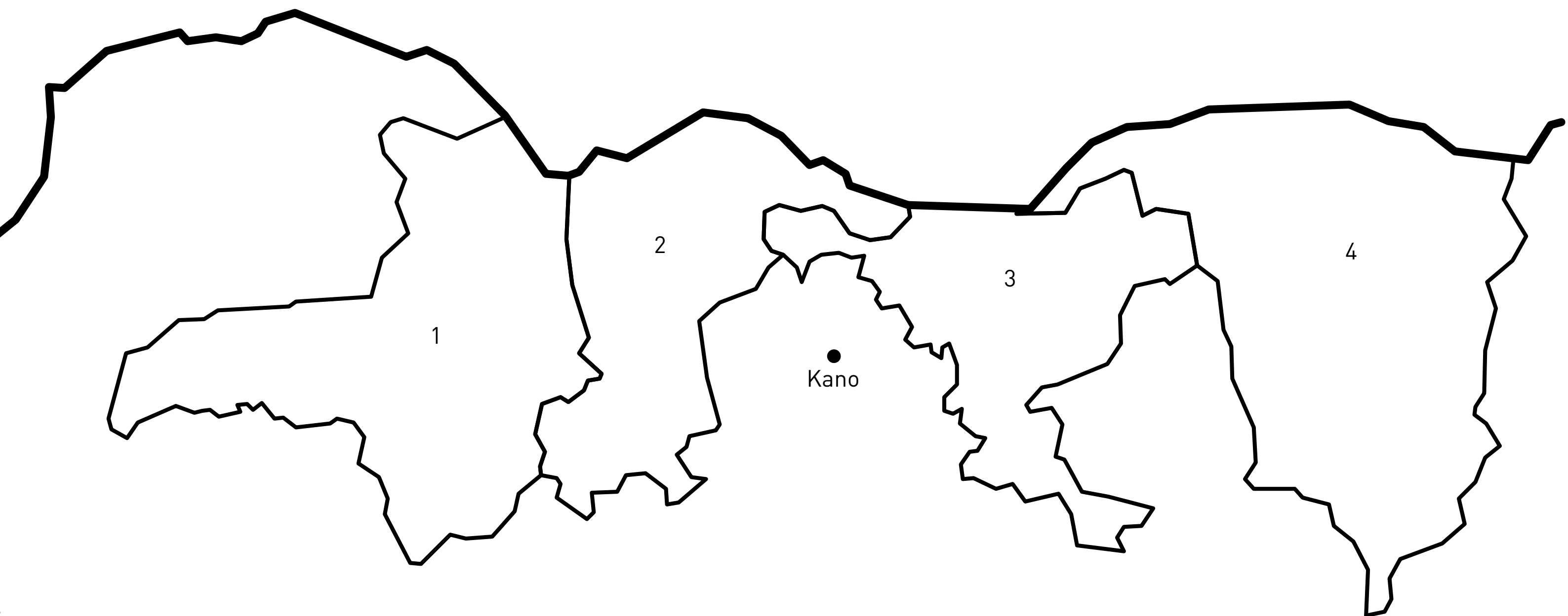
Maternal, newborn and child health successes in four Northern Nigerian states 2009-2013



Introduction

A summary of progress against high level indicators of goal and purpose for the PRRINN-MNCH programme is presented in this report.

The PRRINN-MNCH logical framework (logframe) includes the two goal indicators (with targets) related to Millennium Development Goals 4 and 5:

1. To reduce the under-five mortality rate by two thirds between 1990 and 2015.

2. To increase the percentage of births attended by a Skilled Birth Attendant (SBA) from an estimated baseline figure of 39% to just over 50%.

And six purpose indicators and targets:

Percentage of infants fully immunised by first birthday – baseline 16%, target 32%

Percentage of women aged 15-49 with appropriate TT doses – baseline 15%, target 50%

Caesarean section rates in targeted CEOC clusters – baseline 0.5%, target 1.25%

Percentage of women receiving ANC – baseline 21%, target 50%

Measles incidence reduced by 80% - baseline 22,250 cases, target 556 cases

Polio incidence reduced to near zero – baseline 237 cases

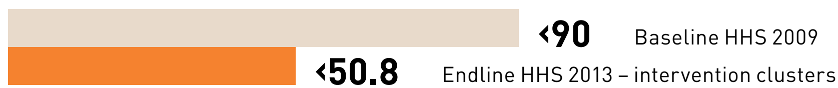
PRRINN-MNCH developed a comprehensive monitoring and evaluation framework in 2009, combining the logframes of the PRRINN and MNCH projects. Data, largely from the routine health management information system (HMIS) and the PRRINN-MNCH baseline and end-line household surveys (HHS 2009 and 2013) were used to track progress.

Goal indicator 1: Progress against under-five mortality rate

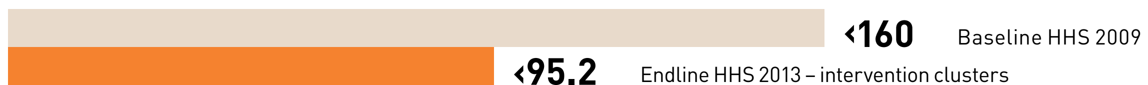
During the programme, infant and under-five mortality rates were almost halved.

Fig 1: Decline of child mortality rates

Infant Mortality Rate (per1000)



Under 5 mortality Rate (per1000)



The results for infant mortality rates and under-five mortality rates were significantly reduced between baseline and endline household surveys and between endline intervention and endline control sites.

Comparisons of the baseline and endline household survey data* in the three states:

- **16,037** infant lives were saved in 2013
- **53,995** infant lives saved were saved between 2010 and 2013
- **34,331** under-five children's lives were saved in 2013
- **115,504** under-five children's lives were saved between 2010 and 2013

*For the methodology used to calculate the numbers see the report: *Cost Effectiveness of Health System Strengthening and Value for Money* by Jeffrey W. Mecaskey, Health Partners International, November 2013

Goal indicator 2: More deliveries by skilled birth attendants

Attendance at ANC and births by SBAs more than doubled between 2009 and 2013

Fig 2: Increases in antenatal care and births attended by SBAs

ANC provided by SBA

Delivered by SBA

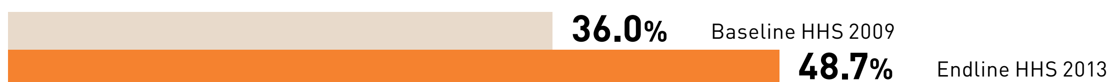
The household surveys show that antenatal care (ANC) and deliveries handled by an SBA more than doubled in the three states (Katsina, Yobe and Zamfara). However, there is a large gap between ANC and delivery – many more women are attending ANC services provided by an SBA than are delivering with an SBA in attendance.

The results for ANC provided by SBA are significantly different between baseline and endline and between endline intervention and endline control sites. The results for women delivered by an SBA are significantly different between baseline and endline surveys, but not between endline intervention and control.

The number of women attending ANC with an SBA, delivering with an SBA present, and delivering in a facility have all increased and there are early indications that the gap between ANC attendance and deliveries is narrowing. However, this seems to be narrowing more in some states than others.

Fig 3: Exploring the ANC delivery gap – Yobe state
The gap between attendances at ANC and deliveries by an SBA narrowed significantly.

ANC provided by SBA



Delivered by SBA

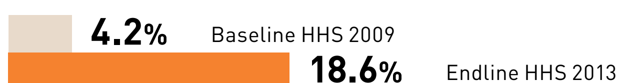
In Yobe state in 2009, 36% of women attended ANC by an SBA but only 12% were delivered by an SBA. Thus nearly two thirds 'dropped out'. However, in 2013, the number attending ANC had increased to 49% while nearly 24% were delivered by an SBA. Thus the 'drop out' rate had fallen from two thirds to nearly a half.

Similarly, in Zamfara the gap had reduced from a gap of more than two thirds (13% to 4%) to a gap of approximately 40% (32% to 19%).

Fig 4: Exploring the ANC delivery gap – Zamfara state
The gap between attendances at ANC and deliveries by an SBA narrowed even more in Zamfara state.

ANC provided by SBA

Delivered by SBA



Comparisons of the baseline and endline household survey data* in the three states:

- **99,414** more women were attended to by an SBA at ANC in 2013
- **347,949** more women were attended to by an SBA at ANC between 2010 and 2013
- **58,968** more women were delivered by an SBA in 2013
- **206,388** more women were delivered by an SBA between 2010 and 2013

*For the methodology used to calculate the numbers see the report: *Cost Effectiveness of Health System Strengthening and Value for Money* by Jeffrey W. Mecaskey, Health Partners International, November 2013

Thus, in terms of the logframe goal indicators, it is likely that the programme will meet the under-five mortality rate target. However, the baseline figure for births attended by an SBA was significantly higher than that measured by the programme (39% as against 11%). Although the logframe target has not been reached, the percentage of births has more than doubled to nearly 27% which is impressive given the circumstances.

Progress against programme purpose indicators

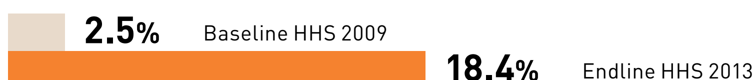
Purpose indicator 1 and 2: immunisation coverage rates

The PRRINN-MNCH household surveys[1] show a vast increase in DPT3 coverage and an impressive increase in fully immunised children and OPV (oral polio vaccine) coverage. The pattern in the states shows marked changes across all four states.

Fig 5: Fully immunised coverage
An impressive increase has been made in all four states.

Jigawa

Katsina



Yobe

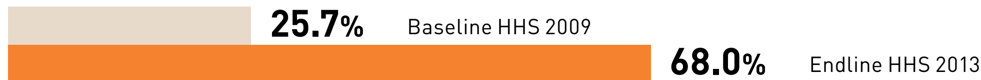
Zamfara

Fig 6: Three types of immunisation coverage

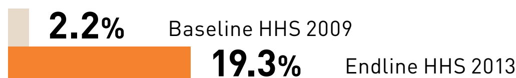
There have been significant increases in immunisation since 2009.

DPT3 coverage

OPV3 coverage



Fully immunised coverage



The differences between baseline and endline and between endline intervention and endline control sites are significant for fully immunised children, DPT3 and OPV3.

Pregnant women with 2+ tettox

The results are significantly different between endline and baseline HHS.

Comparisons of the baseline and endline household survey data* in the three states:

- An extra **77,215** children were fully immunised in 2013
- An extra **259,783** children were fully immunised between 2010 and 2013
- An extra **127,701** children were immunised against measles in 2013
- An extra **429,641** children were immunised against measles between 2010 and 2013

*For the methodology used to calculate the numbers see the report: *Cost Effectiveness of Health System Strengthening and Value for Money* by Jeffrey W. Mecaskey, Health Partners International, November 2013

In terms of the logframe purpose indicators for immunisation coverage, the baseline data for fully immunised children was much lower than the estimate in the logframe (2.2% as opposed to 16%). The rate had only risen to just over 19% as opposed to the logframe target of 32%. However, the data for appropriate doses of tettox was the other way round – the programme data was significantly higher than the logframe estimate and the target was easily reached.

Purpose indicators 3 and 4: maternal care

As discussed earlier, the percentage of women receiving ANC from an SBA has exceeded the logframe target, and has gone from around 25% to over 51%. In addition, the caesarian section rates in targeted EOC clusters reached 1.5% above the targeted 1.25%.

Purpose indicators 5 and 6: child disease incidence

Polio incidence had decreased from 119 cases in 2009 to seven cases in 2013 (all from one state) while measles incidence had reduced from 22,250 cases in 2009 to 1,113 cases in 2013. This was in line with expected logframe targets.

Conclusion

A range of health service output indicators at both state and cluster levels provide a picture of important attributable change in service use and coverage overall.

By comparing overall change at the state level with specific change in the emergency obstetric and newborn care (EmONC) clusters, the programme can claim responsibility for a significant number of lives saved. In immunisation coverage the project contributed to a sevenfold increase in fully immunised children, of which approximately 50% is firmly attributable to the programme.

Using multiple criteria analysis[2] , output and outcome data were consolidated and, when considered in light of relative disease burden, provide a favourable picture of cost effectiveness and value for money (VfM). Employing an explicitly subjective weighting system, the programme is delivering a range of outputs and outcomes at an estimated cost per person of £0.43 in 2013, which equates to **a cost of between £16 and £33 per child life saved**.

PRRINN-MNCH has been successful in reaching the targets of the goal and purpose indicators and saving a significant number of women's and children's lives.

1 Jigawa was not included in the baseline survey, but was included in the midterm and endline surveys. Hence the baseline data for Jigawa is derived from an average of the three states.
2 For the methodology used to calculate the numbers see the report: Cost Effectiveness of Health System Strengthening and Value for Money by Jeffrey W. Mecaskey, Health Partners International, November 2013

PRRINN-MNCH worked with the federal, state and local governments in Northern Nigeria, and in close consultation with local communities, to strengthen Primary Health Care services in four states, covering a population of over 19 million. PRRINN-MNCH helped each state achieve significant health-related goals, and improved the quality and availability of health services including antenatal and postnatal care, safer deliveries, care for newborns and infants, better nutrition, and routine immunization against preventable diseases.

www.prrinn-mnch.org

www.healthpartners-int.co.uk

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