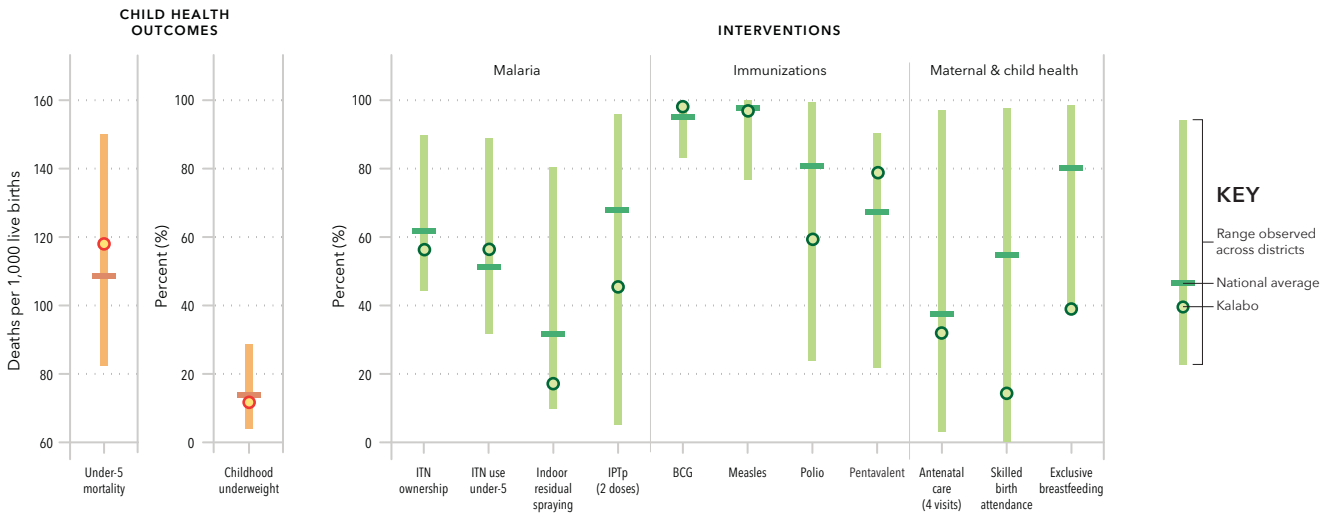


Western province



Kalabo



Note: Levels of child health outcomes and intervention coverage are for 2010. Better performance is reflected by lower levels of child health outcomes (orange) and higher levels of intervention coverage (green).

SUMMARY

Between 1990 and 2010, Kalabo achieved substantial reductions in all-cause under-5 mortality and childhood underweight; however, its levels of under-5 mortality remained higher than the national average in 2010. Prioritizing ways to further accelerate gains for child health outcomes should be considered.

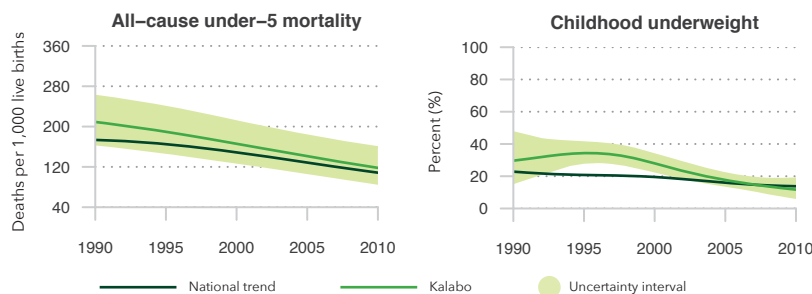
Kalabo increased BCG and measles immunization coverage to high levels, and scaled up the pentavalent vaccine to above the national average in 2010. Although ITN ownership peaked in 2006, ITN use rose through 2010.

However, amidst these gains, several worrisome trends were identified and warrant further attention. Gains in polio

coverage during the early 2000s were reversed, which is particularly worrying given that Kalabo is considered a high-risk district for polio importation. Exclusive breastfeeding dropped to among the lowest levels in Zambia. Skilled birth attendance fell to very low levels, and ANC4 coverage dramatically declined from high levels in the 1990s.

In 2010, Kalabo performed at or above the national average for routine immunizations (with the exception of polio coverage), but fell below for malaria interventions as well as maternal and child health interventions (except for ITN use). In comparison with the national average, Kalabo showed higher levels of mortality and slightly lower levels of underweight.

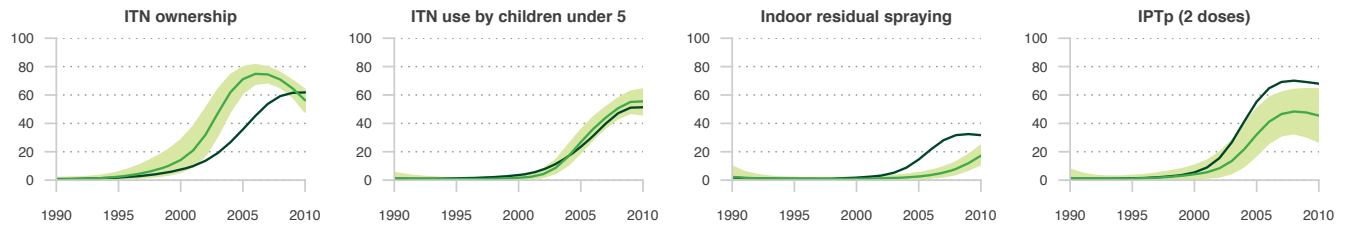
CHILD HEALTH OUTCOMES



From 1990 to 2010, Kalabo recorded a significant reduction in all-cause under-5 mortality, dropping 44% from 209 deaths per 1,000 live births in 1990 (95% CI: 165, 261) to 118 in 2010 (95% CI: 86, 159). However, the district's under-5 mortality in 2010 was higher than the national average of 109 deaths per 1,000 live births (95% CI: 104, 116).

The proportion of children who were underweight increased from 30% (95% CI: 16%, 47%) to 34% during the mid-1990s before steadily decreasing to 12% in 2010 (95% CI: 7%, 19%), which was slightly lower than the national average of 14%. This progress is particularly notable given that Kalabo consistently recorded higher levels of underweight than the national average until the mid-2000s.

MALARIA INTERVENTIONS



ITN ownership remained below 10% until 1999, after which coverage increased to 75% in 2006 (95% CI: 68%, 81%). However, ownership then fell to 56% in 2010 (95% CI: 48%, 64%), which was lower than the national average of 62%.

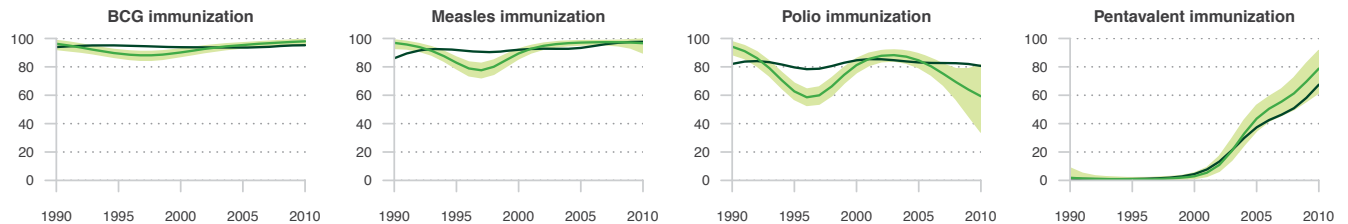
The use of ITNs by children under 5 years old increased to 56% in 2010 (95% CI: 46%, 64%), which was slightly higher than the national average of 51%. Kalabo's ITN use equaled ITN ownership in 2010, which suggests that net use by children under 5 is high among households that have ITNs.

Kalabo formally implemented IRS activities in 2010, and

reached 17% of households that year (95% CI: 11%, 25%). This level of IRS coverage was one of the lowest among the 54 districts that had IRS by 2010.

The proportion of pregnant women who received IPTp2 remained below 10% until 2003, but increased to 48% in 2008 and 2009. Coverage fell slightly to 45% in 2010 (95% CI: 27%, 64%), which was much lower than the national average of 68% for that year. Compared with the rest of Zambia, Kalabo's scale-up of IPTp2 was modest.

IMMUNIZATIONS



BCG immunization fell from 96% in 1990 (95% CI: 92%, 98%) to 88% during the late 1990s, but coverage increased to 98% in 2009 (95% CI: 96%, 99%) and remained at this level through 2010. BCG coverage was higher than the national average of 95% for that year.

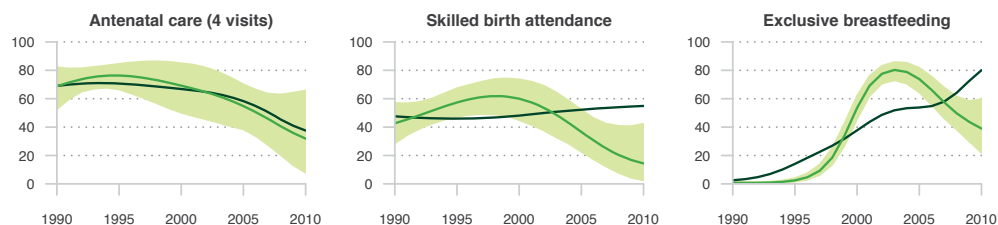
Measles immunization decreased from 97% in 1990 (95% CI: 93%, 99%) to 78% in 1997 (95% CI: 72%, 82%), but rebounded to 97% in 2004 (95% CI: 95%, 98%) and stayed at 97% through 2010. Nonetheless, Kalabo's measles coverage was slightly lower than the national average of 98% for 2010.

Polio immunization largely varied during the 1990s, drop-

ping from 94% in 1990 (95% CI: 89%, 98%) to 59% in 1996 (95% CI: 53%, 64%) and then rising to 88% in the early 2000s. Coverage steadily declined during the 2000s, dropping to 59% in 2010 (95% CI: 34%, 81%) and falling among the lowest in Zambia. Kalabo is considered a high-risk district for polio importation from neighboring countries, so addressing the district's faltering levels of polio coverage is likely to be important.

After the pentavalent vaccine was formally introduced in 2005, coverage increased to 50% in 2006 (95% CI: 42%, 59%) and 79% in 2010 (95% CI: 62%, 91%), which was higher than that year's national average of 67%.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage increased from 69% in 1990 (95% CI: 53%, 82%) to 76% in 1994 (95% CI: 68%, 83%). This level of coverage was sustained through 1997, after which ANC4 dropped to 32% in 2010 (95% CI: 8%, 66%), falling below the national average of 37%. The finding that Kalabo's levels of coverage declined more than 40 percentage points since 1997 is cause for concern.

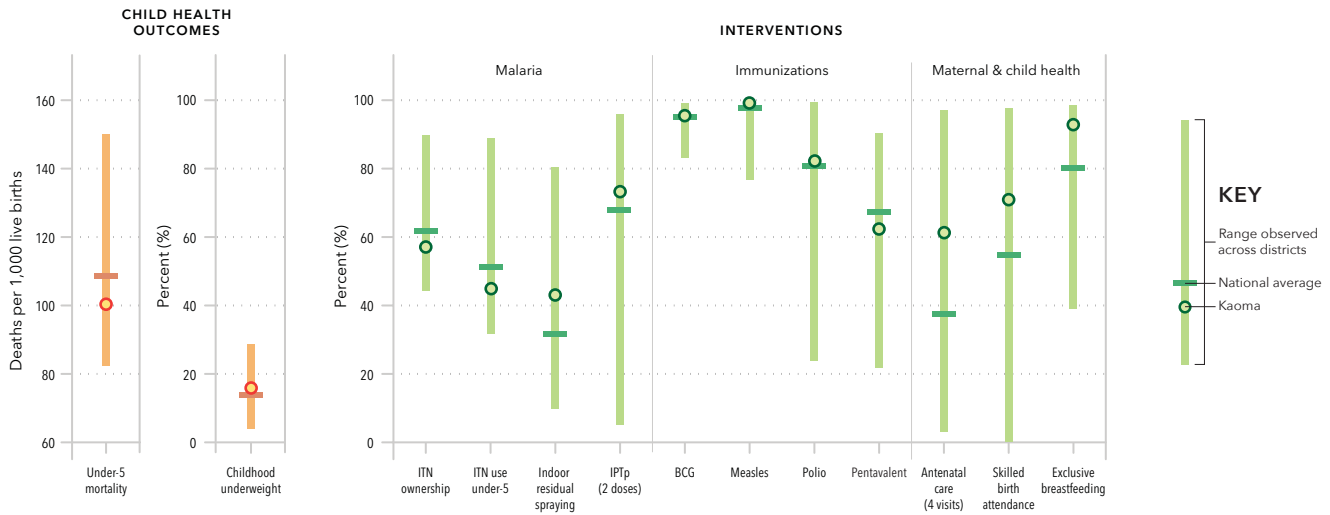
Skilled birth attendance increased from 43% in 1990

(95% CI: 29%, 57%) to 62% in 1998 (95% CI: 49%, 74%), but decreased to 14% in 2010 (95% CI: 2%, 42%), which was well below the national average of 55%.

The percentage of children who were exclusively breastfed remained below 20% until 1999, after which coverage increased to 80% in 2003 (95% CI: 73%, 86%). Exclusive breastfeeding then fell sharply to 39% in 2010 (95% CI: 22%, 60%), which was among the lowest in Zambia.



Kaoma



Note: Levels of child health outcomes and intervention coverage are for 2010. Better performance is reflected by lower levels of child health outcomes (orange) and higher levels of intervention coverage (green).

SUMMARY

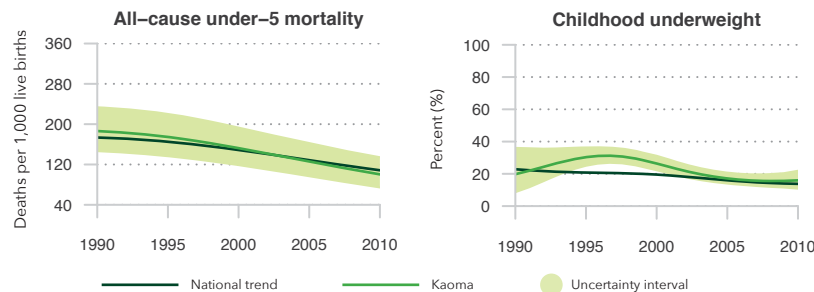
All-cause under-5 mortality and childhood underweight in Kaoma substantially decreased between 1990 and 2010, but the district's level of underweight still remained higher than the national average in 2010. Prioritizing ways to further accelerate gains for child health outcomes should be considered.

Kaoma scaled up IRS coverage and IPTp2 levels, which were above the national averages in 2010, and the district expanded exclusive breastfeeding coverage to some of the highest levels in Zambia. Coverage of the pentavalent vaccine increased soon after its introduction, and Kaoma maintained high levels of the other routine immunizations. Skilled birth attendance gradually increased over time in Kaoma, at levels consistently higher than the national average.

However, amidst these gains, some worrisome trends emerged. The district's levels of ITN ownership and use remained below the national average in 2010, and ANC4 coverage declined from very high levels in the early 1990s.

In 2010, Kaoma met or exceeded national levels for immunizations and for maternal and child health interventions. The district's performance for malaria interventions was more mixed. In comparison with the national average, Kaoma showed lower levels of mortality and slightly higher levels of underweight.

CHILD HEALTH OUTCOMES

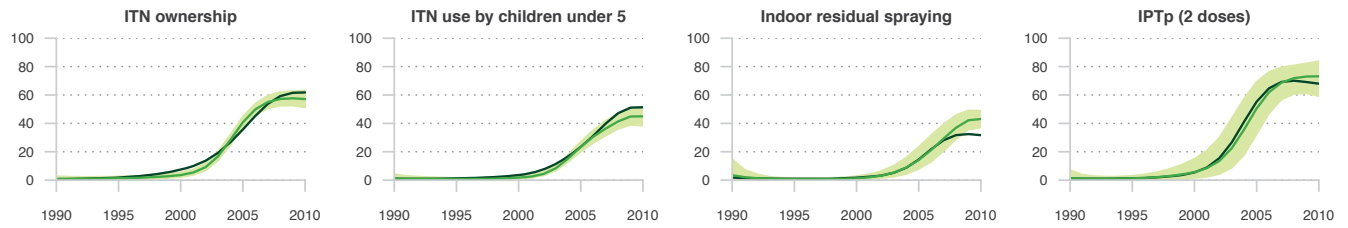


From 1990 to 2010, Kaoma recorded a significant reduction in all-cause under-5 mortality, dropping 46% from 186 deaths per 1,000 live births in 1990 (95% CI: 146, 234) to 100 in 2010 (95% CI: 74, 134). In 2010, the district's level of under-5 mortality was lower than the national average of 109 deaths per 1,000 live births (95% CI: 104, 116).

The proportion of children who were underweight increased from 20% in 1990 (95% CI: 9%, 36%) to a high of

31% in the mid-1990s. Underweight declined to 16% in 2006 (95% CI: 13%, 20%) and remained at this level through 2010, slightly exceeding the national average of 14%. Kaoma made substantial progress in reducing childhood underweight since the 1990s, but the district's prevalence of underweight remains high.

MALARIA INTERVENTIONS



ITN ownership remained below 10% until 2003, after which coverage rapidly increased to a peak of 58% in 2009 (95% CI: 52%, 63%). Coverage decreased slightly to 57% in 2010 (95% CI: 51%, 63%), which was slightly lower than the national average of 62%.

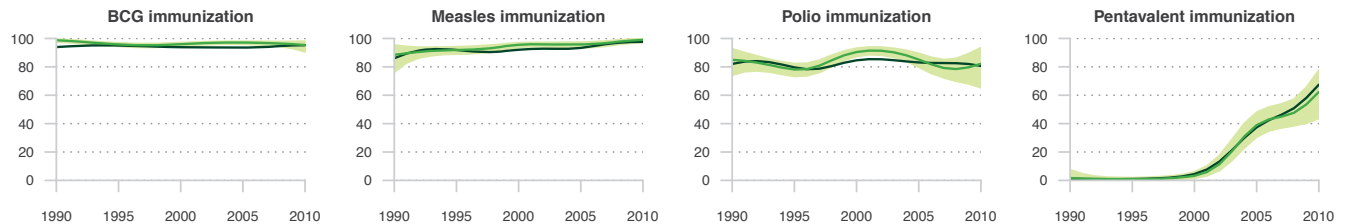
ITN use by children under 5 years old rose to 45% in 2009 (95% CI: 39%, 51%) and was maintained at 45% through 2010. Kaoma's level of ITN use in 2010 was lower than the national average of 51%. The difference between ITN ownership and use (12 percentage points) in Kaoma was comparable to what

was observed at the national level.

Kaoma formally implemented IRS activities in 2008, and reached 43% of households in 2010 (95% CI: 37%, 49%). This scale-up of IRS was about average compared to other districts that also began IRS in 2008.

The proportion of pregnant women who received IPTp2 remained below 10% until 2002, after which coverage rapidly rose to 73% in 2009 (95% CI: 61%, 82%) and was sustained at this level through 2010. Kaoma's IPTp2 coverage in 2010 exceeded the national average of 68%.

IMMUNIZATIONS



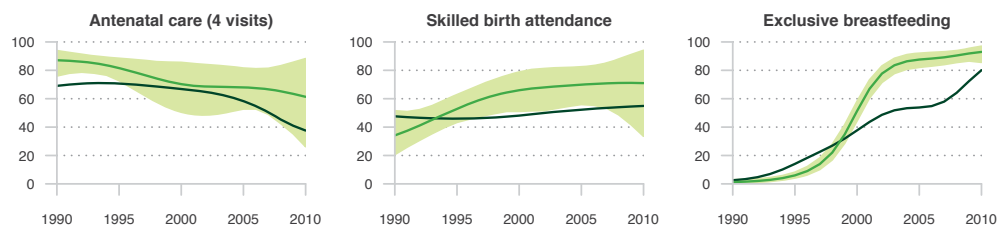
BCG coverage remained between 95% and 99% from 1990 to 2010. The highest level of BCG immunization took place in 1990, at 99% (95% CI: 98%, 100%), and the lowest (95%) occurred in the late 1990s. Coverage increased during the early 2000s, but slipped to 95% in 2010 (95% CI: 91%, 98%), equaling the national average.

Measles immunization increased from 88% in 1990 (95% CI: 76%, 95%) to 99% in 2009 (95% CI: 97%, 100%). This level of measles coverage was sustained through 2010, slightly exceeding the national average of 98%.

Coverage of polio immunization varied in the 1990s, rising above and falling below 80%, before reaching a high of 91% in the early 2000s. Polio coverage then dropped below 80%, but rose again to 82% in 2010 (95% CI: 65%, 94%), which was comparable to the national average of 81% for that year.

After the pentavalent vaccine was formally introduced in Kaoma in 2005, coverage increased to 45% in 2007 (95% CI: 37%, 54%) and 62% in 2010 (95% CI: 44%, 78%), which was lower than the national average of 67%.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage decreased from 87% in 1990 (95% CI: 76%, 94%) to 61% in 2010 (95% CI: 26%, 88%). ANC4 levels dramatically decreased throughout Zambia from 1990 to 2010, and while coverage in Kaoma was higher than the national average of 37% in 2010, its levels remained low.

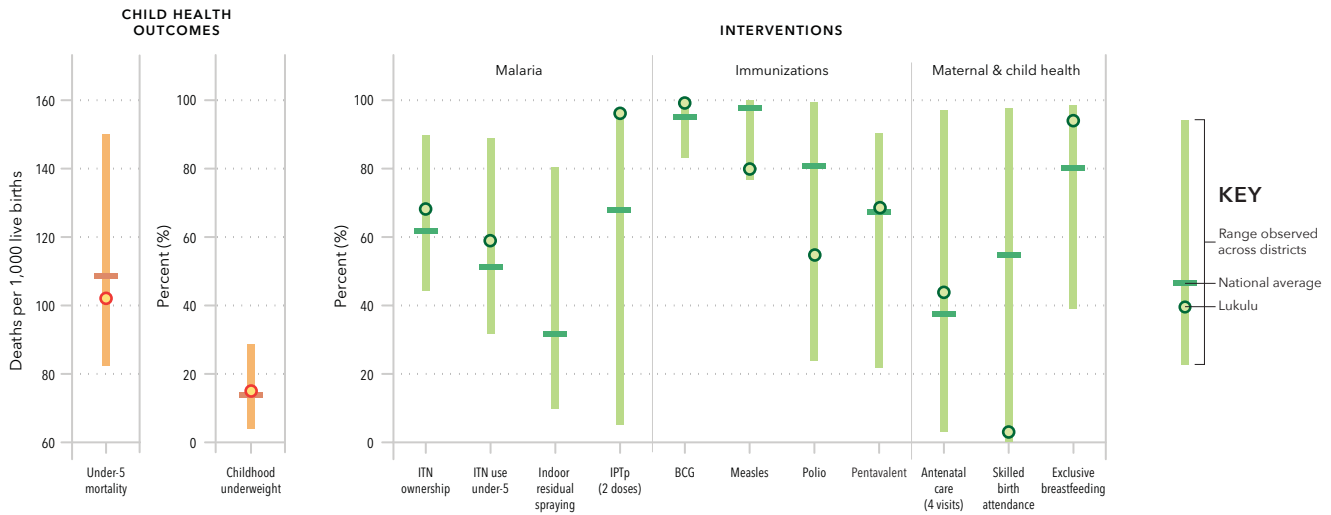
Skilled birth attendance increased from 34% in 1990 (95% CI: 21%, 52%) to 71% in 2007 (95% CI: 54%, 85%). SBA coverage was sustained at 71% through 2010, which was higher

than the national average of 55%.

The proportion of children who were exclusively breastfed remained below 20% until 1998, after which coverage quickly increased to 88% in the mid-2000s. Levels of exclusive breastfeeding in the district continued to rise, reaching 93% in 2010 (95% CI: 86%, 97%) and far exceeding the national average of 80%.



Lukulu



Note: Levels of child health outcomes and intervention coverage are for 2010. Better performance is reflected by lower levels of child health outcomes (orange) and higher levels of intervention coverage (green). IRS coverage was not included because Lukulu started IRS after 2010.

SUMMARY

Between 1990 and 2010, Lukulu experienced substantial reductions in all-cause under-5 mortality and childhood underweight. Prioritizing ways to maintain these rates of progress in child health outcomes should be considered.

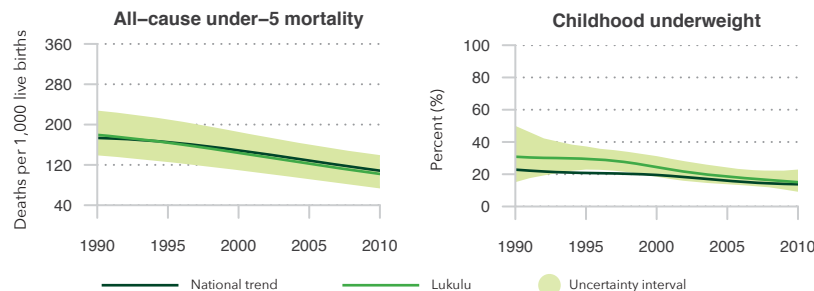
The district was able to rapidly scale up ITNs through 2010, and IPTp2 coverage climbed to some of the highest levels in the country in 2010. Lukulu had very high levels of BCG immunization, and was successful in expanding coverage of the pentavalent vaccine in recent years. Coverage of exclusive breastfeeding quickly increased to high levels, which were maintained through 2010.

However, amidst these gains, some troubling trends were identified and warrant further attention. In the late 2000s, polio immunization coverage abruptly dropped to some of

the lowest levels in Zambia, which is particularly worrying given that Lukulu is considered a high-risk district for imported polio. From 1990 to 2010, ANC4 coverage declined, and skilled birth attendance fell sharply to extremely low levels.

In 2010, Lukulu exceeded national levels for malaria interventions, as well as for maternal and child health interventions (with the stark exception of skilled birth attendance). For immunizations, Lukulu equaled or fell below the national average (except for BCG coverage and the pentavalent vaccine). In comparison with the national average, Lukulu showed lower levels of mortality and similar levels of underweight.

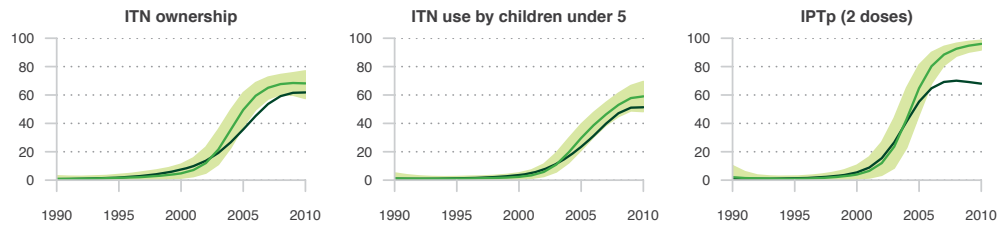
CHILD HEALTH OUTCOMES



From 1990 to 2010, Lukulu recorded a significant reduction in all-cause under-5 mortality, dropping 43% from 180 deaths per 1,000 live births in 1990 (95% CI: 141 to 226) to 102 in 2010 (95% CI: 75 to 137). In 2010, the district's under-5 mortality was lower than the national average of 109 deaths per 1,000 live births (95% CI: 104 to 116).

The proportion of children who were underweight substantially decreased from 31% in 1990 (95% CI: 16%, 49%) to 15% in 2010 (95% CI: 10%, 22%), which was comparable to the national average of 14% for 2010.

MALARIA INTERVENTIONS



ITN ownership remained below 10% until 2002, after which coverage rapidly increased to 68% in 2008 (95% CI: 60%, 74%). Ownership was sustained at 68% through 2010, rising above the national average of 62% for that year.

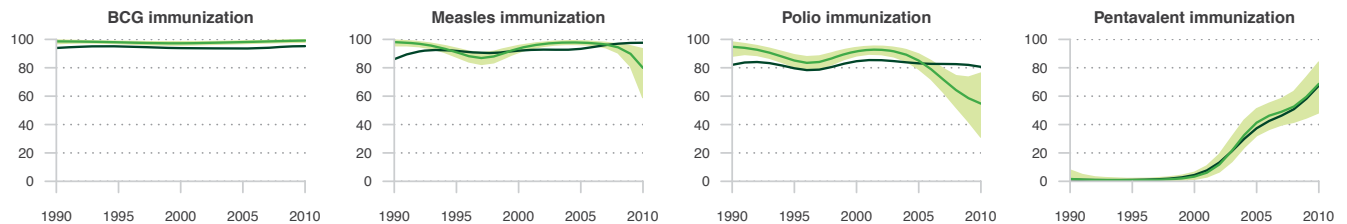
ITN use by children under 5 years old quickly rose to 59% in 2010 (95% CI: 48%, 69%), which was above the national average of 51%. The difference between ITN ownership and use (9 percentage points) in Lukulu was comparable to what was

observed at the national level.

IRS coverage trends are not included because Lukulu did not begin formal IRS activities until after 2010.

The proportion of pregnant women who received IPTp2 remained below 10% until 2002, after which coverage quickly increased to 65% in 2005 (95% CI: 46%, 81%). Gains in coverage continued, with IPTp2 reaching 96% in 2010 (95% CI: 92%, 98%) and rising to one of the highest levels in Zambia.

IMMUNIZATIONS



BCG immunization hovered between 97% and 99% between 1990 and 2010, with the district rising to 99% coverage in 2007 (95% CI: 98%, 99%) and sustaining this level through 2010. Lukulu's BCG coverage was among the highest in the country for 2010.

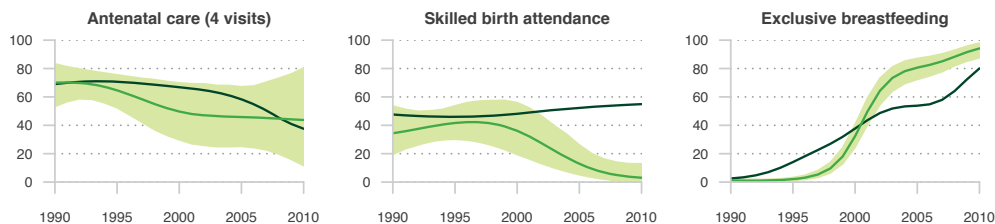
Measles immunization largely varied in the 1990s, ranging from 98% in the early 1990s to 87% in 1997 (95% CI: 82%, 91%). Coverage then steadily increased, reaching 98% again in the mid-2000s, but it abruptly dropped during the late 2000s. Measles coverage declined to 80% in 2010 (95% CI: 59%, 93%) and fell to among the lowest levels in Zambia.

Until the mid-2000s, coverage of polio immunization was

consistently higher than the national average, briefly dipping below 90% in the late 1990s before rising to 93% in the early 2000s. After 2002, polio coverage steadily declined, dropping to 55% in 2010 (95% CI: 31%, 76%), one of the lowest levels observed in Zambia for that year. Lukulu is considered a high-risk district for polio importation from neighboring countries, so addressing the district's faltering levels of polio coverage is likely to be important.

After the pentavalent vaccine was formally introduced in Lukulu in 2005, coverage increased to 46% in 2006 (95% CI: 37%, 55%) and 69% in 2010 (95% CI: 48%, 84%), which was slightly higher than the national average of 67%.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage remained at 70% until 1992, after which coverage steadily declined to 44% in 2009 (95% CI: 16%, 76%) and 2010. ANC4 levels dramatically decreased throughout Zambia from 1990 to 2010, and while coverage in Lukulu was higher than the national average of 37% in 2010, its levels remained low.

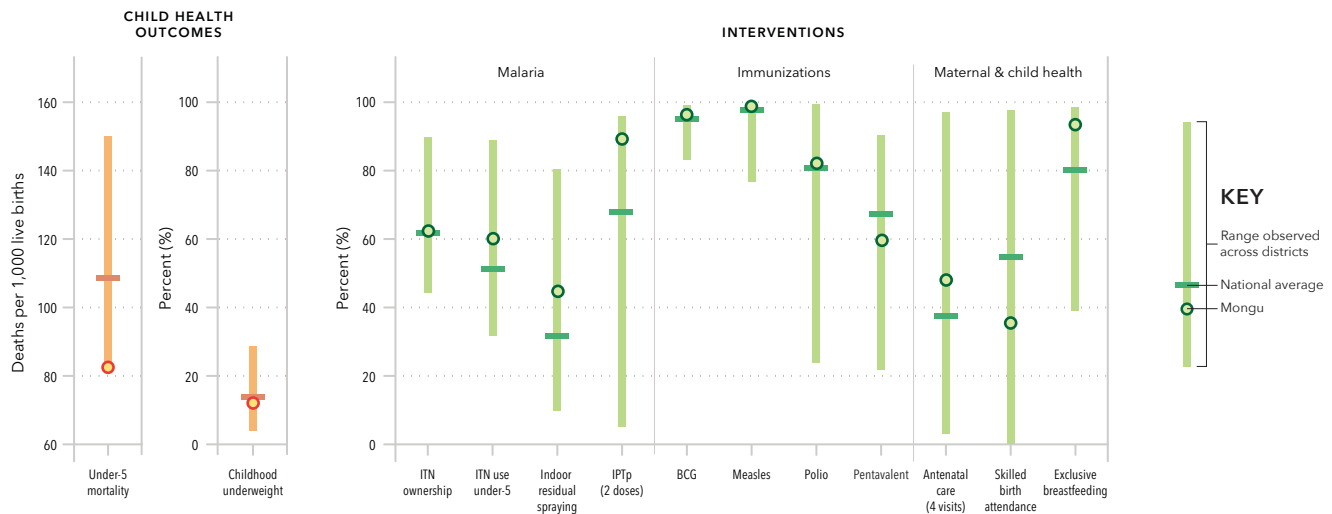
Skilled birth attendance slightly increased from 34% in 1990 (95% CI: 20%, 54%) to 42% in the mid-1990s before

dropping sharply to 3% in 2010 (95% CI: 0%, 13%), which was among the lowest levels in Zambia. This drastic decline in SBA is cause for concern and warrants immediate attention.

The proportion of children who were exclusively breastfed remained below 20% until 2000, after which coverage quickly increased to 81% in 2005 (95% CI: 72%, 87%). Coverage continued to rise, reaching 94% in 2010 (95% CI: 88%, 98%) and far exceeding the national average of 80%.



Mongu



Note: Levels of child health outcomes and intervention coverage are for 2010. Better performance is reflected by lower levels of child health outcomes (orange) and higher levels of intervention coverage (green).

SUMMARY

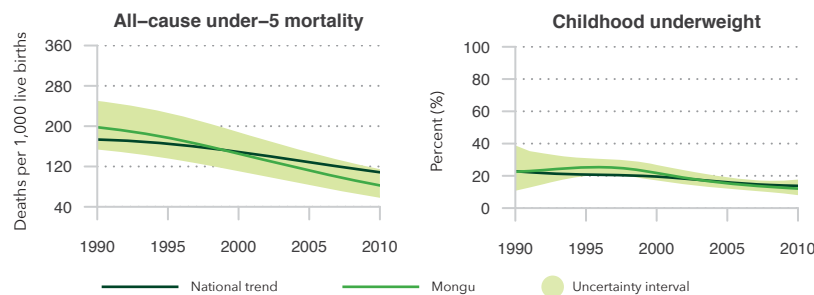
Mongu made substantial progress in reducing all-cause under-5 mortality, from levels above the national average in 1990 to among the lowest levels of under-5 mortality in Zambia in 2010. Childhood underweight also decreased, but not as dramatically. Prioritizing ways to maintain these rates of progress in child health outcomes should be considered.

Mongu rapidly scaled up ITN ownership and IRS, and its levels of IPTp2 coverage were some of the highest in Zambia in 2010. Mongu expanded coverage of the pentavalent vaccine, and routine immunization coverage was generally high. Exclusive breastfeeding coverage in Mongu consistently exceeded the national level.

However, amidst these gains, some troubling trends were identified and warrant further attention. Coverage of ITNs and IRS peaked before 2010, and skilled birth attendance was consistently low. While ANC4 was higher than the national average in 2010, coverage in Mongu declined substantially since the 1990s.

In 2010, Mongu met or exceeded national levels of coverage for all interventions, except for the pentavalent vaccine and skilled birth attendance. In comparison with the national average, Mongu had much lower levels of mortality and slightly lower levels of underweight.

CHILD HEALTH OUTCOMES

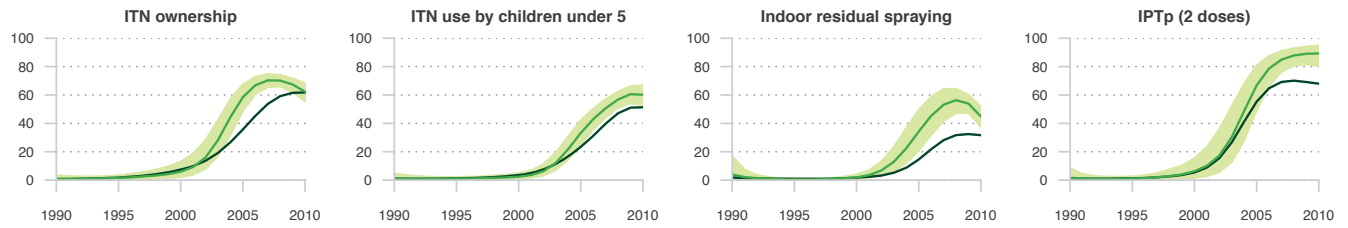


From 1990 to 2010, Mongu recorded a significant reduction in all-cause under-5 mortality, dropping 58% from 198 deaths per 1,000 live births in 1990 (95% CI: 156 to 248) to 83 in 2010 (95% CI: 60 to 113). In 2010, the district's under-5 mortality was much lower than the national average of 109 deaths per 1,000 live births (95% CI: 104 to 116), and was among the lowest in Zambia. This progress is particularly impressive

given that Mongu's under-5 mortality in 1990 was higher than the national average of 174 deaths per 1,000 live births (95% CI: 168 to 181).

The proportion of children who were underweight increased to 25% in the mid-1990s, but steadily decreased to a low of 12% in 2010 (95% CI: 9%, 17%), falling slightly below the national average of 14%.

MALARIA INTERVENTIONS



ITN ownership remained below 10% until 2002, after which coverage quickly increased to 70% in 2007 (95% CI: 65%, 75%). Coverage remained at 70% through 2008, but ownership decreased to 62% in 2010 (95% CI: 55%, 68%). This level of ITN ownership equaled the national average in 2010.

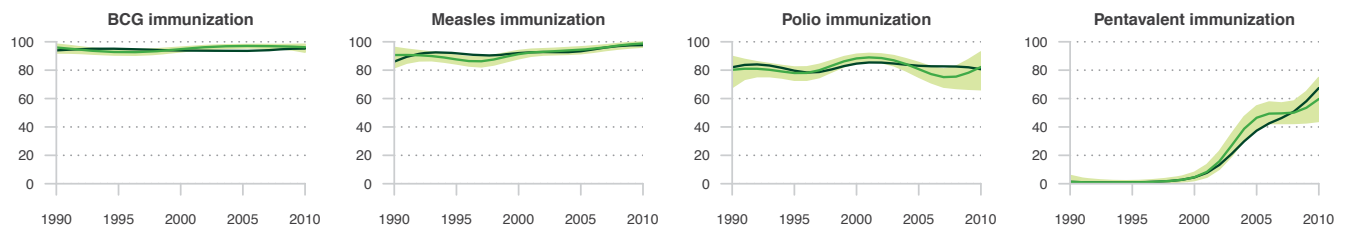
ITN use by children under 5 years old rose to 61% in 2009 (95% CI: 54%, 66%), but slipped to 60% in 2010 (95% CI: 53%, 67%). This level of ITN use in 2010 remained well above the national average of 51%. In 2010, the difference between ITN ownership and ITN use was quite low, which suggests that net use by children under 5 may be high

among households that have ITNs.

Mongu formally implemented IRS activities in 2008, and reached 56% of households that year (95% CI: 47%, 65%). While coverage decreased to 45% in 2010 (95% CI: 37%, 52%), this level of IRS was about average in comparison to other districts that also began IRS in 2008.

The proportion of pregnant women who received IPTp2 remained below 10% until 2001, after which coverage increased to 89% in 2009 (95% CI: 82%, 94%). IPTp2 remained at 89% through 2010, which was among the highest levels in Zambia for that year.

IMMUNIZATIONS



BCG immunization decreased from 96% in 1990 (95% CI: 92%, 98%) to 93% in the mid- to late 1990s, but increased to 96% in 2010 (95% CI: 93%, 98%), which was slightly higher than the national average of 95%.

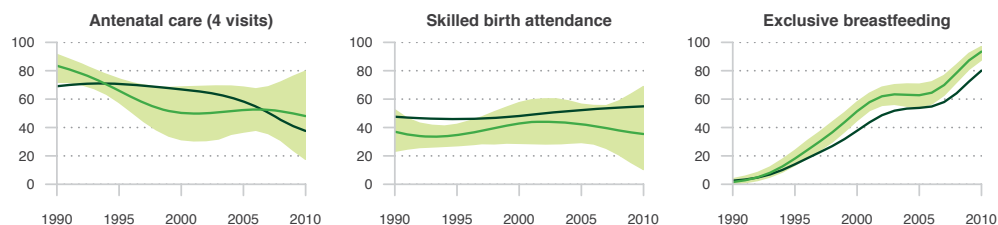
After slipping below 90% from 1994 to 1998, measles immunization steadily increased to 99% in 2010 (95% CI: 96%, 100%), which was slightly higher than the national average of 98%.

Coverage of polio immunization varied during the 1990s, rising above and falling below 80%, but reached 89% in the

early 2000s. Polio coverage then declined, dropping below 80% for a few years in the late 2000s before arriving at 82% in 2010 (95% CI: 66%, 93%). This level of coverage was comparable to the national average of 81%.

After the pentavalent vaccine was formally introduced in Mongu in 2005, coverage hovered around 50% through 2008 and then rose to 60% in 2010 (95% CI: 44%, 75%), which was below the national average of 67% for that year.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage declined from 83% in 1990 (95% CI: 72%, 91%) to 48% in 2010 (95% CI: 18%, 80%). While coverage in Mongu was higher than the national average of 37% in 2010, its levels remained quite low.

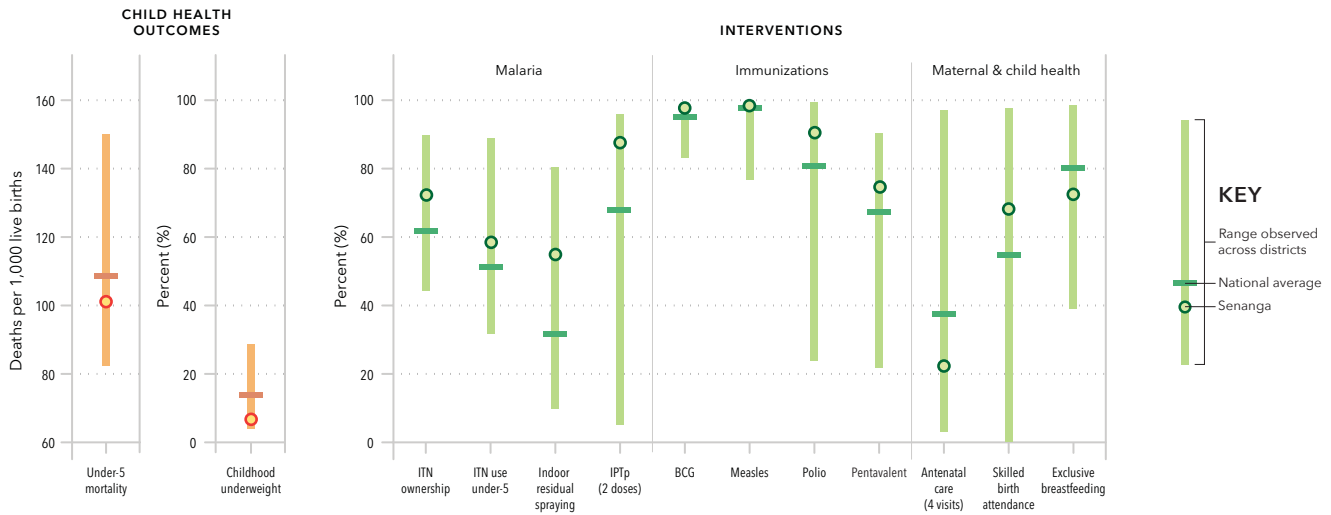
Skilled birth attendance increased from 34% during the mid-1990s to 44% in the early 2000s before declining to 35% in 2010 (95%: 10%, 69%). Mongu's SBA coverage was lower than the national average of 55% for 2010, and the district's consis-

tently low levels of skilled birth attendance are worrisome.

The proportion of children who were exclusively breastfed remained below 20% until 1996, after which coverage rapidly increased to 62% in 2002 (95% CI: 56%, 68%). Gains in coverage slowed for a few years, but exclusive breastfeeding then escalated to 93% in 2010 (95% CI: 88%, 97%) and far exceeded the national average of 80%.



Senanga



Note: Levels of child health outcomes and intervention coverage are for 2010. Better performance is reflected by lower levels of child health outcomes (orange) and higher levels of intervention coverage (green).

SUMMARY

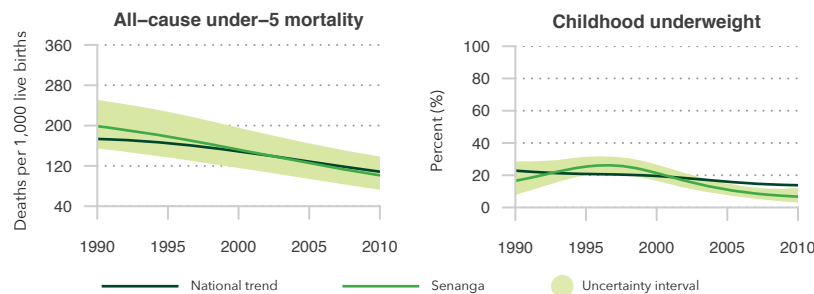
Senanga substantially reduced its all-cause under-5 mortality and childhood underweight between 1990 and 2010, bringing its levels of childhood underweight to among the lowest in Zambia in 2010. Prioritizing ways to maintain these rates of progress in child health outcomes should be considered.

High levels of malaria interventions were achieved in 2010, and Senanga successfully scaled up the pentavalent vaccine to higher levels than the national average. The district maintained high levels of routine immunizations, and saw steady progress in increasing skilled birth attendance.

However, amidst these gains, some worrisome trends were identified and warrant further attention. Exclusive breastfeeding remained below the national average in 2010, and ANC4 steadily decreased over time.

In 2010, Senanga met or exceeded national levels of coverage for malaria interventions and immunizations, but fell below national levels for maternal and child health interventions (with the exception of skilled birth attendance). In comparison with the national average, Senanga showed lower levels of mortality and much lower levels of underweight.

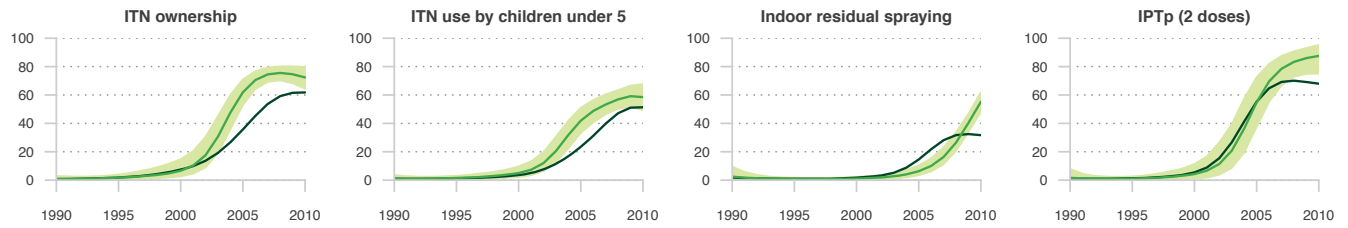
CHILD HEALTH OUTCOMES



From 1990 to 2010, Senanga recorded a significant reduction in all-cause under-5 mortality, dropping 49% from 199 deaths per 1,000 live births in 1990 (95% CI: 157, 249) to 101 in 2010 (95% CI: 74, 137). In 2010, the district's under-5 mortality was lower than the national level of 109 deaths per 1,000 live births (95% CI: 104, 116).

The proportion of children who were underweight increased from 17% in 1990 (95% CI: 9%, 28%) to 26% in the mid-1990s, but steadily declined to 7% in 2009 (95% CI: 4%, 11%) and remained at 7% through 2010. This level of underweight was well below the national average of 14% in 2010, and was among the lowest levels in Zambia that year.

MALARIA INTERVENTIONS



ITN ownership remained below 10% until 2001, after which coverage rapidly increased to 76% in 2008 (95% CI: 70%, 80%). Ownership slipped to 72% in 2010 (95% CI: 64%, 80%), but still far exceeded the national average of 62%.

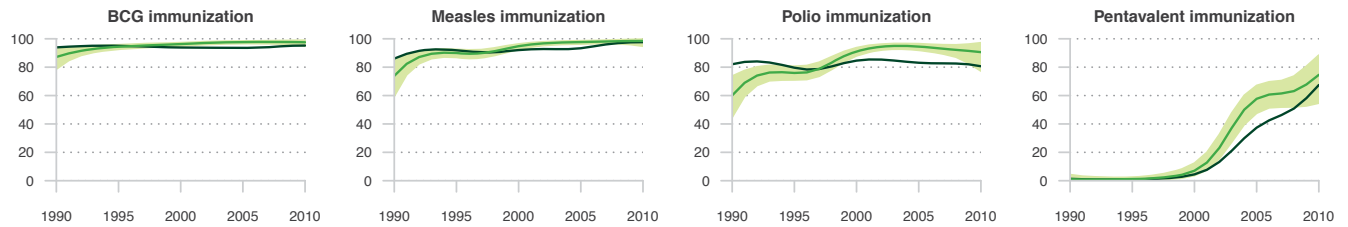
ITN use by children under 5 years old rose to 59% in 2009 (95% CI: 52%, 67%), but slipped to 58% in 2010 (95% CI: 49%, 68%). This level of ITN use was higher than the national average of 51% for 2010. The difference between ITN ownership and use (14 percentage points) was slightly higher than

what was observed nationally (11 percentage points) for 2010.

Senanga formally implemented IRS activities in 2008, and reached 55% of households in 2010 (95% CI: 48%, 62%). This scale-up of IRS was on the higher end compared to other districts that also began IRS in 2008.

The proportion of pregnant women who received IPTp2 remained below 10% until 2002, but rapidly increased to 88% in 2010 (95% CI: 75%, 95%). This level of IPTp2 coverage was among the highest in Zambia for 2010.

IMMUNIZATIONS



BCG immunization steadily increased from 87% in 1990 (95% CI: 79%, 93%) to 98% in 2004 (95% CI: 96%, 98%). This level of coverage was maintained through 2010, exceeding the national average of 95%.

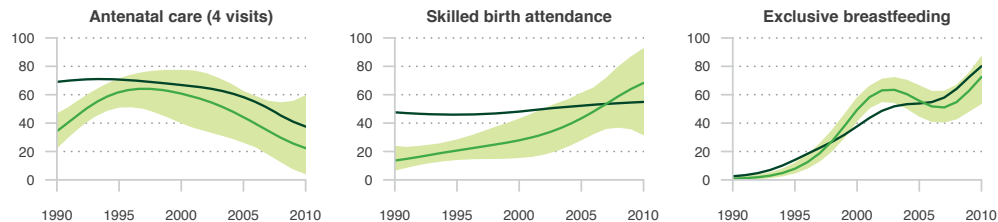
Measles immunization increased from 74% in 1990 (95% CI: 59%, 85%) to 98% in 2005 (95% CI: 96%, 99%). This level of coverage was sustained through 2010, equaling the national average.

Coverage of polio immunization rose from 60% in 1990

(95% CI: 45%, 74%) to 95% in the mid-2000s. Polio coverage slipped to 91% in 2009 (95% CI: 83%, 96%) and remained at 91% in 2010, which was higher than the national average of 81%.

After the pentavalent vaccine was formally introduced in Senanga in 2005, coverage increased to 61% in 2006 (95% CI: 51%, 70%) and 75% in 2010 (95% CI: 55%, 89%), which was higher than the national average of 67%.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage increased from 34% in 1990 (95% CI: 23%, 46%) to 64% in the mid-1990s, after which coverage declined to 22% in 2010 (95% CI: 5%, 59%). This level of ANC4 was lower than the national average of 37% in 2010, and the finding that Senanga's levels of coverage fell over 40 percentage points since 1998 is worrisome.

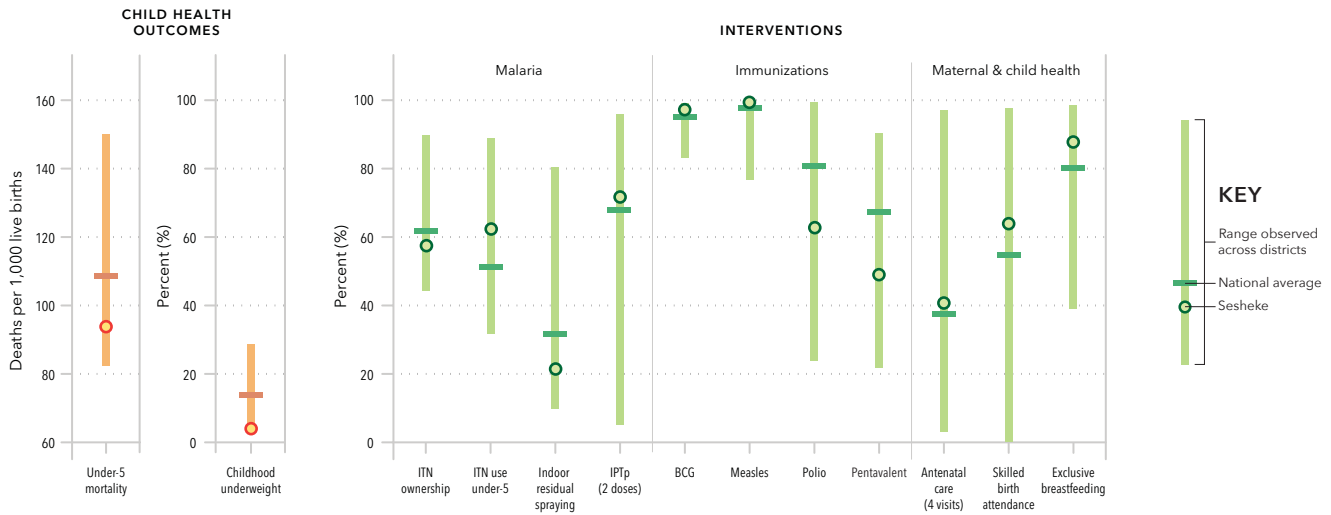
Skilled birth attendance steadily increased from 14% in 1990 (95% CI: 7%, 23%) to 68% in 2010 (95% CI: 32%, 92%), which was higher than the national average of 55%. Senanga's progress in expanding SBA coverage is notable given that the

district's levels of SBA were consistently well below the national trend from 1990 to 2000; however, the district should strive to further increase coverage.

The proportion of children who were exclusively breastfed remained below 20% until 1998, after which coverage rose to 63% in 2002 (95% CI: 55%, 71%). Gains in coverage then stalled, with exclusive breastfeeding falling to 51% in 2007 (95% CI: 41%, 62%), before rising to 73% in 2010 (95% CI: 54%, 86%). This level of coverage in 2010 was lower than the national average of 80%.



Sesheke



Note: Levels of child health outcomes and intervention coverage are for 2010. Better performance is reflected by lower levels of child health outcomes (orange) and higher levels of intervention coverage (green).

SUMMARY

Sesheke substantially reduced all-cause under-5 mortality and childhood underweight between 1990 and 2010, bringing both child health outcomes to some of the lowest levels in Zambia for 2010. Prioritizing ways to maintain these rates of progress in child health outcomes should be considered.

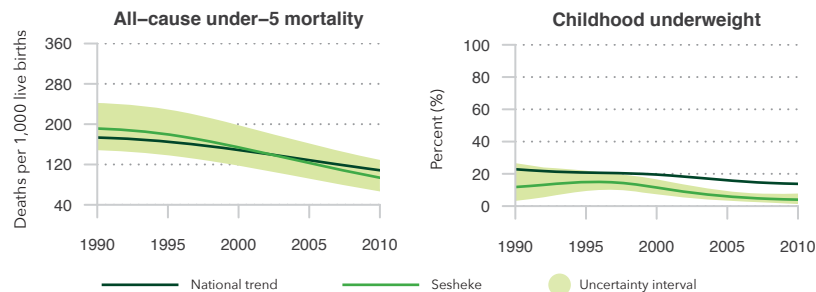
The district successfully scaled up IPTp2 and ITNs through 2010, and achieved particularly high levels of ITN use by children under 5 years old. Sesheke maintained high levels of BCG and measles immunization, and exclusive breastfeeding coverage also rose to high levels. Skilled birth attendance rebounded in 2010 after years of very low coverage.

However, amidst these gains, some troubling trends were identified and warrant further attention. The district made

marginal progress in increasing IRS coverage in 2010. The pentavalent vaccine was minimally scaled up in Sesheke, and polio immunization fell steeply in 2010, which is particularly worrying given that Sesheke is considered a high-risk district for polio importation. ANC4 coverage largely stagnated at low levels, and despite recent progress, SBA coverage remained lower than optimal.

In 2010, Sesheke exceeded national levels for maternal and child health interventions, but performed less consistently across malaria interventions and immunizations. In comparison with the national average, Sesheke showed much lower levels of mortality and underweight.

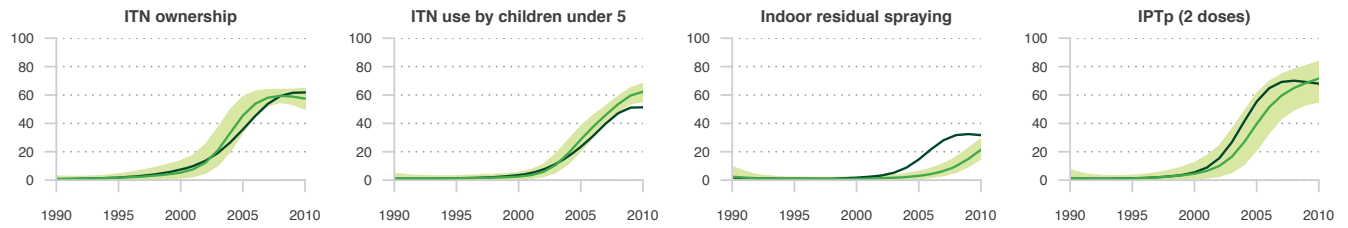
CHILD HEALTH OUTCOMES



From 1990 to 2010, Sesheke recorded a significant reduction in all-cause under-5 mortality, dropping 51% from 191 deaths per 1,000 live births in 1990 (95% CI: 150, 240) to 94 in 2010 (95% CI: 69, 127). In 2010, the district's under-5 mortality was much lower than the national average of 109 deaths per 1,000 live births (95% CI: 104, 116). Further, under-5 mortality in Sesheke was among the lowest in Zambia for 2010.

The proportion of children who were underweight slightly increased from 12% in 1990 (95% CI: 4%, 26%) to 15% in the mid-1990s, after which underweight decreased to 4% in 2008 (95% CI: 3%, 7%). This level of childhood underweight was sustained through 2010, falling well below the national average of 14% and among the lowest in Zambia for 2010.

MALARIA INTERVENTIONS



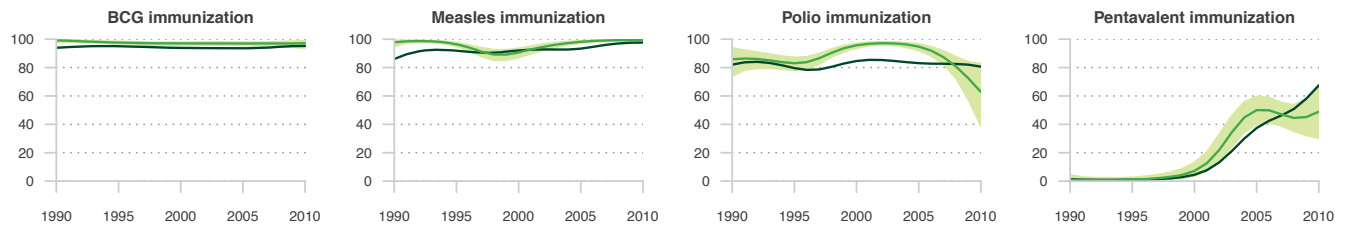
ITN ownership remained below 10% until 2002, after which coverage rapidly increased to 59% in 2008 (95% CI: 55%, 64%). Ownership slipped to 57% in 2010 (95% CI: 50%, 65%), which was lower than the national average of 62%.

ITN use by children under 5 years old quickly increased to 62% in 2010 (95% CI: 55%, 68%), which was much higher than the national average of 51%. In 2010, ITN use exceeded ITN ownership in Sesheke, which suggests that net use by children under 5 may be high among households that have ITNs.

Sesheke formally implemented IRS activities in 2010 and reached 21% of households that year (95% CI: 15%, 29%). This scale-up of IRS was on the lower end in comparison with other districts that also began IRS in 2010.

The proportion of pregnant women who received IPTp2 remained below 10% until 2002, after which coverage increased to 72% in 2010 (95% CI: 55%, 84%), exceeding the national average of 68%.

IMMUNIZATIONS



BCG immunization decreased from 99% in the early 1990s to 97% in 1996 (95% CI: 96%, 98%). This level of coverage was sustained through 2010, exceeding the national average of 95%.

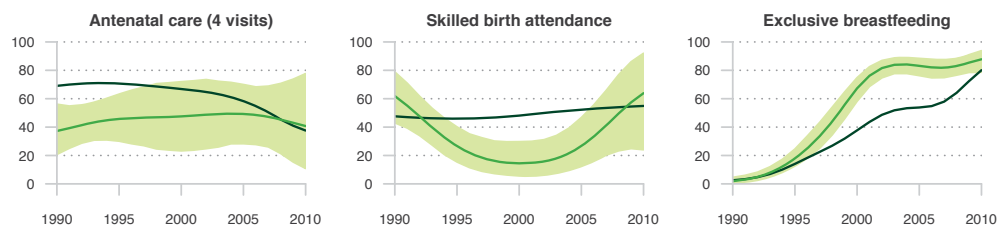
Measles immunization declined from 99% in the early 1990s to 89% in the late 1990s, but coverage recovered to 99% in 2006 (95% CI: 98%, 99%) and stayed at 99% through 2010. This level of measles coverage was slightly higher than the national average of 98% for 2010.

Despite a dip in coverage in the mid-1990s, polio immunization increased from 86% in the early 1990s to 97% in

the early 2000s. Coverage then declined, steadily dropping to 63% in 2010 (95% CI: 39%, 83%) and falling below the national average of 81%. Sesheke is considered a high-risk district for polio importation from neighboring countries, so addressing the district's faltering levels of polio coverage is likely to be important.

After the pentavalent vaccine was formally introduced in Sesheke in 2005, coverage hovered around 50%, and was at 49% in 2010 (95% CI: 30%, 68%). This level of pentavalent coverage was below the national average of 67% for 2010, and was among the lowest in Zambia for that year.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage gradually increased from 37% in 1990 (95% CI: 21%, 56%) to 49% in the early and mid-2000s, but dipped to 41% in 2010 (95% CI: 11%, 78%). Sesheke's ANC4 coverage was slightly higher than the national average of 37% for 2010, but the district's consistently low levels of ANC4 between 1990 and 2010 are cause for concern.

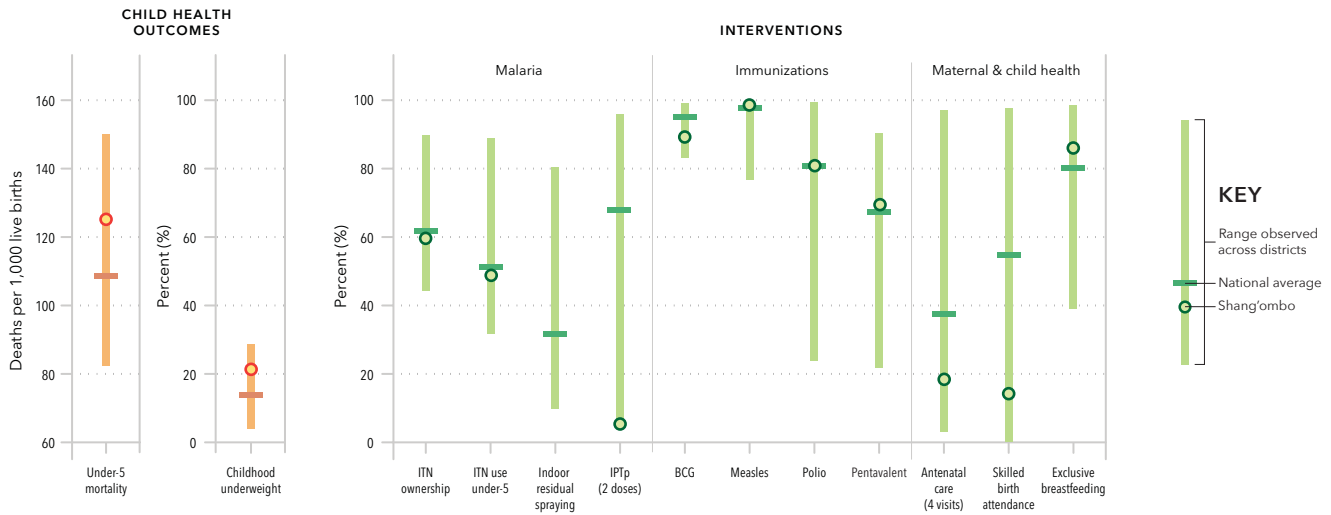
Skilled birth attendance steeply fell from 62% in 1990 (95% CI: 43%, 79%) to 14% in 2000 (95% CI: 6%, 30%), but re-

bounded to 64% in 2010 (95% CI: 24%, 92%). Sesheke's level of SBA was higher than the national average of 55% in 2010.

The proportion of children who were exclusively breastfed remained below 20% until 1996, after which coverage quickly increased to 84% in 2003 (95% CI: 78%, 89%). Gains in coverage stalled during the mid-2000s, but exclusive breastfeeding climbed to 88% in 2010 (95% CI: 79%, 94%) and exceeded the national average of 80% for that year.



Shang'ombo



Note: Levels of child health outcomes and intervention coverage are for 2010. Better performance is reflected by lower levels of child health outcomes (orange) and higher levels of intervention coverage (green). IRS coverage was not included because Shang'ombo started IRS after 2010.

SUMMARY

Shang'ombo substantially reduced its all-cause under-5 mortality between 1990 and 2010, but its mortality levels still remained among the highest in Zambia in 2010. The proportion of children who were underweight increased from 2005 to 2010. Prioritizing ways to accelerate gains for these child health outcomes should be considered.

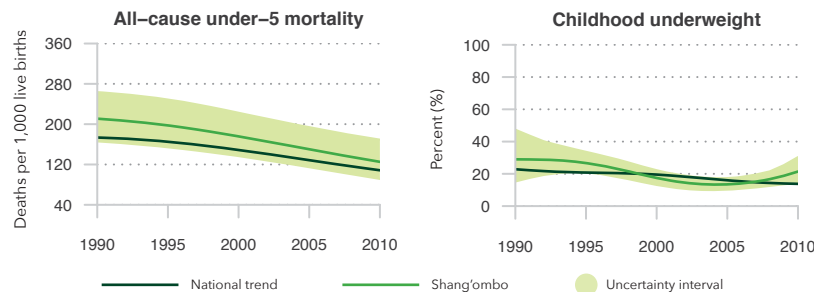
ITN ownership and use was scaled up in Shang'ombo, as was coverage of the pentavalent vaccine. Exclusive breastfeeding exceeded national levels in 2010, after recovering from a period of decline in the mid-2000s. Measles coverage remained high in Shang'ombo, and polio immunization was close to the national average in 2010.

However, amidst these gains, several troubling trends

were identified and warrant further attention. IPTp2 coverage had a minimal scale-up, falling to some of the lowest levels in Zambia for 2010. BCG coverage registered well below the national average in 2010. Skilled birth attendance stayed at very low levels, and alarmingly, ANC4 coverage dropped sharply to among the lowest in the country.

In 2010, Shang'ombo met or exceeded national levels for immunizations (except for BCG coverage), but equaled or fell below the national average for malaria interventions and maternal and child health interventions (aside from exclusive breastfeeding). In comparison with the national average, Shang'ombo showed much higher levels of mortality and underweight.

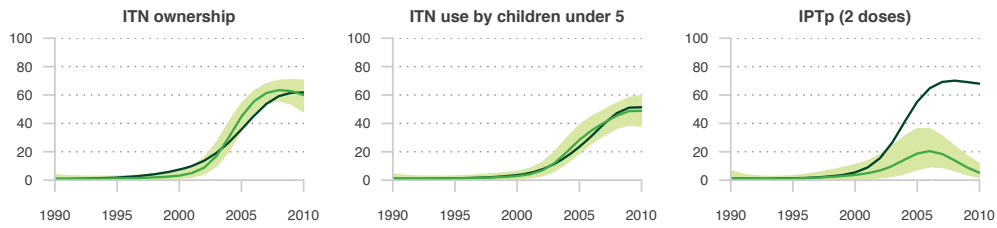
CHILD HEALTH OUTCOMES



From 1990 to 2010, Shang'ombo recorded a significant reduction in all-cause under-5 mortality, dropping 41% from 211 deaths per 1,000 live births in 1990 (95% CI: 166, 264) to 125 in 2010 (95% CI: 91, 169). Nonetheless, the district's under-5 mortality in 2010 was much higher than the national average of 109 deaths per 1,000 live births (95% CI: 104, 116) and was among the highest in Zambia for that year.

The proportion of children who were underweight decreased from 29% in 1990 (95% CI: 15%, 47%) to 13% in the mid-2000s, but increased to 21% in 2010 (95% CI: 14%, 30%), exceeding the national average of 14%. Shang'ombo also had one of the highest levels of underweight in Zambia for 2010. This trend in rising levels of childhood underweight is cause for concern, especially after Shang'ombo made such progress during the 1990s and early 2000s.

MALARIA INTERVENTIONS



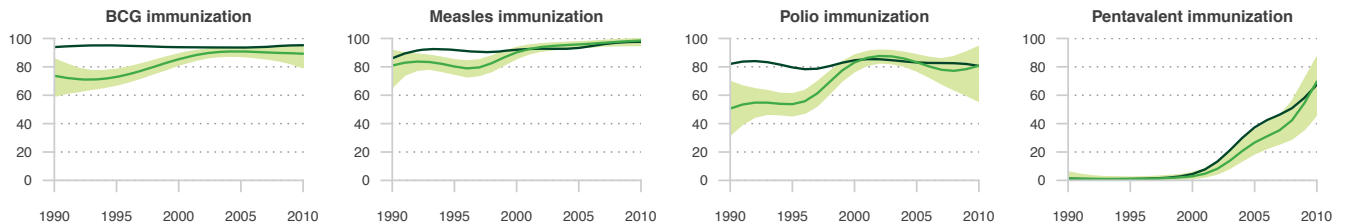
ITN ownership remained below 10% until 2003, after which coverage increased to 63% in 2008 (95% CI: 56%, 70%). Ownership slipped to 60% in 2010 (95% CI: 48%, 70%), which was slightly lower than the national average of 62%.

ITN use by children under 5 years old rose to 49% in 2009 (95% CI: 39%, 58%) and remained at 49% through 2010, falling slightly lower than the national average of 51%. The difference between ITN ownership and use (11 percentage points) in Shang’ombo was comparable to what was observed at the national level.

IRS coverage trends are not included because Shang’ombo did not begin formal IRS activities until after 2010.

The proportion of pregnant women who received IPTp2 remained below 10% until 2003, after which coverage increased to 20% in 2006 (95% CI: 9%, 36%). Nonetheless, this rise was dramatically lower than the rapid scale-up of IPTp2 documented at the national level, with coverage reaching 65% in 2006. In Shang’ombo, IPTp2 coverage fell after 2006, eventually dropping to 5% in 2010 (95% CI: 2%, 11%), which was one of the lowest levels in the country for 2010.

IMMUNIZATIONS



BCG immunization increased from 71% in the early 1990s to 91% during the mid-2000s, but declined to 89% in 2010 (95% CI: 80%, 95%), which was one of the lowest levels in Zambia.

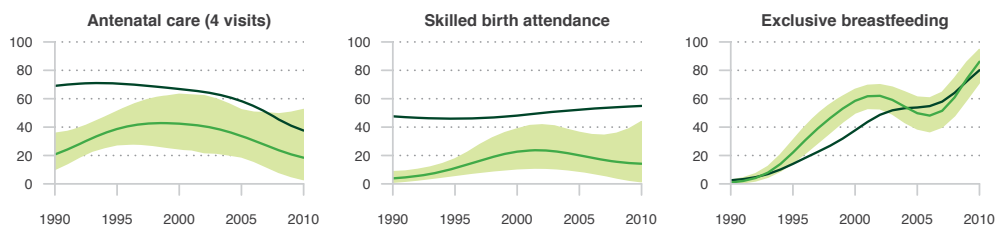
Measles immunization wavered around 80% in the 1990s before rising to 90% in 2000 (95% CI: 86%, 94%). Measles coverage continued to climb, reaching 99% in 2010 (95% CI: 95%, 100%) and slightly exceeding the national average of 98%.

Coverage of polio immunization was very low during the early to mid-1990s, falling below 60%, but steadily increased to 88% in 2002 (95% CI: 83%, 92%). Polio coverage dropped

below 80% again for a period in the late-2000s before rising to 81% in 2010 (95% CI: 56%, 94%) and equaling the national average for that year. Shang’ombo is considered a high-risk district for polio importation from neighboring countries, so prioritizing efforts to increase and maintain high levels of immunization coverage in the district is likely to be important.

After the pentavalent vaccine was formally introduced in Shang’ombo in 2005, coverage increased to 31% in 2006 (95% CI: 23%, 41%) and 70% in 2010 (95% CI: 46%, 87%), slightly exceeding the national average of 67%.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage increased from 21% in 1990 (95% CI: 10%, 36%) to 43% in the late 1990s, but steadily decreased to 18% in 2010 (95% CI: 3%, 52%), falling below the national average of 37%. The district’s consistently low levels of ANC4 coverage, coupled with its recent declines, are worrisome.

Skilled birth attendance remained below 10% until 1995, after which coverage increased slightly to 24% in the early 2000s. SBA then decreased, dropping to 14% in 2010 (95% CI:

2%, 44%) and falling well below the national average of 55%.

The proportion of children who were exclusively breastfed remained below 20% until 1995, after which coverage rose to 62% in 2001 (95% CI: 53%, 69%). Exclusive breastfeeding coverage then declined for a period, dropping to 48% in 2006 (95% CI: 37%, 60%), but then climbed to 86% in 2010 (95% CI: 71%, 95%), which was higher than the national average of 80%.