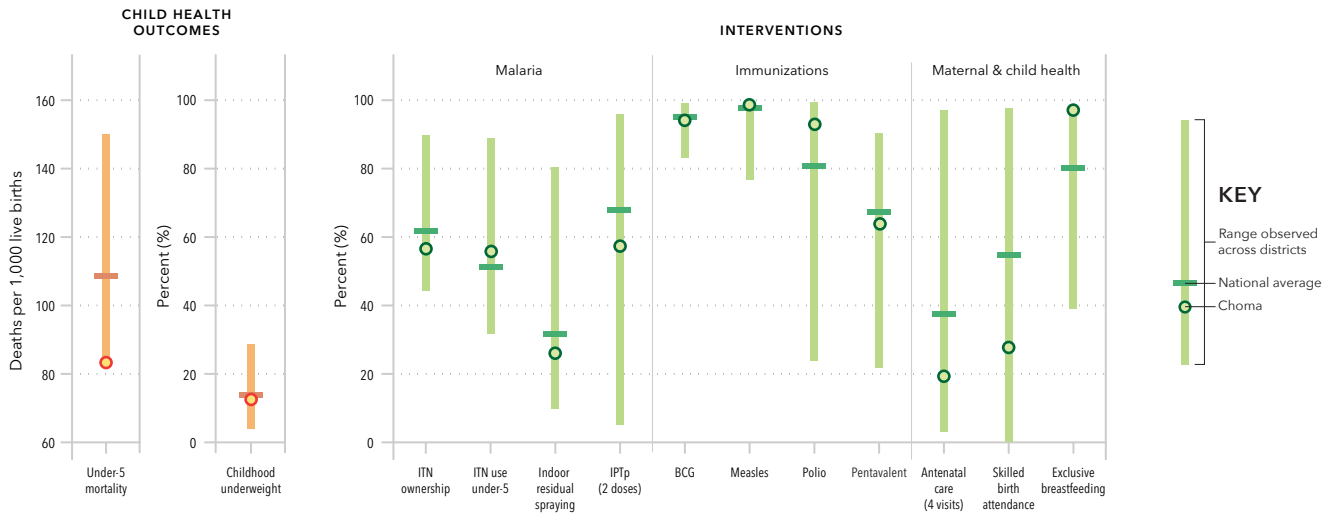


Southern province



Choma



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

By 2010, all-cause under-5 mortality in Choma substantially decreased to among the lowest levels in Zambia. There was a more moderate decrease in childhood underweight from 1990 to 2010. Prioritizing ways to further accelerate gains for child health outcomes in the district should be considered.

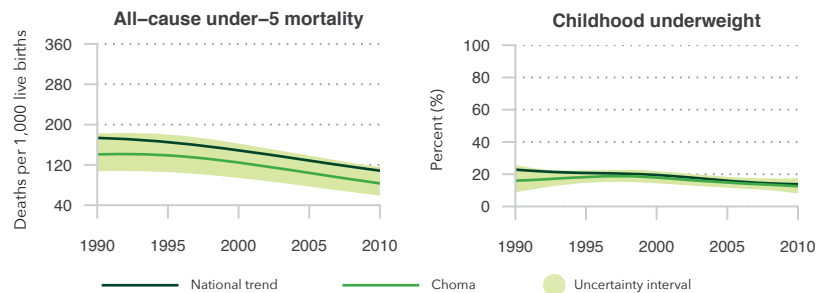
The district expanded coverage of the pentavalent vaccine after a period of slow gains, and exclusive breastfeeding coverage was among the highest in Zambia in 2010. Polio and measles immunization coverage also rose to high levels.

Amidst these gains, however, some troubling trends were identified and warrant further attention. IPTp2 coverage

largely stagnated during the late 2000s, and most malaria interventions decreased. Skilled birth attendance remained at very low levels, and after sustaining moderately high levels in the early 1990s, ANC4 coverage drastically declined.

In 2010, Choma generally met or exceeded the national average for immunizations (except for the pentavalent vaccine), but fell below the national average for malaria and MCH interventions; exclusive breastfeeding was the stark exception. Choma showed much lower levels of mortality and comparable levels of underweight relative to the national average.

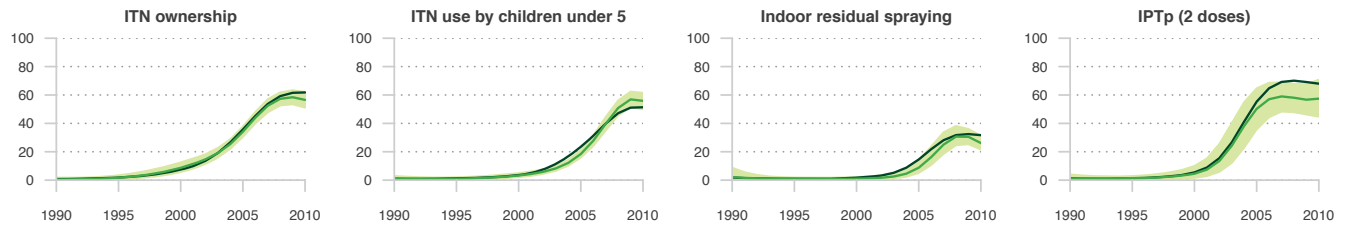
CHILD HEALTH OUTCOMES



From 1990 to 2010, Choma recorded a significant reduction in all-cause under-5 mortality, dropping 41% from 141 deaths per 1,000 live births in 1990 (95% CI: 109, 180) to 83 in 2010 (95% CI: 61, 114). 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), and was among the lowest in Zambia.

Childhood underweight increased from 16% in the early 1990s to 19% in the late 1990s. Prevalence then fell to 13% in 2008 (95% CI: 11%, 17%) and remained at this level through 2010. This level of underweight was comparable to the national average of 14% for 2010, but the district's progress lagged behind that seen at the national level.

MALARIA INTERVENTIONS



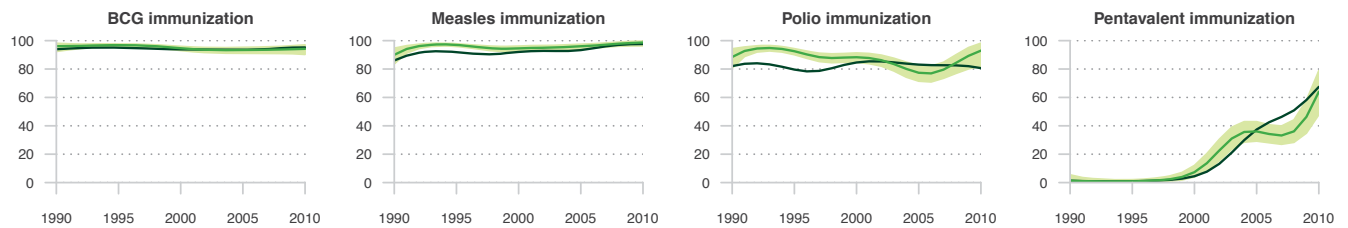
ITN ownership remained below 10% until 2001, after which coverage rapidly rose to 58% in 2009 (95% CI: 53%, 62%). ITN ownership slipped slightly in 2010, falling to 57% (95% CI: 51%, 62%) and below the national average of 62%.

ITN use by children under 5 years old rapidly increased to 57% in 2009 (95% CI: 51%, 62%) before slipping to 56% in 2010 (95% CI: 50%, 62%), which remained higher than the national average of 51%. In 2010, the difference between ITN ownership and ITN use was quite low in Choma, which suggests that net use by children under 5 may be high among households that have ITNs.

Choma formally implemented IRS activities in 2008, reaching 31% of households that year (95% CI: 25%, 38%). IRS coverage decreased to 26% in 2010 (95% CI: 22%, 31%), which left Choma on the lower end among the other districts that also began IRS in 2008.

The proportion of pregnant women who received IPTp2 remained below 10% until 2002, but rapidly rose to 59% in 2007 (95% CI: 48%, 69%). IPTp2 coverage then stagnated, falling slightly to 57% in 2010 (95% CI: 45%, 71%) and below the national average of 68%.

IMMUNIZATIONS



BCG immunization declined from 97% during the mid- to late 1990s to 93% in the mid-2000s. BCG coverage was at 94% from 2007 to 2010, falling slightly lower than the national average of 95%.

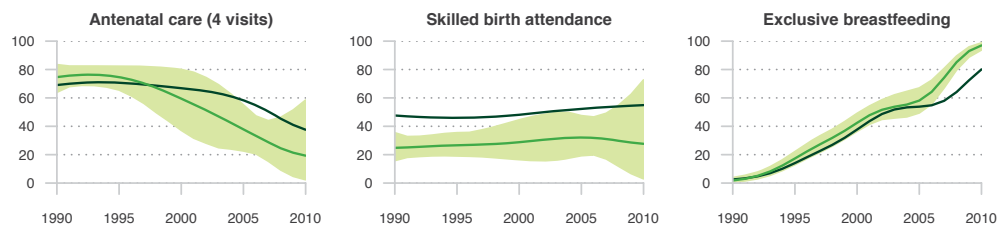
After rising from 90% in 1990 (95% CI: 84%, 95%), measles immunization remained between 94% and 97% until 2007. In 2010, coverage increased to 99% (95% CI: 96%, 100%), which was slightly higher than the national average of 98%.

Polio coverage declined from 95% in 1993 (95% CI: 93%,

96%) to 77% in 2005 and 2006. Polio immunization then rebounded, rising to 93% in 2010 (95% CI: 82%, 98%) and far exceeding the national average of 81% for that year.

After the pentavalent vaccine was formally introduced in Choma in 2005, coverage hovered between 33% and 36% through 2008, and then jumped to 64% in 2010 (95% CI: 48%, 79%). This was a slightly lower level of pentavalent coverage than the national average of 67% in 2010.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage decreased from 76% in the early 1990s to 19% in 2010 (95% CI: 2%, 58%), which was lower than the national average of 37% for 2010. ANC4 decreased dramatically throughout Zambia from 1990 to 2010, and the finding that the district's ANC4 coverage fell nearly 60 percentage points during this time is worrisome.

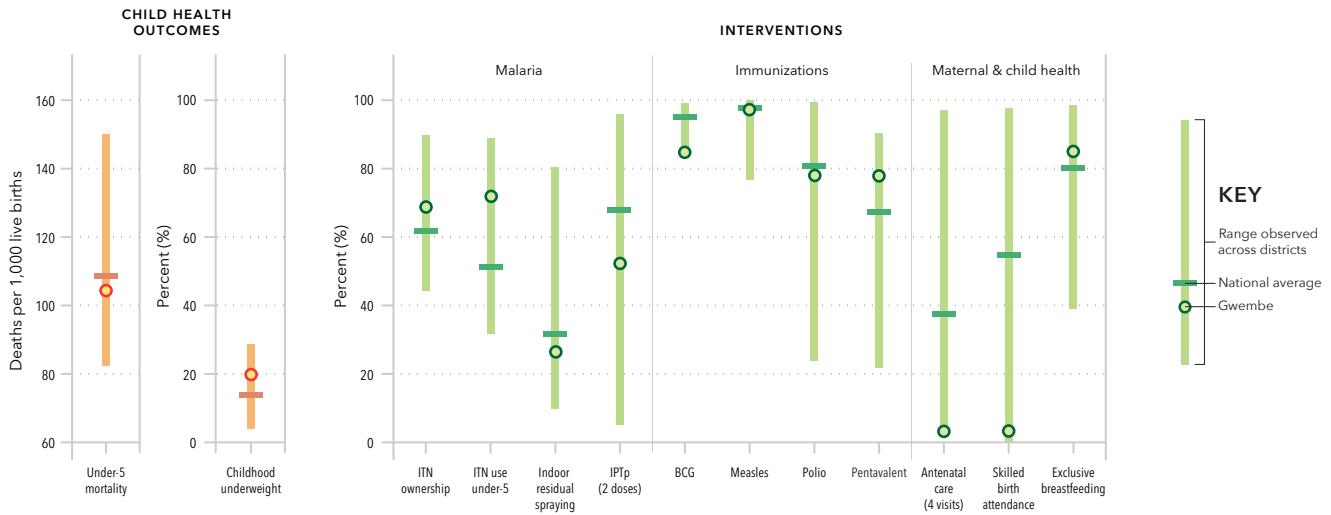
Skilled birth attendance remained between 25% and 32%

from 1990 to 2010. SBA coverage was 28% in 2010 (95% CI: 3%, 73%), which was lower than the national average of 55%.

The proportion of children who were exclusively breastfed remained below 20% until 1996, after which coverage rapidly rose to 97% in 2010 (95% CI: 94%, 99%). In 2010, Choma's level of exclusive breastfeeding was much higher than the national average of 80%, and was among the highest in Zambia.



Gwembe



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, Gwembe reduced its all-cause under-5 mortality and levels of child underweight, but the latter actually increased during the 2000s. Prioritizing efforts to further accelerate gains for child health outcomes, especially underweight, should be considered.

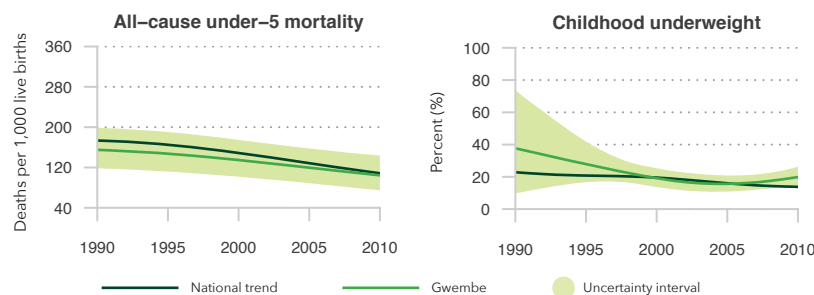
Gwembe rapidly scaled up ITN coverage, particularly ITN use. After periods of slower gains or stagnation, the district expanded coverage of the pentavalent vaccine and exclusive breastfeeding in 2010. Measles coverage remained high after a dip in coverage during the late 1990s.

Amidst these gains, however, several troubling trends were identified and warrant further attention. The scale-up of IPTp2 largely lagged behind the national trend, and BCG

immunization abruptly fell in 2010. Skilled birth attendance dropped substantially, and most alarmingly, ANC4 plummeted from very high levels in the 1990s to extremely low coverage in 2010.

In 2010, Gwembe generally met or exceeded the national average for immunizations, but generally fell well below the national average for maternal and child health interventions; exclusive breastfeeding was the stark exception. For malaria interventions, Gwembe had a more mixed performance. In comparison with the national average, Gwembe showed slightly lower levels of mortality and higher levels of childhood underweight.

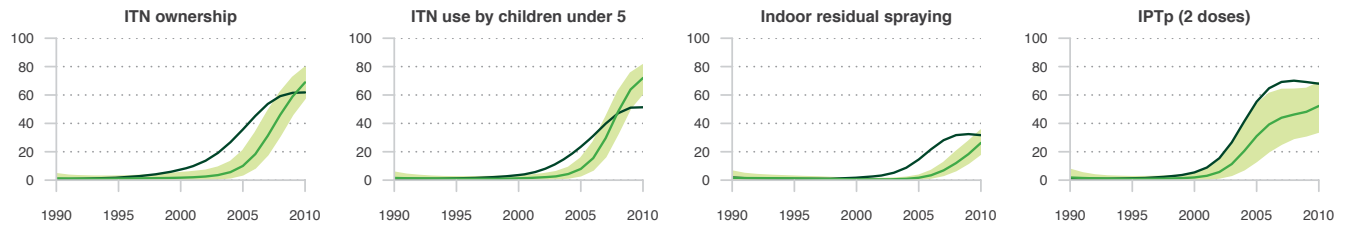
CHILD HEALTH OUTCOMES



From 1990 to 2010, Gwembe recorded a reduction in all-cause under-5 mortality, dropping 33% from 155 deaths per 1,000 live births in 1990 (95% CI: 121, 197) to 104 in 2010 (95% CI: 76, 142); however, this decline was not statistically significant. In 2010, the district's under-5 mortality was slightly lower than the national average of 109 deaths per 1,000 live births (95% CI: 104, 116).

The proportion of children who were underweight decreased from 38% in 1990 (95% CI: 10%, 73%) to 16% from 2003 to 2006. Underweight increased during the mid-2000s, rising to 20% in 2010 (95% CI: 15%, 26%) and exceeding that year's national average of 14%. Despite its overall decline in underweight, the district's recent rise is troubling and warrants further attention.

MALARIA INTERVENTIONS



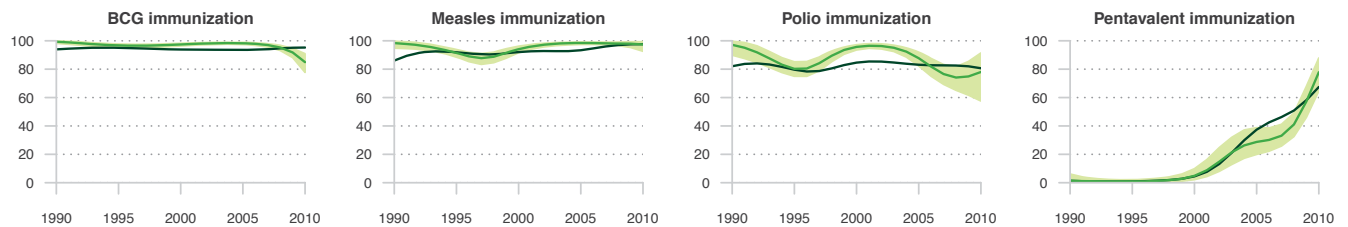
ITN ownership remained below 10% until 2005, after which coverage rapidly rose to 69% in 2010 (95% CI: 58%, 79%) and exceeded the national average of 62% for that year.

ITN use by children under 5 years old quickly rose to 72% in 2010 (95% CI: 61%, 81%), which was among the highest in the country. 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.

Gwembe formally implemented IRS activities in 2010, and reached 26% of households that year (95% CI: 19%, 35%). This scale-up of IRS was on the lower end compared to other districts that also began IRS in 2010.

The proportion of pregnant women who received IPTp2 remained below 10% until 2003, but rose to 46% in 2008 (95% CI: 30%, 64%). Gains in IPTp2 coverage slowed, reaching 52% in 2010 (95% CI: 34%, 69%) and falling below the national average of 68% for that year.

IMMUNIZATIONS



BCG immunization remained between 97% and 99% until 2008, after which coverage abruptly fell to 85% in 2010 (95% CI: 78%, 91%) and dropped to among the lowest levels in Zambia.

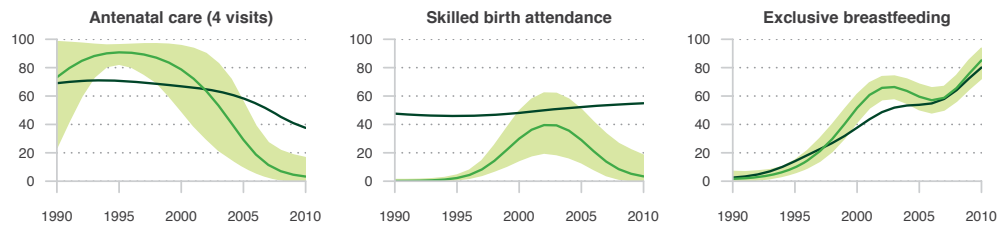
Measles immunization fell from 98% in the early 1990s to 88% in 1997 (95% CI: 83%, 91%), before steadily rising to 98% during the mid- to late 2000s. Coverage slipped to 97% in 2010 (95% CI: 93%, 99%), which was slightly lower than the national average of 98% for that year.

Polio coverage largely varied in the 1990s, falling from

97% in 1990 (95% CI: 90%, 100%) to 80% in 1995 and 1996 before rising well above 90% during the early and mid-2000s. Polio immunization dropped below 80% in the late 2000s, falling to 78% in 2010 (95% CI: 58%, 91%), which was slightly lower than the national average of 81%.

After the pentavalent vaccine was formally introduced in Gwembe in 2005, coverage increased to 30% in 2006 (95% CI: 22%, 39%) and 78% in 2010 (95% CI: 65%, 88%), which was higher than the national average of 67% for that year.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage increased to 90% or higher during the mid-1990s, but plunged to 3% in 2010 (95% CI: 0%, 17%), which was among the lowest levels of ANC4 in the country. ANC4 dramatically decreased throughout Zambia from 1990 to 2010, but the magnitude of Gwembe's decline during this time (88 percentage points) is quite alarming.

Skilled birth attendance increased to 40% in 2002 (95% CI: 20%, 62%), but quickly dropped to 3% in 2010 (95% CI:

0%, 18%), falling to among the lowest levels in Zambia. This finding is particularly troubling given the national trend of steady gains in SBA coverage.

The proportion of children who were exclusively breastfed rapidly increased from 15% in 1996 (95% CI: 9%, 21%) to 66% in 2002 (95% CI: 58%, 74%), but fell below 60% from 2006 to 2007. Coverage increased to 85% in 2010 (95% CI: 72%, 94%), exceeding the national average of 80%.



Itezhi-tezhi



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

Itezhi-tezhi substantially reduced all-cause under-5 mortality and childhood underweight from 1990 to 2010. However, most of the declines in underweight took place during the 1990s, with minimal improvement in the 2000s. Prioritizing ways to further accelerate gains for child health outcomes, especially childhood underweight, should be considered.

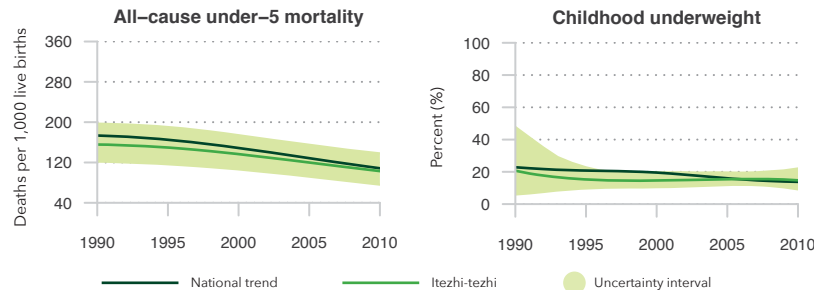
Malaria interventions generally were scaled up to levels higher than the national average, especially for ITN ownership. The district expanded coverage of the pentavalent vaccine to levels well above the national average in 2010. Exclusive breastfeeding reached some of the highest levels in Zambia, and high levels of measles immunization were maintained.

Amidst these gains, however, several troubling trends were identified and warrant further attention. IPT2 coverage

fell from its peak during the mid-2000s, and BCG coverage slipped below the national average in 2010. After years of high coverage, polio immunization substantially declined during the late 2000s. Skilled birth attendance declined to even lower levels, and most alarmingly, ANC4 plunged from very high coverage in the 1990s to some of the lowest levels in Zambia.

In 2010, Itezhi-tezhi generally met or exceeded the national average for malaria interventions and immunizations (with the exception of polio coverage), but fell well below the national average for maternal and child health interventions; exclusive breastfeeding was the stark exception. In comparison with the national average, Itezhi-tezhi showed slightly lower levels of mortality and similar levels of childhood underweight.

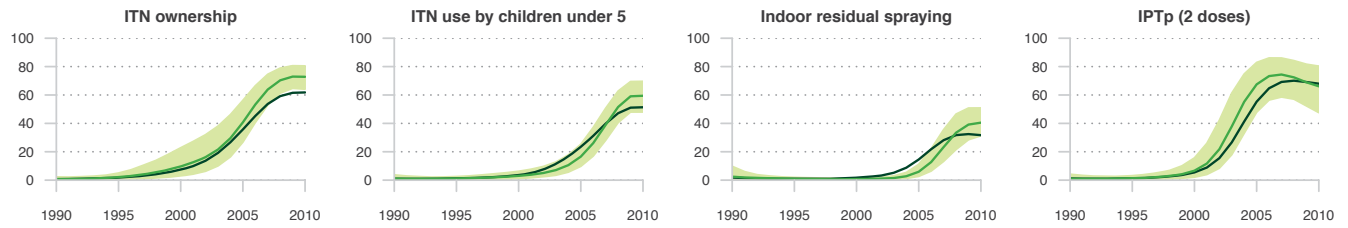
CHILD HEALTH OUTCOMES



From 1990 to 2010, Itezhi-tezhi recorded a significant reduction in all-cause under-5 mortality, dropping 34% from 156 deaths per 1,000 live births in 1990 (95% CI: 122, 197) to 103 in 2010 (95% CI: 76, 138). In 2010, the district's under-5 mortality was slightly lower than the national average of 109 deaths per 1,000 live births (95% CI: 104, 116).

The proportion of children who were underweight decreased from 21% in 1990 (95% CI: 6%, 48%) to 15% in 1995 (95% CI: 10%, 23%). Underweight hovered around 15% through 2010, which was comparable to the national average of 14%. The district's lack of overall progress between 1995 and 2010 is worrisome.

MALARIA INTERVENTIONS



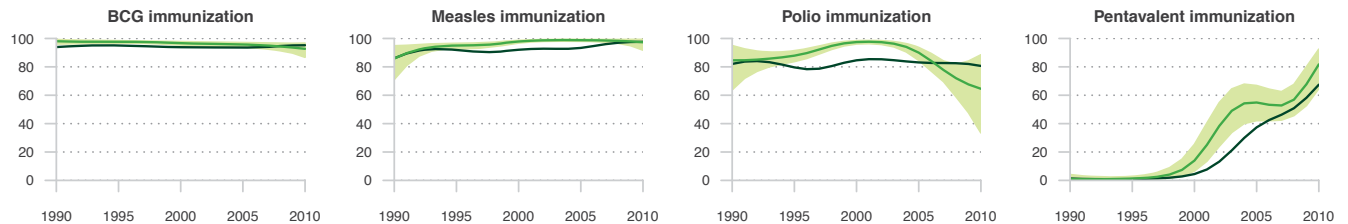
ITN ownership remained below 10% until 2001, after which coverage rapidly rose to 73% in 2009 (95% CI: 65%, 81%). Coverage was sustained at this level through 2010, far surpassing the national average of 62%.

The use of ITNs by children under 5 years old increased to 59% in 2009 (95% CI: 48%, 69%). This level of ITN use was sustained through 2010, exceeding the national average of 51%. The difference between ITN ownership and use (14 percentage points) was slightly higher than what was observed at the national level (11 percentage points) for 2010.

Itezhi-tezhi formally implemented IRS activities in 2010 and reached 41% of households that year (95% CI: 31%, 51%). This scale-up of IRS was on the higher end among other districts that also began IRS in 2010.

The proportion of pregnant women who received IPTp2 remained below 10% until 2001 but rapidly rose to 74% in 2007 (95% CI: 59%, 86%). IPTp2 coverage faltered, declining to 66% in 2010 (95% CI: 48%, 80%) and falling slightly lower than the national average of 68%.

IMMUNIZATIONS



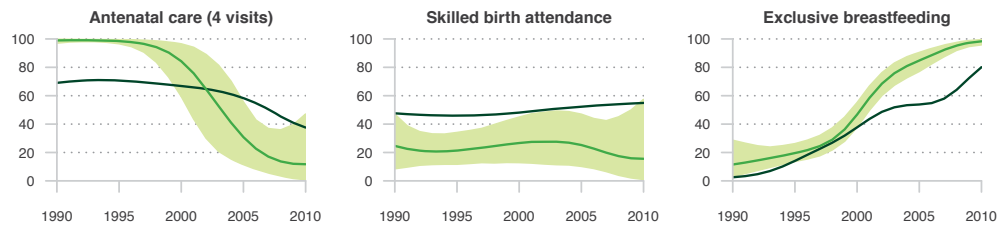
BCG immunization remained between 97% and 98% from 1990 to 2000, after which coverage declined to 93% in 2010 (95% CI: 87%, 97%) and fell lower than the national average of 95%.

Measles immunization rose from 86% in 1990 (95% CI: 71%, 95%) to 99% in 2002 (95% CI: 98%, 99%), which was sustained through 2007. Measles coverage slipped to 97% in 2010 (95% CI: 92%, 99%), which was slightly lower than the national average of 98%.

Coverage of polio immunization increased from 85% in the early 1990s to 98% in 2001 (95% CI: 96%, 99%), after which coverage steadily declined to 65% in 2010 (95% CI: 33%, 88%) and fell below the national average of 81%.

After the pentavalent vaccine was formally introduced in Itezhi-tezhi in 2005, coverage hovered around 60% for several years before it climbed to 82% in 2010 (95% CI: 65%, 92%). Itezhi-tezhi achieved a higher level of pentavalent coverage than the national average of 67% in 2010.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage remained between 98% and 99% from 1990 to 1996, but steeply dropped to 12% in 2009 (95% CI: 2%, 39%). ANC4 remained at 12% through 2010, which was among the lowest levels in Zambia for 2010. ANC4 dramatically decreased throughout Zambia from 1990 to 2010, and the finding that Itezhi-tezhi's coverage declined more than 80 percentage points during this time is quite alarming.

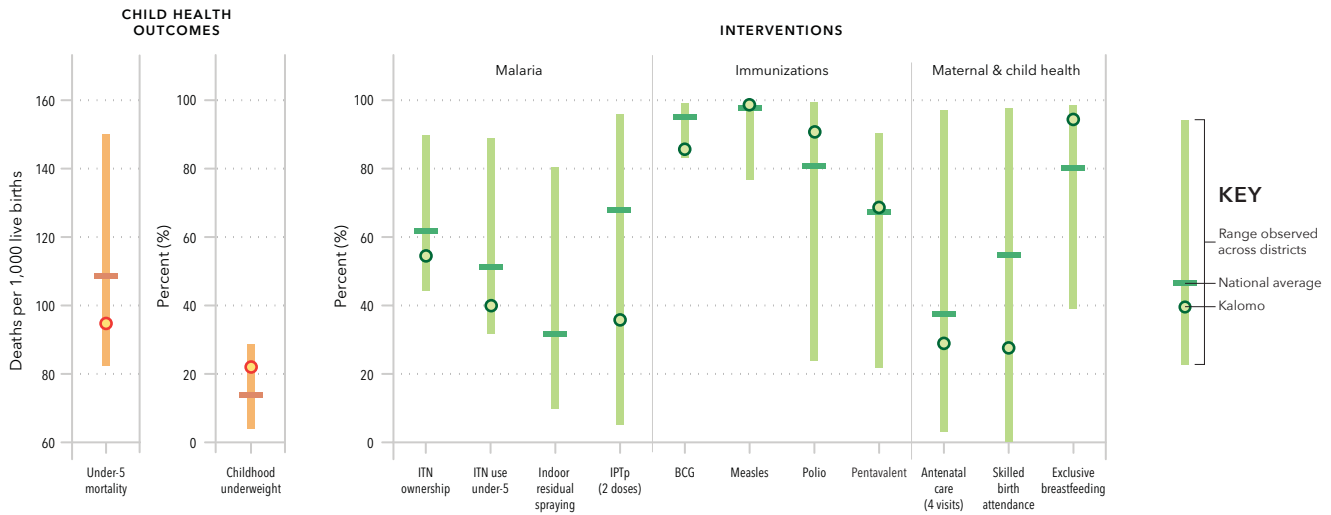
Skilled birth attendance gradually declined from 25% in 1990 (95% CI: 9%, 47%) to 16% in 2009 (95% CI: 2%, 50%). SBA

coverage remained at 16% through 2010, which was much lower than the national average of 55%. The district's consistently low rates of skilled birth attendance are cause for concern.

The proportion of children who were exclusively breastfed remained below 20% until 1995, after which coverage climbed to 81% in 2004 (95% CI: 73%, 87%). Coverage continued to increase, though at a slower pace, reaching 98% in 2010 (95% CI: 96%, 99%) and rising to among the highest levels in the country.



Kalomo



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 Kalomo started IRS after 2010.

SUMMARY

Kalomo substantially reduced all-cause under-5 mortality between 1990 and 2010, bringing its levels to among the lowest in Zambia in 2010. The district's prevalence of childhood underweight increased in recent years, offsetting its progress during the early 2000s. Prioritizing ways to address this worrisome trend should be considered.

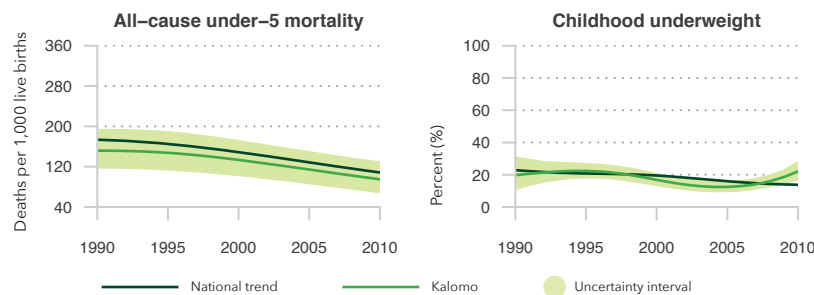
Kalomo successfully brought up coverage of the pentavalent vaccine to national levels after a period of stalled progress. Measles and polio immunization reached high levels in 2010, and exclusive breastfeeding coverage was consistently high in the 2000s.

Amidst these gains, however, some troubling trends were identified and warrant further attention. ITN ownership and

ITN use were much lower than the national average in 2010, and Kalomo had a marginal scale-up of IPTp2 coverage. BCG immunization abruptly fell in recent years, and skilled birth attendance remained at very low levels. Most alarmingly, after years of steady gains, ANC4 coverage dropped sharply.

In 2010, Kalomo generally met or exceeded the national average for immunizations (with the exception of BCG coverage), and fell below for malaria interventions and maternal and child health interventions (not including exclusive breastfeeding). In comparison with the national average, Kalomo showed much lower levels of mortality and much higher levels of childhood underweight.

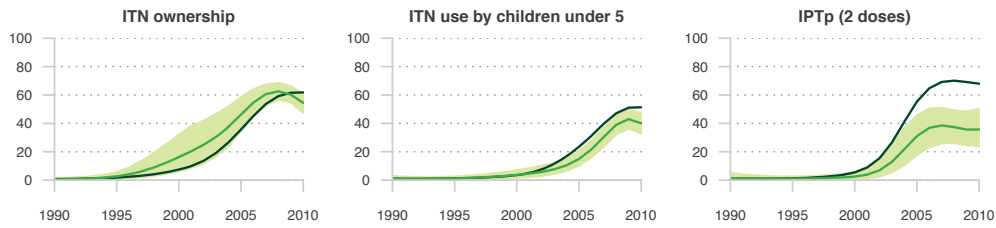
CHILD HEALTH OUTCOMES



From 1990 to 2010, Kalomo recorded a significant reduction in all-cause under-5 mortality, dropping 38% from 152 deaths per 1,000 live births in 1990 (95% CI: 118, 193) to 95 in 2010 (95% CI: 69, 129). 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, Kalomo had one of the lowest levels of under-5 mortality in Zambia for 2010.

The proportion of children who were underweight hovered around 20% in the 1990s, after which underweight fell to 12% in the mid-2000s. However, these gains were effectively reversed by 2010, with underweight rising to 22% in 2010 (95% CI: 17%, 28%), which was among the highest levels in Zambia. This trend is cause for concern, especially given the district's progress during the early to mid-2000s.

MALARIA INTERVENTIONS



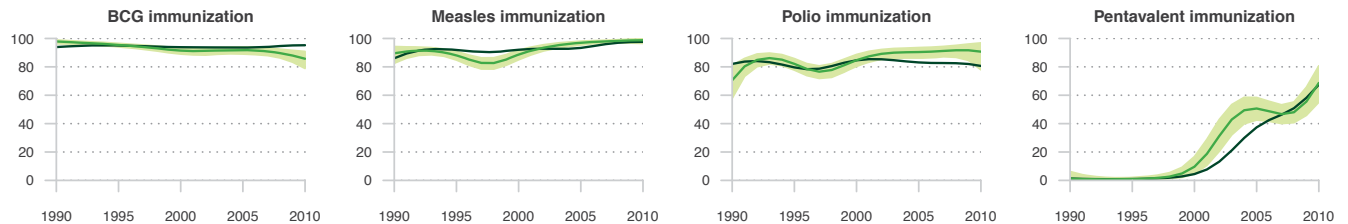
ITN ownership remained below 10% until 1999, after which coverage rapidly rose to 63% in 2008 (95% CI: 57%, 69%). ITN ownership faltered, decreasing to 54% in 2010 (95% CI: 47%, 61%), which was among the lowest levels in Zambia.

ITN use by children under 5 years old increased steadily to 43% in 2009 (95% CI: 36%, 50%). Net use dropped slightly to 40% in 2010 (95% CI: 33%, 47%), a level that was also among the lowest in Zambia. The difference between ITN ownership and use (14 percentage points) was slightly higher than what was observed at the national level (11 percentage points) in 2010.

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

The proportion of pregnant women who received IPTp2 gradually increased to 39% in 2007 (95% CI: 26%, 51%), after which coverage dropped to 36% in 2010 (95% CI: 24%, 50%). This level of coverage was among the lowest in Zambia for 2010, and Kalomo's marginal scale-up of IPTp2 is cause for concern.

IMMUNIZATIONS



BCG coverage declined from 98% in 1990 (95% CI: 96%, 99%) to 86% in 2010 (95% CI: 79%, 91%), which was among the lowest levels in Zambia for 2010.

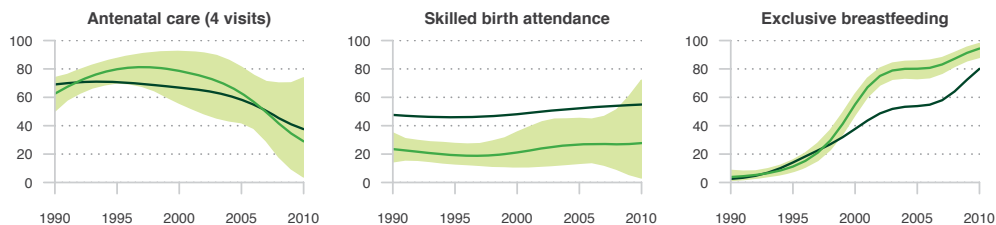
Measles immunization in Kalomo fell below 90% between 1995 and 2000, but coverage steadily increased to 99% in 2009 (95% CI: 97%, 100%) and was sustained through 2010. This level of coverage was slightly above the national average of 98%.

Coverage of polio immunization hovered around 80% during the 1990s. After 2000, polio coverage steadily in-

creased to 92% in 2008 and 2009, before slightly slipping to 91% in 2010 (95% CI: 78%, 97%). This level of coverage remained higher than the national average of 81% for 2010.

After the pentavalent vaccine was formally introduced in Kalomo in 2005, coverage stagnated around 50% until 2009 and quickly climbed to 69% in 2010 (95% CI: 55%, 81%). This level of coverage was comparable to the national average of 67% in 2010.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage increased from 63% in 1990 (95% CI: 50%, 74%) to 81% during the late 1990s, but dropped to 29% in 2010 (95% CI: 4%, 74%), which was below the national average of 37%. The finding that Kalomo's levels of ANC4 fell 52 percentage points since the late 1990s is troubling.

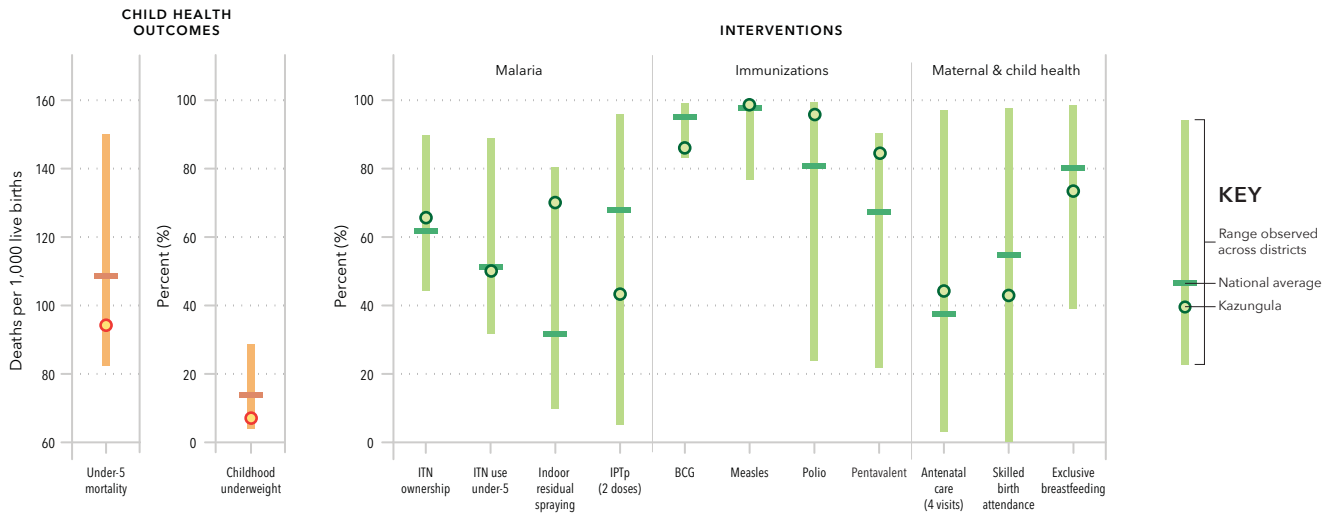
Skilled birth attendance fell below 20% during the mid-1990s, but slowly increased to 28% in 2010 (95% CI: 3%, 72%). Nonetheless, this level of SBA coverage was below the na-

tional average of 55% for 2010, and Kalomo's consistently low skilled birth attendance warrants further attention.

The proportion of children who were exclusively breastfed remained below 20% until 1997, after which coverage jumped to 80% in 2004 (95% CI: 74%, 85%). Coverage continued to rise, though at a slower pace, reaching 94% in 2010 (95% CI: 88% to 98%). This level of exclusive breastfeeding was among the highest in Zambia for 2010.



Kazungula



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, Kazungula recorded substantial reductions in all-cause under-5 mortality and childhood underweight, bringing both to among the lowest in Zambia in 2010. Prioritizing ways to maintain these rates of progress in child health outcomes should be considered.

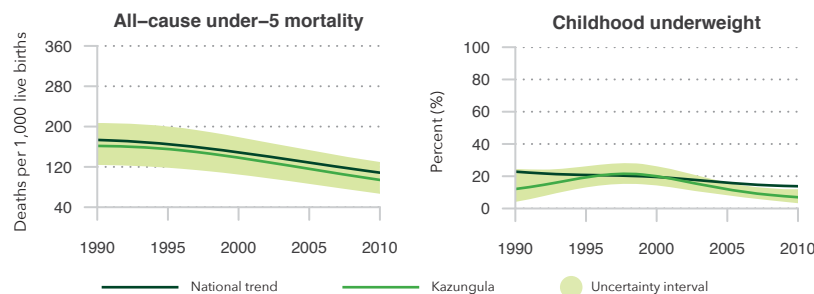
Kazungula reached very high levels of measles and polio immunization, with the latter being among the highest in Zambia. Coverage of exclusive breastfeeding and the pentavalent vaccine were successfully scaled up, and the district achieved high levels of IRS.

Amidst these gains, however, some troubling trends were identified and warrant further attention. IPTp2 coverage was

consistently lower than the national trend, and minimal progress was made in increasing ANC4. BCG immunization fell to some of the lowest levels in Zambia. Despite gains in coverage during the 2000s, skilled birth attendance remained lower than optimal.

In 2010, Kazungula met or exceeded the national average for malaria interventions and immunizations, with the exception of IPTp2 and BCG coverage. The district fell below the national average for maternal and child health interventions, excluding ANC4. In comparison with the national average, Kazungula showed much lower levels of mortality and childhood underweight.

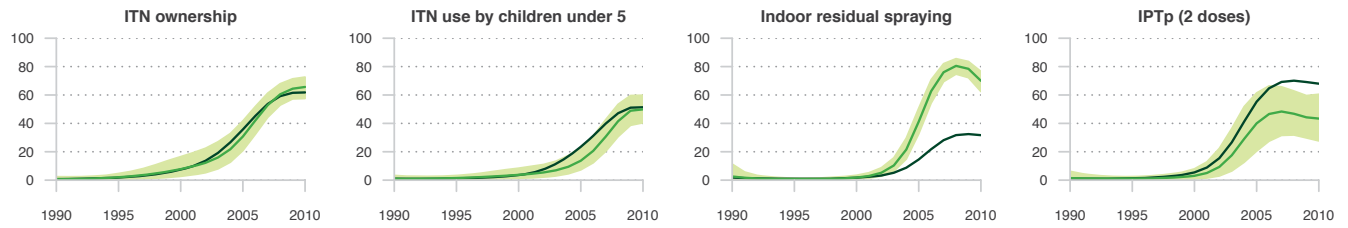
CHILD HEALTH OUTCOMES



From 1990 to 2010, there was a significant reduction in all-cause under-5 mortality in Kazungula, dropping 42% from 162 deaths per 1,000 live births in 1990 (95% CI: 126, 205) to 94 in 2010 (95% CI: 69, 128). 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) and was among the lowest in the country.

The proportion of children who were underweight increased from 12% in 1990 (95% CI: 5%, 24%) to 21% during the late 1990s, but declined to a low of 7% in 2010 (95% CI: 4%, 11%). This level of childhood underweight was well below the national average of 14%, and was among the lowest in Zambia for 2010.

MALARIA INTERVENTIONS



ITN ownership remained under 10% until 2001, after which coverage rapidly rose to 66% in 2010 (95% CI: 58%, 73%), slightly exceeding the national average of 62%.

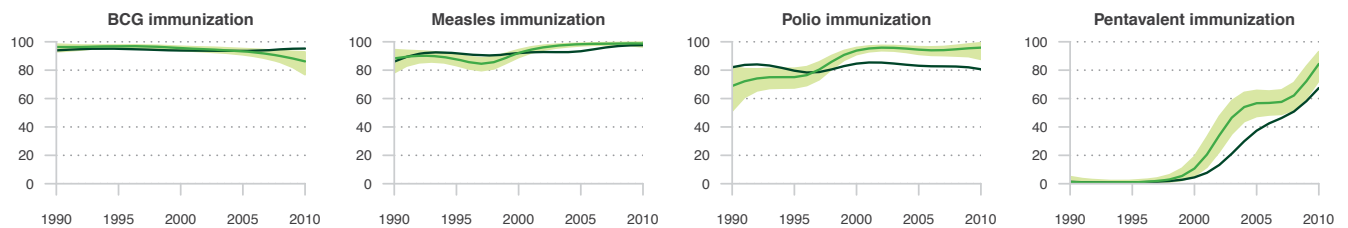
ITN use by children under 5 years old increased to 50% in 2010 (95% CI: 40%, 60%), which was comparable to the national average of 51%. The difference between ITN ownership and use (16 percentage points) was slightly higher in Kazungula than what was observed at the national level (11 percentage points) for 2010.

Kazungula formally implemented IRS activities in 2004, and was one of the first 15 districts in Zambia to roll out IRS.

Kazungula reached peak coverage for IRS in 2008, at 81% (95% CI: 75%, 86%), and fell to 70% in 2010 (95% CI: 62%, 77%). Despite this decline, the district had one of the highest levels of IRS in Zambia for 2010.

The proportion of pregnant women who received IPTp2 remained below 10% until 2003, but rapidly rose to 48% in 2007 (95% CI: 32%, 66%). IPTp2 coverage decreased after 2007, dropping to 43% in 2010 (95% CI: 28%, 60%) and falling far below the national average of 68%. This level of IPTp2 was among the lowest in Zambia for 2010.

IMMUNIZATIONS



BCG immunization remained between 96% and 97% until 2001, after which coverage steadily declined to 86% in 2010 (95% CI: 77%, 93%), among the lowest levels in Zambia.

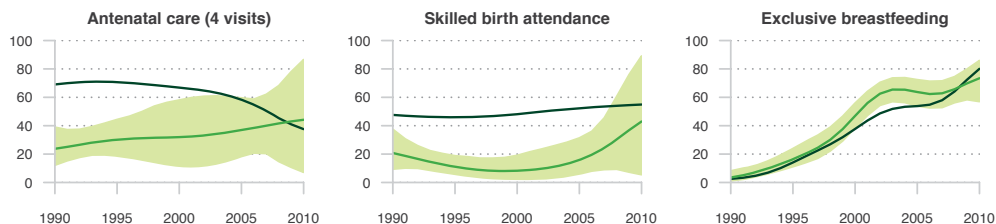
Measles immunization steadily increased from 88% in 1990 (95% CI: 78%, 94%) to 99% in 2006 (95% CI: 98%, 99%). This level of coverage was sustained through 2010, slightly exceeding the national average of 98%.

Coverage of polio immunization remained below 80% until 1997, after which polio coverage steadily climbed to 96%

in 2010 (95% CI: 88%, 99%), which was among the highest in Zambia for that year.

After the pentavalent vaccine was formally introduced in Kazungula in 2005, coverage hovered around 60% through 2008 and then increased to 84% in 2010 (95% CI: 72%, 93%). Kazungula achieved a much higher level of pentavalent coverage than the national average of 67%, and had among the highest levels in the country for 2010.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage gradually increased from 24% in 1990 (95% CI: 12%, 39%) to 44% in 2010 (95% CI: 7%, 87%). Although this level of ANC4 was higher than the national average of 37% for 2010, the district's minimal progress in bringing ANC4 to higher levels is cause for concern.

Skilled birth attendance fell below 10% during the late 1990s and early 2000s, but slowly increased to 43% in 2010

(95% CI: 5%, 89%). Nonetheless, the district's SBA coverage remained lower than the national average of 55% for 2010.

The proportion of children who were exclusively breastfed remained below 20% until 1996, after which coverage steadily increased to 65% in the mid-2000s. Gains slowed for a few years before rising to 73% in 2010 (95% CI: 57%, 86%), which was slightly lower than the national average of 80%.



Livingstone



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

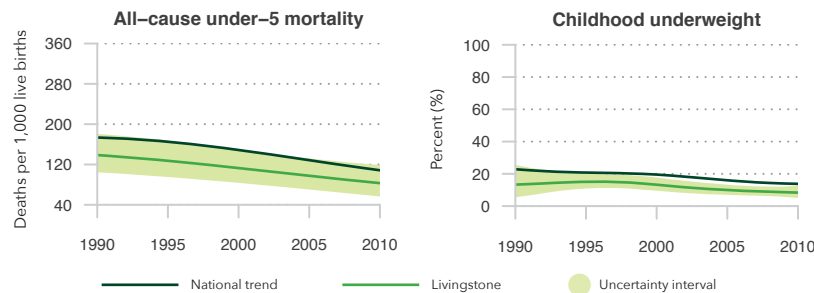
Livingstone expanded exclusive breastfeeding to a level comparable to the national average after stalled gains. ITNs and IRS were scaled up to high levels, especially for ITN use.

Amidst these gains, however, several troubling trends were identified and warrant further attention. IPTp2 coverage fell in recent years, and pentavalent coverage remained below

the national average in 2010. Coverage of BCG, measles, and polio immunizations fell below the national average in 2010. Skilled birth attendance steadily declined after maintaining high levels in the 1990s, and most alarmingly, high coverage of ANC4 dropped steeply to very low levels.

In 2010, Livingstone largely met or exceeded the national average across interventions, with IPTp2 coverage and ANC4 as the clear exceptions. For child health outcomes, Livingstone showed much lower levels of mortality and childhood underweight.

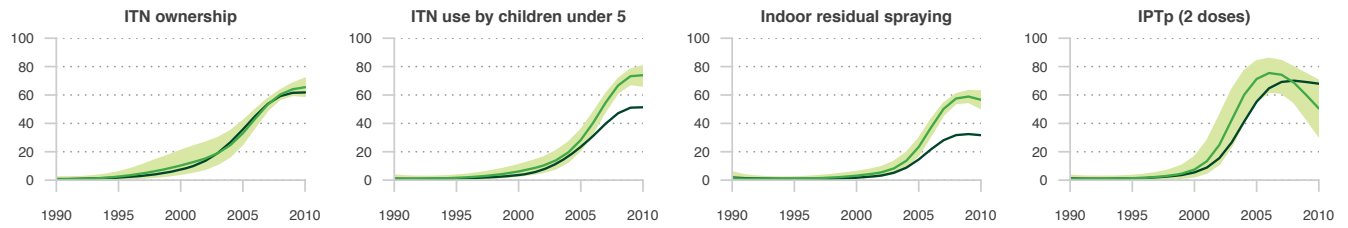
CHILD HEALTH OUTCOMES



From 1990 to 2010, Livingstone recorded a significant reduction in all-cause under-5 mortality, dropping 40% from 139 deaths per 1,000 live births in 1990 (95% CI: 107, 179) to 83 in 2010 (95% CI: 58, 117). 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) and was among the lowest in Zambia.

The proportion of children who were underweight remained between 13% and 15% through 2000, after which underweight steadily decreased to 8% in 2010 (95% CI: 6%, 12%) and fell well below the national average of 14%. Further, this prevalence of underweight was among the lowest in Zambia for 2010.

MALARIA INTERVENTIONS



ITN ownership remained under 10% until 2000, after which coverage rapidly rose to 65% in 2010 (95% CI: 59%, 72%), slightly exceeding the national average of 62%.

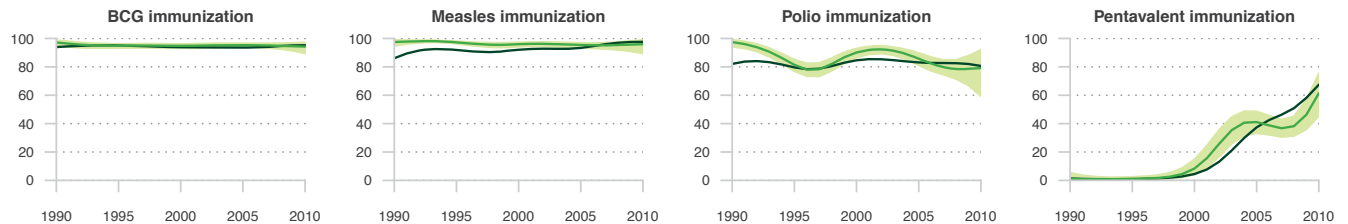
ITN use by children under 5 years old increased to 74% in 2010 (95% CI: 66%, 80%), which was among the highest in Zambia. Interestingly, ITN use by children under the age of 5 exceeded ITN ownership in 2010; this finding suggests that, among households with ITNs, net use by children under 5 is likely to be high.

Livingstone formally implemented IRS activities in 2003

and was one of the first 15 districts in Zambia to roll out IRS. Livingstone reached peak coverage for IRS in 2009 at 59% (95% CI: 55%, 63%), and fell slightly to 57% in 2010 (95% CI: 51%, 63%). Despite this decline, this level of IRS coverage was among the highest in Zambia for 2010.

The proportion of pregnant women who received IPTp2 remained below 10% until 2001, but rapidly rose to 75% in 2006 (95% CI: 62%, 86%). IPTp2 coverage decreased after 2007, dropping to 51% in 2010 (95% CI: 31%, 70%) and falling below the national average of 68%.

IMMUNIZATIONS



BCG immunization remained around 95% from 1990 to 2010; it was 94% in 2010 (95% CI: 89%, 97%), which was slightly below the national average of 95%.

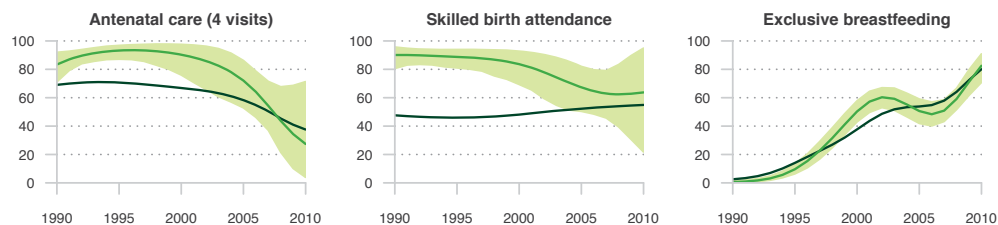
Levels of measles immunization remained between 95% and 98% from 1990 to 2010. There was 96% coverage in 2010 (95% CI: 89%, 99%), which was lower than the national average of 98%.

Coverage of polio immunization largely varied in the

1990s, with a high of 97% in 1990 (95% CI: 94%, 99%) and a low of 78% in the mid-1990s. Polio coverage exceeded 90% during the early 2000s, but declined to 79% in the late 2000s, falling slightly below the national average of 81%.

After the pentavalent vaccine was formally introduced in Livingstone in 2005, coverage hovered around 40% through 2008 and then increased to 61% in 2010 (95% CI: 45%, 75%), which was below the national average of 67%.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage rose to 93% between 1994 and 1998, but began to fall rapidly by 2000, dropping to 27% in 2010 (95% CI: 4%, 71%) and below the national average of 37%. ANC4 decreased dramatically throughout Zambia from 1990 to 2010, and the finding that Livingstone's levels of coverage fell 66 percentage points since 1994 is worrisome.

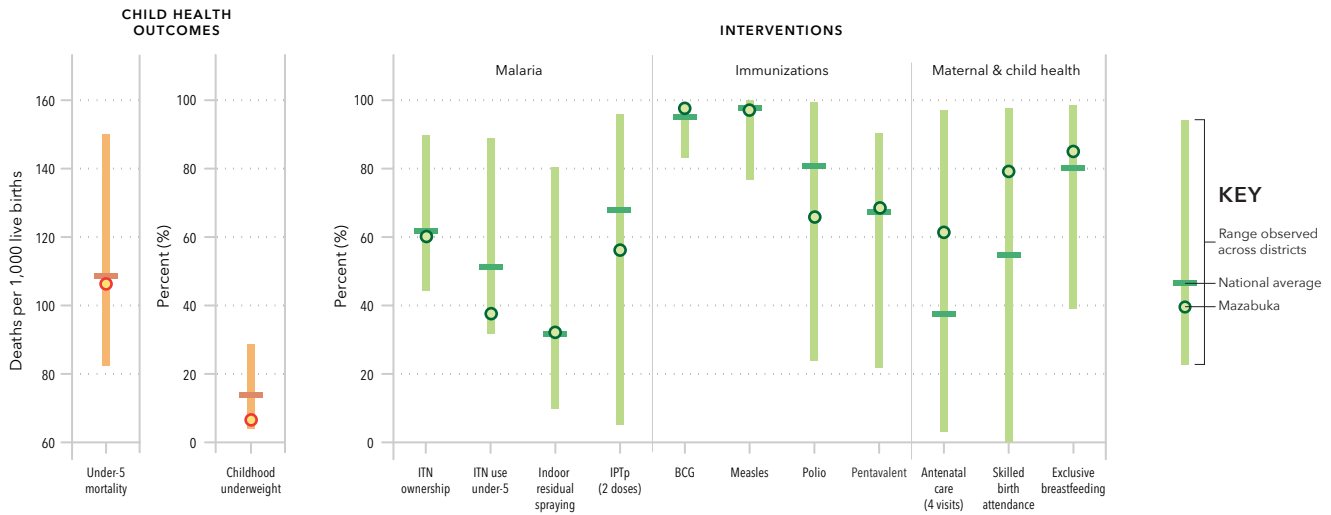
After remaining at 90% in the early 1990s, skilled birth attendance decreased to 64% in 2010 (95% CI: 22%, 95%). While this level of SBA coverage was higher than the national

average of 55% for 2010, the district's decline in SBA is cause for concern.

The proportion of children who were exclusively breastfed remained below 20% until 1997, after which coverage rose to 60% in 2002 (95% CI: 53%, 67%). Coverage decreased soon after, falling below 50% in 2006. Exclusive breastfeeding then rebounded to 83% in 2010 (95% CI: 71%, 91%), slightly exceeding the national average of 80%.



Mazabuka



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

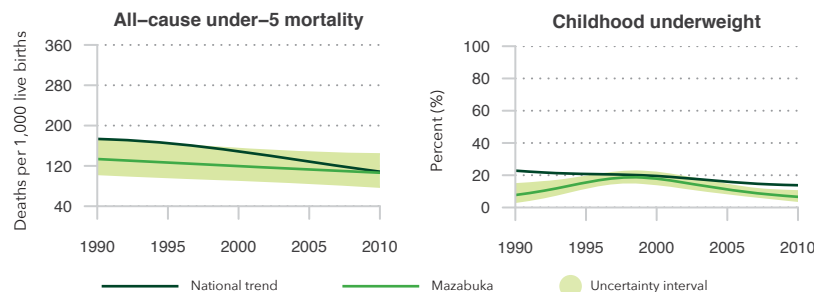
Between 1990 and 2010, Mazabuka reduced its all-cause under-5 mortality, but the magnitude of its decline was fairly low in comparison with the national trend. Childhood underweight decreased substantially in more recent years, dropping to among the lowest in Zambia for 2010. Prioritizing ways to further accelerate these rates of progress in child health outcomes, especially under-5 mortality, should be considered.

Mazabuka scaled up ITN ownership close to the national average in 2010. The district maintained moderately high levels of BCG and measles immunization, and brought up coverage of the pentavalent vaccine to national levels after stalled gains. High levels of exclusive breastfeeding were sustained through the 2000s, and skilled birth attendance increased in recent years.

Amidst these gains, however, some troubling trends were identified and warrant further attention. IRS and IPTp2 coverage fell in recent years, and ITN use was among the lowest in Zambia in 2010. Polio immunization declined sharply in the late 2000s, and ANC4 coverage substantially dropped from high levels during the early 1990s.

In 2010, Mazabuka generally met or exceeded the national average for immunizations and maternal and child health interventions, with polio coverage as the stark exception. Its performance for malaria interventions was more mixed. In comparison with the national average, Mazabuka showed slightly lower levels of mortality and much lower levels of underweight.

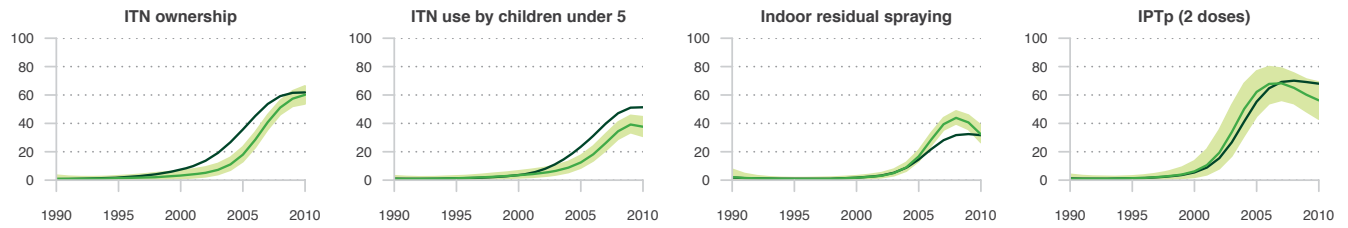
CHILD HEALTH OUTCOMES



From 1990 to 2010, all-cause under-5 mortality declined, dropping 20% from 134 deaths per 1,000 live births in 1990 (95% CI: 104, 171) to 106 in 2010 (95% CI: 78, 143); however, this decline was not statistically significant. In 2010, the district's under-5 mortality was slightly 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 8% in 1990 (95% CI: 3%, 14%) to 19% in the late 1990s. Underweight then steadily declined, falling to 7% in 2009 and 2010, which was well below the national average of 14% and among the lowest levels in Zambia in 2010.

MALARIA INTERVENTIONS



ITN ownership remained under 10% until 2004, after which coverage rapidly rose to 60% in 2010 (95% CI: 54%, 66%), slightly below the national average of 62%. The district's scale-up of ownership generally lagged behind the national trend.

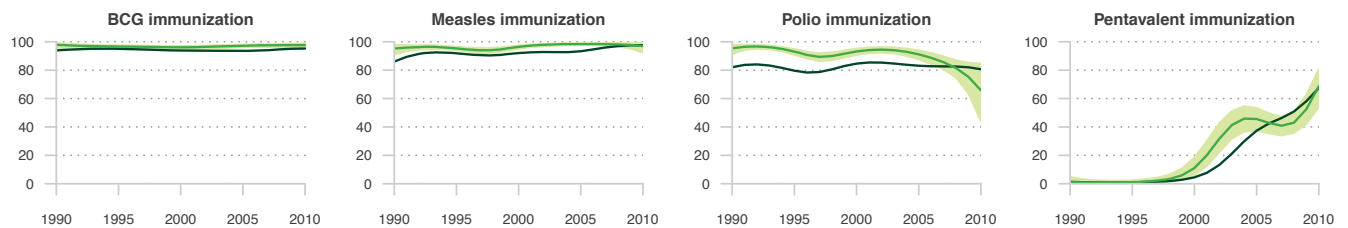
ITN use by children under 5 years old increased to 39% in 2009 (95% CI: 33%, 46%), but slipped to 38% in 2010 (95% CI: 31%, 45%). This level of ITN use was among the lowest in Zambia for 2010. The difference between ITN ownership and use (22 percentage points) was much higher in Mazabuka than what was observed at the national level (11 percentage

points) for 2010.

Mazabuka formally implemented IRS activities in 2006 and was one of the first 15 districts in Zambia to roll out IRS. Peak coverage occurred in 2008, at 44% (95% CI: 40%, 49%), with IRS decreasing to 32% in 2010 (95% CI: 26%, 39%).

The proportion of pregnant women who received IPTp2 remained below 10% until 2001, but rapidly rose to 68% in 2006 and 2007. However, IPTp2 coverage decreased after 2007, dropping to 56% in 2010 (95% CI: 43%, 69%) and falling below the national average of 68% for that year.

IMMUNIZATIONS



BCG immunization remained between 96% and 98% from 1990 to 2010; it was 98% in 2010 (95% CI: 95%, 99%), which was higher than the national average of 95%.

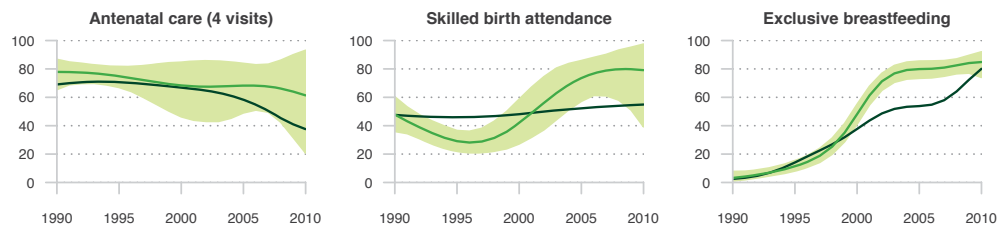
Measles immunization gradually increased from 95% in 1990 (95% CI: 91%, 98%) to 98% between 2002 and 2009. Coverage slipped to 97% in 2010 (95% CI: 92%, 99%), which was slightly lower than the national average of 98%.

Coverage of polio immunization largely remained above

90% between 1990 and 2005, but abruptly fell to 66% in 2010 (95% CI: 44%, 85%). This level of coverage was lower than the national average of 81% for 2010.

After the pentavalent vaccine was formally introduced in Mazabuka in 2005, coverage hovered around 40% through 2008 and then jumped to 69% in 2010 (95% CI: 54%, 81%). Mazabuka recorded a slightly higher level of pentavalent coverage than the national average of 67% in 2010.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage gradually declined from 78% in 1990 (95% CI: 65%, 87%) to 61% in 2010 (95% CI: 21%, 93%), which was higher than the national average of 37%. Even though this level of ANC4 coverage was among the highest in Zambia for 2010, the district's declining trend in ANC4 is worrisome.

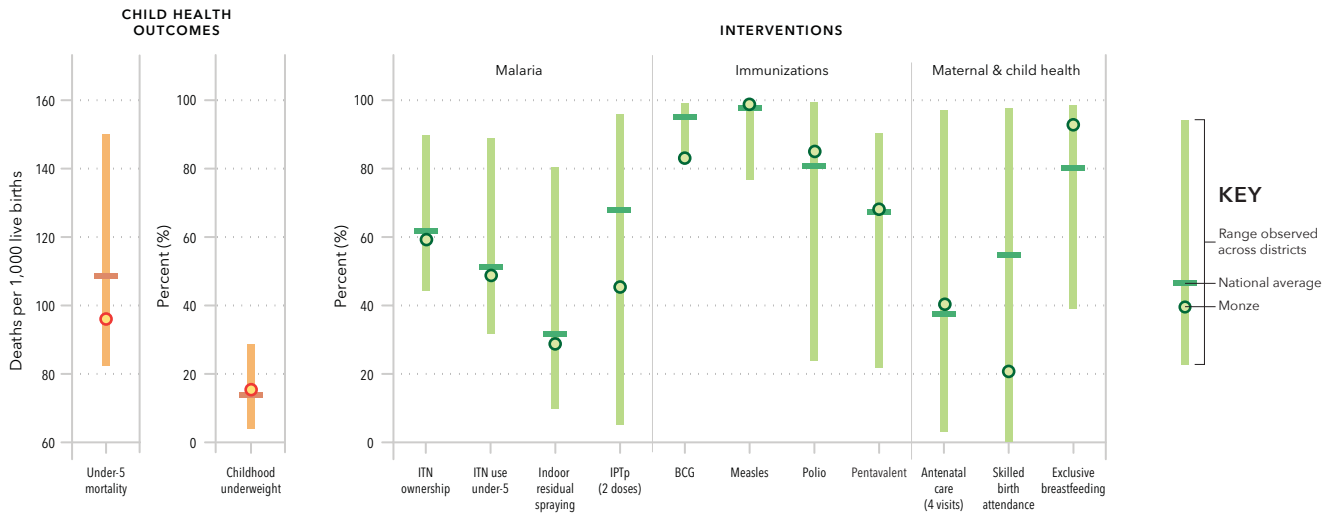
Skilled birth attendance steadily fell to 28% in 1996 (95% CI: 21%, 36%), but rose to 80% in 2008 and 2009. In 2010, SBA was at 79% (95% CI: 39%, 97%), which was above the national

average of 55%.

The proportion of children who were exclusively breastfed in Mazabuka remained below 20% until 1998, after which coverage rose to 80% in 2005 (95% CI: 73%, 85%). Coverage continued to increase, though more slowly, reaching 85% in 2010 (95% CI: 74%, 92%), which was slightly higher than the national average of 80%.



Monze



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, Monze reduced its all-cause under-5 mortality and prevalence of childhood underweight, but the relative magnitude of the district's progress was low. Prioritizing ways to accelerate gains for child health outcomes should be considered.

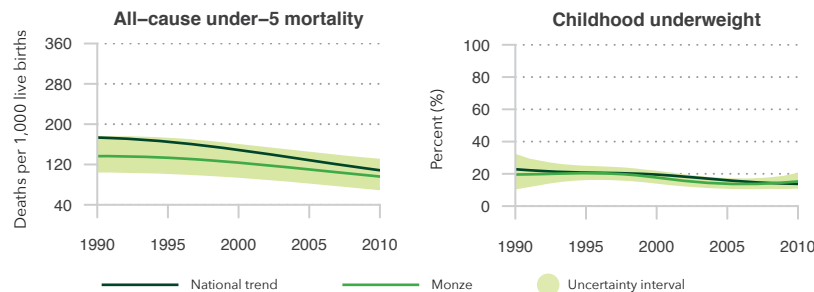
Monze scaled up ITN coverage close to the national average in 2010. The district maintained high levels of measles immunization, and polio coverage rebounded after recent declines. Coverage of the pentavalent vaccine was scaled up to national levels, and Monze maintained consistently high coverage of exclusive breastfeeding during the 2000s.

Amidst these gains, however, some troubling trends were

identified and warrant further attention. IPTp2 coverage and BCG immunization each fell to among the lowest levels in Zambia for 2010. Skilled birth attendance remained consistently low, and ANC4 coverage declined from high levels during the early 1990s.

In 2010, Monze generally met or exceeded the national average for immunizations and malaria interventions, with the exceptions of IPTp2 and BCG coverage. The district's performance on maternal and child health interventions was more varied. In comparison with the national average, Monze showed lower levels of mortality and similar levels of underweight.

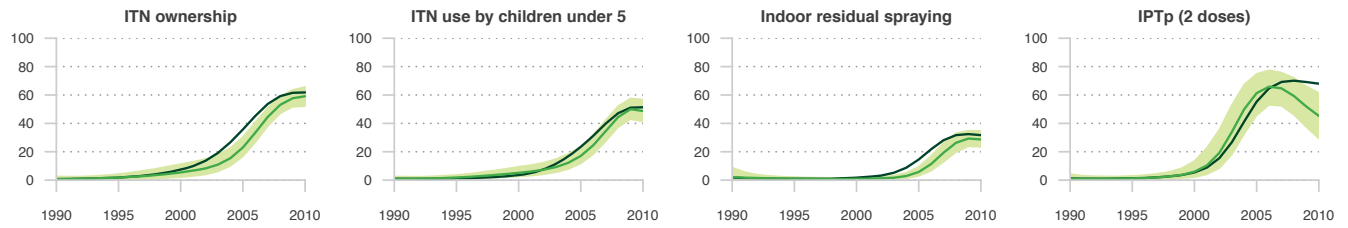
CHILD HEALTH OUTCOMES



From 1990 to 2010, all-cause under-5 mortality declined, dropping 30% from 137 deaths per 1,000 live births in 1990 (95% CI: 106, 175) to 96 in 2010 (95% CI: 71, 129); however, this decline was not statistically significant. 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).

The proportion of children who were underweight largely remained at 20% in the 1990s, but decreased to 14% from 2004 to 2008. Underweight then increased slightly to 15% in 2009 and 2010, which was comparable to the national average of 14%.

MALARIA INTERVENTIONS



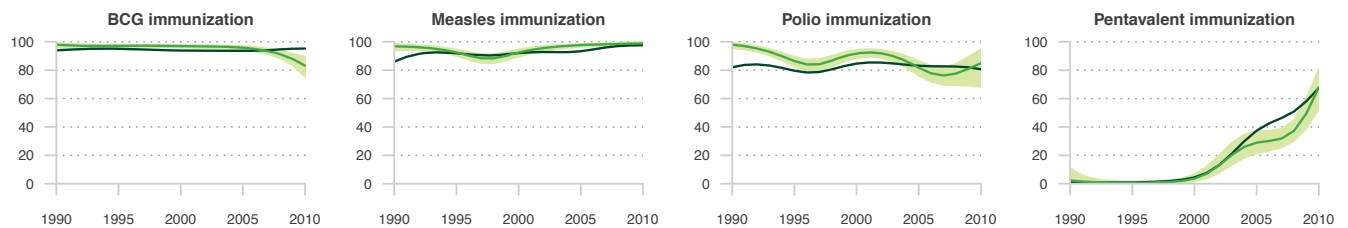
ITN ownership remained under 10% until 2003, after which coverage rapidly rose to 59% in 2010 (95% CI: 52%, 66%). This level of ITN ownership was slightly lower than the national average of 62% for 2010.

ITN use by children under 5 years old increased to 50% in 2009 (95% CI: 43%, 57%), and then slipped to 49% in 2010 (95% CI: 41%, 57%). This level of ITN use was slightly lower than the national average of 51% for 2010. Monze's difference between ITN ownership and use (10 percentage points) in 2010 was comparable to what was observed at the national level (11 percentage points) in 2010.

Monze formally implemented IRS activities in 2008, and reached 29% of households in 2010 (95% CI: 23%, 35%). 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 2001, but rapidly increased to 66% in 2006 (95% CI: 53%, 77%). However, IPTp2 coverage then decreased to 45% in 2010 (95% CI: 29%, 62%), falling much lower than the national average of 68%. This level of IPTp2 was among the lowest in Zambia for 2010.

IMMUNIZATIONS



BCG immunization remained above 95% until 2006, after which coverage quickly fell to 83% in 2010 (95% CI: 75%, 89%), among the lowest levels in Zambia.

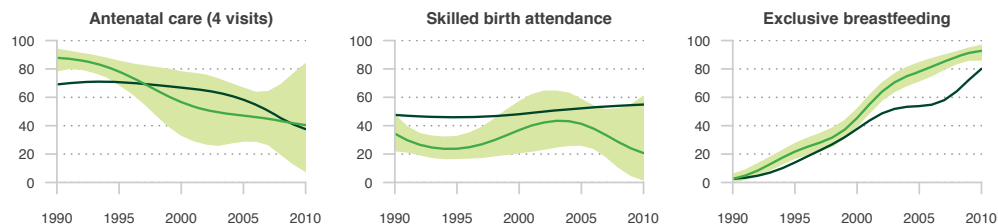
Measles immunization briefly fell below 90% in the late 1990s, but steadily rose to 99% in 2008 (95% CI: 97%, 99%). This level of measles coverage was sustained through 2010, and was slightly higher than the national average of 98%.

Coverage of polio immunization vacillated in the 1990s, from 98% in 1990 (95% CI: 95%, 99%) to 84% in the mid-

1990s, but remained around 90% from 1999 to 2002. Polio coverage fell below 80% from 2006 to 2008, but rebounded to 85% in 2010 (95% CI: 68%, 95%) and exceeded the national average of 81%.

After the pentavalent vaccine was formally introduced in Monze in 2005, coverage increased to 37% in 2008 (95% CI: 30%, 45%) and 68% in 2010 (95% CI: 52%, 81%). This level of pentavalent coverage was comparable to the national average of 67% in 2010.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage steadily declined from 88% in 1990 (95% CI: 79%, 94%) to 40% in 2010 (95% CI: 8%, 83%), which was still slightly above the national average of 37%. This finding that Monze's levels of coverage fell nearly 50 percentage points between 1990 and 2010 is worrisome.

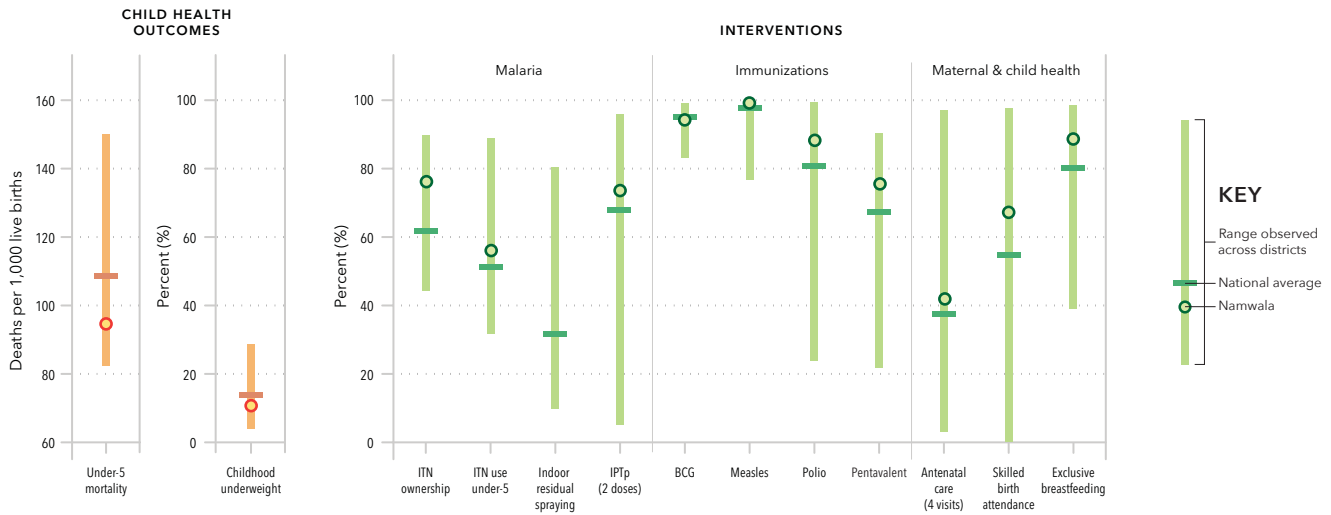
Skilled birth attendance remained low in the 1990s, between 24% and 34%, before rising slightly to 43% in the

mid-2000s. SBA coverage then fell to 21% in 2010 (95% CI: 2%, 61%), which was lower than the national average of 55%.

The proportion of children who were exclusively breastfed in Monze remained below 20% until 1995, after which coverage rose to 93% in 2010 (95% CI: 86%, 96%). This level of exclusive breastfeeding was much higher than the national average of 80% in 2010.



Namwala



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 Namwala started IRS after 2010.

SUMMARY

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

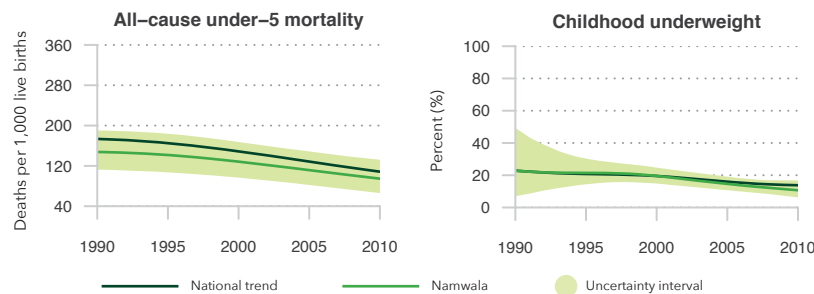
Namwala maintained high levels of routine immunizations, and expanded coverage of the pentavalent vaccine to national levels in 2010. ITN ownership and IPTp2 coverage were scaled up to very high levels in the mid-2000s, and the district sustained high coverage of exclusive breastfeeding during

the 2000s. Moderate gains were made in increasing skilled birth coverage.

Amidst these gains, however, some troubling trends were identified and warrant further attention. IPTp2 coverage fell from its peak during the mid-2000s, and coverage of ANC4 remained fairly low.

In 2010, Namwala generally met or exceeded the national average for all interventions. In comparison with the national average, Namwala showed much lower levels of mortality and lower levels of underweight.

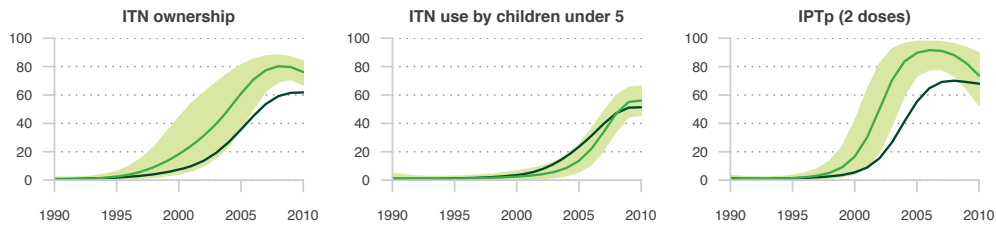
CHILD HEALTH OUTCOMES



From 1990 to 2010, Namwala recorded a significant reduction in all-cause under-5 mortality, dropping 36% from 148 deaths per 1,000 live births in 1990 (95% CI: 115, 188) to 95 in 2010 (95% CI: 68, 130). 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) and was among the lowest in the country.

The proportion of children who were underweight steadily declined from 23% in 1990 (95% CI: 8%, 49%) to 11% in 2009 and 2010. This level of childhood underweight was below the national average of 14% for 2010.

MALARIA INTERVENTIONS



ITN ownership remained under 10% until 1999, after which coverage rose to 80% in 2008 (95% CI: 69%, 88%). Coverage was sustained at this level through 2009, after which ownership slipped to 76% in 2010 (95% CI: 67%, 84%). Nonetheless, this level of coverage still surpassed the national average of 62%.

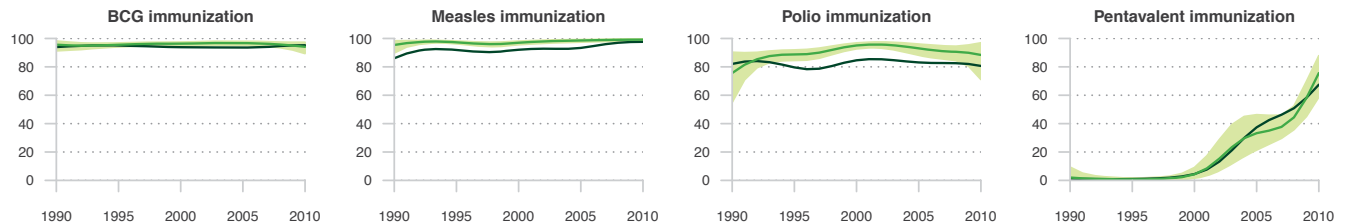
ITN use by children under 5 years old increased to 56% in 2010 (95% CI: 46%, 66%), which was slightly higher than the national average of 51%. The difference between ITN ownership and use (20 percentage points) was higher in Namwala

than what was observed at the national level (11 percentage points) for 2010.

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

The proportion of pregnant women who received IPTp2 remained below 10% until 2000, but rapidly rose to 92% in 2006 (95% CI: 78%, 98%). IPTp2 declined soon after, falling to 74% in 2010 (95% CI: 53%, 90%). While Namwala's level of IPTp2 coverage still exceeded the national average of 68% in 2010, its recent decrease is cause for concern.

IMMUNIZATIONS



BCG immunization remained between 95% and 97% from 1990 to 2010, but fell slightly to 94% in 2010 (95% CI: 89%, 97%) and below the national average of 95%.

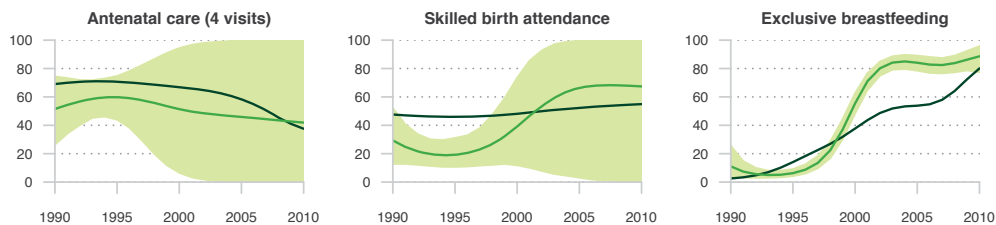
Measles immunization increased from 95% in 1990 (95% CI: 90%, 98%) to 99% in 2005 (95% CI: 97%, 99%). This level of measles coverage was sustained through 2010, and was slightly higher than the national average of 98%.

Polio immunization coverage steadily rose from 76% in 1990 (95% CI: 55%, 90%) to 96% in 2001 and 2002. Polio cov-

erage decreased after 2002, declining to 88% in 2010 (95% CI: 71%, 97%), but still remained above the national average of 81%.

After the pentavalent vaccine was formally introduced in Namwala in 2005, coverage hovered close to 40% through 2008 and then jumped to 76% in 2010 (95% CI: 59%, 88%). Namwala achieved a higher level of pentavalent coverage than the national average of 67% in 2010.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage reached 60% in the mid-1990s but gradually declined to 42% in 2010 (95% CI: 0%, 100%). While this level of ANC4 was slightly higher than the national average of 37%, the district's minimal progress in increasing ANC4 coverage warrants more attention.

Skilled birth attendance remained below 30% until 1999, after which SBA coverage increased to 68% between 2006 and 2009. In 2010, SBA fell slightly to 67% (95% CI: 0%, 100%),

but remained 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 80% in 2002 (95% CI: 75%, 85%). Exclusive breastfeeding continued to rise, though more slowly, reaching 89% in 2010 (95% CI: 77%, 96%) and exceeding the national average of 80% for that year.



Siavonga



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 Siavonga started IRS after 2010.

SUMMARY

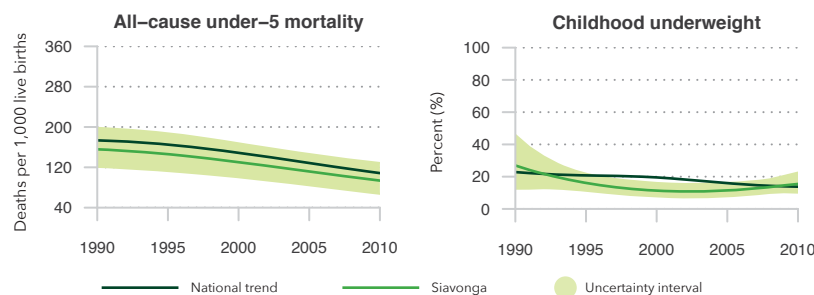
Between 1990 and 2010, Siavonga substantially reduced all-cause under-5 mortality and childhood underweight, bringing its levels of mortality to among the lowest in Zambia in 2010. However, underweight increased in recent years. Prioritizing efforts to accelerate gains for child health outcomes, especially childhood underweight, should be considered.

Measles and polio immunization coverage reached high levels in 2010, and Siavonga successfully scaled up the pentavalent vaccine. Exclusive breastfeeding coverage continued to rise after a period of stalled gains. High levels of ITN coverage, especially ITN use, were maintained through 2010.

Amidst these gains, however, some troubling trends were identified and warrant further attention. IPTp2 coverage fell considerably from its peak in the mid-2000s, and BCG coverage fell to among the lowest in Zambia in 2010. Gains in skilled birth attendance plateaued in the 2000s, and most alarmingly, high ANC4 coverage dropped sharply to very low levels.

In 2010, Siavonga largely met or exceeded the national average for all interventions, with the clear exceptions of BCG coverage and IPTp2. In comparison with the national average, Siavonga showed much lower levels of mortality and similar levels of underweight.

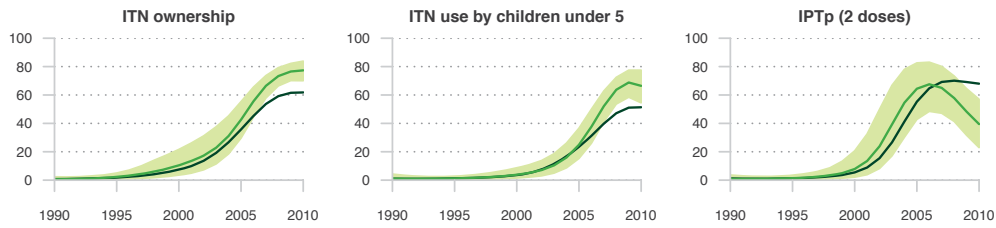
CHILD HEALTH OUTCOMES



From 1990 to 2010, Siavonga recorded a significant reduction in all-cause under-5 mortality, dropping 40% from 156 deaths per 1,000 live births in 1990 (95% CI: 121, 198) to 94 in 2010 (95% CI: 67, 129). 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) and was among the lowest in Zambia.

The proportion of children who were underweight declined from 27% in 1990 (95% CI: 13%, 46%) to 11% from 2000 to 2005. Childhood underweight then increased to 15% in 2009 and 2010. This level of underweight was comparable to the national average of 14% for 2010, but the district's upward trend for underweight is cause for concern.

MALARIA INTERVENTIONS



ITN ownership remained under 10% until 2000, after which coverage rapidly rose to 77% in 2009 (95% CI: 70%, 82%). Coverage was sustained at this level through 2010, and was much higher than the national average of 62% for 2010.

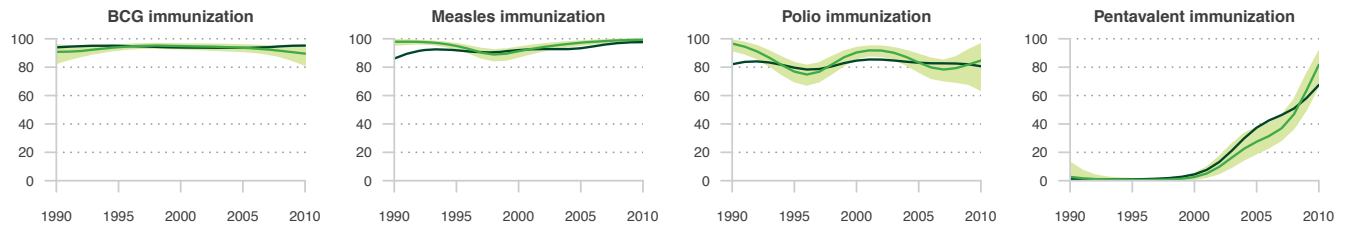
ITN use by children under 5 years old increased to 69% in 2009 (95% CI: 58%, 77%), but slipped to 66% in 2010 (95% CI: 54%, 78%). Despite this small decline, Siavonga's ITN use was among the highest in Zambia for 2010. The difference between ITN ownership and use (11 percentage points) was compara-

ble to what was observed at the national level in 2010.

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

The proportion of pregnant women who received IPTp2 remained below 10% until 2001, but rapidly rose to 68% in 2006 (95% CI: 48%, 83%). IPTp2 then declined sharply to 39% in 2010 (95% CI: 23%, 57%), and was among the lowest levels of coverage in Zambia that year. This marked decline in IPTp2 coverage is worrisome and warrants further attention.

IMMUNIZATIONS



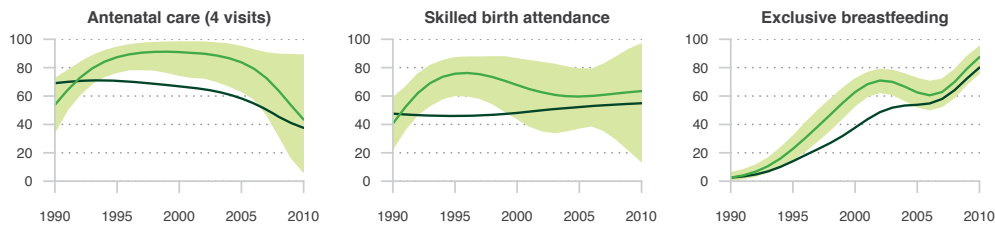
BCG coverage increased from 91% in the early 1990s to 95% in 1996 (95% CI: 93%, 96%). This level of coverage was sustained through 2001, after which BCG immunization decreased to 90% in 2010 (95% CI: 82%, 95%), falling to among the lowest levels in Zambia.

Aside from briefly falling below 90% in the late 1990s, measles immunization remained between 95% and 98% until 2008. Coverage increased to 99% (95% CI: 98%, 100%) and was sustained at this level through 2010, slightly exceeding the national average of 98%.

Coverage of polio immunization fell from 97% in 1990 (95% CI: 92%, 99%) to 75% in 1996 (95% CI: 68%, 81%) before rising above 90% again in the early 2000s. Polio coverage hovered around 80% in the mid- to late 2000s, increasing to 85% in 2010 (95% CI: 64%, 96%) and exceeding the national average of 81% for that year.

After the pentavalent vaccine was formally introduced in Siavonga in 2005, coverage increased to 37% in 2007 (95% CI: 29%, 46%) and 82% in 2010 (95% CI: 67%, 91%), exceeding the national average of 67%.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage increased to 91% in 1997 (95% CI: 79%, 97%) and was sustained at this level until 2001, after which coverage fell to 43% in 2010 (95% CI: 7%, 89%). While this level of ANC4 was slightly higher than the national average of 37%, the district's drastic decline in ANC4 (over 45 percentage points in 10 years) is troubling.

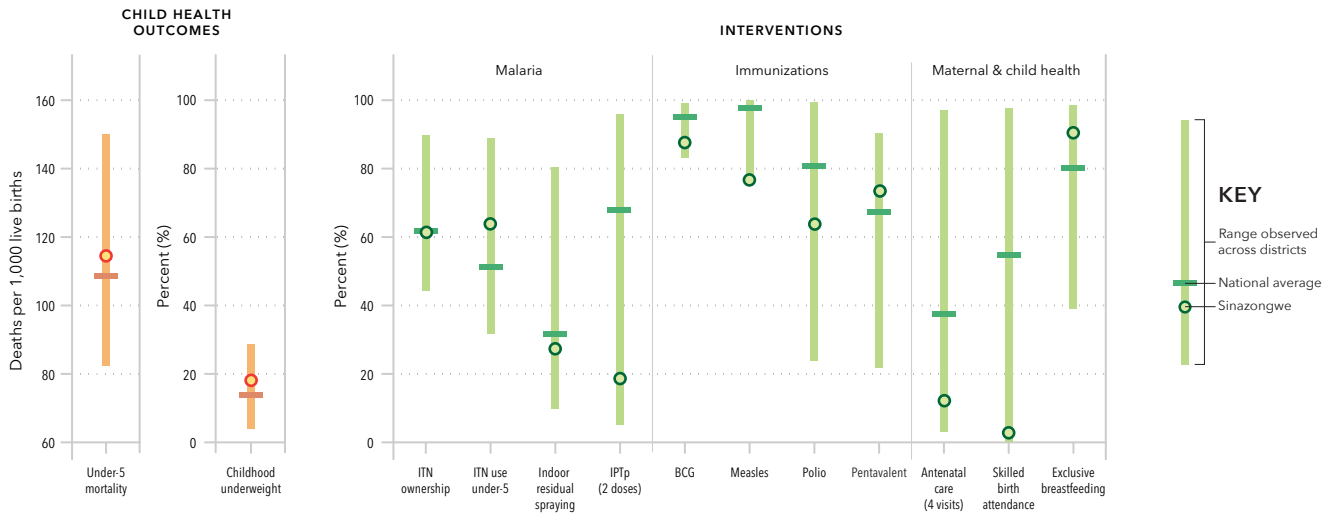
Skilled birth attendance increased to 76% in the mid-1990s, but decreased to 60% from 2004 to 2006. SBA coverage rose slightly to 63% in 2009 (95% CI: 22%, 93%) and

remained at this level through 2010. While this level of SBA was higher than the national average of 55% for 2010, the district's drop in SBA since the 1990s is cause for concern.

The proportion of children who were exclusively breastfed remained below 20% until 1995, after which coverage increased to 71% in 2002 (95% CI: 63%, 79%). Gains in exclusive breastfeeding stalled for several years before rising to 87% in 2010 (95% CI: 76%, 95%), which was above the national average of 80%.



Sinazongwe



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

Sinazongwe reduced its all-cause under-5 mortality and prevalence of childhood underweight from 1990 to 2010, but the relative magnitude of the district's progress was low, especially for underweight. Prioritizing ways to accelerate gains for child health outcomes should be considered.

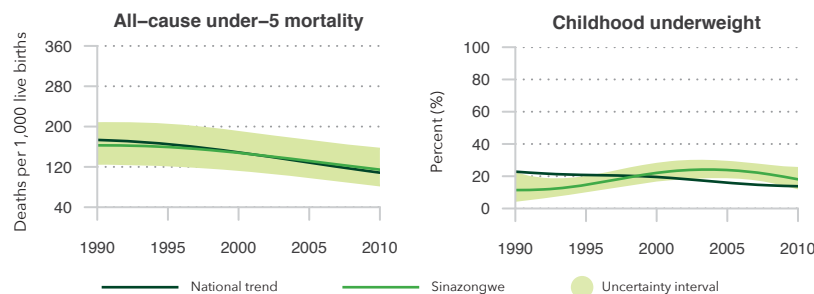
ITN coverage was scaled up to high levels, especially for ITN use. Sinazongwe expanded coverage of the pentavalent vaccine to national levels after a period of stalled gains. The district consistently had higher levels of exclusive breastfeeding than the national trend over time.

Amidst these gains, however, several troubling trends were identified and warrant further attention. IPTp2 coverage

plunged from its peak in 2005. Polio coverage fell substantially in the late 2000s, and Sinazongwe had some of the lowest levels of BCG and measles immunization in Zambia for 2010. Skilled birth attendance remained extremely low over time, and most alarmingly, high coverage of ANC4 steeply dropped to very low levels.

In 2010, Sinazongwe generally fell below the national average across interventions, with ITN use, pentavalent coverage, and exclusive breastfeeding as the exceptions. In comparison with the national average, Sinazongwe showed higher levels of mortality and underweight.

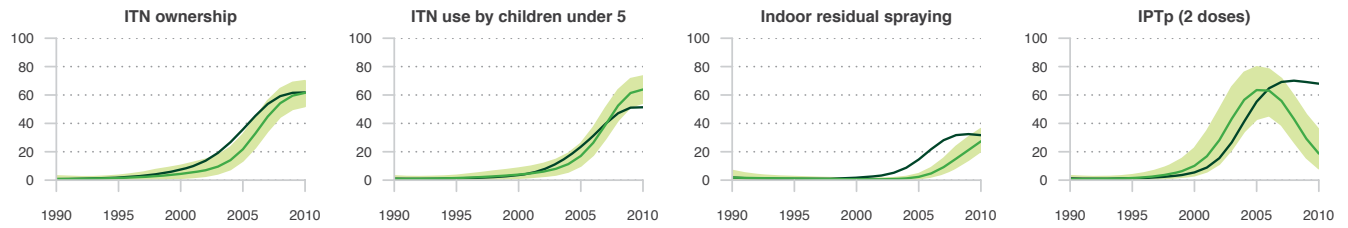
CHILD HEALTH OUTCOMES



From 1990 to 2010, all-cause under-5 mortality declined, dropping 30% from 163 deaths per 1,000 live births in 1990 (95% CI: 126, 207) to 115 in 2010 (95% CI: 83, 156); however, this decline was not statistically significant. In 2010, the district's under-5 mortality 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 11% in the early 1990s to 24% in the mid-2000s. Childhood underweight declined to 18% in 2010 (95% CI: 12%, 25%), but still exceeded the national average of 14%. The district's minimal progress in improving childhood underweight is cause for concern.

MALARIA INTERVENTIONS



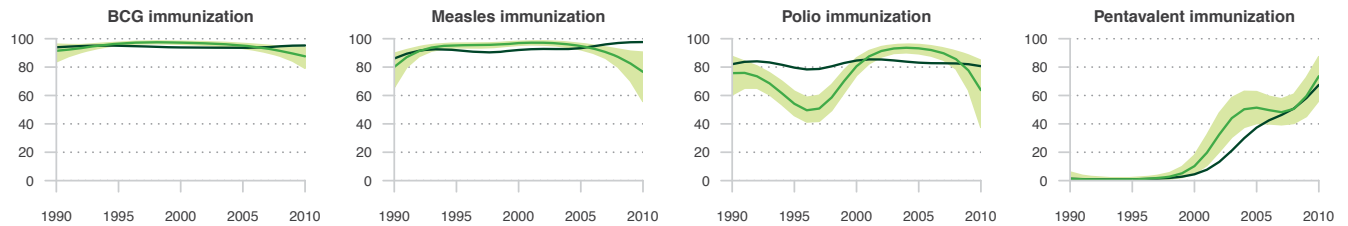
ITN ownership remained under 10% until 2003, after which coverage rapidly rose to 62% in 2010 (95% CI: 52%, 70%), equaling the national average.

ITN use by children under 5 years old increased to 64% in 2010 (95% CI: 54%, 73%), which was well above the national average of 51%. Interestingly, ITN use by children under the age of 5 exceeded ITN ownership in 2010; this finding suggests that, among households with ITNs, net use by children under 5 is likely to be high.

Sinazongwe formally implemented IRS activities in 2010 and reached 27% of households that year (95% CI: 20%, 36%). This scale-up of IRS was on the lower end compared to other districts that also began IRS in 2010.

The proportion of pregnant women who received IPTp2 remained below 10% until 2000, but rapidly rose to 63% in the mid-2000s. IPTp2 coverage decreased after 2006, dropping to 19% in 2010 (95% CI: 8%, 36%), which was among the lowest levels in Zambia. The district's sharp decline in IPTp2 coverage warrants further attention.

IMMUNIZATIONS



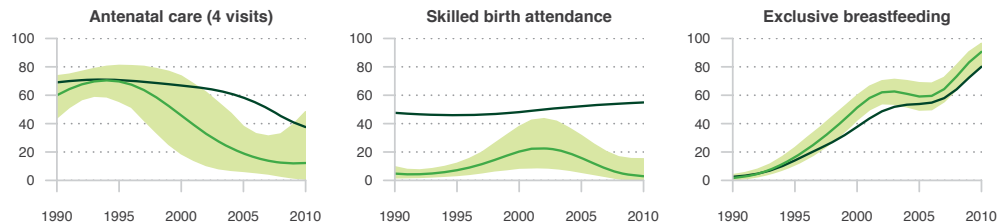
BCG immunization increased from 91% in 1990 (95% CI: 84%, 96%) to 97% in the mid-1990s, which was sustained through 2002. BCG coverage then declined, falling to 88% in 2010 (95% CI: 79%, 94%), which was among the lowest in Zambia.

Measles immunization exceeded 90% in 1992, rising to 97% in 2000 (95% CI: 95%, 98%) and remaining at this level through 2003. However, measles coverage declined rapidly, falling to 77% in 2010 (95% CI: 56%, 90%), among the lowest levels in the country.

Coverage of polio immunization largely varied in the 1990s and early 2000s, dropping to 50% in 1996 (95% CI: 41%, 59%) before rising above 90% from 2002 to 2007. Polio coverage decreased again, falling to 64% in 2010 (95% CI: 38%, 85%), which was lower than the national average of 81%.

After the pentavalent vaccine was formally introduced in Sinazongwe in 2005, coverage hovered around 50% through 2008 and then jumped to 74% in 2010 (95% CI: 56%, 87%), exceeding the national average of 67%.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage steeply fell from 70% in the mid-1990s to 12% in 2009 (95% CI: 2%, 39%). Coverage remained at 12% through 2010, which was among the lowest in Zambia. ANC4 dramatically decreased throughout Zambia from 1990 to 2010, and the finding that Sinazongwe's levels of coverage fell nearly 60 percentage points during this time is troubling.

Skilled birth attendance stayed consistently very low, only rising to 22% in the early 2000s before dropping to 3% in 2010 (95% CI: 0%, 15%) and falling among the lowest levels in

Zambia. The district's extremely low SBA coverage from 1990 to 2010 is quite worrisome.

The proportion of children who were exclusively breastfed in Sinazongwe remained below 20% until 1996, after which coverage rose to 63% in 2003 (95% CI: 54%, 71%). Gains in coverage stalled, remaining around 60% through 2007, but then exclusive breastfeeding increased to 91% in 2010 (95% CI: 81%, 96%). This level of coverage was well above the national average of 80% for 2010.