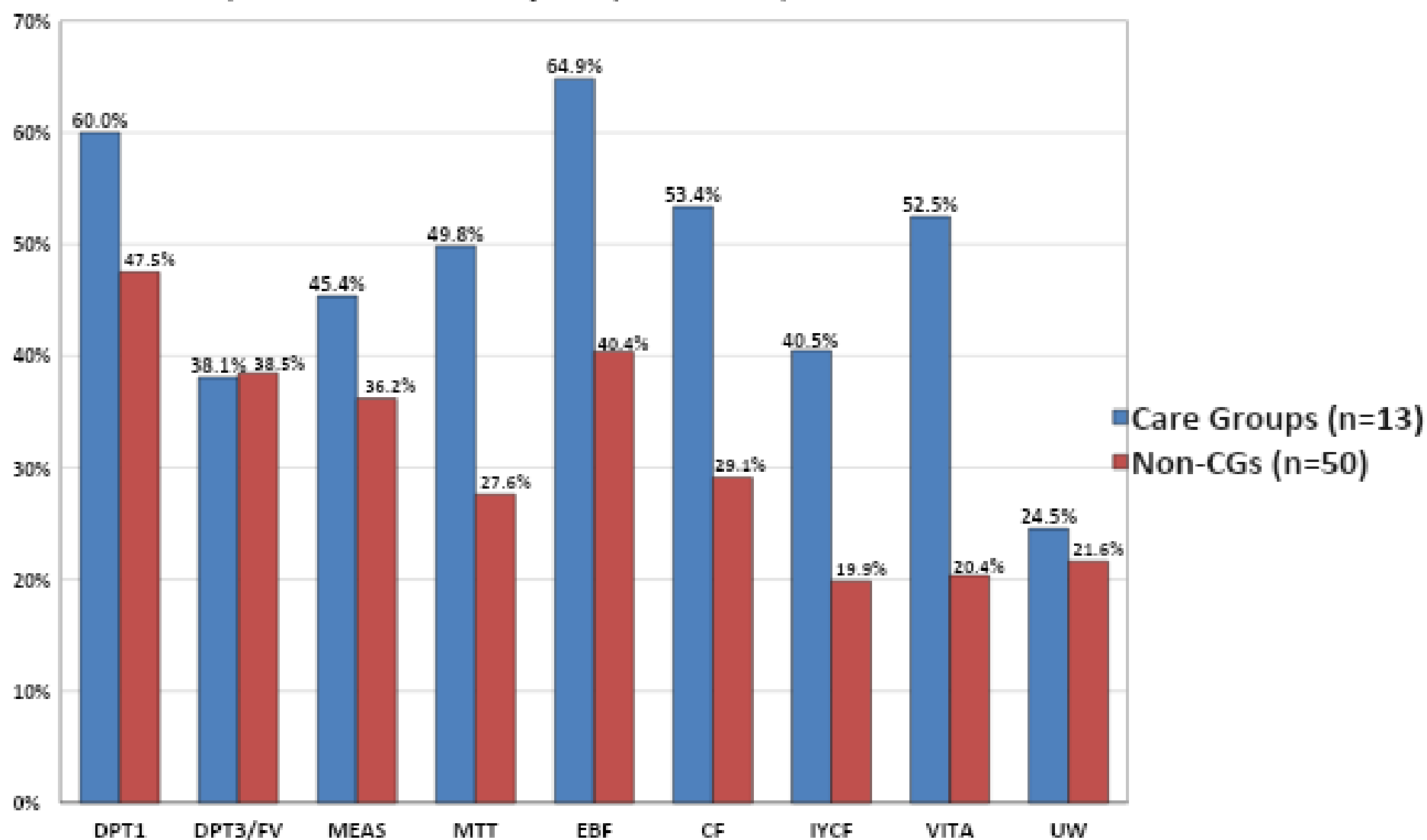
The CSHGP switched from requiring full vaccination as an indicator to DPT3 in 2006. Given their similarity, the performance index for DPT3 and full vaccination were averaged together in this review. When there were missing baseline or endline values for a given project (row), the performance index was not calculated, and when there was no improvement in an indicator, the performance index was set to 0%. There were only 7, 7, and 6 non-CG projects that reported data for DPT1, Vitamin A, and IYCF (minimum appropriate feeding practices) respectively since these indicators were only added to the Rapid CATCH dataset in 2006. For the other seven indicators, the number of non-Care Group projects that had data for both baseline and endline varied from 35 (70%) for DPT3 or full vaccination to all 50 (100%) for underweight. There were 4, 4, and 3 (of the 13) Care Group projects that reported data for DPT1, Vitamin A, and IYCF (minimum appropriate feeding practices) respectively. For the other seven indicators, the number of Care Group projects that had data for both baseline endline varied from 8 (62%) for complementary feeding to 13 for exclusive breastfeeding (100%).

Results

The 13 projects using the Care Group approach had higher performance indexes (PIs) on eight of the nine indicators (all but full vaccination/DPT3, which had high but similar PIs): measles, tetanus toxoid, DPT1, and DPT3 (or full) vaccination, and underweight, exclusive breastfeeding to six months, introduction of complementary foods at 6-9m, and minimum adequate diet (part of IYCF). Projects using Care Groups had PIs that were 20-32 percentage points greater than non-CG projects for Vitamin A supplementation, exclusive breastfeeding, complementary feeding, TT2 vaccination, and infant and young child feeding practices (specifically minimum appropriate feeding practices). The PIs for DPT1 and measles vaccine were 12.5 and 9.2 percentage points higher in the Care Group projects, while the PI for DPT3/full vaccination was high overall (~38%) but comparable for CG and non-CG projects (0.4% difference).

⁹ Weiss et al. (1998 Performance of Private Voluntary Organizations in Increasing Population Levels of Child Survival Behaviors and Knowledge in Developing Countries, p. 8. Available here: <https://docs.google.com/document/d/1zXqxVesy1ISVxGSsRvrv0AFwz1F8ruP1/edit?usp=sharing&ouid=101822260208793560054&rtpof=true&sd=true>

Performance Indices (Indicator Gap Closure) of 13 Care Group and 50 Non-Care Group CSHGP-funded Projects (1999-2007)



Discussion

The George (2015) paper comparing Care Group approach and non-CG projects used a different metric for comparing projects (mean change in percentages of population coverage) than this review, but the results were similar. Care Group approach projects outperformed non-CG projects for TT2, EBF, complementary feeding, vitamin A supplementation, and measles vaccination (and 9 other health indicators) with full vaccination PIs being high but similar for the two types of projects. These current findings are consistent with previous evidence that the Care Group approach is effective in significantly expanding coverage of key child survival interventions (T. P. Davis et al. 2013; Jim Ricca 2007; Thomas Davis and Hibret Getahun 2012) and reducing undernutrition (T. P. Davis et al. 2013). These findings are likely due to the significantly lower ratio of households per community health worker (or volunteer) for the Care Group approach compared to the other CSHGP project approaches (11:1 vs. 22:1), which allowed for greater reinforcement of the key messages disseminated (e.g., >90 % coverage every 2 weeks in Sofala). (George et al. 2015).

Limitations

Similar to the George study, there was not a control area in the region where each project was conducted. Also, a single community-based delivery mechanism was not compared to the Care Group approach; instead, all other CSHGP projects implemented during the same period (excluding the CG projects) were compared.

Link to data: <https://bit.ly/CG-PIs>

Endnotes