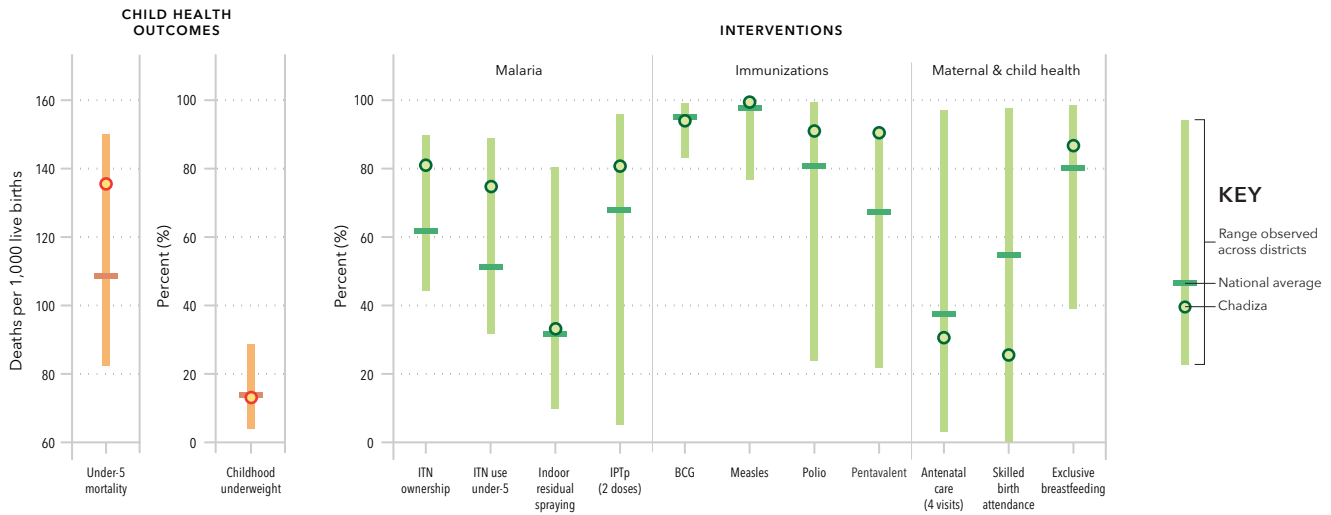


Eastern province



Chadiza



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

Chadiza reduced its all-cause under-5 mortality between 1990 and 2010, but the relative magnitude of the district's progress was fairly low. Further, the district's levels of under-5 mortality remained among the highest in Zambia for 2010. Childhood underweight decreased by 2010, but only after its prevalence increased during the 1990s. Prioritizing ways to further accelerate gains for child health outcomes should be considered.

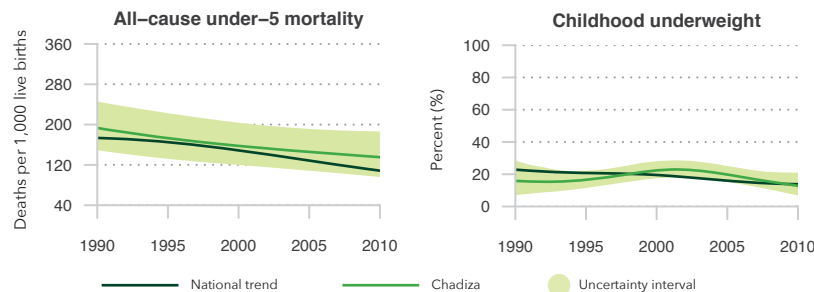
Chadiza had some of the highest levels of ITN coverage in Zambia in 2010, and IPTp2 coverage exceeded the national average after lagging behind national trends. The district had some of the highest levels of measles immunization coverage

in the country, and very quickly expanded coverage of the pentavalent vaccine.

However, ANC4 and skilled birth attendance remained very low from 1990 to 2010. Chadiza would likely benefit from targeting these interventions for improvement.

In 2010, Chadiza generally met or exceeded the national average across malaria interventions and immunizations, but fell below national levels for maternal and child health interventions (with the exception of exclusive breastfeeding). In comparison with the national average, Chadiza showed much higher levels of under-5 mortality and similar levels of underweight.

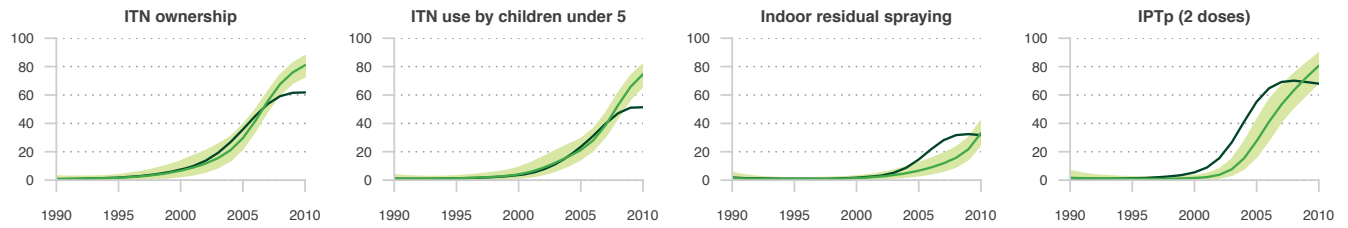
CHILD HEALTH OUTCOMES



From 1990 to 2010, Chadiza recorded a reduction in all-cause under-5 mortality, dropping 30% from 193 deaths per 1,000 live births in 1990 (95% CI: 151, 244) to 135 in 2010 (95% CI: 98, 184); however, this decline was not statistically significant. In 2010, the district's under-5 mortality was well above the national average of 109 deaths per 1,000 live births (95% CI: 104, 116) and was among the highest in Zambia.

The proportion of children who were underweight in Chadiza steadily increased between 1990 and 2001, from 16% (95% CI: 8%, 28%) to 23% (95% CI: 19%, 28%), respectively. After remaining at 23% through 2002, childhood underweight declined to a low of 13% in 2010 (95% CI: 8%, 20%), which was close to that year's national average of 14%.

MALARIA INTERVENTIONS



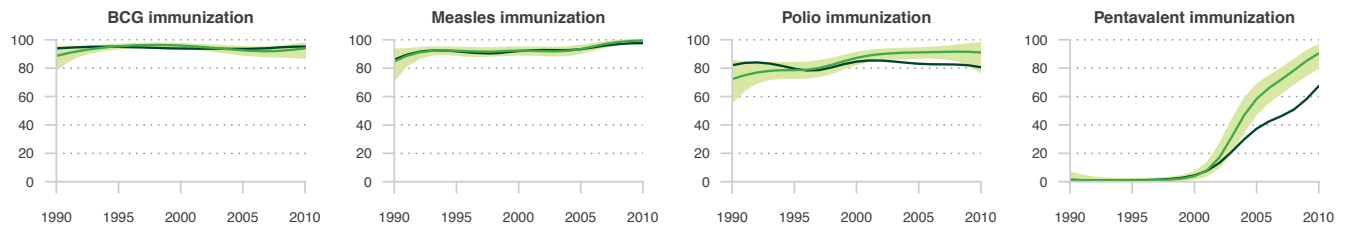
ITN ownership remained below 10% until 2002, after which coverage rapidly rose to 81% in 2010 (95% CI: 73%, 88%), among the highest in Zambia.

ITN use by children under 5 years old quickly increased to 75% in 2010 (95% CI: 66%, 82%), 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.

Chadiza formally implemented IRS activities in 2010, and reached 33% of households that year (95% CI: 25%, 42%). Chadiza had an above-average scale-up of IRS coverage compared to other districts that also began IRS in 2010.

The proportion of pregnant women who received IPTp2 remained below 10% until 2004, but rapidly increased to 81% in 2010 (95% CI: 69%, 90%), far exceeding the national average of 68%.

IMMUNIZATIONS



After 1990, BCG coverage remained above 90% through 2010. The district's highest levels of coverage (96%) were attained between 1996 and 2000. Chadiza held BCG immunization at 94% in 2010 (95% CI: 87%, 98%), which was comparable to the national average of 95%.

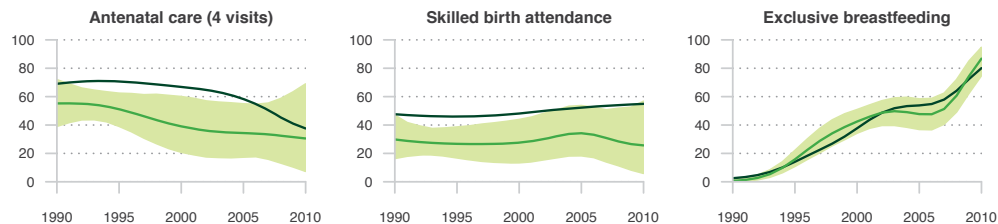
After remaining at 92% coverage between 1995 and 2004, measles immunization steadily increased to 100% in 2010 (95% CI: 98%, 100%). This level of coverage was among the highest in the country for 2010.

Coverage of polio immunization increased from 72% in

1990 (95% CI: 56%, 85%) to 92% in 2007 (95% CI: 87%, 95%). Coverage remained at this level through 2009, after which levels slipped to 91% in 2010 (95% CI: 77%, 98%). Nonetheless, the district's coverage exceeded the national average of 81% for 2010.

After the pentavalent vaccine was formally introduced in Chadiza in 2005, coverage increased to 72% in 2007 (95% CI: 63%, 80%) and 90% in 2010 (95% CI: 81%, 96%), which far surpassed the national average of 67%. This level of pentavalent coverage was one of the highest in Zambia for 2010.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage decreased from 55% in 1990 (95% CI: 39%, 72%) to 31% in 2010 (95% CI: 7%, 69%), which was slightly lower than the national average of 37%. While the district did not experience the same magnitude of decline in coverage as was observed at the national level, Chadiza's levels of ANC4 remained quite low.

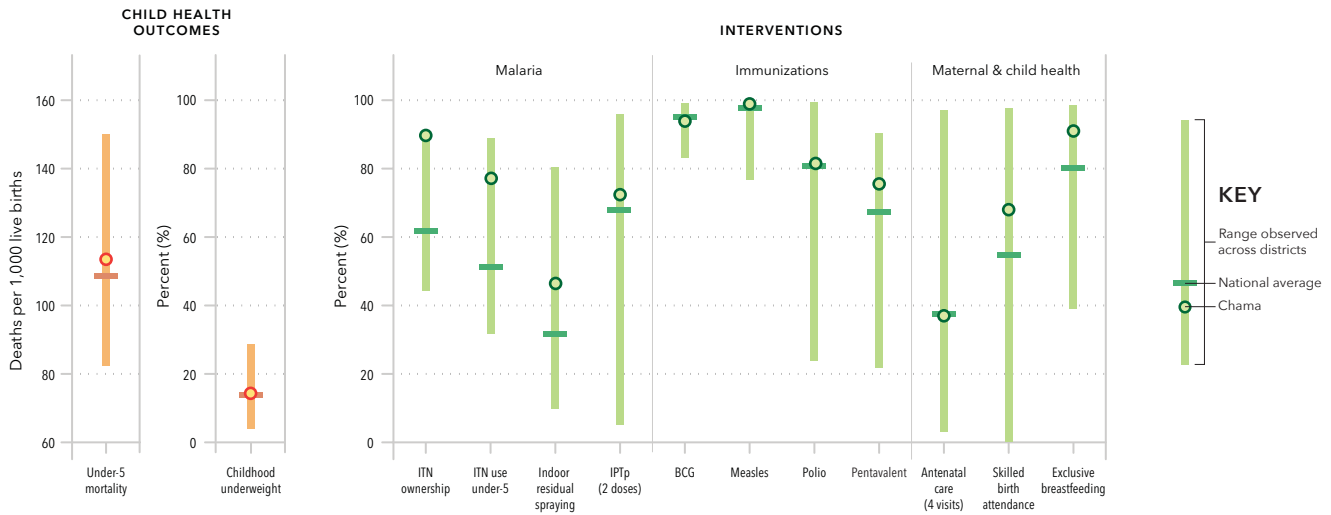
Skilled birth attendance hovered around 30% between 1990 and 2010, eventually coming in at 26% in 2010 (95% CI: 6%, 57%). These levels of skilled birth attendance were con-

sistently lower than the national average (in 2010, national SBA coverage reached 55%), and contrasted with the gradual gains experienced at the national level.

The proportion of children who were exclusively breastfed steadily increased to 42% in 2000 (95% CI: 34%, 51%). Gains in coverage stalled through 2006, with coverage hovering around 50%. Exclusive breastfeeding then rebounded, reaching 87% in 2010 (95% CI: 75%, 95%) and exceeding the national average of 80% for 2010.



Chama



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, Chama substantially reduced all-cause under-5 mortality, though its levels still exceeded the national average in 2010. Childhood underweight decreased in more recent years in Chama. The district could benefit from considering ways to further accelerate gains for child health outcomes.

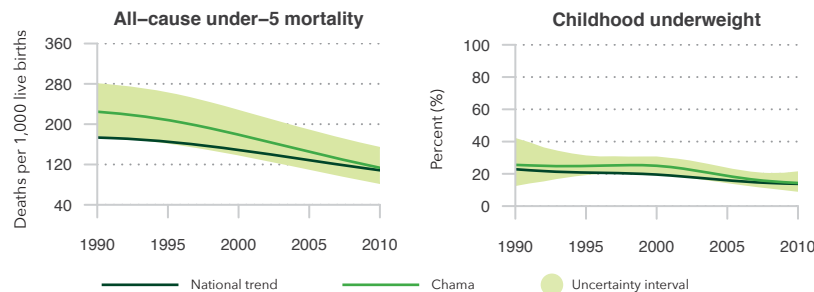
Chama had some of the highest levels of ITN ownership and ITN use in Zambia in 2010, and IPTp2 coverage reached the national average after lagging behind the national trend for many years. The district increased and maintained high levels of BCG and measles coverage. Polio immunization slipped in recent years, but its overall levels of coverage remained quite high. In 2010, coverage of the pentavalent

vaccine and exclusive breastfeeding exceeded national levels.

However, amidst these gains, ANC4 coverage declined substantially. Many districts in Zambia also saw dramatic reductions in ANC4 levels and, like them, Chama will likely benefit from prioritizing this intervention for improvement.

In 2010, Chama generally met or exceeded the national average for all interventions, especially for malaria interventions. In comparison with the national average, Chama showed higher levels of mortality and similar levels of underweight.

CHILD HEALTH OUTCOMES

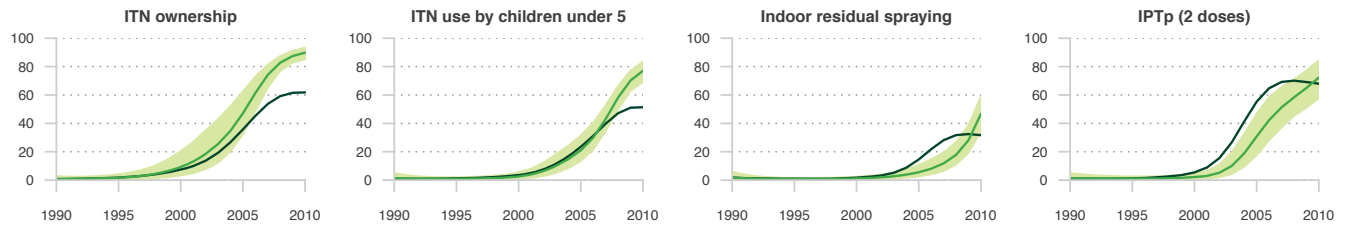


From 1990 to 2010, Chama recorded a significant reduction in all-cause under-5 mortality, dropping 49% from 225 deaths per 1,000 live births in 1990 (95% CI: 178, 279) to 114 in 2010 (95% CI: 83, 153). In 2010, the district's under-5 mortality remained higher than the national average of 109 deaths per 1,000 live births (95% CI: 104, 116). It is important to note that Chama's levels of under-5 mortality were among the highest

in 1990, but the district was quite successful in reducing these levels closer to the national average by 2010.

The proportion of children who were underweight remained at 25% from 1991 to 2000, after which childhood underweight steadily declined to 14% in 2010 (95% CI: 9%, 21%), equaling the national average.

MALARIA INTERVENTIONS



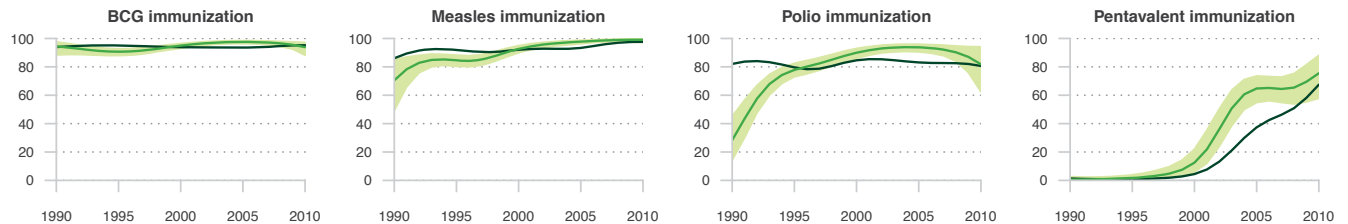
ITN ownership remained below 10% until 2001, after which coverage rapidly climbed to 90% in 2010 (95% CI: 85%, 93%), rising to among the highest in Zambia.

ITN use by children under 5 years old rapidly increased to 77% in 2010 (95% CI: 69%, 84%). Chama's level of ITN use was much higher than the national average of 51% for 2010 and again was among the highest in the country. The difference between ITN ownership and use (13 percentage points) was slightly higher in Chama than what was observed at the national level (11 percentage points).

Chama formally implemented IRS activities in 2010, reaching 47% of households in that same year (95% CI: 34%, 59%). Chama had an above-average scale-up of IRS coverage compared to other districts that also began IRS in 2010.

The proportion of pregnant women who received IPTp2 remained below 10% until 2003, after which coverage rapidly rose to 58% in 2008 (95% CI: 45%, 71%). Coverage reached 72% in 2010 (95% CI: 58%, 84%), which was slightly higher than the national average of 68%.

IMMUNIZATIONS



BCG coverage remained above 90% from 1990 to 2010, with a peak of 98% in 2005 (95% CI: 96%, 99%). In 2010, BCG coverage was at 94% (95% CI: 88%, 97%), which was comparable to the national average of 95%.

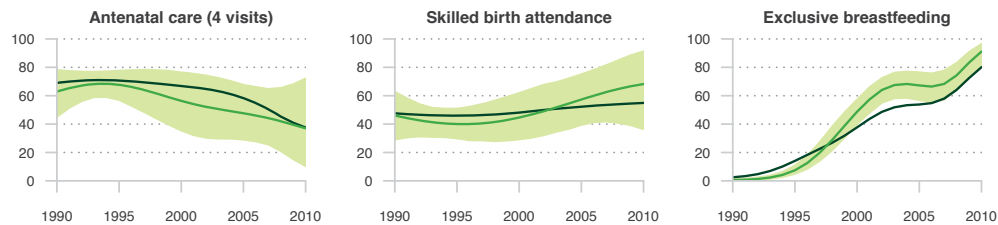
Measles immunization steadily increased from 70% in 1990 (95% CI: 49%, 85%) to 99% in 2007 (95% CI: 98%, 99%). This level of coverage was sustained through 2010, slightly exceeding the national average of 98%.

Coverage of polio immunization dramatically increased

from 28% in 1990 (95% CI: 14%, 45%) to 94% in 2003 (95% CI: 91%, 96%). This level of coverage was maintained through 2005, after which polio immunization fell to 82% in 2010 (95% CI: 62%, 94%), which was comparable to the national average of 81%.

After the pentavalent vaccine was formally introduced in Chama in 2005, coverage hovered around 65% through 2008 and then climbed to 75% in 2010 (95% CI: 58%, 88%), exceeding the national average of 67%.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage declined from 68% in the mid-1990s to 37% in 2010 (95% CI: 10%, 72%), which equaled the national average. ANC4 dramatically decreased throughout Zambia from 1990 to 2010, and the finding that Chama's levels of coverage fell more than 30 percentage points in 15 years is cause for concern.

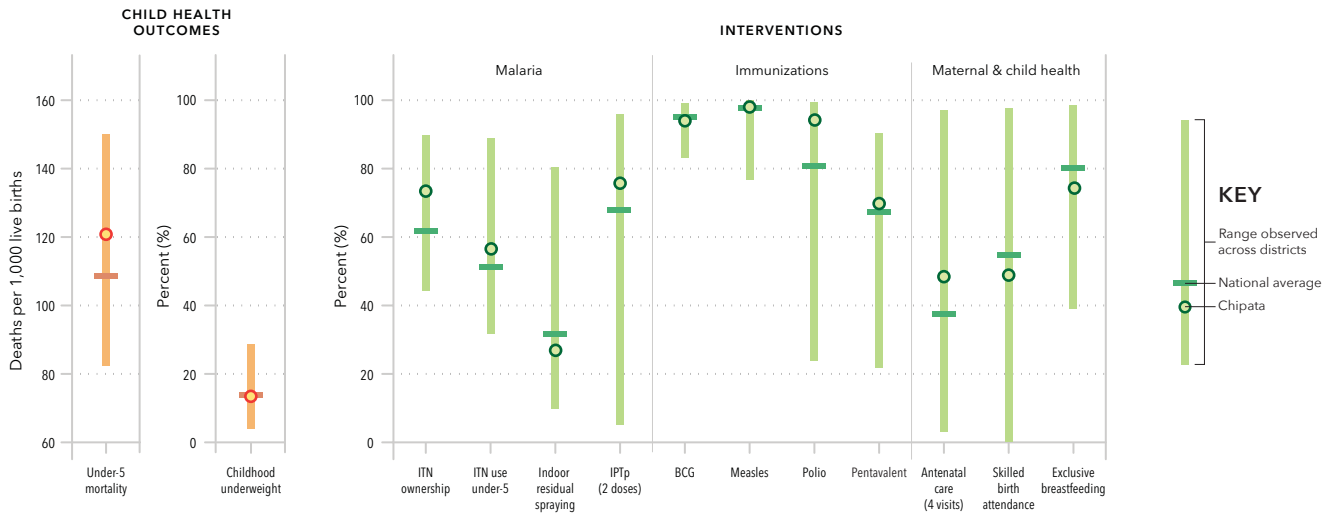
Skilled birth attendance gradually increased from 40% in the mid-1990s to 68% in 2010 (95% CI: 36%, 91%). The dis-

trict's SBA coverage was higher than the national average of 55% in 2010, but remained lower than optimal.

The proportion of children who were exclusively breastfed remained below 20% until 1997, after which coverage rose to 68% in 2003 (95% CI: 58%, 76%) and remained at this level through 2007. Coverage increased again in 2008, eventually rising to 91% in 2010 (95% CI: 81%, 97%) and far exceeding the national average of 80%.



Chipata



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

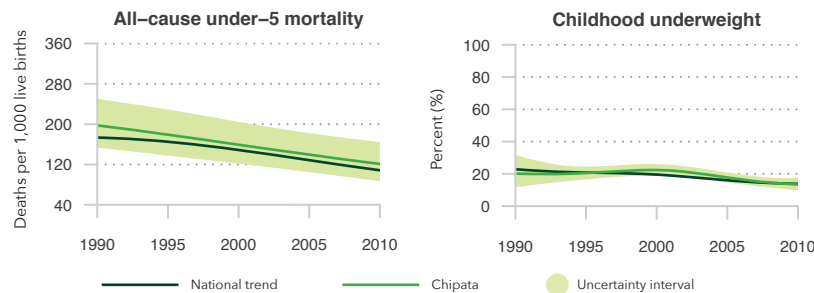
Between 1990 and 2010, Chipata substantially reduced all-cause under-5 mortality, though its mortality levels still exceeded the national average in 2010. Childhood underweight decreased in more recent years in Chipata. Prioritizing ways to further accelerate gains for child health outcomes should be considered.

The district successfully scaled up ITNs and IPTp2 coverage, and did the same for pentavalent vaccine in more recent years. Chipata sustained high levels of routine immunizations, and increased polio coverage to among the highest levels in Zambia.

However, amidst these gains, some troubling trends were identified and warrant further attention. Minimal progress was made in expanding IRS coverage in Chipata, and levels of skilled birth attendance largely stagnated over time. Exclusive breastfeeding coverage was lower than the national average since the mid-2000s, and Chipata recorded declines in ANC4 coverage.

In 2010, Chipata generally met or exceeded the national average for immunizations and malaria interventions, but fell below for maternal and child health interventions. In comparison with the national average, Chipata showed higher levels of mortality and similar levels of underweight.

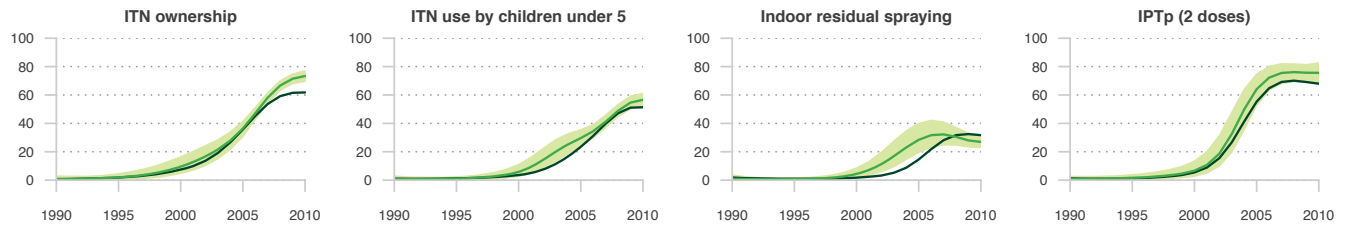
CHILD HEALTH OUTCOMES



From 1990 to 2010, Chipata recorded a significant reduction in all-cause under-5 mortality, dropping 39% from 198 deaths per 1,000 live births in 1990 (95% CI: 156, 248) to 121 in 2010 (95% CI, 89, 163). In 2010, the district's under-5 mortality remained much higher than the national average of 109 deaths per 1,000 live births (95% CI: 104, 116).

The proportion of children who were underweight remained around 20% between the early 1990s and early 2000s, but declined to 13% in 2010 (95% CI: 10%, 17%), which was comparable to the national average of 14%.

MALARIA INTERVENTIONS



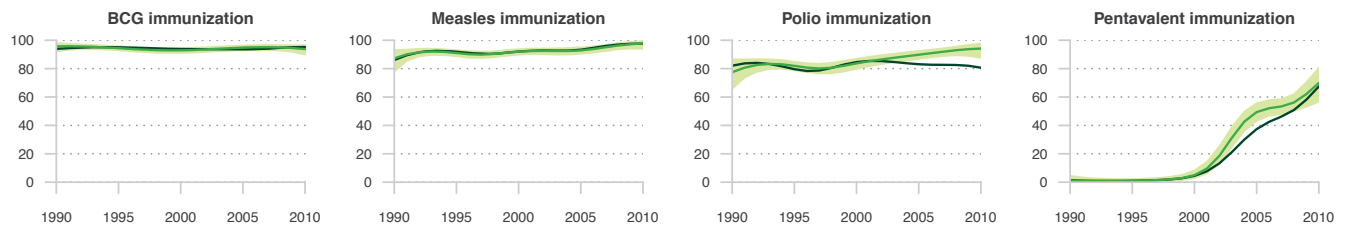
ITN ownership remained below 10% until 2000, after which coverage rapidly rose to 73% in 2010 (95% CI: 70%, 77%) and far exceeded the national average of 62%.

ITN use by children under 5 years old steadily increased to 57% in 2010 (95% CI: 52%, 61%), which was higher than the national average of 51%. The difference between ITN ownership and use (16 percentage points) was higher in Chipata than what was observed at the national level (11 percentage points).

Chipata formally implemented IRS activities in 2008, reaching 31% of households that year (95% CI: 25%, 37%) and 27% in 2010 (95% CI: 23%, 31%). Chipata's scale-up of IRS by 2010 was 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 2001, but rapidly rose to 76% in 2007 (95% CI: 68%, 82%). Coverage was sustained at 76% through 2010, which was higher than the national average of 68%.

IMMUNIZATIONS



BCG coverage remained above 92% from 1990 to 2010, vacillating between 93% and 96% during that time. In 2010, BCG coverage was 94% (95% CI: 90%, 97%), which was comparable to the national average of 95%.

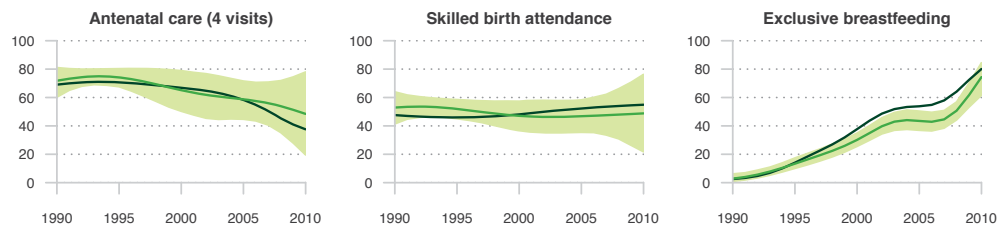
Measles immunization steadily increased from 87% in 1990 (95% CI: 78%, 93%) to 98% in 2010 (95% CI: 94%, 99%). This level of measles coverage equaled the national average for 2010.

Rising from a low of 77% in 1990 (95% CI: 66%, 87%), coverage of polio immunization exceeded 90% in 2006 and

increased to 94% in 2009 (95% CI: 89%, 97%). This level of coverage was maintained through 2010, far surpassing the national average of 81%. Further, the district's polio coverage was among the highest in Zambia for 2010.

After the pentavalent vaccine was formally introduced in Chipata in 2005, coverage increased to 52% in 2006 (95% CI: 47%, 58%) and 70% in 2010 (95% CI: 57%, 81%), which was slightly higher than the national average of 67%.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage declined from 75% in the mid-1990s to 48% in 2010 (95% CI: 20%, 78%). ANC4 levels dramatically decreased throughout Zambia from 1990 to 2010, and while coverage in Chipata was higher than the national average of 37% in 2010, its levels remained low.

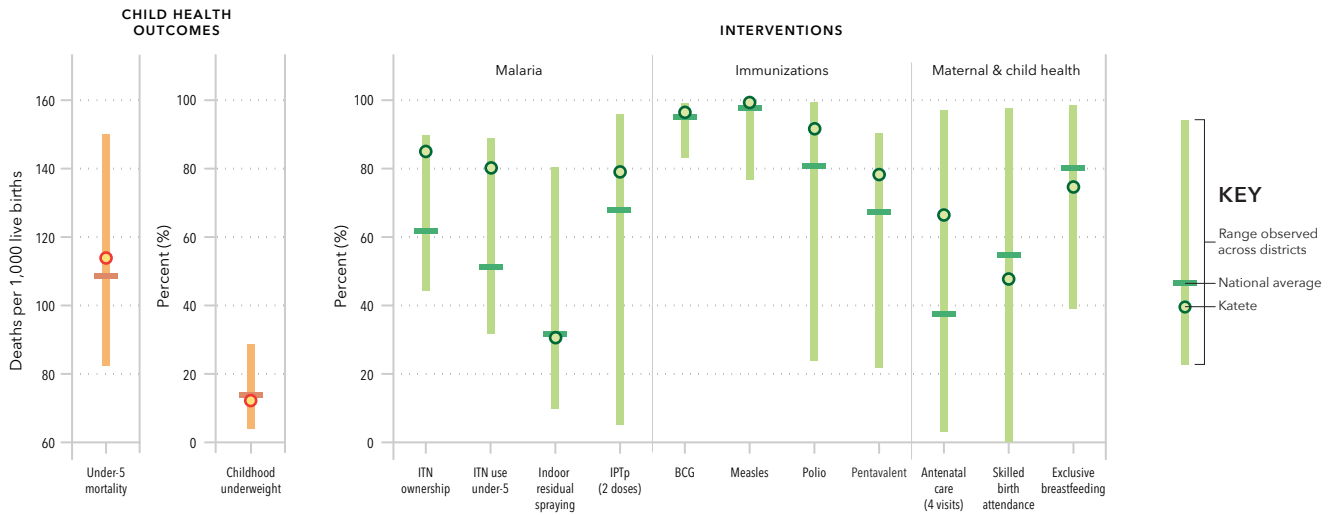
Skilled birth attendance hovered around 50% between 1990 and 2010, with a high of 54% in 1992 (95% CI: 46%, 61%) and low of 46% during the mid-2000s. In 2010, SBA coverage

in Chipata was 49% (95% CI: 22%, 76%), which was slightly lower than the national average of 55%.

The proportion of children who were exclusively breastfed remained below 20% until 1998, after which coverage rose to 40% in 2002 (95% CI: 34%, 46%). Coverage stalled around 44% until 2007, after which levels climbed to 74% in 2010 (95% CI: 62%, 85%), but still remained lower than the national average of 80%.



Katete



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, Katete substantially reduced all-cause under-5 mortality and childhood underweight; however, under-5 mortality remained higher than the national average. Prioritizing ways to further accelerate gains for child health outcomes should be considered.

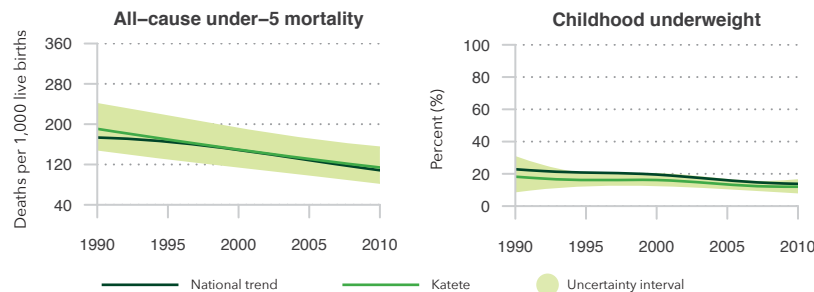
The district rapidly scaled up IPTp2 coverage well beyond the national average, and ITN coverage climbed to among the highest levels in the country. Katete generally maintained or increased levels of routine immunizations, and was able to quickly expand coverage of the pentavalent vaccine. Unlike the rest of the country, levels of ANC4 coverage remained at moderately high levels over time.

However, amidst these gains, some worrisome trends

were identified and warrant further attention. Spraying was not scaled up as quickly as other malaria interventions. Gains in exclusive breastfeeding lagged well behind the national average, and Katete had consistently low levels of skilled birth attendance.

In 2010, Katete generally met or exceeded national levels for malaria interventions and immunizations, but fell below for maternal and child health interventions (with the exception of ANC4). In comparison with the national average, Katete showed higher levels of mortality and slightly lower levels of underweight.

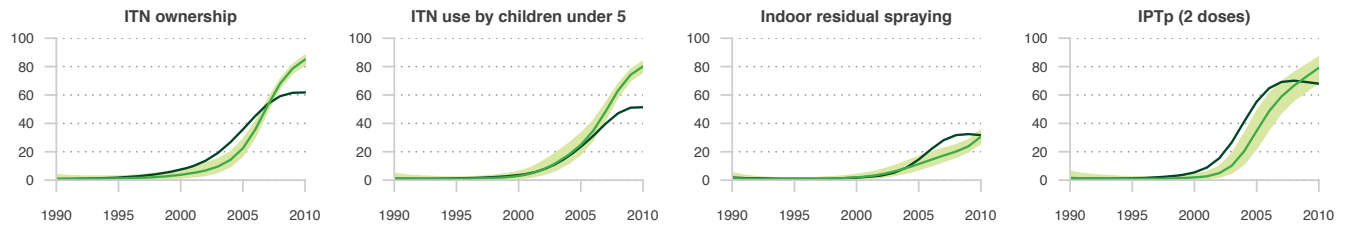
CHILD HEALTH OUTCOMES



From 1990 to 2010, Katete recorded a significant reduction in all-cause under-5 mortality, dropping 40% from 191 deaths per 1,000 live births in 1990 (95% CI: 150, 240) to 114 in 2010 (95% CI: 83, 154). In 2010, the district's under-5 mortality remained higher than the national average of 109 deaths per 1,000 live births (95% CI: 104, 116).

The proportion of children who were underweight gradually decreased from 18% in 1990 (95% CI: 9%, 30%) to 12% in 2007 (95% CI: 10%, 15%). This level of childhood underweight was maintained through 2010 and was slightly below the national average of 14%.

MALARIA INTERVENTIONS



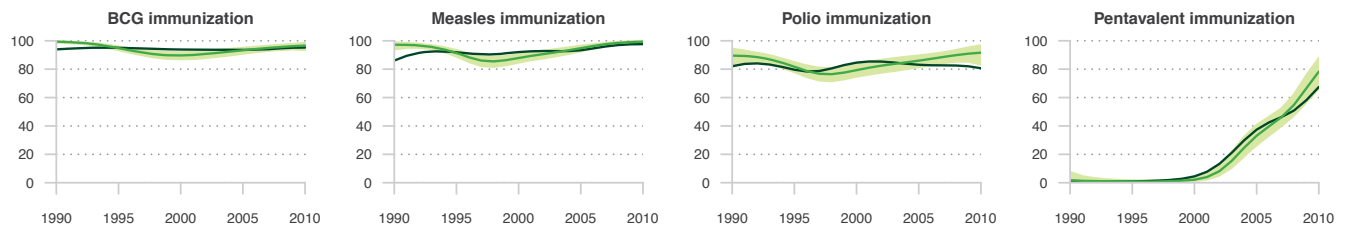
ITN ownership remained below 10% until 2003, after which coverage rapidly climbed to 85% in 2010 (95% CI: 81%, 88%) and was among the highest in Zambia.

ITN use by children under 5 years old quickly increased to 80% in 2010 (95% CI: 76%, 84%), which again was among the highest in the country. In 2010, the difference between ITN ownership and ITN use was quite low, suggesting that net use by children under 5 may be high among households that have ITNs.

Katete formally implemented IRS activities in 2008, reaching 20% of households that year (95% CI: 16%, 25%) and 31% in 2010 (95% CI: 26%, 35%). Katete's scale-up of IRS by 2010 was 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 2003, but rapidly rose to 67% in 2008 (95% CI: 56%, 76%). Coverage reached 79% in 2010 (95% CI: 69%, 87%), which exceeded the national average of 68%.

IMMUNIZATIONS



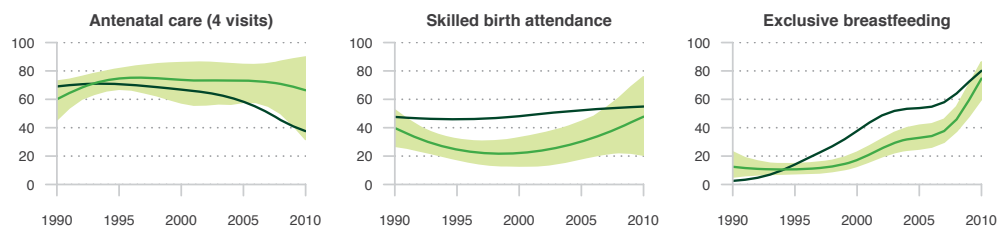
BCG coverage declined from 99% in the early 1990s to 90% during the late 1990s and early 2000s, but rebounded to 97% in 2010 (95% CI: 93%, 99%), exceeding the national average of 95%.

Measles immunization fell from 97% in the early 1990s to 85% in 1998 (95% CI: 82%, 89%), but increased to 99% in 2008 (95% CI: 97%, 99%). This level of coverage was sustained through 2010, slightly exceeding the national average of 98%.

Polio coverage declined from 90% in 1990 (95% CI: 82%, 95%) to 76% in 1998 (95% CI: 71%, 81%), but recovered to 92% in 2010 (95% CI: 83%, 97%), far exceeding the national average of 81%.

After the pentavalent vaccine was formally introduced in Katete in 2005, coverage increased to 40% in 2006 (95% CI: 33%, 47%) and 78% in 2010 (95% CI: 66%, 88%), surpassing the national average of 67%.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage increased from 60% in 1990 (95% CI: 46%, 73%) to 75% in the late 1990s, but declined to 66% in 2010 (95% CI: 32%, 90%). Katete did not experience the same magnitude of decreasing ANC4 coverage that was observed at the national level, and the district's level of ANC4 was higher than the national average of 37% in 2010. Nonetheless, the district's ANC4 coverage was considered fairly moderate.

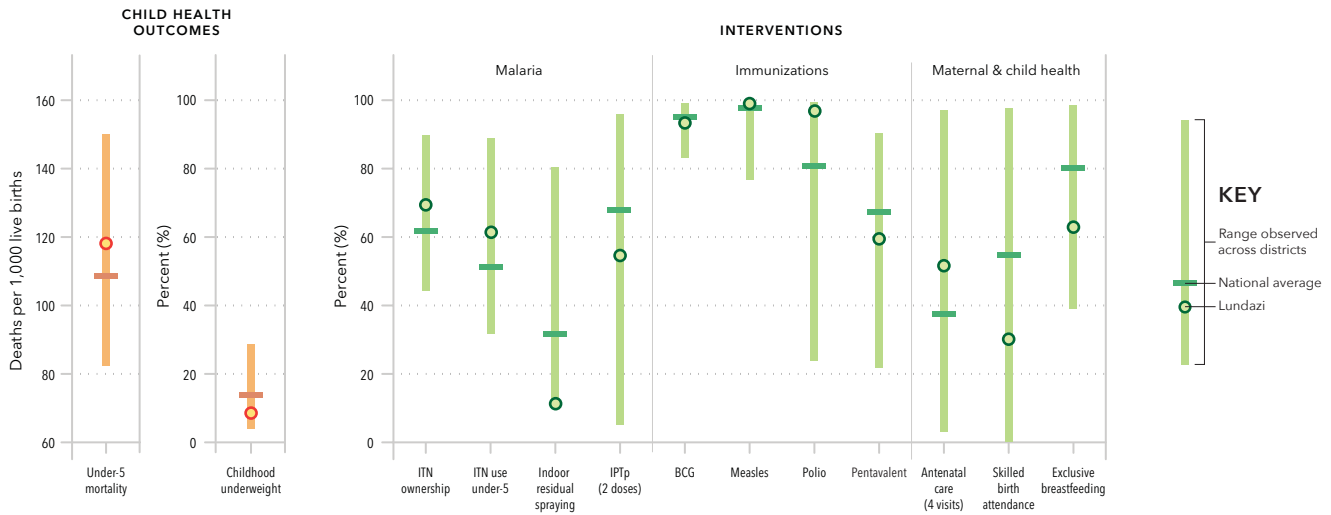
Skilled birth attendance declined from 40% in 1990 (95% CI: 27%, 53%) to 22% in 1997 (95% CI: 14%, 30%). This low level of coverage was maintained through 2000, after which

SBA increased to 48% in 2010 (95% CI: 21%, 76%) but was still lower than the national average of 55%.

The proportion of children who were exclusively breastfed remained below 20% until 2001, after which coverage rapidly rose to 75% in 2010 (95% CI: 60%, 86%). Katete's levels of exclusive breastfeeding were lower than the national average of 80% for 2010; however, it is important to note that the difference in Katete's levels of coverage and the national trend was much larger in the early 2000s.



Lundazi



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, Lundazi substantially reduced all-cause under-5 mortality. Childhood underweight dramatically decreased, bringing the district's prevalence well under the national average in 2010. Prioritizing ways to maintain these rates of progress in child health outcomes should be considered.

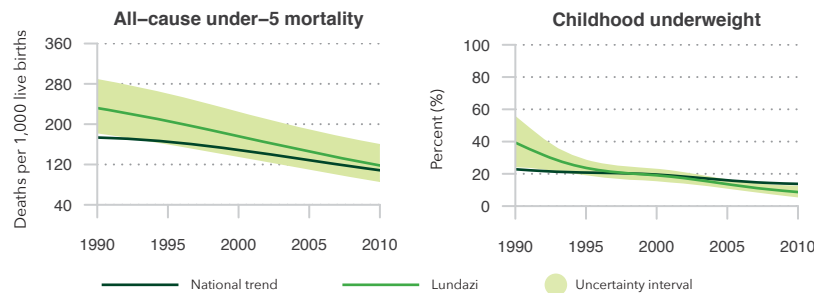
Lundazi scaled up ITNs over time and generally maintained high levels or increased coverage of routine immunizations. The district's coverage of polio immunization climbed to some of the highest levels in Zambia for 2010.

However, amidst these gains, several troubling trends were identified and warrant further attention. Lundazi was not as successful in expanding IPTp2 coverage and spraying as it

was for ITNs. Exclusive breastfeeding continually lagged behind the national trend and was among the lowest in Zambia in 2010. Progress in further scaling up the pentavalent vaccine stalled in recent years. ANC4 dropped substantially during the late 1990s, and levels of skilled birth attendance remained very low.

In 2010, Lundazi generally met or exceeded the national average for immunizations, but fell below for maternal and child health interventions (except for ANC4). The district's performance was less consistent for malaria interventions. In comparison with the national average, Lundazi showed higher levels of mortality and lower levels of underweight.

CHILD HEALTH OUTCOMES

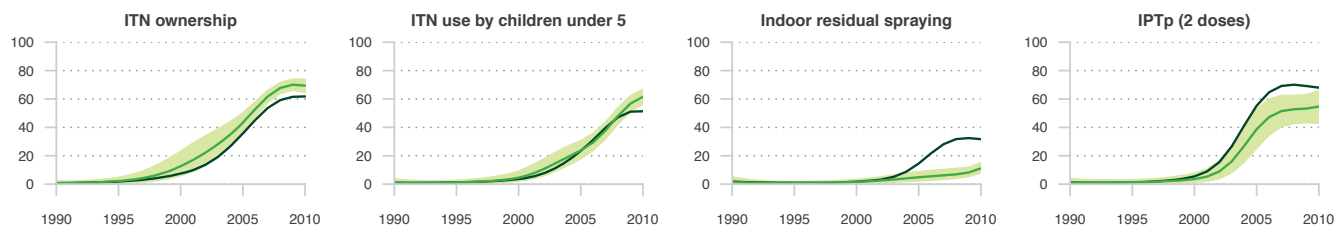


From 1990 to 2010, Lundazi recorded a significant reduction in all-cause under-5 mortality, dropping 49% from 232 deaths per 1,000 live births in 1990 (95% CI: 184, 288) to 118 in 2010 (95% CI: 87, 159). In 2010, the district's under-5 mortality remained higher than the national average of 109 deaths per 1,000 live births (95% CI: 104, 116). It is important to note that under-5 mortality in Lundazi was among the highest in Zambia in 1990, but the district was quite successful in decreasing its

levels closer to the national average in 2010.

The proportion of children who were underweight drastically fell from 39% in 1990 (95% CI: 25%, 55%) to 9% in 2009 and 2010, which was lower than the national average of 14%. The district's progress in reducing childhood underweight is particularly notable given how high prevalence was in the early 1990s.

MALARIA INTERVENTIONS



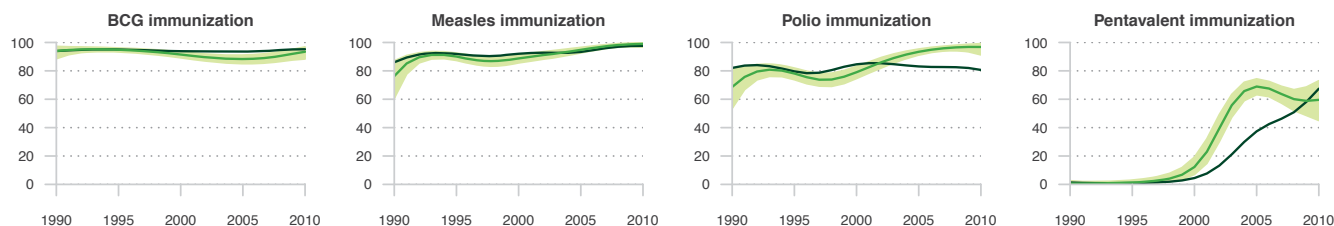
ITN ownership remained below 10% until 2000, after which coverage rapidly rose to 70% in 2009 (95% CI: 66%, 74%). ITN ownership slightly slipped to 69% in 2010 (95% CI: 65%, 74%), but was still much higher than the national average of 62%.

ITN use by children under 5 years old increased to 62% in 2010 (95% CI: 56%, 67%), which was much higher than the national average of 51%. In 2010, the difference between ITN ownership and use (7 percentage points) was lower in Lundazi than what was observed at the national level (11 percentage points).

Lundazi formally implemented IRS activities in 2010, and reached 11% of households that year (95% CI: 8%, 15%). Lundazi's 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 2003, but rose to 51% in 2007 (95% CI: 41%, 62%). However, gains in coverage stalled through 2010, with IPTp2 levels only increasing to 55% in 2010 (95% CI: 43%, 66%). This level of IPTp2 coverage was much lower than the national average of 68% in 2010.

IMMUNIZATIONS



While BCG immunization largely remained above 90% from 1990 to 2010, coverage fell below 90% from 2003 to 2007 before rising to 93% in 2010 (95% CI: 88%, 97%). This level of coverage was below the national average of 95% for 2010.

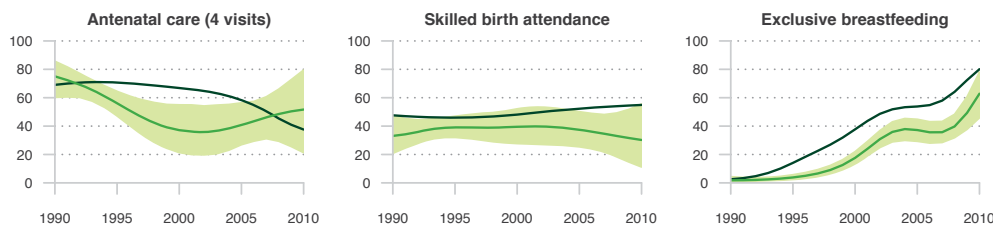
Measles immunization steadily increased from 76% in 1990 (95% CI: 61%, 87%) to 99% in 2009 (95% CI: 97%, 100%). This level of coverage was sustained through 2010, slightly exceeding the national average of 98%.

Polio immunization coverage largely varied for many

years, rising above and falling below 80% through 2001, before steadily increasing to 97% in 2008 (95% CI: 94%, 98%). This level of polio immunization was sustained through 2010, which was among the highest in Zambia.

After the pentavalent vaccine was formally introduced in Lundazi in 2005, coverage increased to 69% that year (95% CI: 63%, 74%). However, gains stalled and coverage dropped to 60% in 2010 (95% CI: 45%, 73%), which was slightly lower than the national average of 67%.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage declined sharply from 75% in 1990 (95% CI: 60%, 86%) to 36% in the early 2000s, after which coverage levels gradually increased to 52% in 2010 (95% CI: 21%, 79%). Lundazi's ANC4 coverage in 2010 was higher than the national average of 37%, and the district's recent gains contrasted with the national trend of continuous declines. Nonetheless, the district's level of coverage remained relatively low.

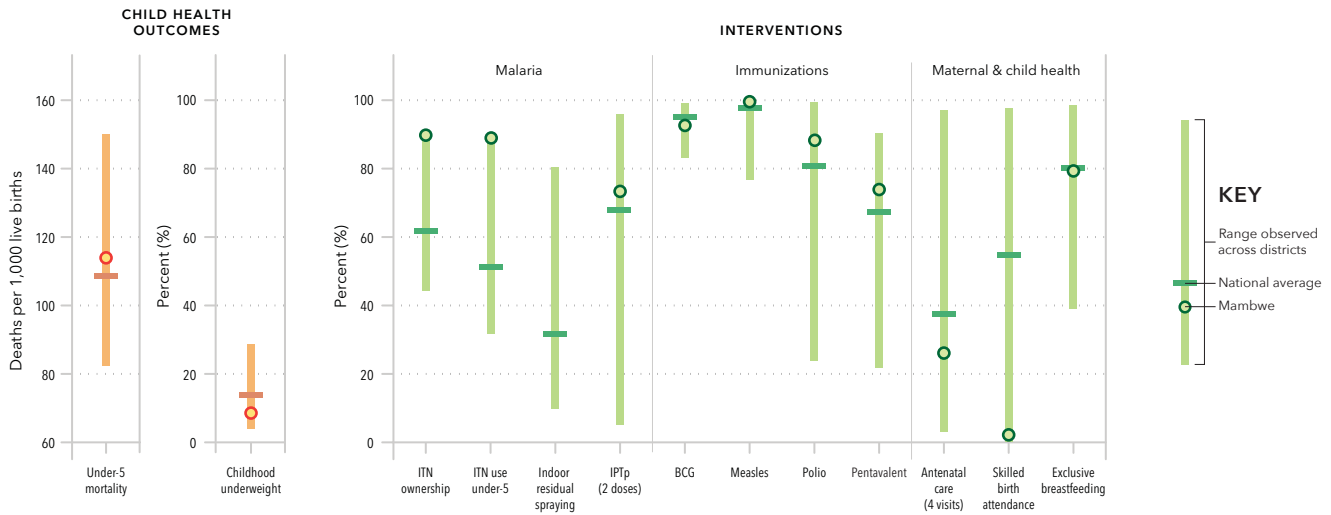
Skilled birth attendance gradually increased from 33% in 1990 (95% CI: 21%, 47%) to 40% in the early 2000s. However,

SBA coverage then dropped to 30% in 2010 (95% CI: 11%, 56%), falling below the national average of 55%.

The proportion of children who were exclusively breastfed remained below 20% until 2001, after which coverage rose to 36% in 2003 (95% CI: 29%, 43%). Coverage stagnated around 40% through 2008 and then increased to 63% in 2010 (95% CI: 46%, 78%). Nonetheless, this level of exclusive breastfeeding was among the lowest in Zambia.



Mambwe



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 Mambwe started IRS after 2010.

SUMMARY

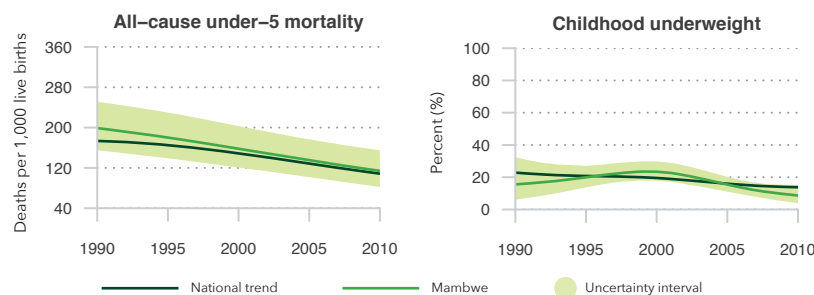
Mambwe substantially reduced all-cause under-5 mortality between 1990 and 2010, but the district's level of mortality remained higher than the national average in 2010. Childhood underweight increased during the 1990s, but the district dramatically reduced prevalence to among the lowest levels in Zambia in 2010. Prioritizing ways to further accelerate gains for child health outcomes should be considered.

The district rapidly increased ITN ownership and use to some of the highest levels in the country, while its trends in IPTp2 coverage closely followed national levels. Mambwe quickly scaled up coverage of the pentavalent vaccine, but experienced minimal gains in exclusive breastfeeding until recently. High levels of immunization coverage were generally maintained, with measles coverage rising to among the highest in Zambia.

However, amidst these gains, some troubling trends were identified and warrant further attention. ANC4 stagnated at very low levels from 1990 to 2010. In 2010, skilled birth attendance in Mambwe dropped to some of the lowest levels in Zambia. Given these trends, Mambwe would likely benefit from targeting these interventions for improvement.

In 2010, Mambwe generally met or exceeded national levels for malaria interventions and immunizations, but fell below for maternal and child health interventions (not including exclusive breastfeeding). In comparison with the national averages, Mambwe showed higher levels of mortality and lower levels of underweight.

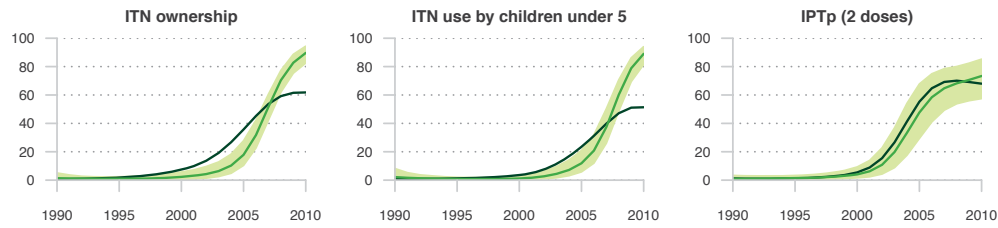
CHILD HEALTH OUTCOMES



From 1990 to 2010, Mambwe recorded a significant reduction in all-cause under-5 mortality, dropping 43% from 199 deaths per 1,000 live births in 1990 (95% CI: 157, 249) to 114 in 2010 (95% CI: 84, 153). In 2010, the district's under-5 mortality remained 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 between 1990 and 1999, rising from 16% in 1990 (95% CI: 7%, 32%) to 24% in 1999 (95% CI: 19%, 29%). In 2000, levels of childhood underweight began decreasing, dropping to 9% in 2010 (95% CI: 5%, 15%) and falling among the lowest in Zambia that year.

MALARIA INTERVENTIONS



ITN ownership remained below 10% until 2004, after which coverage climbed to 90% in 2010 (95% CI: 83%, 94%), rising to among the highest in Zambia. Mambwe's scale-up of ITN ownership is notable given that the district's levels of coverage lagged behind the national trend until 2007.

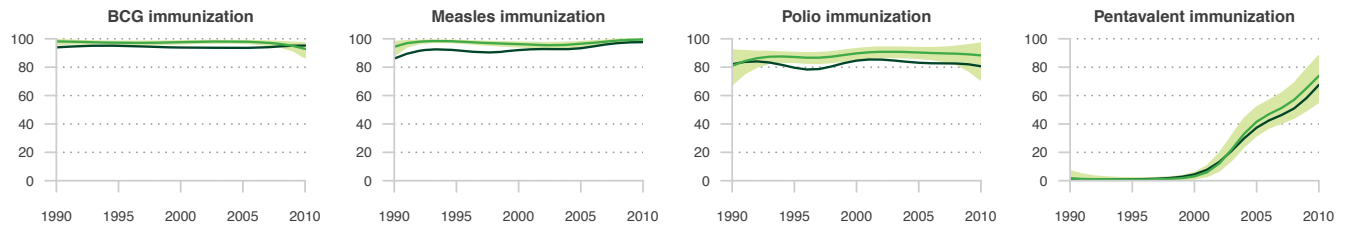
ITN use by children under 5 years old quickly increased to 89% in 2010 (95% CI: 81%, 94%), which was among the highest in the country. In 2010, household ownership of ITNs in Mambwe essentially equaled ITN use by children under 5;

this finding suggests that, among households with ITNs, net use by children under 5 is likely to be high.

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

The proportion of pregnant women who received IPTp2 remained below 10% until 2002, but rapidly rose to 73% in 2010 (95% CI: 57%, 85%), which was slightly higher than the national average of 68%.

IMMUNIZATIONS



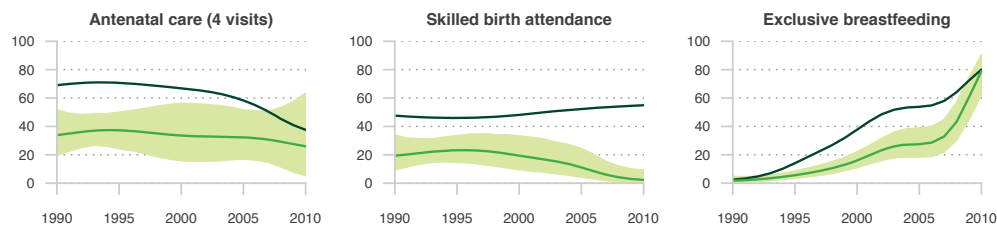
BCG coverage remained between 97% and 98% from 1990 to 2007, but dropped to 93% in 2010 (95% CI: 87%, 97%), falling below the national average of 95%.

Measles immunization remained between 96% and 98% from 1991 to 2007, after which coverage increased to 99% in 2008 (95% CI: 98%, 100%) and was sustained at this level through 2010. This level of coverage was slightly higher than the national average of 98%.

Coverage of polio immunization steadily increased from 81% in 1990 (95% CI: 68%, 92%) to 91% in 2002 (95% CI: 87%, 94%). This level of coverage was maintained through 2004, after which polio immunization slipped to 88% in 2010 (95% CI: 71%, 97%), remaining above the national average of 81%.

After the pentavalent vaccine was formally introduced in Mambwe in 2005, coverage increased to 47% in 2006 (95% CI: 37%, 57%) and 74% in 2010 (95% CI: 55%, 88%), slightly exceeding the national average of 67%.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage remained between 33% and 37% from 1990 to 2004, after which coverage dropped to 26% in 2010 (95% CI: 5%, 63%) and fell below the national average of 37%. The district's consistently low levels of ANC4 are worrisome.

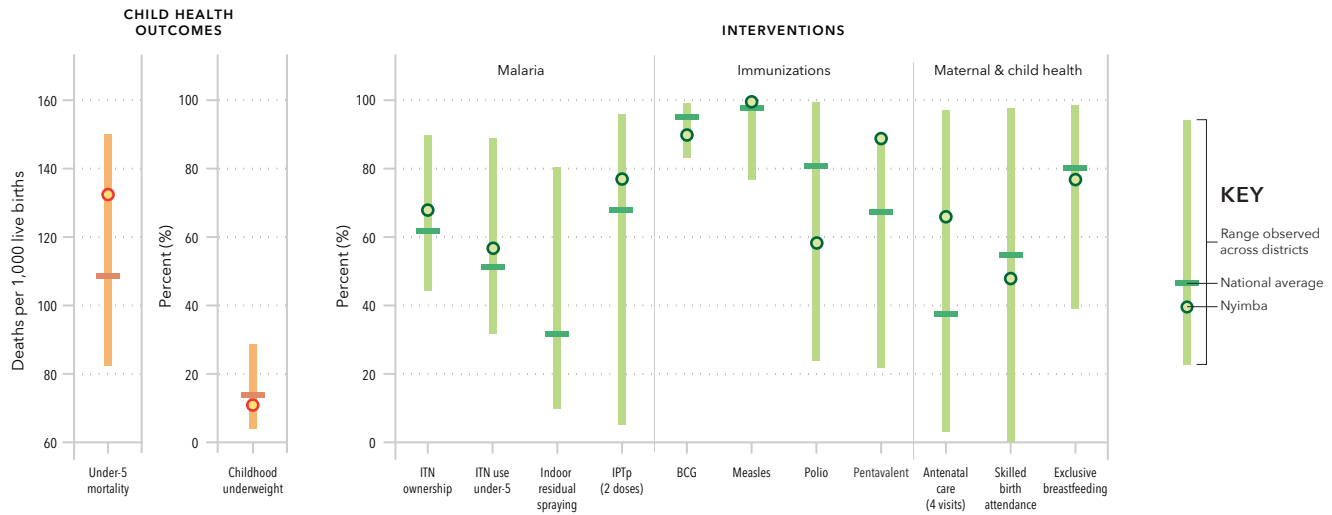
Skilled birth attendance hovered around 20% from 1990 to 2002, but dropped below 10% in 2006 and fell to 2% in 2010 (95% CI: 0%, 9%). This level of skilled birth attendance was drastically lower than the national average of 55% for 2010 and was among the lowest in Zambia. Mambwe's ex-

ceedingly low levels of SBA coverage, especially in recent years, are cause for concern.

The proportion of children who were exclusively breastfed in the district remained below 20% until 2001. Coverage gradually increased, rising to 43% in 2008 (95% CI: 31%, 57%), but then rapidly climbed to 79% in 2010 (95% CI: 62%, 90%), nearly equaling the national average of 80%.



Nyimba



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 Nyimba started IRS after 2010.

SUMMARY

Between 1990 and 2010, Nyimba substantially reduced all-cause under-5 mortality, though its mortality rates still remained among the highest in Zambia for 2010. Childhood underweight decreased in more recent years. Prioritizing ways to accelerate gains for child health outcomes should be considered.

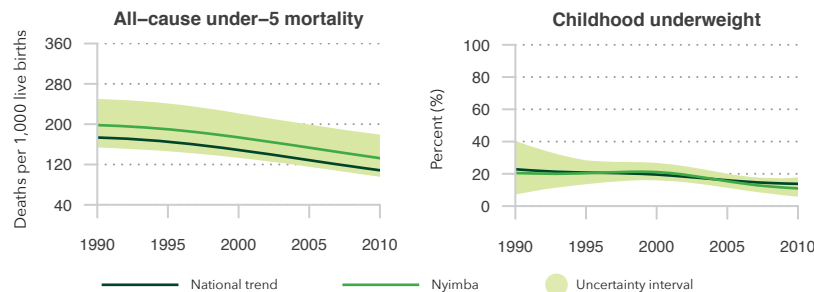
The district scaled up and maintained levels of ITNs and IPTp2 through 2010. Nyimba also sustained high levels of measles immunization, bringing its coverage to some of the highest levels in Zambia, and expanded coverage of the pentavalent vaccine to among the highest in the country in 2010. Nyimba's ANC4 coverage was generally higher than the national trend.

On the other hand, the district's gradual gains in skilled

birth attendance did not offset its consistently low levels of coverage. Further, BCG coverage dropped and levels of polio immunization declined sharply in recent years, with each falling among the lowest in Zambia for 2010. Given these worrisome trends, Nyimba will likely benefit from targeting these interventions for improvement.

In 2010, Nyimba generally exceeded the national averages for malaria interventions, but fell below for maternal and child health interventions (with the exception of ANC4). For immunizations, the district's performance was more mixed. In comparison with the national average, Nyimba showed much higher levels of mortality and lower levels of underweight.

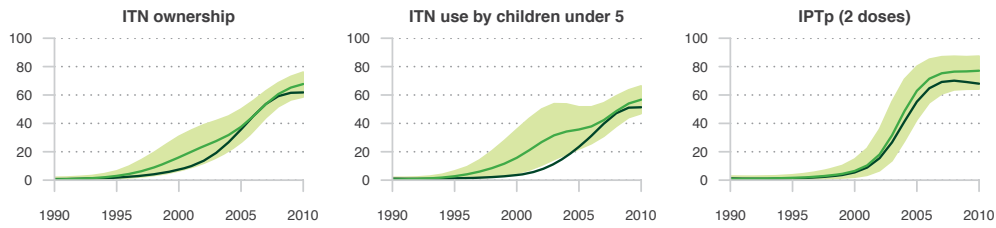
CHILD HEALTH OUTCOMES



From 1990 to 2010, Nyimba recorded a significant reduction in all-cause under-5 mortality, dropping 33% from 198 deaths per 1,000 live births in 1990 (95% CI: 156, 248) to 133 in 2010 (95% CI: 98, 177). In 2010, the district's under-5 mortality remained 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.

The proportion of children who were underweight remained around 20% until 2002, after which levels fell to 11% in 2009 (95% CI: 7%, 17%) and stayed at this level through 2010. Underweight in Nyimba was lower than the national average of 14% in 2010.

MALARIA INTERVENTIONS



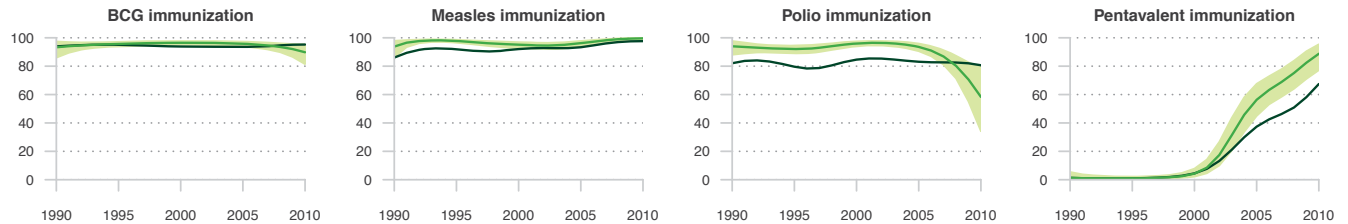
ITN ownership remained below 10% until 1999, after which coverage increased to 68% in 2010 (95% CI: 59%, 76%) and slightly exceeded the national average of 62%.

ITN use by children under 5 years old steadily increased to 57% in 2010 (95% CI: 47%, 66%), which was slightly higher than the national average of 51%. In 2010, the difference between ITN ownership and use (11 percentage points) in Nyimba equaled what was observed at the national level.

IRS coverage trends are not included because Nyimba 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 75% in 2007 (95% CI: 61%, 87%). Coverage slightly increased to 77% in 2009 (95% CI: 64%, 87%) and remained at 77% through 2010, which was higher than the national average of 68% in 2010.

IMMUNIZATIONS



BCG coverage remained between 93% and 96% from 1990 to 2005, but dropped to 90% in 2010 (95% CI: 81%, 95%). This level of coverage was lower than the national average of 95% and was among the lowest in Zambia for 2010.

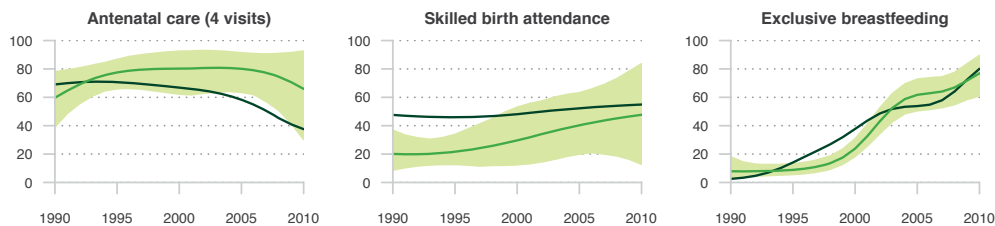
Measles immunization coverage slightly decreased from 98% in the mid-1990s to 95% during the early 2000s, but steadily increased to 100% in 2010 (95% CI: 99%, 100%) and was among the highest in Zambia for that year.

Coverage of polio immunization was consistently higher

than the national trend between 1990 and 2005, ranging between 92% and 96% coverage, but dropped to 58% in 2010 (95% CI: 34%, 79%), among the lowest in Zambia.

After the pentavalent vaccine was formally introduced in Nyimba in 2005, coverage increased to 63% in 2006 (95% CI: 53%, 73%) and 89% in 2010 (95% CI: 77%, 95%). Nyimba achieved a much higher level of pentavalent coverage than the national average of 67% in 2010 and recorded one of the highest levels of coverage in Zambia for that year.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage steadily increased from 60% in 1990 (95% CI: 39%, 78%) to 81% in 2002 (95% CI: 63%, 93%). This level of ANC4 coverage was sustained through 2004, after which coverage declined to 66% in 2010 (95% CI: 30%, 93%). This level of coverage was higher than the national average of 37%, but remained lower than optimal.

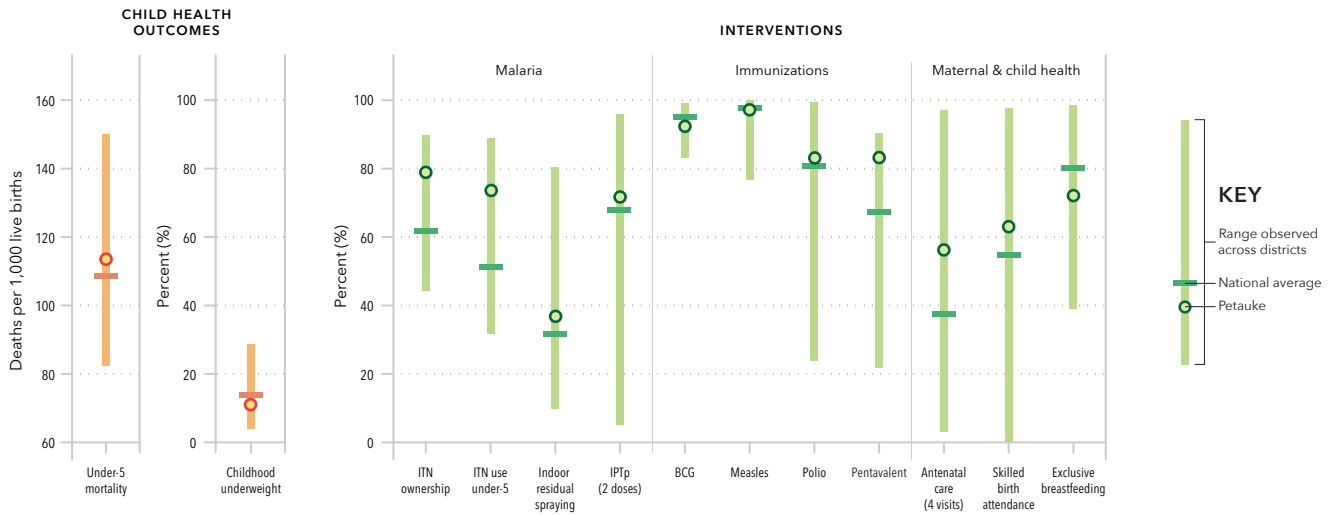
Skilled birth attendance slowly increased from 20% in the early 1990s to 48% in 2010 (95% CI: 13%, 84%). Despite

this gradual gain, SBA coverage in Nyimba remained slightly lower than the national average of 55%.

The proportion of children who were exclusively breastfed remained below 20% until 2000, after which coverage rapidly increased to 62% in 2005 (95% CI: 51%, 73%). Gains in exclusive breastfeeding stalled for a few years before rising to 77% in 2010 (95% CI: 61%, 89%), which was slightly lower than the national average of 80%.



Petauke



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

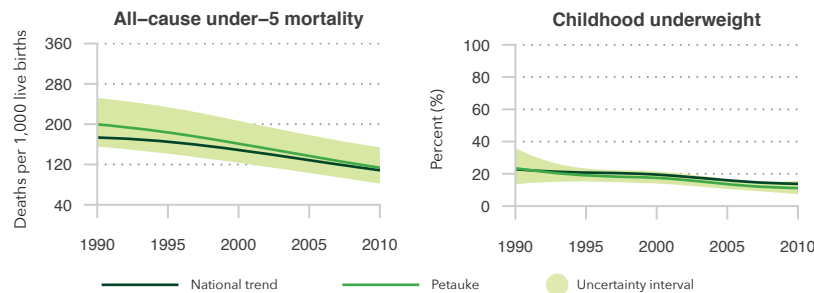
All-cause under-5 mortality substantially declined in Petauke between 1990 and 2010, but its mortality levels still exceeded the national average in 2010. Childhood underweight decreased in Petauke, falling below the national average in 2010. Prioritizing ways to further accelerate gains for child health outcomes should be considered.

Petauke steadily scaled up ITNs over time and levels of IPTp2 coverage closely followed the national scale-up. At the same time that most routine immunization coverage closely followed national trends, Petauke successfully scaled up the pentavalent vaccine to among the highest levels of coverage in Zambia for 2010.

However, amidst these gains, worrisome trends were identified and warrant further attention. For example, Petauke made less progress in scaling up IRS. Minimal gains were made in skilled birth attendance, and ANC4 coverage stagnated over time. Exclusive breastfeeding continually lagged behind the national trend, and BCG immunization declined during the late 2000s.

In 2010, Petauke generally met or exceeded the national average for all interventions, with the main exception of exclusive breastfeeding. In comparison with the national average, Petauke showed slightly higher levels of under-5 mortality and lower levels of underweight.

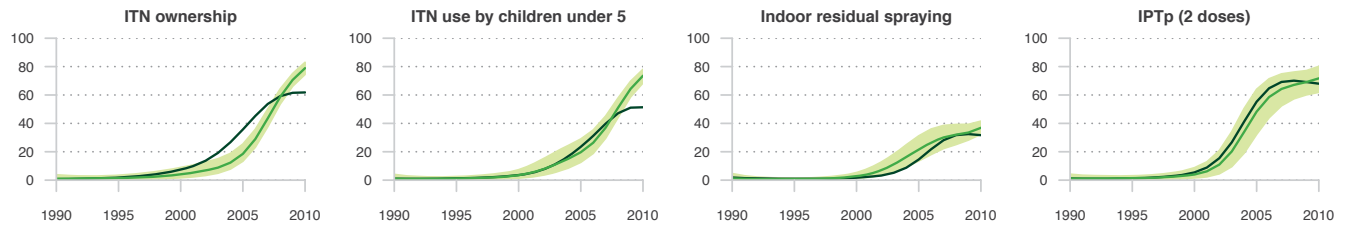
CHILD HEALTH OUTCOMES



From 1990 to 2010, Petauke recorded a significant reduction in all-cause under-5 mortality, dropping 43% from 200 deaths per 1,000 live births in 1990 (95% CI: 157, 250) to 113 in 2010 (95% CI: 84, 152). Nonetheless, in 2010, the district's under-5 mortality remained slightly higher 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 23% in 1990 (95% CI: 14%, 35%) to 11% in 2009 (95% CI: 9%, 15%). This prevalence of childhood underweight was maintained through 2010, which was below the national average of 14%.

MALARIA INTERVENTIONS



ITN ownership remained below 10% until 2004, after which coverage rapidly rose to 79% in 2010 (95% CI: 74%, 83%), which was much higher than the national average of 62%. Petauke's gains in ITN ownership are particularly notable given that the district's scale-up of ITNs occurred later than the national trend.

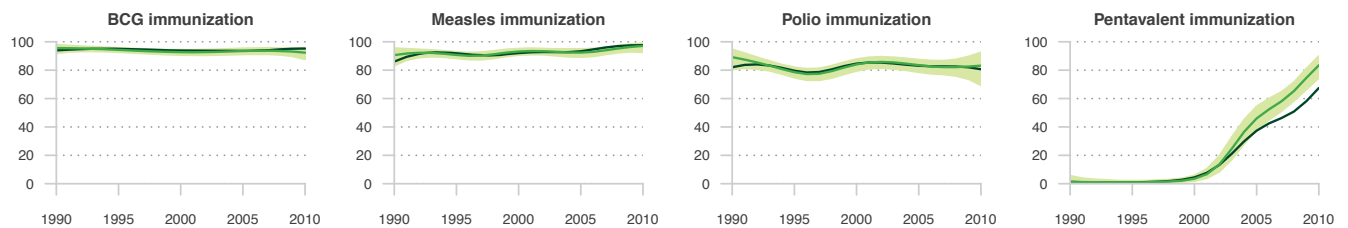
ITN use by children under 5 years old quickly increased to 74% in 2010 (95% CI: 68%, 78%), which was much higher than the national average of 51% and among the highest in Zambia for 2010. The difference between ITN ownership and ITN use was quite low in 2010, which suggests that net use by children

under 5 may be high among households that have ITNs.

Petauke formally implemented IRS activities in 2008 and reached 37% of households in 2010 (95% CI: 32%, 42%). Petauke's scale-up of IRS by 2010 was about average 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 64% in 2007 (95% CI: 52%, 75%). IPTp2 coverage continued to increase, but at a slower pace, reaching 72% in 2010 (95% CI: 62%, 80%), which was slightly higher than the national average of 68%.

IMMUNIZATIONS



BCG coverage slowly decreased from 96% in 1990 (95% CI: 92%, 98%) to 92% in 2010 (95% CI: 88%, 96%), which was lower than the national average of 95%.

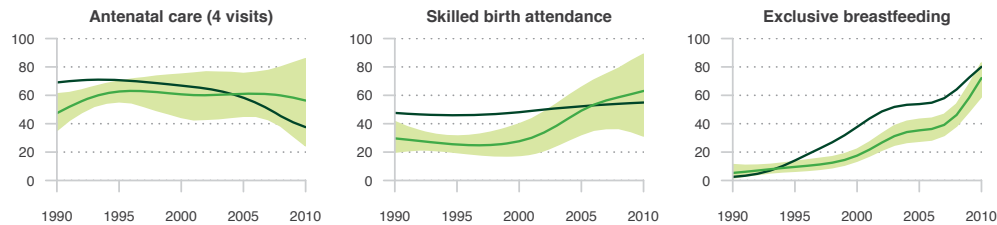
Measles immunization increased from 91% in 1990 (95% CI: 83%, 96%) to 97% in 2010 (95% CI: 93%, 99%), which was slightly lower than the national average of 98%.

Polio immunization coverage largely varied in the 1990s, rising above and falling below 80%, before consistently

remaining between 82% and 86% in the 2000s. In 2010, coverage came in at 83% (95% CI: 69%, 93%), which was slightly higher than the national average of 81%.

After the pentavalent vaccine was formally introduced in Petauke in 2005, coverage increased to 52% in 2006 (95% CI: 45%, 60%) and 83% in 2010 (95% CI: 74%, 90%). This level of pentavalent coverage far exceeded the national average of 67% for 2010 and was among the highest in Zambia.

MATERNAL AND CHILD HEALTH INTERVENTIONS



ANC4 coverage increased from 47% in 1990 (95% CI: 35%, 61%) to 63% in the mid-1990s, but declined to 56% in 2010 (95% CI: 25%, 86%). ANC4 decreased throughout Zambia from 1990 to 2010 and, while coverage in Petauke did not fall as drastically and was higher than the national average of 37% in 2010, the district's levels remained lower than optimal.

Skilled birth attendance stayed between 25% and 30% from 1990 to 2001, but increased to 63% in 2010 (95% CI: 31%, 89%) and exceeded the national average of 55%.

Despite these gains, SBA coverage remained lower than optimal.

The proportion of children who were exclusively breastfed slowly increased before stalling around 35% in the mid-2000s. In 2008, these gains accelerated, with coverage reaching 72% in 2010 (95% CI: 59%, 83%). This level of exclusive breastfeeding coverage still remained below the national average of 80% for 2010 and was among the lowest in the country.