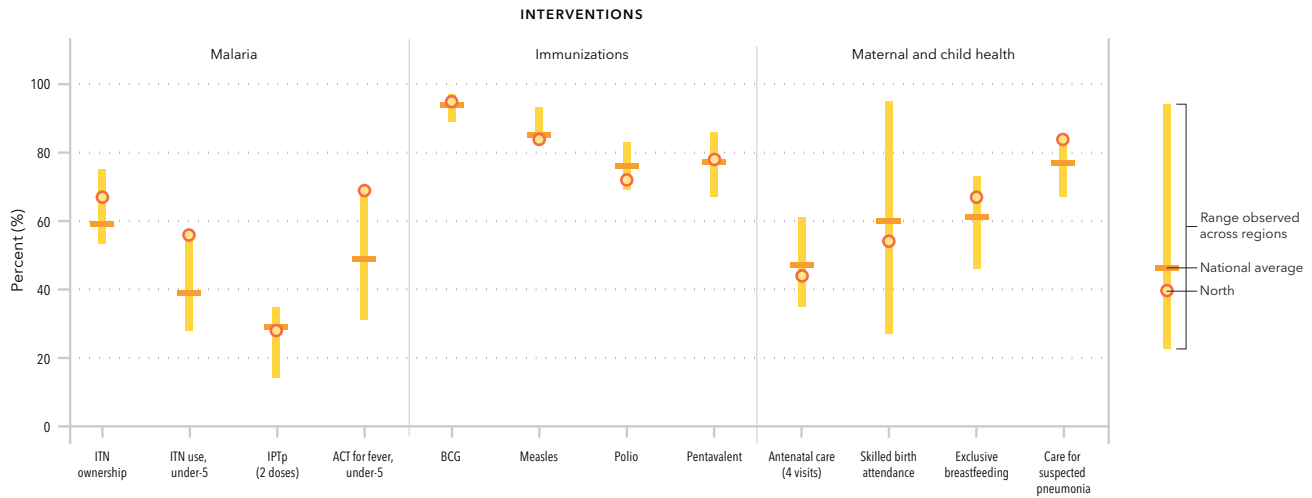




North



Note: Estimates of intervention coverage are for 2011, with better performance reflected by higher levels of coverage.

SUMMARY

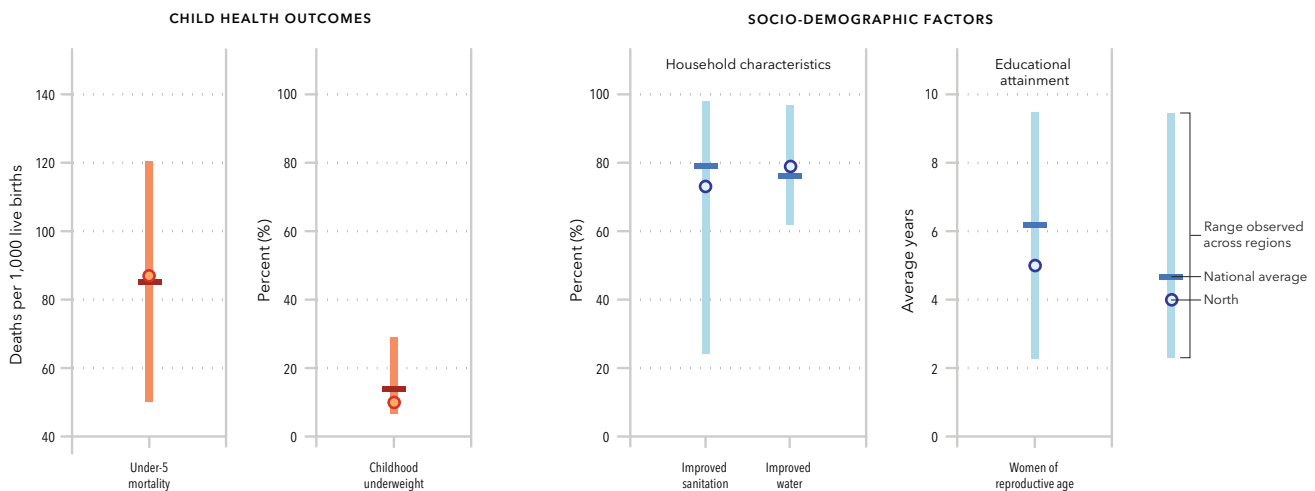
Between 1990 and 2011, North recorded substantial declines in all-cause under-5 mortality and the prevalence of childhood underweight. Prioritizing efforts to maintain these gains and further accelerate the region's progress in child health outcomes should be considered.

ITNs and the receipt of ACTs were quickly scaled up in the region, with ITN use by children under 5 and ACT coverage rising to among the highest in Uganda for 2011. IRS coverage rapidly escalated after 2006, reflecting the region's expansion of spraying to more districts. Coverage of the pentavalent vaccine rapidly rose in North, whereas polio immunization coverage stagnated over time. North recorded gradual gains in skilled birth attendance, and the proportion of children who sought care for suspected pneumonia increased to among the highest in Uganda in 2011. At the same time, ANC4 coverage remained moderately low and exclusive breast-

feeding was higher in the 1990s than levels of coverage in the following decade.

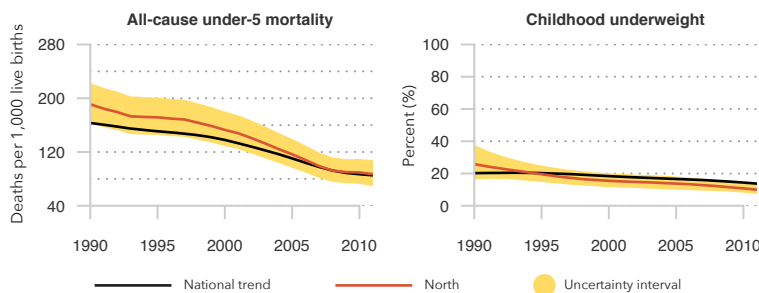
The region documented gains in the proportion of households with improved sanitation and educational attainment among women of reproductive age, but remained below the national average by 2011.

In 2011, North generally equaled or exceeded the national average across malaria interventions and immunizations, whereas the region's performance for maternal and child health interventions was more mixed. For socio-demographic factors, the region largely fell below the national average, except for the proportion of households with improved water sources. In comparison with the national average, North showed comparable levels of under-5 mortality and lower levels of childhood underweight.



Note: Estimates of child health outcomes and socio-demographic factors are for 2011. Better performance is shown by lower levels of child health outcomes and higher levels for socio-demographic factors.

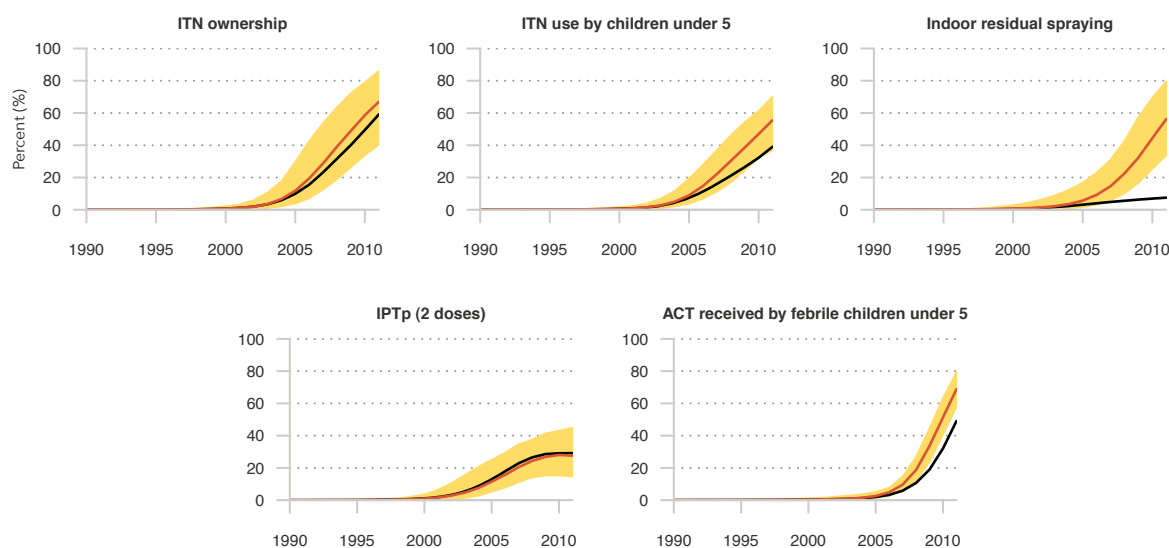
CHILD HEALTH OUTCOMES



From 1990 to 2011, the region of North recorded a significant reduction in all-cause under-5 mortality, dropping 54% from 191 deaths per 1,000 live births in 1990 (95% CI: 164, 221) to 87 in 2011 (95% CI: 71, 107). In 2011, the district's under-5 mortality was similar to the national average of 85 deaths per 1,000 live births (95% CI: 79, 93).

The proportion of children who were underweight in North substantially declined from 26% in 1990 (95% CI: 17%, 37%) to 10% in 2011 (95% CI: 8%, 13%), which was lower than the national average of 14% (95% CI: 12%, 15%). This region showed much progress in reducing its prevalence of childhood underweight, especially since levels exceeded the national average in 1990.

MALARIA INTERVENTIONS



ITN ownership remained below 10% until 2005, after which coverage rapidly rose to 67% in 2011 (95% CI: 40%, 86%). This level of ITN ownership was much higher than the national average of 59% in 2011 (95% CI: 36%, 79%).

The use of ITNs by children under 5 years old quickly increased from 22% in 2007 (95% CI: 11%, 37%) to 56% in 2011 (95% CI: 37%, 70%). This level of ITN use far exceeded the national average of 39% in 2011 (95% CI: 27%, 53%), and was

among the highest in Uganda for that year. In this region, the difference between ITN ownership and use (11 percentage points) was much lower than what was observed at the national level (20 percentage points) for 2011, which suggests that net use by children under 5 may be high among households with ITNs.

Formal implementation of IRS began in a few districts in 2007, reaching 15% of households that year (95% CI: 6%,

NORTH, continued

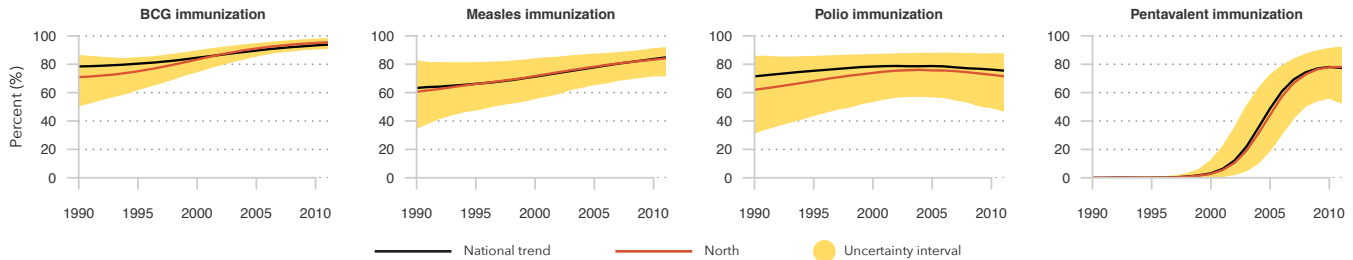
31%). IRS was quickly scaled up throughout the region, rising to coverage levels of 56% in 2011 (95% CI: 34%, 79%). For that year, 82% of households (95% CI: 68%, 92%) in the North had either received IRS or owned at least one ITN.

ACTs formally became Uganda's first-line treatment for uncomplicated malaria in 2006, and the proportion of children who received ACTs in response to experiencing a fever quickly increased thereafter. Receipt of ACTs among febrile children under 5 in the North region rose from 19% in 2008 (95% CI: 12%, 27%) to 69% in 2011 (95% CI: 58%, 79%), which

was much higher than the national average of 49% (95% CI: 34%, 65%). North's rapid uptake of ACTs may reflect both the region's need for malaria treatment, given its high malaria transmission rates, and the region's responsiveness in providing the first-line treatment to patients.

The proportion of pregnant women who received IPTp2 remained below 10% until 2005, after which coverage rose to 28% in 2010 (95% CI: 15%, 43%). IPTp2 coverage remained at 28% through 2011, which was comparable to the national average of 29% (95% CI: 15%, 50%).

IMMUNIZATIONS



The proportion of children who received the BCG vaccine steadily increased from 71% in 1990 (95% CI: 51%, 86%) to 95% in 2010 (95% CI: 91%, 97%). This level of BCG immunization was sustained through 2011, and was comparable to the national average of 94% for that year (95% CI: 89%, 97%).

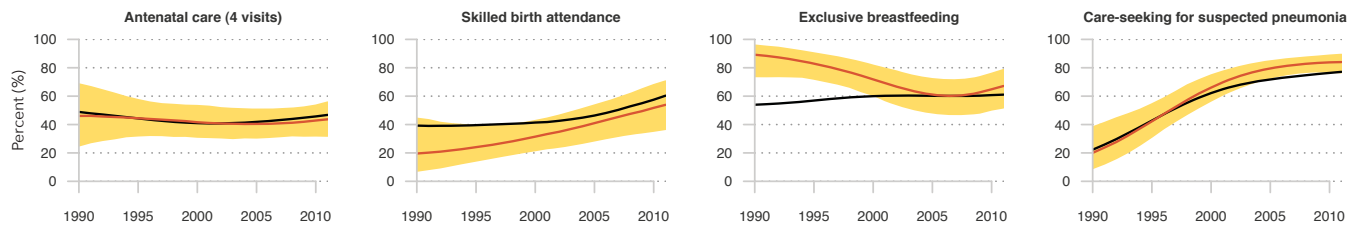
Measles immunization rose from 61% in 1990 (95% CI: 35%, 82%) to 84% in 2011 (95% CI: 72%, 91%), which was similar to the national average of 85% for that year (95% CI: 75%, 91%).

Coverage of polio immunization remained relatively consistent from 1990 to 2011, generally hovering between 65%

and 75% during this time. In 2011, polio immunization coverage was 72% in North (95% CI: 47%, 87%), slightly lower than the national average of 76% (95% CI: 52%, 90%).

The pentavalent vaccine was formally introduced in Uganda in 2002, after which coverage in North rapidly increased from 31% in 2004 (95% CI: 11%, 63%) to 78% in 2010 (95% CI: 56%, 91%). This level of coverage was sustained through 2011, which was comparable to the national average of 77% (95% CI: 51%, 92%).

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage in North remained around 40% to 45% between 1990 and 2011, recording its highest levels in the early 1990s (46%) and lowest in 2004 and 2005 (40%). In 2011, ANC4 coverage was at 44% (95% CI: 41%, 54%), which was slightly lower than the national average of 47% (95% CI: 41%, 54%).

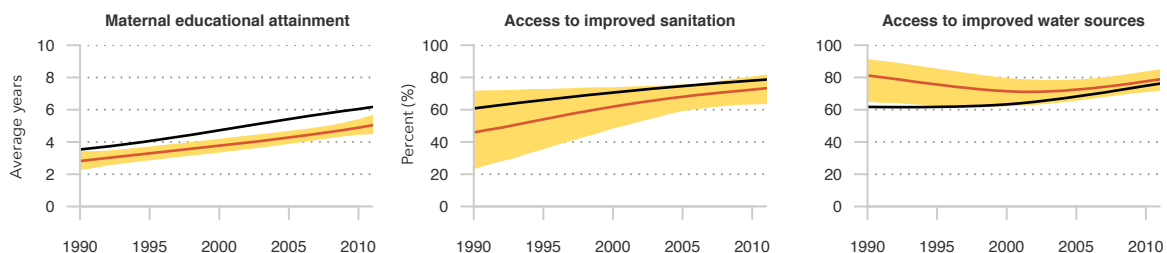
Skilled birth attendance steadily increased from 20% in the early 1990s to 54% in 2011 (95% CI: 37%, 71%), but remained lower than the national average of 60% that year (95% CI: 47%, 73%). Although the region's levels of skilled birth attendance remain lower than optimal, its progress in elevating SBA coverage from very low levels during the 1990s is worthy of note.

The proportion of children who were exclusively breastfed

decreased from 89% in 1990 (95% CI: 74%, 96%) to 60% in 2006 (95% CI: 47%, 71%). Exclusive breastfeeding slightly increased soon after, rising to 67% in 2011 (95% CI: 52%, 79%), which was slightly higher than the national average of 61% (95% CI: 54%, 67%).

Serving as proxy for health system access, the proportion of children under 5 who sought care for suspected pneumonia escalated from 20% in 1990 (95% CI: 9%, 38%) to 84% in 2010 (95% CI: 77%, 89%). This level of health-care-seeking behavior was sustained through 2011, exceeding the national average of 77% (95% CI: 76%, 78%) and rising to among the highest in Uganda for that year.

SOCIO-DEMOGRAPHIC FACTORS



Among women of reproductive age (15 to 44 years old) in North, the average years of education attained increased from 2.8 years in 1990 (95% CI: 2.3, 3.4) to five years in 2011 (95% CI: 4.5, 5.6). This level of educational attainment was much lower than the national average in 2011, which was 6.2 years (95% CI: 5.9, 6.4). Given the association between gains in women's educational attainment and reductions in under-5 mortality, North would benefit from addressing its relatively low levels of education among women of reproductive age.

Household access to improved sanitation (a flush toilet or covered pit latrine) steadily rose from 46% in 1990 (95% CI:

24%, 71%) to 73% in 2011 (95% CI: 64%, 81%). Despite North's substantial progress, this level of improved sanitation remained below the national average of 79% (95% CI: 76%, 81%).

North recorded fairly consistent levels of household access to improved water sources (e.g., piped water, protected wells, protected springs) between 1990 and 2011, generally hovering between 70% and 80%. In 2011, 79% of households (95% CI: 72%, 84%) in the region reported having access to improved water sources, which was slightly higher than the national average of 76% (95% CI: 73%, 79%).