For the one-third of teams unable to sustain results, the hindering factor cited most often was staff shortages, which led to decreased access to health services (e.g., fewer outreach sites, suspended mobile services, or long lines, especially on market days). Other reasons cited included a shortage of medicines - especially vaccines - and supplies, drought, and lack of security.

**Discussion and Data Limitations**

The study results show that the LDP intervention does improve health service delivery outcomes, and that these improvements were sustained after the LDPs ended. These results can be plausibly attributed to the intervention as the same changes were not observed in the comparison groups.

The results from this study contribute to a growing body of evidence on the effects of leadership and management development interventions on health outcomes. Such interventions can significantly strengthen health systems in comparable settings in Sub-Saharan Africa and other regions to improve the health status of vulnerable and disadvantaged populations.

Data limitations include:

- a lack of information about the population eligible for services at the facility level (i.e., denominator);
- the focus of LDP teams on different indicators with different service volumes;
- sample sizes too small for comparing average coverage rates by indicator for intervention and comparison groups.

These limitations suggest the need for further research with an even more rigorous study design.

**The Leadership Development Program**

The LDP helps organizations to develop managers who lead, with a vision of a better future, by focusing on three objectives:

- Assisting managers to learn the basic practices of leading and managing their work teams to face challenges and achieve results;
- Creating a work climate that supports staff motivation;
- Creating and sustaining teams that are committed to continuously improving client services.

The approach involves working with teams to apply action learning and problem-solving techniques to address real workplace challenges. In Kenya, a series of four workshops took participants through the leadership practices of Scanning, Focusing, Aligning and Mobilizing, and Inspiring.

As participants used each of these practices, they applied a challenge model, developed a shared mission and vision, and then agreed upon a challenge to address as a team. Each team defined a measurable result, looked at obstacles and root causes, and determined the current situation and priority actions needed to achieve the measurable result.

The 67 teams in the programmatic assessment were from six provinces (Rift Valley, Nyanza, Eastern, Central, North Eastern, and Nairobi Provinces), and were grouped into nine LDPs for the four workshops. Four master trainers conducted the workshops in 2008 and trained local facilitators to conduct workshops in 2009-2010. Participating teams also received coaching by local staff between the workshops. At the final workshop approximately six months later, each team reported on its results.

For LDP success stories, highlights and additional evaluations, please visit: http://www.lms.org/projects/lms/ProgramsAndTools/LeadingAndManaging/LDP.cfm

**Study Design**

This study used a quasi-experimental design that compared before and after measures of a key indicator addressed by 67 LDP teams against comparison groups that did not receive the intervention. Measurements of health service indicators were taken in intervention districts and facilities where the LDP was delivered and in comparison districts and facilities at three time periods between 2008 and 2010: before each LDP (baseline), at the end of each LDP (endline), and approximately six months after each LDP ended (sustainability measure). If the changes observed in the intervention group are not observed in the comparison groups, the changes can reasonably be attributed to the intervention.

Results showed that the LDP interventions improved health service delivery outcomes, and that these improvements were sustained six months after the interventions ended.

These results contribute to a growing body of evidence on the effects of leadership and management development interventions on health outcomes.

**The Kenya Leadership Development Program**

**LINKING MANAGEMENT AND LEADERSHIP TRAINING TO SERVICE DELIVERY OUTCOMES**

With support from USAID’s Office of Population and Reproductive Health, Management Sciences for Health (MSH) conducted a collaborative programmatic assessment in Kenya in 2009-2010 to evaluate the impact of the Leadership Development Program (LDP) on service delivery outcomes through a rigorous study using comparison groups. The main objective of the assessment was to demonstrate that the LDP intervention produces changes in health outcomes that do not occur in comparison areas where the LDP was not implemented.
Data Collection

Data were collected for the LDP teams, from February to April 2010, by contacting each of the 67 team leaders by email and/or telephone to confirm the results reported at the time of each LDP and to obtain additional data, including a sustainability measure. Qualitative data were collected by interviewing the 67 LDP team leaders on the factors that supported or hindered the sustainability of results.

Data for comparison areas were collected over a one week period in August 2010 by Health Management Information Systems (HMIS) Officers employed by the Government of Kenya (GOK). In each comparison area, HMIS Officers extracted data from service delivery registers and district health records for the three time periods examined in this study.

Data Analysis

With support from a team of independent consultants at Harvard, intervention districts and facilities were matched with districts and facilities where the intervention had not taken place in order to compare health outcomes. Districts and facilities were matched separately using the Coarsened Exact Matching (CEM) program in Stata v. 11. Matching criteria at the district level included district population and geographic location. Criteria for selecting facility matches included geographic location, type of facility, number of beds, and family planning service statistics.

The analysis of the study focuses on the achievements of teams of health managers, doctors, and nurses who received the LDP intervention in Kenya. The study reports average coverage rates of the priority health indicators that LDP teams chose to address, as opposed to individual health indicators. Results from all teams were weighted equally to control for differences in the volume of service for different indicators. For example, service volume for total inpatient and outpatient visits would be higher than immunization, or delivery by a skilled birth attendant.

A percent coverage for the three time periods of the analysis were obtained for each team, and the results were averaged for each time period for all 67 teams.

Results

The combined results for the 67 LDP teams included in the analysis are shown in Figure 1. For all 67 teams at district and facility levels that received the LDP intervention, the average coverage rate for selected health indicators was 38% at baseline, 48% at endline, and 51% at approximately six months after the LDP had ended, showing that the teams, on average, were able to improve their measureable results and to sustain the improvements approximately six months after the end of the LDP. The selected health indicators included fully-immunized children under one, women who delivered with a skilled birth attendant, pregnant women who had four or more antenatal care visits, and other indicators measured between 2008 and 2010.

Data were obtained for the set of comparison areas for the same three time periods for which each LDP team took its measurements. The results of each LDP team were compared to the averaged results for the group of comparison areas to which it was matched.

For districts, numerators and denominators were obtained for each of the indicators for match areas as was done for each LDP team, and a percent coverage was computed. For most facilities, denominators (number of “eligible population” in the comparison area) have not been established by the Kenya HMIS. Therefore, the analysis had to be based upon numerators only.

For the intervention facility teams and matching facilities, the basis of the analysis was a computation of percent change from baseline to endline, and from baseline to sustainability measures. Results for intervention and comparison areas, therefore, are presented separately at district and facility levels as the type of analysis had to be different for district and facility teams in comparison areas.

Significance tests were calculated using the Statistical Package for the Social Sciences (SPSS) v. 18.0.0. Qualitative data were analyzed using NVivo v. 8.0.340.

1 CEM is a method for improving the estimation of causal effects by reducing imbalances in covariates between intervention and comparison groups. For further information on CEM, see http://gking.harvard.edu/cem/