Leaders and lagers: understanding the context of progress towards MDG 4 in Africa

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Child health and mortality are of particular interest in sub-Saharan Africa for a number of reasons. First, sub-Saharan Africa's child mortality level is one of the highest of any major region of the world, and progress to meet the MDG 4 (Millennium Development Goal) target of a two-thirds decline by 2015 remains elusive in the region. Second, levels of child health and mortality are important indicators of the health and wellbeing of nations. Thus, trends in under-five mortality provide an indication of the success or failure of government social development policies in the region. Finally, the loss of human life at an early age represents both a tragedy for families and a capital investment loss for nations.

Globally, child mortality levels decreased, on average, by 2·6% per year from 1970 to 1985, then slowed down for a decade until the late 1990s, began to accelerate, and since the second half of 2000s, have fallen by an average of 3·6% per year. However, on the basis of rates of change observed from 1990 to 2013, only 27 of 138 developing countries are expected to achieve the MDG 4 target of a two-thirds reduction in child mortality from 1990 levels by 2015. In Africa, Benin, Egypt, Liberia, Libya and Tunisia are the only ones that are projected to belong to this category. However, with global, regional and country attention so much focused on the achievement of the target itself, the success stories of many more countries in the region that have made huge strides in the past two decades, even if the changes observed fall short of the level expected to meet the target for MDG 4, remain far from fully investigated. The focus of the present paper is to investigate the factors that distinguish these groups of countries, which have experienced faster than average decline than their peers, and compare their experience with countries of the region where progress has been limited. Building on the successes of the MDG being one of the main aims of the Sustainable Development Goals (SDGs), identifying the main drivers of faster declines, even if the changes observed fall short of the level expected to meet the target for MDG 4, has direct relevance for future efforts in addressing premature mortality in Africa.

To achieve this objective, we assembled data from global databases namely WHO and World Bank, and where necessary, augmented by data from the Demographic and Health Surveys for each country, and applied a quintile regression model onto our data set. Specifically, we built a multivariate quintile regression model that attempts to isolate the

determinants of mortality change among the top and bottom performers in the region. The independent variables used in the analysis included seven health system indicators, six socio-economic factors and four indices of governance, all of which were compiled at a country level. For the health system cluster, the variables included changes in immunization coverage, institutional delivery, bed-net use among under-fives, proportion of population with access to ARV therapy, contraceptive prevalence, and access to protected water and sanitation. In addition, we also included in our model trends in health workforce density, per capita health expenditure and external assistance received for health activities as % of total health expenditure. On the other hand, the six socio-economic factors included in our analysis were per capita income, poverty gap, ratio of girls to boys in primary school, crop production index and changes in paved roads as % of total roads. The governance cluster captured indicators related to corruption, participation and safety and rule of law. It also includes a variable measuring the number of times the country experienced change in government during the study period. Our analysis covered all the 45 sub-Saharan African countries and spans over the period 1990-2013.

Preliminary analysis from the model shows that generally improvements in child mortality between 1990 and 2013 were mainly a result of improvements in the coverage of a broad array of health system, social, economic and environmental determinants of child health. In top 25 percentile of countries which registered faster than average child mortality decline than their peers, reductions in child mortality were largely due to improvements in nationwide coverage of health determinants, with the remainder due to socio-economic factors. The effect of governance variables were limited in this group of countries, but were large and significant in the bottom group of countries that experienced limited progress.