



Partnership for Reviving Routine
Immunisation in Northern Nigeria;
Maternal Newborn and Child Health Initiative

Better maternal, newborn & child health in Northern Nigeria

Final Report 2013

*Stronger systems:
healthy women & children*

This Final Report is a chance to celebrate success, share lessons learnt and showcase innovative and effective initiatives. Data continues to show the significant impact of the Partnership for Reviving Routine Immunisation in Northern Nigeria – Maternal, Newborn and Child Health programme on the lives of mothers and children in Northern Nigeria. This data will provide the framework of the report and will guide the analysis and interpretation of the impact of the PRRINN-MNCH programme.

The Report does not detail all PRRINN-MNCH programme's activities over the last seven years. There are other materials (eg technical briefs, factsheets, quarterly reports, journal articles, annual reports) available at www.prrinn-mnch.org. The focus here is on showcasing results that illustrate the difference the programme has made to the health system, the health services, to community members and to maternal and child health indices in the four states in which it operates.

Hard data requires rigorous analysis to create value. Thus, this report tries to identify the reasons for the improvements and unpacks the changes in systems, services, governance, advocacy, voice and accountability that have led to these improvements.

PRRINN-MNCH is currently in its last year. The consortium managing the programme is led by Health Partners International and includes GRID, Nigeria and Save the Children (UK). The programme operates in four states – Jigawa, Katsina, Yobe and Zamfara – and at federal level. The programme's mandate is to improve MNCH services within the context of strengthening Primary Health Care systems. The original mandate, before the addition of the MNCH component in late 2008, was to strengthen routine immunisation services.

Ongoing support (both in terms of critical judgement and hands-on implementation) has been provided by UKaid and the State Department of the Norwegian government. This support is vital and invaluable in realising the ambitious aims of the programme.

The report focuses on achievements in four key areas:

Strengthening Maternal, Newborn and Child Health service delivery

Generating and using evidence for decision-making and action

Engaging with communities to improve access to quality MNCH services

Strengthening governance and systems to support MNCH services



Dr Garba Idris
National Programme Manager
PRRINN-MNCH (from November 2006 to June 2013)

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1. Overview

1.1 The Northern Nigerian health context

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Working in a challenging environment – Yobe

“Despite the security challenges facing the state, the programme will continue because of the government’s commitment to end Boko Haram insurgency, as well as the technical assistance the state requires in the health sector.”

From the Nigerian Guardian newspaper – 8th October 2013

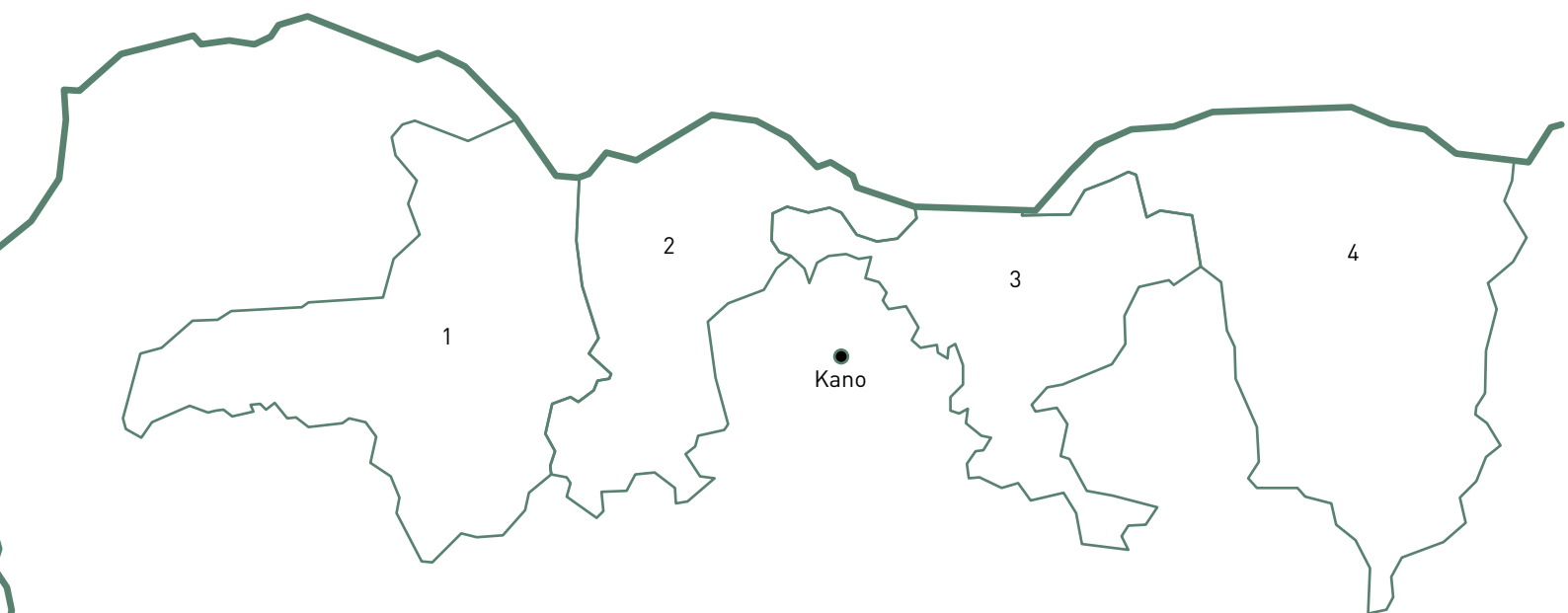
To improve the maternal and child health system in Yobe State PRRINN-MNCH recently donated medical equipment, worth 288 million naira, for distribution to hospitals and health centres in the state.

Speaking at the distribution at the Government House, Damaturu, Governor Ibrahim Gaidam said that the medical equipment will complement the government’s efforts in improving health care delivery services among women and children below the age of five.

He directed the Commissioner for Health to supervise the distribution of the equipment to all the health centres across the state.

His words: *“Various development partners such as PRRINN have been responsible for driving our health sector reform efforts through increased budgetary allocation, capacity building, and formation of special intervention programmes such as the maternal and child (programme).”*

The programme manager of PRRINN-MNCH, Dr Ahmad Abdulwahab said that the programme, which is jointly funded by the United Kingdom Department for International Development and the government of Norway, aims at encouraging partnership with the Yobe State government for the revitalisation currently going on in the state’s health sector.



Partnership for Reviving Routine
Immunisation in Northern Nigeria;
Maternal Newborn and Child Health Initiative

The programme has led directly to a decline in mother and child mortality and morbidity in the northern states.

A broad range of indicators provides strong evidence of value for money and lives saved by the PRRINN-MNCH programme.

1. Overview

**33,000
Nigerian
women
die in
child birth
every year**

1.1 The Northern Nigerian health context¹

Nigeria has the highest number of maternal and child deaths in sub-Saharan Africa. Every year 33,000 Nigerian women die in child birth. The maternal mortality ratio in Nigeria is 545 per 100,000 live births² – higher than the sub-Saharan average and the 19th highest global rate. Nigeria's infant mortality rate is 69 and the under-five mortality rate is 128 per 1,000 live births.³

With over two million children not immunised, vaccine coverage in Nigeria is one of the lowest in sub-Saharan Africa. Only 25% of children aged 12-23 months are fully vaccinated with BCG, measles, and three doses of DPT and polio.⁴

Women and children in Northern Nigeria have the worst health outcomes and the lowest access to health services.⁵ Northern Nigeria has the highest infant and child mortality rate, the highest fertility rate, and the highest adolescent birth rate.⁶ Less than 50% of women receive any antenatal care.⁷ No area of Northern Nigeria has skilled birth attendance higher than 20% whereas states in the south and southeast zones reach up to 98%. The differences in child death rates are equally stark. A child born today in Yobe State (northeast) is three times more likely to die before his fifth birthday than a child from Ekiti State (southwest).⁸ As well as strong geographical disparities, large variations are also found amongst socio-economic groups, rural and urban areas, and based on gender and age.

A key causal factor of poor health outcomes in Northern Nigeria is lack of care before pregnancy. Effective family planning is a well-established approach in reducing maternal and child deaths.⁹ Yet, in Katsina and Jigawa (northwest) only 1% of married women use contraceptives, compared to Lagos where 26% of married women use contraceptives.¹⁰

There are fewer skilled health workers in the north and rural patients travel further to get basic medicines and health care. In Jigawa, for example, there are just five nurses per 100,000 population compared with Enugu (59 per 100,000).¹¹ Northern health facilities are poorly equipped, lack basic essential medicines and are often inaccessible due to distance and poor road networks. More recently, increased conflict and instability have further undermined access to and provision of healthcare, particularly in Yobe State.

MNCH interventions and immunisation have a well-established evidence base of effectiveness. Although the evidence is clear on what is needed, it's less clear how key interventions can be delivered efficiently and effectively within a health system, particularly in fragile states or complex health systems like Nigeria's.

1.2 The PRRINN-MNCH programme

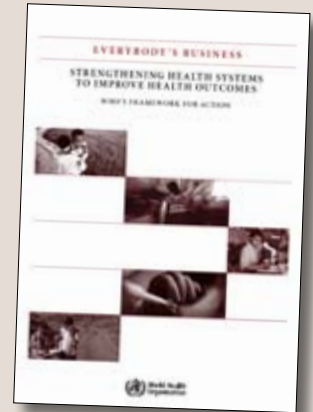
The Partnership for Reviving Routine Immunisation in Northern Nigeria (PRRINN) programme started in November 2006 and programme staff started operations in four states (Jigawa, Katsina, Yobe and Zamfara) in early 2007. The consortium managing the PRRINN programme consisted of three partners, Health Partners International as lead partner, with GRID Consulting Ltd and Save the Children, UK and several associates (Partnership for Appropriate Technology in Health, Health Reform Foundation of Nigeria and Johns Hopkins University, Centre for Communications Programme).

The population covered reached just over 19 million people in 2013.

In September 2008, the same consortium with some additional associates (Liverpool Associates in Tropical Health, Mailman School of Public Health – Columbia University and Ahmadu Bello University) was awarded an additional contract to

The World Health Organisation's six pillars for strengthening health systems

The World Health Organisation's health systems strengthening framework¹² can help to illustrate the breadth of the PRRINN-MNCH consortium's approach. To the usual six pillars has been added a seventh (community engagement) and these are discussed throughout the four sections of the report.



Service delivery

Integrated and strengthened MNCH services through the adoption of the WHO recommended cluster approach to service delivery.

Enhanced MNCH health service and community links through introduction of the Community Based Service Delivery model. (PRRINN-MNCH output 3 and partly output 6)

Health workforce

Enhanced technical skills for provision of MNCH services through regular training and supportive supervision. Thousands of health workers have been trained in the four states on different aspects of MNCH services.

Expanded systems for integrated supportive supervision (management) and technical supportive supervision (clinical) at state and local government area levels instituted in all four states.

Establishment and maintenance of a Human Resource Information System allowing for auditing and improved distribution of staff. (PRRINN-MNCH output 2)

Information

Enhanced access to MNCH data with the introduction of DHIS2 software and data available on the internet.

Improved data and analysis through tools and regular data quality audits. Data quality and use has improved significantly.

Development of the Nahuca Health Demographic Surveillance System site to provide evidence-based outcomes of piloted interventions through operations research. (PRRINN-MNCH outputs 4 and 5)

Medical products, vaccines and technology

Improved availability of drugs with a sustainable drug supply system.

Increased capacity for building and equipment improvement, procurement and maintenance through introducing the Planning and Management of Assets in Health Services system. (PRRINN-MNCH output 3)

Health financing

Expanded availability of funds for PHC through the establishment of a pooled funding mechanism in Jigawa and a Basket Fund in Zamfara.

Strengthening the public FMS by building the capacity of the planning and budgeting team to budget, track and account for resources. (PRRINN-MNCH outputs 1 & 7)

Leadership and governance

Improved coordination of PHC services through the 'Bringing PHC under one roof' strategy and incorporation of this strategy into Nigerian national policy and state legislation.

Enhanced policy making, planning, budgeting and reviews via support to state-led, health-sector wide processes. More efficient processes free up funds for the PHC system. Effective performance reviews monitor progress against targets and guide decision-making. (PRRINN-MNCH outputs 1 and 7)

+ one

Community engagement

Tackled the first and second delays to accessing emergency maternal health services through an integrated community engagement approach which addressed key barriers simultaneously to establish sustainable community response systems.

Increased standing permission for mothers to access obstetric care services.

Extended community voice on health issues and promoted greater accountability of health providers and managers via an emphasis on facility health committees.

Focused attention on clustering of child morbidity/mortality with strategies to address both supply and demand. (PRRINN-MNCH output 6)

extend the PRRINN programme to a MNCH programme. Three of the four states (Katsina, Yobe and Zamfara) were covered by the extended MNCH component with funding from the State Department of the Norwegian Government.

PRRINN-MNCH is run as a joint programme with UKaid as the co-ordinating development partner. While the focus is on MNCH services, the extended programme has a much broader mandate and includes a substantial emphasis on governance and systems issues; operations research; and greater emphasis on community engagement as well as voice and accountability matters.

In 2010, the combined programme was extended to the end of 2013. As part of the extension, the programme placed increased emphasis on output, outcome and impact indicators and on value for money: development partners needed quantitative evidence of improved health indices for mothers and children under five, to justify their resources. These indices were extremely poor at the start of the programme.

In late 2011, PRRINN-MNCH was awarded funds by the Department for International Development Girls Hub initiative (a partnership between DFID and Nike Foundation) to place greater emphasis on the inclusion of young women in ongoing programme activities. The Young Women's Support Group initiative was established.

Further funding was received by the programme in 2011 for piloting:

Financial Models for Emergency Transport Schemes for obstetric emergencies in Northern Nigeria from the MacArthur Foundation

Achieving Universal Access to Anaesthesiology from the Simons Foundation

Since 2012, PRRINN-MNCH has hosted the Micronutrient Initiative funded by the Canadian International Development Agency.

Finally, in 2012, the consortium, with some additional partners, was successful in winning the Women for Health programme – a UKaid-funded five-year programme that aims to address the acute shortage



Mother and child at a check-up in a health facility

of female health workers in five states in Northern Nigeria (the four PRRINN-MNCH supported states plus Kano).

Expanding the focus of the PRRINN programme

Initially, the PRRINN programme was a narrow immunisation programme



PRRINN-MNCH is focused on seven outputs:

1. Strengthening state and Local Government Area governance of primary health care systems geared to routine immunisation and MNCH
2. Improving human resource policies and practices for PHC
3. Improving delivery of MNCH and RI services via the PHC system
4. Operational research providing evidence for PHC stewardship, MNCH and RI policy and planning, service delivery, and creation of demand
5. Improving information generation with knowledge being used in policy and practice
6. Increasing demand for MNCH and RI services
7. Improving capacity at Federal Ministry level to enable states' MNCH and RI activities



Refurbished health facility

Achieving Universal Health Coverage

PRRINN-MNCH approach

Universal Health Coverage is defined as ensuring that all people can use the promotive, preventive, curative, rehabilitative and palliative health services they need; that these are of sufficient quality to be effective, while ensuring that the use of these services does not expose the user to financial hardship. UHC addresses three objectives:

Equal access to health services

Acceptable quality of health services

Adequate financial risk protection

To address these, PRRINN-MNCH has promoted:

Equal access for remote, rural populations through Community-Based Service Delivery; addressing delays in Emergency Obstetric Care; highlighting the clustering of morbidity and mortality to effect changes in services and community responses; and ensuring

standing permission for mothers and children to access health services.

Good quality health services through introducing Kangaroo Mother Care; maternal death reviews; in-service training (eg Life Saving Skills and Focused Antenatal Care); strengthening Technical Supportive Supervision and Integrated Supportive Supervision; introducing 'Bringing PHC under one roof' and pooled or basket funding mechanisms.

Financial risk protection through adoption of the Minimum Service Package as the framework for free MNCH services; deferral and exemption schemes for the sustainable drug supply system; introducing community saving schemes for EmOC; and working with NURTW drivers to reduce the cost of emergency transport for pregnant women.

These, and other, approaches and strategies are discussed in this Final Report.

A broad approach was needed to cover accountability, systems and community engagement

designed to strengthen the primary health care system. Several challenges faced the consortium managing the PRRINN programme. For example, a key initiative was to support planning. But, should the programme support a narrow immunisation planning process, a PHC planning process or a state-wide health planning process? What would the state stakeholders want?

It was decided early on in the programme to support a state-wide health planning process.

Similar dilemmas were faced with other systems strengthening components eg Health Management Information System, supervision, supply chain and human resource management, as well as community engagement to increase demand for MNCH services and their accountability.

Wherever possible, a narrow focus was used as a wedge to open up the whole health system.

The programme excelled at leveraging additional resources from development partners to implement this broader vision, as shown below.

Funding levels for PRRINN-MNCH initiatives

Additional resources helped to broaden the scope of the initial immunisation programme

PRRINN 2006-2012

Immunisation focus	£20m
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MNCH 2008-2013

Extended to include MNCH services	£20m
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PRRINN Extended to 2013

Aligned with MNCH component	£20m
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YWSG 2012-2013

Strengthen community-based work with young women's groups	£4m
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Micronutrient Initiative 2012-2013

Funded by CIDA and focuses on micronutrients	£2m
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The figures above illustrate that the narrow focus on immunisation was not seen as adequate to deal with the problems facing

mothers and children in Northern Nigeria. To effectively challenge the poor immunisation coverage, the approach needed to broaden to cover governance, voice and accountability, systems and community engagement issues.



Repairing a health facility in the north

Linked to and often preceding the increased funding and the broader mandate were the management decisions taken by the PRRINN programme to expand the focus and wherever possible adopt a 'whole health systems' approach over a narrower immunisation, MNCH or PHC approach.

1.3 Value for money

Since its inception, estimates suggest that the programme has contributed to saving **22,000** women, **50,000** infants, and **100,000** children. By comparing overall change at the state level with specific change in the Emergency Obstetric and Newborn Care clusters, the programme can claim responsibility for a significant number of the lives saved.

In addition, a range of health service output indicators at both state and cluster levels provide a picture of important change in service use and coverage overall, and attributable to the programme.

In immunisation coverage the project contributed to a sevenfold increase in fully immunised children, of which approximately 50% is firmly programme attributable.

Using Multiple Criteria Analysis¹³, 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. Employing an explicitly subjective weighting system, the programme is delivering a range

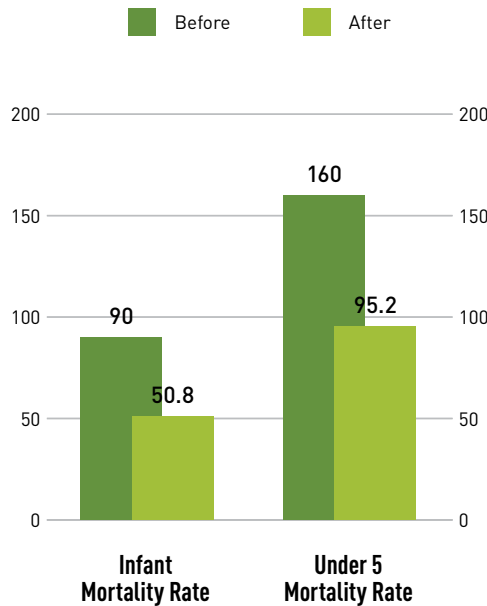
Infant and under-five mortality rates have almost halved since the programme started

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**.

1.4 Evidence of a decline in mortality rate

Child mortality rates

Deaths per 1000 live births



Before: Baseline HHS data (2009)

After: Endline HHS data (2013), intervention clusters

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

These results are based on the PRRINN-MNCH household surveys conducted under the auspices of Columbia University. A baseline study in 2009 was followed by a smaller midterm study in 2011 and an endline study in 2013. The PRRINN-MNCH programme rolled out its activities in clusters of approximately 500,000 people. There were intervention clusters and control clusters but the control clusters became fewer as the programme systematically covered the whole state. The cluster approach is discussed in more detail later.

Later in the report, results from the household surveys are compared with other surveys (eg Demographic and Health surveys).

The results for Infant Mortality Rates and Under-Five Mortality Rates are significantly different between baseline and endline

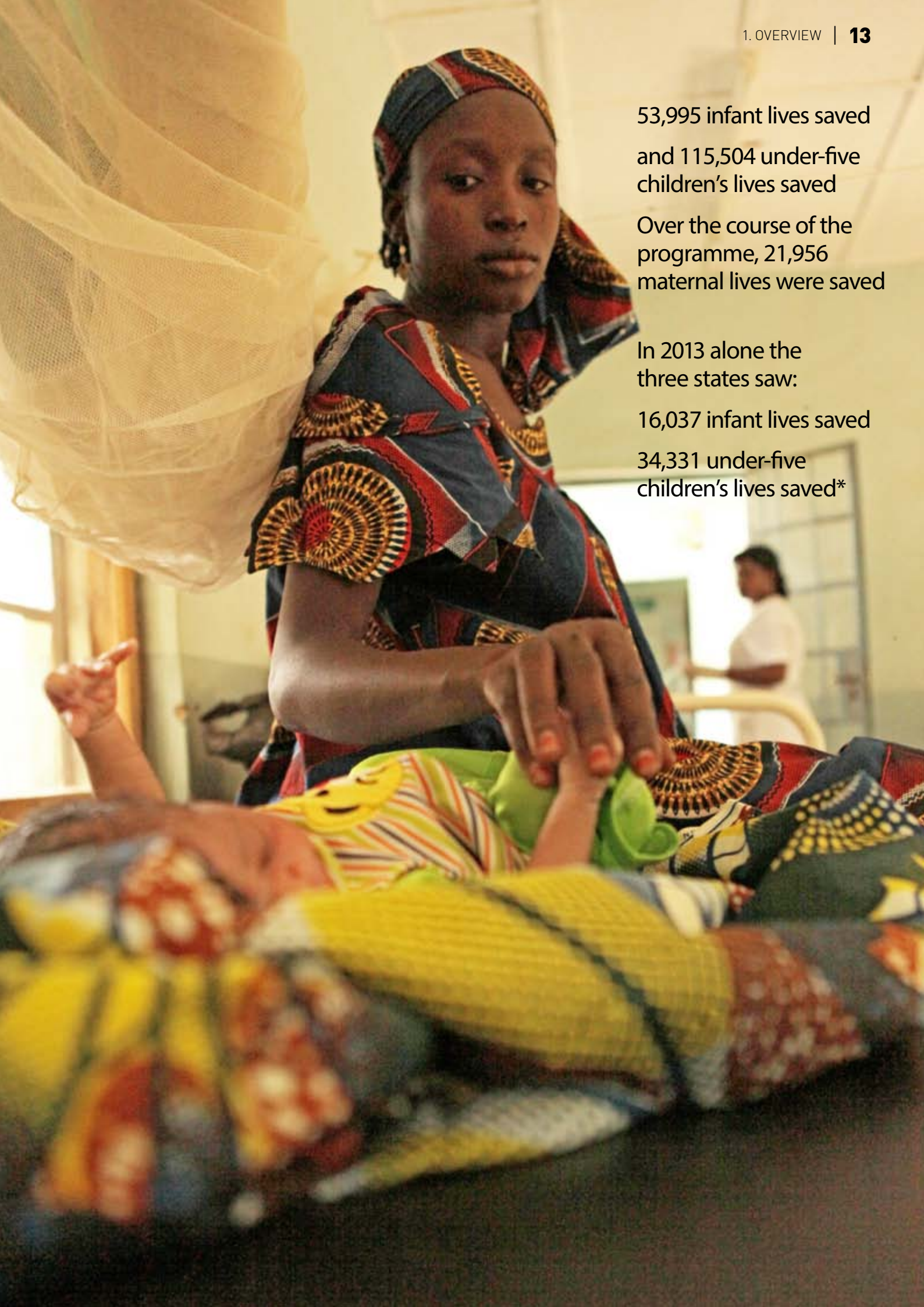
household surveys and between endline intervention and endline control sites.

These results are significant, but to sustainably reduce MNCH-related deaths a broad-based approach such as that implemented by the PRRINN-MNCH programme is needed.

Footnotes:

1. Extracted and adapted from the DFID PQQ for the Nigerian MNCH2 draft ToR (2013).
2. Nigeria DHS, 2008.
- 3, 4. Nigeria DHS, 2013 – Preliminary Report.
5. National Planning Commission. Nigeria Demographic and Health Survey (NDHS) 2008. Abuja: National Planning Commission.
- 6, 7. National Population Commission, Nigeria and UNICEF; 2011 MICS survey (preliminary unpublished data).
8. Yobe U5MR 222/1000; Ekiti 80/1000: National Planning Commission. Nigeria Demographic and Health Survey (NDHS) 2008. Abuja: National Planning Commission.
9. Rutstein SO. Effects of preceding birth intervals on neonatal, infant and under-five years mortality and nutritional status in developing countries: evidence from the demographic and health surveys. *Int J of Gynaecol Obstet* 2005; 89 Suppl 1:s7-24.
10. Nigeria DHS, 2013 – Preliminary Report.
11. Nigeria Health Workforce Profile 2009 (2010) Federal Republic of Nigeria, Federal Ministry of Health.
12. Everybody's business : strengthening health systems to improve health outcomes –: WHO's framework for action. WHO, 2007
13. For the methodology used to calculate the numbers see the report: Cost Effectiveness of Health System Strengthening and Value for Money by Jeff McCaskey, November 2013

* Comparisons of the baseline and endline household survey data from 2010 to 2013 in the three states



53,995 infant lives saved
and 115,504 under-five
children's lives saved

Over the course of the
programme, 21,956
maternal lives were saved

In 2013 alone the
three states saw:

16,037 infant lives saved
34,331 under-five
children's lives saved*

Declining maternal and infant mortality – Katsina

From ThisDay newspaper – 28th September 2013

There are communities in Katsina that are now marking two years of zero maternal and infant mortality. The DFID/Norwegian Government intervention is making a huge difference in the lives of mothers, especially teenage mothers.

Angwar Agage is about two hours' drive from Katsina's capital city into its hinterland. Without electricity or even the most basic form of sophistication, it is home to about 6,000 people with over 3,000 families. Ikilima Abubakar delivered her fourth child 12 days ago at a health facility in the next village, Tandama, which is less than a kilometre away. Unlike her previous three pregnancies, the 20-year-old mother attended antenatal class.

"This delivery was different from my previous ones where I delivered the children at home. At the facility, the matron assisted me, encouraged me and gave me and my baby treatment. I had benefitted from the PRRINN safe pregnancy plan discussions so I quickly recognised the labour signs and walked to the facility immediately I started feeling the pains," she told this reporter in Hausa.

Ikilima and other teenage mothers have benefitted from the intervention of PRRINN-MNCH. The programme works to educate young women especially teenage mothers to recognise signs of danger in pregnancy to avoid complications during and after childbirth. This it achieves by setting up a Young Women Support Group (YWSG) where, under the guidance of a Local Engagement Consultant, the members hold weekly meetings to discuss their pregnancies, motherhood, nutrition, hygiene and issues that affect them in their communities. Mentors are also selected from among the young women.

The successes of the YWSG can actually be attributed to the collaboration of the men in these conservative communities where the permission of the husband is sought even before a woman can be taken to a health facility.



Celebrating two years of zero infant and child mortality in a Katsina community

The men are trained by PRRINN-MNCH on how to recognise signs of anaemia in their pregnant wives. Working with community volunteers they are taught how to carry pregnant women in times of emergency to a health facility. In the communities where there is easier access to tricycles, they are taught how to transport pregnant women. The men in these communities are also blood donors and after random sampling, THISDAY confirmed that almost every man in these communities knew what his blood group is; they are always ready to donate blood when there is need for it.

THISDAY gathered that when a pregnant woman is being taken to a health facility, between four to six men follow her, and proudly present themselves as her blood donors. Working with cultural and religious leaders due to the sensibilities of the people, PRRINN-MNCH has worked to erase suspicions associated with donating blood.

Gizawa Community, under Dutsanma Local Government is also about to roll out the drums to mark two years without a single maternal or infant death. A lead community volunteer, Mallam Ibrahim Nuhu told THISDAY that there has rarely been the need to donate blood to any woman in recent times because the signs of anaemia are recognizable to the men and the women.

"We know that we should take a pregnant woman to the hospital immediately we see signs of anaemia. We know what foods to encourage her to eat to increase her blood ahead of delivery. So, even though we all know our blood group and are present at the hospital when our women are giving birth, we have not had the need to donate blood in a long time."

Mallam Ibrahim Nuhu

2. Strengthening MNCH service delivery

- 2.1 Improving facilities and systems**
- 2.2 Strengthening EmONC by adapting the cluster approach to service delivery**
- 2.3 Increasing the quantity and quality of skilled birth attendants**
- 2.4 Facility rehabilitation**
- 2.5 Reintroducing Kangaroo Mother Care**
- 2.6 Quality improvement processes**
- 2.7 Technical and integrated supportive supervision**
- 2.8 Family planning**
- 2.9 Improved healthcare for women**

PRRINN-MNCH introduced new approaches and strengthened existing ones to improve all maternal and neonatal services.

The cluster approach helped identify points of need and led to improvements in:

Quantity and quality of skilled birth attendants

Rehabilitation of facilities

Reintroduction of kangaroo mother care

Quality improvement processes

Supportive supervision

Family planning services

2. Strengthening maternal, newborn and child health service delivery

2.1 Improving facilities and systems

PRRINN-MNCH introduced new approaches and strengthened existing ones to address the full continuum of care for maternal and neonatal services.

Seven key issues are discussed in this section:

- ◆ Strengthening EmONC through adaptation of the UNICEF/UNFPA/WHO cluster approach
- ◆ Increasing the quantity and quality of skilled birth attendants
- ◆ Facility rehabilitation
- ◆ Reintroducing kangaroo mother care
- ◆ Quality improvement processes
- ◆ Strengthening technical and integrated supportive supervision
- ◆ Strengthening family planning services

2.2 Strengthening EmONC by adapting the cluster approach to service delivery

From the outset, the PRRINN-MNCH programme adapted the universally recommended cluster approach to EmONC service delivery. The key difference to the UNICEF/UNFPA/WHO model is the addition of EmONC services provided 24 hours a day, 7 days a week.

The PRRINN-MNCH cluster approach serves approximately 500,000 people and consists of one CEmOC facility, four additional BEmOC facilities (covering approximately 125,000 people each) and eight PHC facilities. The cluster is expected to provide obstetric and newborn care every day, all day.

In the PRRINN-MNCH supported states each cluster usually comprises 2-3 LGAs, depending on population size. The PRRINN-MNCH supported clusters cover the whole state in Yobe and Zamfara but only half of Katsina because of the large population.¹

Some PRRINN-MNCH supported activities (eg facility rehabilitation, life-saving skills training) are rolled out in a phased approach, starting in the first cluster, and then progressing through all the other clusters. Other activities are implemented state-wide e.g. governance issues, strengthening health management information system and routine immunisation systems.



The cluster approach assisted in scaling up of programme activities



A midwife listens for a foetal heartbeat

Results and achievements

Expanded access to emergency obstetric care

Facilities providing comprehensive emergency obstetric care

Baseline	Target	Progress
2	18	19

PHC facilities (PHC and BEmOC) providing deliveries 24 hours a day by trained staff

Baseline	Target	Progress
n/a	144	167

Maternal complications transferred to health facility via emergency transport scheme

Baseline	Target	Progress
0	9,195	19,811

Caesarean sections

Baseline	Target	Progress
n/a	4,650	12,487

PRRINN-MNCH M&E: Baseline 2009, Target and Progress cumulative 2009-2013

The programme cumulative data shows that for all indicators the programme has surpassed the cumulative targets – in many cases substantially.

Increased Training

Targeted CEmOC facilities with at least 4 health workers trained in competency-based LSS-EmONC

Baseline	Target	Progress
0	18	19

Targeted BEmOC facilities with at least 2 health workers trained in competency-based LSS-EmONC

Baseline	Target	Progress
0	65	64

PRRINN-MNCH M&E: Baseline 2009, Target and Progress cumulative 2009-2013

Progress in these two indicators is largely in line with expectations.

By September 2013, out of the total of 19 clusters in the three states:

- ◆ Training of health staff had reached all 19 clusters²
- ◆ Community engagement activities had begun in all 19 clusters
- ◆ Provision of equipment had reached ten clusters with plans to reach the other nine clusters by end December 2013
- ◆ Refurbishment of infrastructure had been completed in 12 clusters with plans to complete the other seven clusters by early 2014
- ◆ Establishment of SDSS had covered 12 clusters with the other seven clusters to be completed by end December 2013.

The cluster approach has assisted in scaling up of programme activities to new areas and keeps project activities focused, integrated and coordinated. If adopted by stakeholders (state/LGA), construction of new health facilities could be geographically more appropriately sited and all health service and system support mechanisms could be more appropriately targeted and phased.

Definition of an SBA

A skilled birth attendant is an accredited health professional – such as a midwife, doctor or nurse with midwifery skills, who has been trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period. They are also trained in the identification, management and referral of complications in women and newborns. (Joint statement by WHO, ICM and FIGO).*

* WHO (2004). Making pregnancy safer: the critical role of the skilled attendant: a joint statement by WHO, ICM and FIGO. Geneva, WHO.

2.3 Increasing the quantity and quality of skilled birth attendants

In 2010, an estimated 40,000² Nigeria women died from complications in pregnancy and childbirth.³ Although this figure represents a decline in maternal deaths compared with the situation in 1990, many of these deaths could be prevented if women were assisted by a skilled birth attendant during delivery. In 2008 61% of births in Nigeria occurred without an SBA in attendance.⁴ In 2013 this was 62% of women.⁵ However, the national figure hides lower SBA coverage rates in the northern states.

A recent population-based study conducted in rural Katsina⁶ revealed that maternal education, husband's occupation, presence of complications and previous place of delivery were all predictors for SBA use. Enabling factors included: availability of staff, husband's approval, equipped facilities and an affordable service. These are all issues that the PRRINN-MNCH programme has been addressing.

Many more women are attending antenatal care by a skilled birth attendant than previously, and many more women are delivered by an SBA and in a facility. There are early signs that the gap between ANC and deliveries is narrowing. (PRRINN-MNCH 2013 household survey).

Despite the positive results in the PRRINN-MNCH states, critical shortages of SBAs especially in remote rural areas and in the northern states remain an issue. In many PHC facilities in the north, deliveries are conducted by male community health extension workers, who lack midwifery skills and who are not accepted as appropriate birth attendants within the local culture. This is a key reason why many women prefer to give birth at home.

The shortage of SBAs in Northern Nigeria is caused by: inadequate training sites; varying standards in pre-service education; poor absorption into the workforce (eg intermittent embargos on health worker recruitment are common in some northern states); ineffective deployment; poor monitoring, supervision and regulation.

Social and cultural norms in Northern Nigeria have a strong influence on women's ability to join and move within the health workforce. Lack of priority accorded to girls' education and training mean that many capable women are deprived of a rewarding career in the health service. Even if women complete their education and training, they may be unable to accept a rural posting if this involves being separated from their families.

The national midwifery service scheme was introduced by the government of Nigeria to address the SBA shortage in rural areas. Since 2009, unemployed, retired and newly graduated midwives have been deployed largely to PHC facilities in rural areas of Nigeria.

Results and achievements

Coverage and availability of SBAs in targeted facilities

Accredited training institutions

Baseline	Target	Progress
2	8	4

Midwives working in programme-supported facilities

Baseline	Target	Progress
12	310	334

Deliveries attended by skilled birth attendants

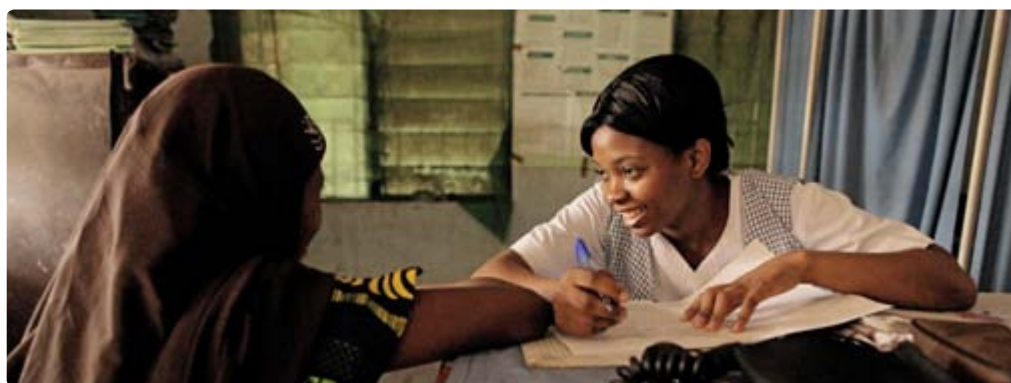
Baseline	Target	Progress
8,172	382,629	297,349

PRRINN-MNCH M&E: Baseline 2009, Target and Progress cumulative 2009-2013

The three indicators relating to coverage and availability of SBAs show that while the number of accredited training institutions has increased, targets have not yet been reached. This activity is now being led by the W4H programme, and it's expected that targets will be reached. The number of midwives working in PRRINN-MNCH supported facilities has surpassed the target, while the number of deliveries by an SBA is around 80% of the cumulative target.

“In a recent ETS case a driver transported a pregnant woman first to the facility in the village and then to a bigger facility in Gusau. She was in her eighth month of pregnancy and bleeding. She spent a couple of days in Gusau and the same driver was asked to transport her back to the village. The family offered the driver Naira 2,500, but he refused to accept the money.”

[Community member, Maru LGA, Zamfara State]



Female health worker takes case notes

BEmOC facilities providing deliveries 24/7 by trained staff

Baseline	Target	Progress
n/a	72	77

Targeted CEmOC facilities with at least 6 (nurse) midwives

Baseline	Target	Progress
1	18	22

Targeted BEmOC facilities with at least 2 (nurse) midwives

Baseline	Target	Progress
3	65	63

Targeted PHC facilities with at least 1 midwife

Baseline	Target	Progress
0	72	49

PRRINN-MNCH M&E: Baseline 2009, Target and Progress cumulative to 2013

The indicators relating to the functionality of health facilities show that midwives have increased in all targeted facilities with PHC facilities showing slightly less progress.

Expanded access to care

Postnatal visits in targeted PHC facilities

Baseline	Target	Progress
2,488	81,101	103,736

1st ANC visits

Baseline	Target	Progress
14,524	510,169	709,928

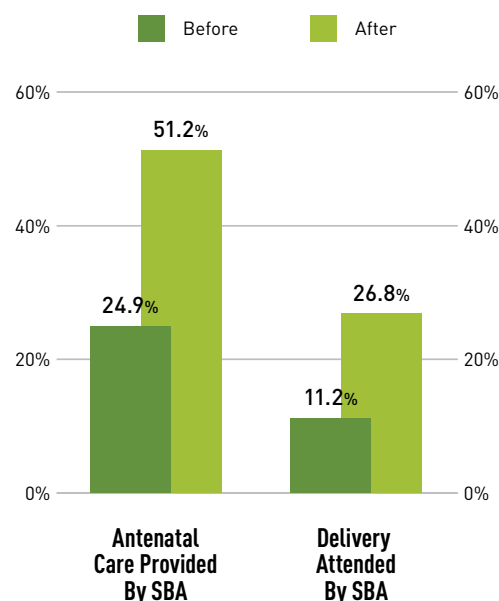
PRRINN-MNCH M&E: Baseline 2009, Target and Progress cumulative to 2013

Improvements in health facilities, in combination with successful mobilisation

efforts at community level, have translated into expanded access to care. The programme target for number of first ANC visits per year was exceeded as was the target for number of postnatal visits in PHC facilities. There were also very significant increases in the number of women accessing ANC provided by a skilled birth attendant.

Antenatal care provided by a skilled birth attendant

Percentage



Before: Baseline HHS data (2009) After: Endline HHS data (2013), intervention clusters

There were significant improvements in all three states.

PRRINN-MNCH has supported the MSS by:

- ◆ Providing technical support to the National PHC Development Agency and Federal Ministry of Health in the design,

Better health facilities have contributed to improved access to care

implementation and evaluation of the MSS programme

- ◆ Inducting and orientating MSS midwives in PRRINN-MNCH supported states
- ◆ Building the capacity of MSS midwives and other midwives in emergency obstetric care, focused antenatal care, postnatal care, family planning, integrated management of newborn and childhood illnesses, essential newborn care, kangaroo mother care, quality improvement and supportive supervision

In 2010 PRRINN-MNCH developed an integrated training manual on FANC, PNC and FP. This manual has been used to cascade training to health workers in three states (Katsina, Yobe and Zamfara). SBAs have also benefitted from other capacity building activities such as focusing on emergency obstetric care and communication and counselling skills. Job aids, protocols and guidelines on ANC and delivery care were also developed and distributed in all supported facilities.

Other activities to support recruitment and retention include:

- ◆ Conducting research to explore job satisfaction and retention of midwives in the three PRRINN-MNCH supported states
- ◆ Holding consultative meetings with policy and decision makers on incentive mechanisms to attract, recruit, and retain female health workers; creating an incentive package to attract, recruit and retain SBAs in rural health facilities, evaluating the incentive package to monitor progress, identify hiccups and possible solutions
- ◆ Holding community dialogues to increase girl-child education
- ◆ Supporting the development of a foundation year programme⁷ in 12 health training institutions in Jigawa, Katsina, Yobe and Zamfara states to increase the number of girls meeting admission requirements into HTIs
- ◆ Supporting HTIs to become accredited
- ◆ Building the capacity of midwifery and nursing tutors in effective teaching skills

2.4 Facility rehabilitation

PRRINN-MNCH and its partners used a cluster approach to guide facility rehabilitation in Katsina, Yobe and Zamfara. One CEmOC facility, four BEmOC facilities and eight 24/7 facilities were targeted for rehabilitation and equipping. Since the focus was on MNCH services, rehabilitation focused on the theatre and on antenatal and maternity facilities. Essential medical equipment for MNCH was provided to CEmOC, BEmOC and PHC facilities, guided by the requirements of the minimum service package. To assess needs, the planning and management of assets in health services tool was used.

Planning and management of assets in health services

Planning and management of assets in health services is a software planning tool. It's designed to assist with the planning and implementation of physical assets in health reforms, such as building, utilities and equipment. PLAMAHS provides:

Information on existing assets

A reference to the health and equipment policy (to assess compliance)

Comparisons between norms of national health facility infrastructure and the actual situation within the health facilities

Budgets to plan and allocate available financial resources

Procurement information supporting the acquisition of the appropriate equipment

The database can be used to:

Help identify priority infrastructure needs by facility or geographical area

Calculate costs for both investment and recurrent cost budgets and to generate bills of quantities, generic specification and distribution lists for procurement

Manage the maintenance of physical assets through monitoring activities

Inform donor decisions regarding allocation of resources



KMC is one of the key interventions in Nigeria for special care of low birth weight/preterm babies.



Results and achievements

Targeted EmOC facilities

Facilities with minimum building status score

Baseline	Target	Progress
0	90	70

Facilities with minimum model equipment list

Baseline	Target	Progress
0	90	60

Facilities showing an increase in signal functions

Baseline	Target	Progress
n/a	90	104

PRRINN-MNCH M&E: Baseline 2009, Target and Progress cumulative 2009-2013

The number of EmOC facilities showing an increase in the signal functions provided has surpassed the programme target. However, targets for EmOC facilities achieving a minimum building status score⁸ and with a minimum model equipment list were not reached.

Building rehabilitation and improvement issues have proved to be more complex and challenging than initially thought. In particular, the quality of regional and local contractors was such that regular and frequent supervision was required. National consultants appointed to provide this supervision also had to be supported and in 2011 a review of progress with the facilities rehabilitation programme resulted in changes to procedures and processes.

Essential equipment was supplied as part of the refurbishment process. Because knowledge of how to use even basic equipment was found to be poor, PRRINN-

MNCH provided training, manuals and educational videos.

The rehabilitation of targeted facilities should be completed by December 2013.

2.5 Reintroducing Kangaroo Mother Care

KMC is a feasible, low-cost approach for managing low birth weight babies, and has been shown to reduce mortality and serious morbidity in preterm babies.

An estimated 14%⁹ of Nigerian newborns are low birth weight. These babies account for the majority of newborn deaths. Reaching all preterm babies in Nigeria with KMC alone by 2015 would save an estimated 19,000 lives.¹⁰

History of KMC in Nigeria

KMC was first introduced to Nigeria in the late 1990s through a resident paediatrician at the University of Lagos Teaching Hospital. A training workshop was held with doctors and nurses from sixteen teaching hospitals across the country.

In 2007, the ACCESS programme supported the introduction of KMC in two general hospitals in Kano and Zamfara states. As part of the process, ACCESS worked with the FMoH to adapt a KMC training manual which could be used by health institutions across the country to train staff on KMC.

Kangaroo Mother Care practice has continued at various levels but it has not been rolled out across the country systematically due to the lack of a plan to expand services beyond the existing KMC centres.

Although there is no specific KMC policy, KMC has been identified as one of the key interventions in Nigeria for special care of low birth weight/preterm babies. KMC reduces the dependence on incubators, which is important where few incubators exist and where there are regular power outages.

KMC is articulated in the national integrated maternal newborn and child health strategy, and has also been included in the infant and young child feeding guidelines, the national child health policy, and key strategies for community Integrated Management of Childhood Illnesses.

More than 260 health workers were trained in Kangaroo Mother Care by 2013

Results and achievements

Reintroducing KMC in targeted facilities

Facilities with at least three health workers trained in KMC

Baseline	Target	Progress
0	90	60

CEmOC facilities practicing KMC

Baseline	Target	Progress
0	18	15

BEmOC facilities practicing KMC

Baseline	Target	Progress
0	65	60

PRRINN-MNCH M&E: Baseline 2009, Target and Progress cumulative 2009-2013

Targets relating to the number of staff trained in KMC have not been reached. However, the target relating to the number of EMOc facilities practicing KMC were close to being reached by September 2013.

This year's data from Katsina

Low birth weight babies admitted to KMC Jan – Sept 2013

Babies less than 1000g in weight

Male	Female	Total
0	0	0

1000g-1499g

Male	Female	Total
3	4	7

1500g-1999g

Male	Female	Total
8	11	19

2000g-2500g

Male	Female	Total
77	55	132

Total Numbers

Male	Female	Total
88	70	158

All but 2 of these babies survived, were discharged and followed up.



Mother with newborn using kangaroo mother care

PRRINN-MNCH has supported KMC via:

Collaboration with the Federal Ministry of Health. The national KMC training packages were reviewed, revised and adapted for use in Nigeria at the extraordinary core technical meeting on newborns in Kaduna in September 2010. Key outputs included revised versions of the national KMC training manual and supportive toolkits. The workshop also agreed to revise the national child health policy to include KMC as a key intervention for the management of low birth weight babies.

In-service training of health workers in KMC. Training of KMC trainers in the PRRINN-MNCH target states began in 2009. By 2013 over 260 health workers from PHC facilities, general hospitals, tertiary institutions and training institutions had been trained in KMC.

Use of KMC data in routine HMIS. KMC data were not originally part of the National HMIS data elements. They were included in the routine HMIS in 2013.

Reviews of KMC effectiveness. A review¹¹ of KMC in its first cluster used a model and tool developed by the South African Medical Research Council unit for maternal and infant health care strategies. The tool's scores are based on three phases: pre-implementation, implementation and institutionalisation. Results in the PRRINN-MNCH sites are highlighted in the diagram opposite¹².

Monitoring progress of KMC implementation and follow through results

2.6 Quality improvement processes

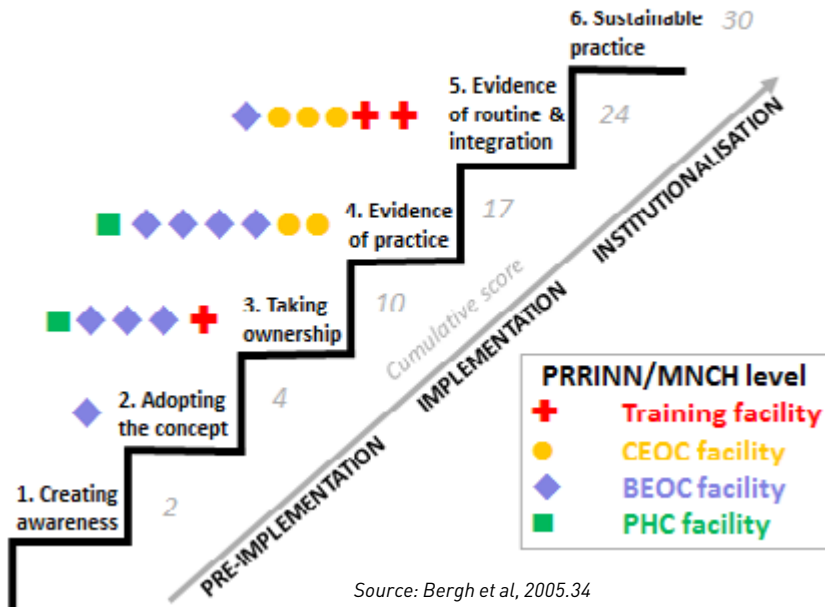
Simply increasing coverage of MNCH services and access to them is not enough to reduce MNCH mortality and morbidity – they need to be of an acceptable standard and quality. High quality services lead to better health outcomes, improved client satisfaction, increased use of essential MNCH services, and reduced delays in presentation at health facilities. They also contribute to health workers’ job satisfaction. To achieve the Millennium Development Goals related to MNCH we should not only increase coverage and access, but also improve the quality of care.¹³

QoC is a complex issue and can be defined in many different ways. Aspects include effectiveness, technical competence, interpersonal communication, client focus, safety, efficiency, timeliness, continuity, and equity.

PRRINN-MNCH initiated ongoing Quality Improvement processes in its EmONC facilities. Health facilities identify QoC problems, analyse the root causes and come up with interventions to address these problems. The ultimate aim is to reduce maternal, newborn and child mortality and morbidity and increase client, patient and staff satisfaction.

Results and achievements

Progress of individual health facilities



Source: Bergh et al, 2005.34

Most facilities were in the process of establishing KMC.

Of the 19 facilities reviewed, six facilities – two training, three CEmOC, one BEmOC – demonstrated evidence of routine and integrated KMC (institutionalisation); seven facilities – two CEmOC, four BEmOC, one PHC – demonstrated evidence of KMC practice (implementation); five facilities – one training, three BEmOC, one PHC – were in the process of taking ownership of KMC (implementation); and one PHC was ‘adopting the concept’ (pre-implementation).

Targeted BEmOC and CEmOC facilities regularly conducting maternal death audits

Baseline	Target	Progress
0	81	55

Targeted BEmOC and CEmOC facilities regularly conducting perinatal death audits

Baseline	Target	Progress
0	81	42

PRRINN-MNCH M&E: Baseline 2009, Target and Progress cumulative 2009-2013

Although there was significant progress in quality improvement initiatives, programme targets relating to maternal and perinatal death audits have not been reached.

Maternal Death Reviews shed light on why women are dying

Improvements in the PRRINN-MNCH supported EmONC facilities as a result of the quality improvement teams, include:

- ◆ Changes in health worker attitudes and behaviour towards clients
- ◆ Staff punctuality
- ◆ Better cleanliness and waste disposal methods
- ◆ Increased knowledge and skills through on-the-job training
- ◆ Better management of patients
- ◆ Increased availability of resources such as equipment and essential drugs
- ◆ Establishment of emergency cupboards in labour wards

Health facilities have established QI teams which meet monthly to discuss QoC issues. Training was delivered in a series of four workshops, each of which lasted between two and four days, and which were conducted at intervals of three months. Participants gradually built up their knowledge and skills for QI and applied their learning in their own context by identifying QoC problems and their root causes, and initiating QI activities.

QI teams also conduct facility-based maternal and perinatal death reviews. Audits assess the performance of health workers, while exit interviews with clients and focus group discussions in the community identify concerns of clients and patients.

PRRINN-MNCH developed clinical protocols for Emergency Obstetric Care and Essential Newborn Care as well as minimum standards for MNCH service provision, which provide benchmarks for expected quality of care. These have been endorsed by the State Ministries of Health in Katsina, Yobe and Zamfara.

QI teams have learnt that many QoC problems can be solved at the level of the health facility instead of waiting for the State Ministry of Health to act, and that involving facility health committees and communities is important. However, QI teams also need support from higher levels in terms of supportive supervision and provision of resources. QI needs to be institutionalised in the SMoH, where a

QI committee provides policy guidance, support and monitors QI processes.

In each MNCH programme state a team of QI trainers has been trained and mentored and are able to provide further QI training in their states.

Maternal Death Reviews

MDRs assist in identifying important quality of care problems. Besides identifying obstetric causes, MDRs shed light on why women are dying by identifying, often avoidable, contributing factors. The reviews help to discover important shortcomings in care and weaknesses in the organisation and delivery of services. For those taking part it is a valuable learning experience. Each death tells an important story of what went wrong and what could have been done better. By acting upon the findings, MDRs can help save lives in the future.

How MDRs work

At each health facility multidisciplinary QI teams review maternal deaths. The chairperson collects the necessary information, including patient records and additional data from interviews with staff.

The review team usually includes a doctor, either the principal medical officer of the hospital or the doctor in charge of the maternity section, the matron in charge of the maternity section, the chief nursing officer and the persons in charge of the laboratory, operating theatre and pharmacy. Sometimes a community member of the facility health committee also takes part.

To build capacity in the states, selected persons from the health facility QI teams have been trained as QI trainers, including guidance on how to conduct an MDR and how to provide supportive supervision. Early in this process, in a multi-state workshop, MDR recording and reporting tools from a number of countries were reviewed and adapted for Northern Nigeria. These included recording, notification and follow-up forms plus a staff interview guide. A guideline was developed on how to fill in the forms and the tools were approved by the State Ministries of Health.

All members of the Quality Improvement teams interviewed expressed enthusiasm about the MDR process



Maternal Death Review discussion

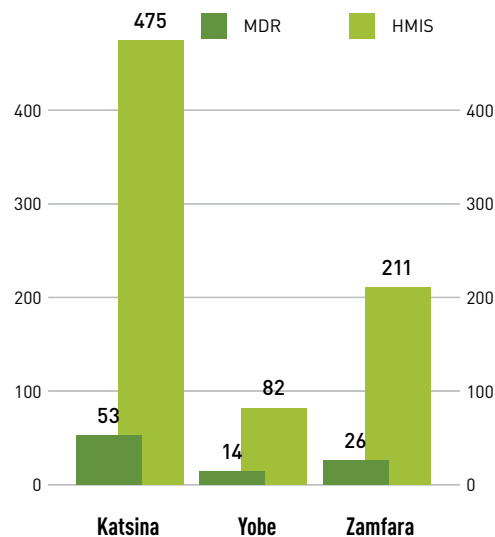
Mentoring support is given to the QI teams in initiating and conducting MDRs through supportive supervision visits.

In early 2013, a review of the MDR process was conducted. 93 forms were collected and analysed from the beginning of 2012 when the MDRs began. The review found that there is still a large gap between the number of maternal deaths recorded in the HMIS and the number of MDRs undertaken (see below).

Comparison of maternal deaths reported through HMIS (Jan 2012-Mar 2013) – 768 and through MDR – 93 (12%)

Maternal deaths reported through HMIS and MDR

Number



Considerably more maternal deaths were reported through the HMIS.

The review of the 93 MDRs highlighted:

Only 11% of patients had been to antenatal care.

Just over half (53%) of patients were admitted from home, only 13% were admitted from other facilities.

66% died post partum while 34% died undelivered (antenatal, intrapartum and abortions).

Of the 61 patients that died postpartum, 45 had spontaneous vaginal delivery, 14 had caesarean section and only 2 had forceps delivery.

Most of the patients were admitted in a critically ill condition and about half died in the first 24 hours after admission.

The most common direct causes of death were hypertensive disorders (26%), post partum haemorrhage (25%), puerperal sepsis (11%), abortions (3%) and one death from obstructed labour.

The most common indirect cause of death was anaemia (28%).

In all cases, there were other (non-medical) factors that contributed to the patient's death. In 53% of cases, there were multiple causes. Most frequent contributing factors were delays caused by patients or the patient's family, including delays in agreeing to the management plan proposed by the health worker. Health worker problems included inadequate resuscitation of patients and incomplete initial assessment on admission. Administrative problems included absence of trained staff on duty and lack of blood products.

Of the 61 babies delivered, records for 54 were found, of which 25 were live born and 29 were still births. Only 12 babies were weighed and had their Apgar scores determined. Mean weight was 3kg and mean Apgar score at five minutes was 7.5.

The evaluation found that all members of the QI teams interviewed expressed enthusiasm about the MDR process and provided much positive feedback.

'Initially people felt that it is for witch hunting and to lay blame... you will see after a mortality the patient's case notes will go missing... sometimes you can't find the fault or the reason why the patient died because everything like the vital signs have been perfected after the death. After explaining to them that it is for the benefit of the patient, things improved.'

Member of Maternal Death Review committee, Gusau, Zamfara

MDR has brought about improvements in quality of care. Health providers have reported:

- ◆ Better treatment of patients
- ◆ Improvements in the way human resources are used
- ◆ Acquisition of equipment, such as resuscitation equipment, sphygmomanometers, generators, blood bank facilities and emergency drugs
- ◆ Establishment of emergency cupboards with life-saving drugs in labour wards
- ◆ Posting of additional skilled staff following requests to LGA chairmen or the State Hospital Management Board

2.7 Technical and integrated supportive supervision

Regular supportive supervision is the glue that binds the health system. Within PRRINN-MNCH, the focus has been on building supportive supervision systems that see managers and clinicians supervising in the field on a regular basis (monthly or quarterly).

Integrated supportive supervision is concerned with the supervision of systems and services and the focus is on managers at different levels. Technical supportive supervision is more concerned with the supervision of quality of care and the focus is on practitioners.

ISS consists of three core elements:

1. An organisational framework.

Integrated, trained supervision teams report to a coordinating state-level structure.

2. A supervisory process. Regular ISS visits are comprehensive, not just 'in-and-out visits'. They include three main aspects:

Review of key areas

Some on-the-job capacity building

Discussion of key problems and agreement on follow-up actions by both sides (supervisors and supervisees)

Keep to an agreed timetable

3. Review mechanisms. These include:

Feedback to management from visiting team

Summary visit reports and verbal feedback to facility management and managers at SMOH or equivalent structures

Progress meeting, at least quarterly, of managers of facilities/LGAs and supervisors. These meetings take place at levels appropriate to the state (eg at zonal/district/Gunduma level for some states and at state level for others)

TSS consists of the same three core elements – an organisational framework, a supervisory process and review mechanisms. State TSS team membership includes experts in obstetrics and gynaecology and paediatrics from the Federal Medical Centres of each state as well as other doctors and



PHC facility unit notice board with MNCH services

midwives, who are usually trainers on MNCH issues, such as KMC, FANC, PNC, FP, IMCI and LSS-EmONC. The state ISS team includes managers from different departments and programmes. The difference in composition of ISS and TSS teams is repeated at sub-state and facility levels.

Results and achievements

The four PRRINN-MNCH states have established multidisciplinary Integrated Supportive Supervision teams at state and LGA levels. These teams regularly visit health facilities to monitor service provision and to supervise and support health care providers.

To complement the work of the ISS teams, additional Technical Supportive Supervision teams have been formed at state level, to focus on the clinical aspects of MNCH



Women waiting to be seen at a health facility

- ◆ EmOC health facilities provided tables for newborn resuscitation and ensured placement of equipment in readiness for resuscitation

2.8 Family planning

Although knowledge on modern FP methods among women is very low in the north of the country compared to the south, as is demand for FP services, unmet need for contraceptives is similar in both parts of the country.¹⁴

Reproductive health indicators for northern zones in comparison with national average

Unmet need for contraception

North-west	North-east	National
20.8%	17.6%	20.2%

Contraceptive prevalence rate (any method)

North-west	North-east	National
2.8%	4%	14.6%

Source: DHS 2008

The PRRINN-MNCH programme initially adopted a cautious approach to FP because of the sensitivity of the issue in Northern Nigeria. Apart from general hospitals, availability of FP services, called child spacing, was very limited at the PHC level. If available at all, services were usually provided only once a week, only a few contraceptive methods were on offer and contraceptives were often out of stock.

FP has now become an integral part of the package of MNCH services. Facility staff, primarily midwives, have been trained in and offer an integrated package of reproductive health care. The integrated training package, which has been developed with support from PRRINN-MNCH, includes FANC, PNC and FP. The training is based on national guidelines which were reviewed by PRRINN-MNCH together with the FMOH.

Initially, training of trainers was conducted and these trainers cascaded training down to lower levels and also served as mentors.

Both ISS (management and systems supervision) and TSS (clinical quality) are necessary

services and provide supportive supervision and follow-up of health workers after in-service training to ensure their learning is put into practice.

Other achievements resulting from ISS and TSS include:

- ◆ Improved documentation of service statistics (eg improved use of registers and monthly summaries of statistics posted on walls)
- ◆ Reconstitution and reactivation of QI teams
- ◆ MDRs, with their benefits widely recognised by participating staff
- ◆ Maternity Local Engagement Consultants mentored to provide better supportive supervision, and to build the supervisory capacity of LGA staff
- ◆ Appropriate placement of clinical protocols and orientation for better use

Comprehensive TSS and ISS manuals have been developed By PRRINN-MNCH.

Improvements in the quality of care and service delivery include:

- ◆ Increased use of partograph to monitor labour
- ◆ Improved cleanliness in delivery rooms and maternity section
- ◆ Emergency drugs in maternity/delivery room (emergency cupboard or refrigerator for oxytocin) to improve timely management of maternal complications

Given the history of contraception issues in the north, the progress made is remarkable

Results and achievements

Supported PHC facilities providing contraceptives

Baseline	Target	Progress
n/a	144	251

Women who used modern family planning services through the supported PHC facilities

Baseline	Target	Progress
n/a	197,478	135,824

Contraceptive prevalence rate in the three states

Baseline	Target	Progress
n/a	4.2%	2.33%

PRRINN-MNCH M&E: Baseline 2009, Target and Progress cumulative 2009-2013

Family planning indicators show that while access and availability of contraceptives has improved, use targets have not been reached.

Given the history of contraception in the north, it's remarkable to see the progress that has been made to date.

76 EmOC facilities (target – 81) have at least three health workers trained in FP services and 167 PHC facilities (target – 144) have at least one trained health worker. Contraceptives have been included in the sustainable drug supply system (SDSS).

2.9 Improved healthcare for women

Comparisons of baseline (2009) and endline (2013) household survey data* in the three states:

99,414 more women attended ANC by an SBA (2013)

347,949 more women attended ANC by an SBA (2010-2013)

58,968 more women were delivered by an SBA (2013)

206,388 more women were delivered by an SBA (2010-2013)

* For the methodology used to calculate the numbers see the report: Cost Effectiveness of Health System Strengthening and Value for Money by Jeff McCaskey, November 2013

The PRRINN-MNCH supported states have shown significant improvement in access, coverage and use of MNCH services and in reduction of MNCH mortality and morbidity. This is illustrated by data from several different sources.

PRRINN-MNCH has conducted three household surveys in 2009, 2011 and 2013 under the supervision of Columbia University, a consortium partner. The baseline and endline surveys were substantial while the midterm survey, designed to measure whether the programme was on track, was smaller. Baseline and endline household survey data are presented throughout the report and results are compared with the findings of the 2008 and 2013 Nigerian Demographic and Health Surveys.¹⁵ The DHS data for Nigeria as a whole is included for completeness and as a benchmark.

The sampling methods of the DHS and the PRRINN-MNCH HHS differ in these respects: The HHS sample size is larger (approximately 4,600 women versus 3,600)

Both surveys used stratified sampling but the HHS uses programme clusters to stratify while the DHS uses the enumerator areas

The HHS sampling ensures better representation in the clusters and in the PRRINN-MNCH community engagement sites

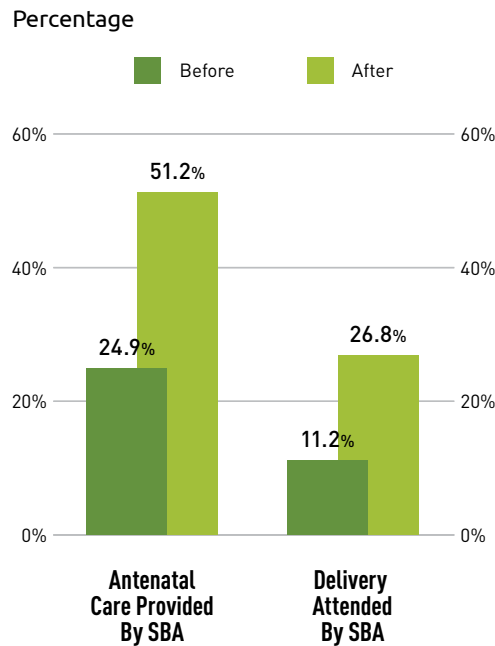
The HHS focuses on rural areas (as opposed to cities)

The more refined weighting in the HHS produced more valid results. It has also been suggested that the trust that communities have in PRRINN-MNCH, which has been operational for a long time, is likely to have resulted in respondents being more frank and open in their interviews.

Antenatal clinic visits and births by skilled birth attendants more than doubled in three years

PRRINN-MNCH household surveys

Increases in births attended by skilled birth attendants



Before: Baseline HHS data (2009) After: Endline HHS data (2013), intervention clusters

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

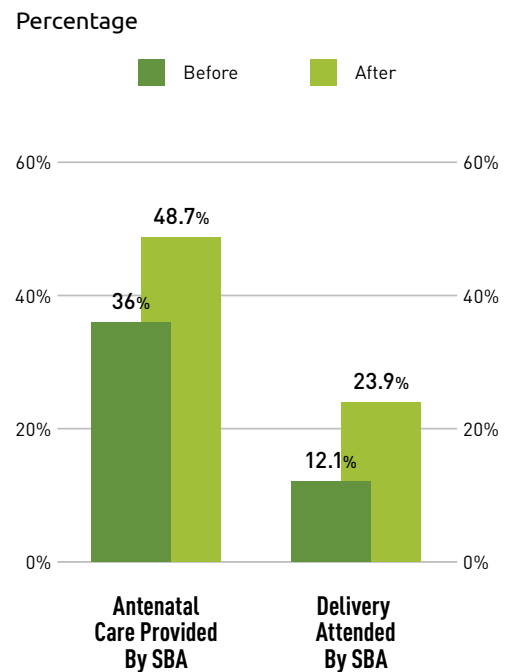
The household surveys show that ANC and deliveries handled by an SBA more than doubled in the three states (Katsina, Yobe and Zamfara – for state specific data see discussion on SBAs). However, there is a large gap between ANC and delivery – many more women are attending ANC services provided by an SBA 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 a SBA are significantly different between baseline and endline surveys.

Reducing the gap

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

Exploring the ANC/delivery gap Yobe state



Before: Baseline HHS data (2009) After: Endline HHS data (2013), intervention clusters

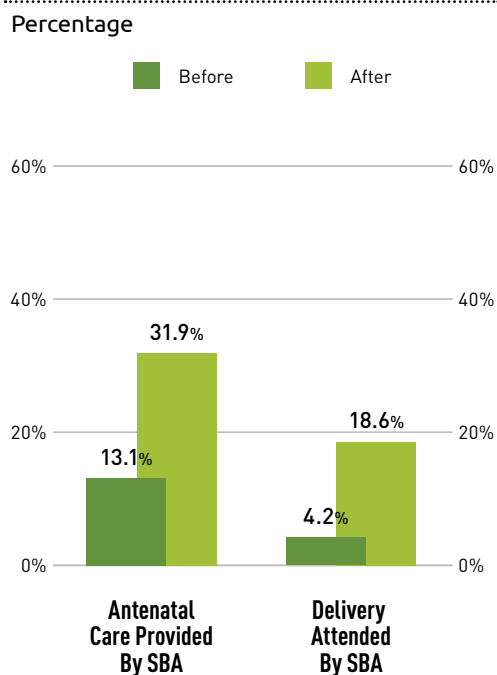
The gap between attendances at ANC and deliveries by an SBA narrowed significantly in Yobe state.

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 less than 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%).

Early indications are that the gap between ANC attendance and deliveries is narrowing

Exploring the ANC/delivery gap Zamfara state



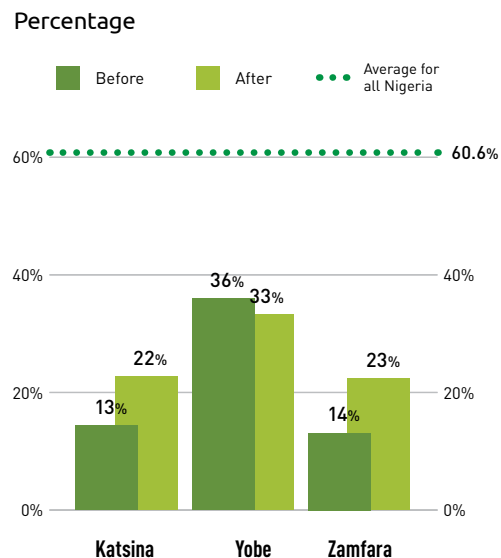
Before: Baseline HHS data (2009) After: Endline HHS data (2013), intervention clusters

The gap between attendances at ANC and deliveries by an SBA narrowed even more in Zamfara state.

Demographic and health survey

Two of the PRRINN-MNCH states (Katsina and Zamfara) showed an increase in ANC provision by SBAs between 2008 and 2013. Delivery by SBA and in a health facility show a similar pattern to the ANC data. With all indicators well below the Nigerian average, the DHS shows the same gap between ANC attendance and delivery with an SBA. Many more women attended ANC services provided by an SBA than delivered with an SBA in attendance. In the DHS, the gap is more accentuated.

ANC provided by SBA (DHS)



Before: Baseline DHS data (2008) After: DHS data (2013)

Attendances in all three states are well below the national average.

Survey methodologies and trends

Surveys are usually either commissioned nationally or completed by specific programmes. However the different methodologies used deliver different results. For this reason it is difficult to compare surveys and a clearer picture is gained by comparing the same survey across different times (e.g. the DHS between 2008 and 2013).

The problem of which survey to place more emphasis on remains. It would be counterproductive to analyse methodologies and thus rank surveys as there are many factors involved, some of which include:

- ◆ Data elements and indicators – in some cases definition of terms, numerators and denominators can be different
- ◆ Sample size – the larger the better
- ◆ Sampling methodology – most surveys use stratified sampling but even then this can vary e.g. different stratification with more focus on rural or urban areas, more focus on intervention sites
- ◆ Retrospective reporting period (for births: 2 years for MICS, 5 years for DHS)

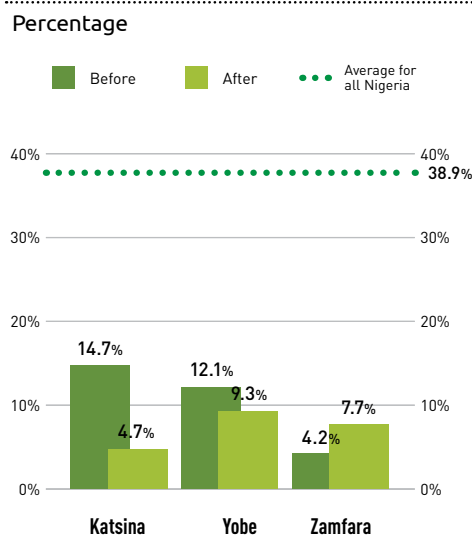
- ◆ Design and quality of the questionnaire
- ◆ Training, ability and interaction (including local trust) of people conducting the survey

It is therefore generally preferable to review all available survey data, and if possible routine data, to arrive at a more measured conclusion. In addition, when comparing data from different surveys it is useful to look at trends to see whether the indicators are generally improving or worsening.

Comparison between the DHS and HHS

A comparison of the PRRINN-MNCH 2009 baseline household survey and the 2008 DHS shows similar results. But for antenatal care provided by SBA, the baseline HHS has a much higher figure than the DHS for Katsina. The HHS also has a higher result for deliveries by SBAs in Katsina than the 2008 DHS. There is a gap between ANC attendance and delivery by an SBA in both cases. Both sets of results are well below the Nigerian average of just under 39%.

Deliveries by SBA HHS 2009 vs DHS 2008 data

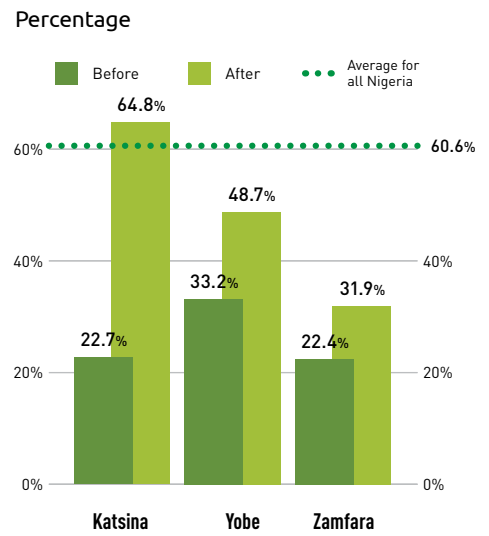


Before: HHS data (2009) After: DHS data (2008)

Results for HHS 2009 and DHS 2008 surveys were largely similar except in Katsina.

The differences between the PRRINN-MNCH 2013 endline survey and the 2013 DHS are more marked. In two of the states there are large differences between the HHS data and DHS data for antenatal care by SBAs. Katsina achieved 64.8%, which is above the Nigerian average.

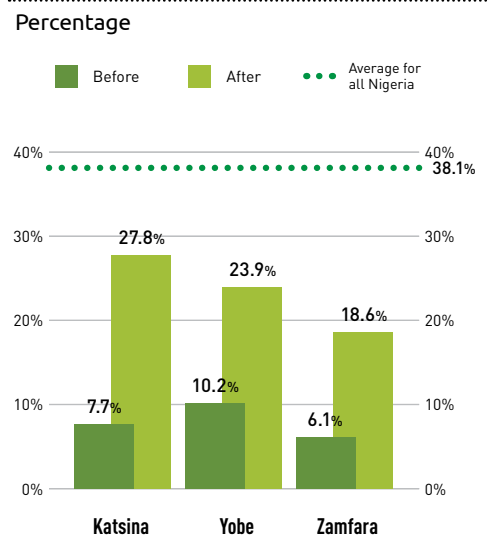
Antenatal care by SBA: HHS vs DHS data



Before: DHS data (2013) After: HHS data (2013), intervention sites

There were large differences between HHS 2013 and DHS 2013 data.

Deliveries by SBA HHS vs DHS data



Before: DHS data (2013) After: HHS data (2013), intervention sites

There were large differences between the endline HHS and DHS (both 2013) data.

The differences are even more marked for deliveries by SBA with differences up to nearly four times higher. Katsina shows the most difference. None of the states is at the level of the Nigerian average, although Katsina is getting close.

Women protected by tetanus toxoid (tettox) follows a similar pattern, with the results of the

2013 endline HHS much higher than the 2013 DHS.

Pregnant women with 2+ tettox

Baseline	Endline	DHS 2013
64.3%	86.2%	52.8%

Baseline HHS (2009); Endline HHS (2013); DHS 2013 (Nigeria)

The results are significantly different between endline and baseline HHS.

Footnotes:

1. Yobe has 17 LGAs, 6 clusters and a population of 2,953,712; Zamfara has 14 LGAs, 7 clusters and population of 4,064,012; Katsina has 34 LGAs – PRRINN-MNCH is covering 6 clusters with a population of approximately 3,000,000 out of 7,124,140.
2. Capacity building for EmONC and RI
3. Estimates of maternal deaths vary depending on the source of data used.
4. World Health Organisation (WHO) 2012. Trends in Maternal Mortality: 1990 to 2010. WHO, UNICEF, UNFPA and The World Bank estimates. Geneva 2012
5. DHS 2008
6. Nigeria Demographic and Health Survey 2013. Preliminary report. Abuja, Nigeria: National Population Commission and ICF Macro.
7. Adewemimo A, Msuya S, Olaniyan C and Adegoke AA: Utilisation of Skilled Birth Attendance in Northern Nigeria: A cross sectional survey. Midwifery. DOI.10.1016/j.midw.2013.09.005
8. This and other related activities that were started by PRRINN-MNCH were transferred to the W4H programme (consortium led by HPI and including GRID and Save the Children, UK) in 2012.
9. The minimum building status score and minimum model equipment list are tools developed to assess whether the facilities meet the minimum requirements necessary to provide EmOC services
10. Unicef. State of the World's Children 2010. New York: Unicef
11. Science in Action; Saving the lives of Africa's mothers , newborns & children 2009
12. A second review will be completed by December 2013
13. Findings from the review were presented at the IX International Conference on Kangaroo Mother Care, Nov 2012, Ahmedabad India.
14. Van den Broek NR, Graham WJ (2009). Quality of care for maternal and newborn health: a neglected agenda. BJOG; 116 (Suppl.1): 18-21.
15. DHS 2008.
16. The 2013 data is from the preliminary report.

3. Strengthening immunisation delivery

3.1 Raising awareness

3.2 Increasing community demand for immunisation services

3.3 Zamfara state basket fund for strengthening PHC services (especially routine immunisation)

3.4 Strengthening the GAVI financial management system

3.5 Increased uptake of routine immunisation

Routine immunisation has been improved with strong potential for sustainability in all PRRINN-MNCH intervention states.

Northern Nigeria historically has the lowest immunisation rates in the country.

Communities have increased understanding of the importance and procedure of immunisation, leading to significantly higher rates of routine immunisation.

Primary health care including routine immunisation has been strengthened by the Zamfara state basket fund and strengthening of the GAVI financial management system.

Direct-drive solar fridges solve many of the problems

3. Strengthening immunisation delivery

3.1 Raising awareness

In 2007, the vaccine cold chain was suffering from lack of equipment and electricity. Distribution of vaccines was dependent on ad hoc collection by health workers. The political will to strengthen routine immunisation was low. Polio campaigns were reinvigorated after the 2003 boycott and as the frequency of campaigns increased, efforts to eradicate polio pushed government and partners' focus away from routine immunisation.

A strong routine immunisation system, built within a far-reaching and effective PHC system, not only decreases incidence of childhood disease, but also increases the likelihood that more children will be reached by polio vaccination in-between campaigns. Maintaining high immunisation coverage against polio, and other diseases, ensures that eradication efforts can be sustained. It also builds community trust when services are consistently available; and when services are efficiently managed, the government can reduce costs.

Improving immunisation service delivery depends on availability of vaccine, functioning equipment to store vaccines at safe temperatures, and quality service provision by health care workers – all to be implemented with support and funding from national and sub-national governments and international partners.

While supporting the polio eradication initiative, the focus of PRRINN-MNCH's work has been on strengthening the RI system.

Vaccine availability has fluctuated throughout the life of the PRRINN-MNCH programme. Often the shortages stemmed from national level procurement issues or varying international availability of vaccines, but poor vaccine management, unreliable vaccine distribution and poor vaccine forecasting had a major impact on the availability of vaccines. PRRINN-MNCH in project states and with partners, has helped

to strengthen vaccine management skills and record keeping. The project also worked at the federal level to improve coordination and reduce national vaccine stock-outs.

Direct-drive solar fridges



A Solar Fridge

To avoid solar fridge battery problems it's best to use direct-drive solar fridges. The weakness of the battery-supported refrigeration systems is maintenance and the lack of resources to replace batteries. This results in many breakdowns.

The World Health Organization recently prequalified direct-drive solar refrigerators for use in the immunisation cold chain. Prior to this, PRRINN-MNCH has supported the installation of five direct-drive solar refrigerators per cluster (one CEmOC; four BEmOC facilities). Currently there are 45 in clusters one to three in the three states. A further 45 direct-drive solar fridges will be installed by the end of 2013 in clusters four to six. There was a follow-up refrigeration course on system installation, maintenance and repairs in August, 2013.

These direct-drive solar fridges have a refrigeration compressor specifically for solar refrigeration that is capable of using lower power input by having a reduced 'pumping' speed which increases when solar power is increasing.

Anecdotally, the systems have performed well and a user-survey is currently

underway to assess performance of these refrigerators.

New vaccines

The GAVI Alliance has allowed low-income countries the opportunity to introduce several new and underused vaccines that were previously not available due to their high cost or low demand. Nigeria introduced meningitis A vaccine in northern states in 2011 and began a phased introduction of pentavalent vaccine in 2012. The pentavalent vaccine is a combination vaccine that includes DPT, Hepatitis B and haemophilus influenza type b vaccines. By combining the vaccines, it reduces the number of injections.

The meningitis A vaccine was specifically designed for the African meningitis belt and is important in Northern Nigeria where outbreaks of meningitis A are seasonal and common. Both introductions provided opportunities for increased cold chain funding, and improved waste management strategies and training. PRRINN-MNCH teams supported the states to prepare for the introduction of the new vaccines.

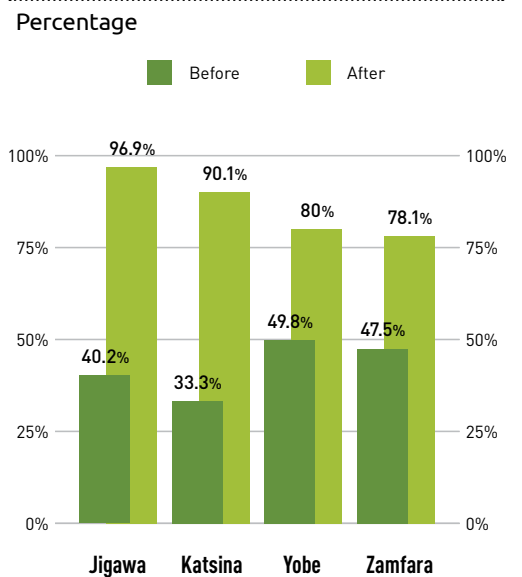
3.2 Increasing community demand for immunisation services

PRRINN-MNCH deployed a community engagement strategy which aimed to mobilise entire communities around MNCH. The whole community is involved, including religious and traditional leaders, husbands, grandmothers, young women and others, to generate wide social approval for behaviour change. Community volunteers play a vital role in sharing information and providing support and services. The participatory approach saturates the communities with health information and supports them to turn new awareness into action.

Results and achievements

Data on women who know how many immunisation visits they need and on standing permission, which includes visits for immunisation and other purposes, to take a child to a health facility show the same pattern of increase as the immunisation coverage indicators. Some states show a more impressive increase than others.

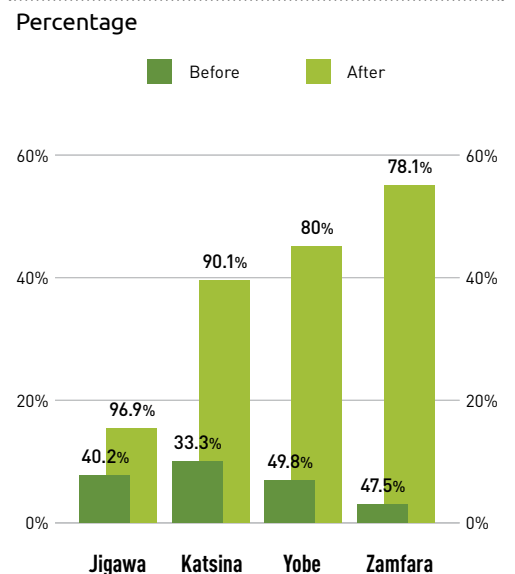
Women with standing permission to take a child to the health centre



Before: baseline HHS data (2009), After: Endline HHS data (2013), intervention clusters

Permission increased in all four states, notably in Jigawa and Katsina.

Women with children under two who know the number of immunisation visits needed



Before: baseline HHS data (2009), After: Endline HHS data (2013), intervention clusters

The number of women who knew how many immunisation visits they needed increased greatly in all four states, notably Zamfara.



Immunisation posters and records

Women's knowledge of the immunisation schedule improved

These two indicators are significantly different between endline and baseline, and for percentage of women knowing number of immunisation visits significantly different between endline intervention and endline control clusters.¹

Significant increases in women's knowledge of the immunisation schedule was also found in the endline KAP survey.

Communities take individual and collective responsibility for the immunisation of their children. For example:

- ◆ Parents bring children for immunisation during campaigns and on the immunisation days.
- ◆ At morning prayers on immunisation days, male CVs suggest husbands take their children to be immunised.
- ◆ Female CVs visit homes during major events (eg naming ceremonies) to remind mothers about immunisation and trace children who dropped out or have delayed immunisation.
- ◆ CVs follow up to ensure there is standing permission from husbands for mothers to take children for immunisation.
- ◆ Facility managers are assisted by the community to help transport vaccines to immunisation sessions.

- ◆ To increase awareness, discussion and decision-making on polio, the 'Majigi' (film) about polio is shown in high risk areas, followed by experience sharing and discussions on the content of the Majigi. The Majigi is complemented by radio jingles, vaccination slogans, songs, mimes and body tools.

CVs document their activities and submit their records monthly so that communities and local governments can monitor and review progress.

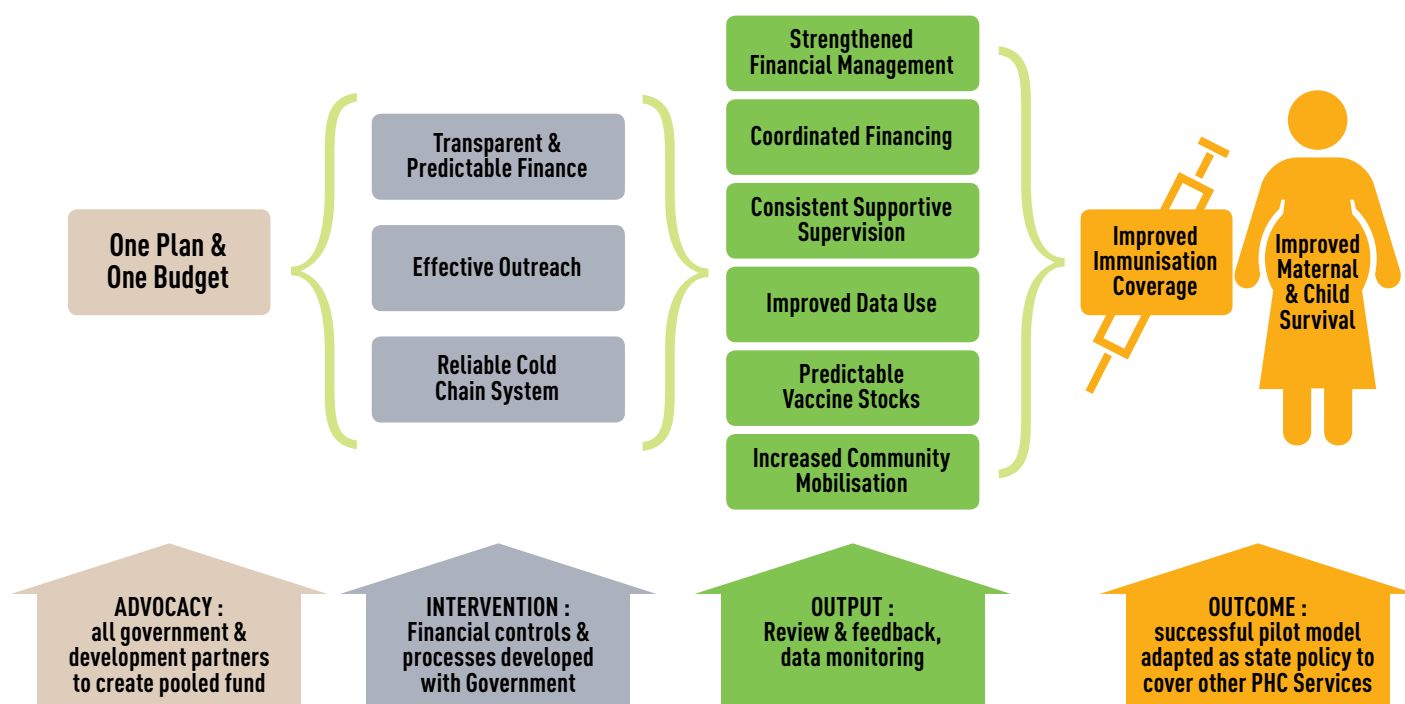
These activities have shifted social norms around immunisation, leading to a dramatic fall in resistance to immunisation. By 2013 many men and women in the intervention communities were vocal advocates for immunisation, having seen the benefits in their own families.

3.3 Zamfara state basket fund for strengthening PHC services (especially routine immunisation)

In 1990, Nigeria reached a universal immunisation coverage rate of 81.5% for all antigens. This success has since been eroded by supply and demand challenges throughout the health system. The national fully immunised coverage rate dropped to 42% in 2006, while in Zamfara state it fell to 11%.² Absence of guaranteed funding

How the Zamfara basket fund supports MNCH PHC services

The basket fund is designed to be transparent, with predictable finance.



to finance critical recurrent activities is consistently cited as a key challenge of the PHC services, particularly routine immunisation in Zamfara.

The Zamfara basket fund is an innovative pooled funding mechanism that provides predictable funds to finance crucial recurrent PHC activities, transparently and efficiently. The pilot phase (October 2009 to March 2010) was supported by PRRINN-MNCH to address three interlinked challenges:

- ◆ Poor coverage of routine immunisation services
- ◆ Inadequate release of resources and poor use of released funds
- ◆ Challenges associated with coordinating different sources of funding for PHC

Activities supported by the fund include:

- ◆ Vaccine distribution
- ◆ Generator and cold chain maintenance
- ◆ Outreach services
- ◆ Community mobilisation

- ◆ Supportive supervision by state and LGA integrated supervision teams
- ◆ Data quality assessments

Contributions from the government of Nigeria and international development partners, including GAVI, were channelled through the fund. The basket fund receives contributions from the state, 14 LGAs and partners in an agreed ratio of 20%, 70% and 10% respectively.

Regular review and feedback meetings have been held at state level and with the chairmen of the LGAs and traditional leaders to review the activities of the fund and its impact on PHC services, particularly immunisation. Indicators monitored included:

DPT3 and OPV3 coverage by LGA and by political wards

The overall state DPT3 and OPV3 coverage (adjusted based on data quality assessments conducted by the HMIS unit who are not involved in immunisation activities)

The Zamfara basket fund is an innovative, pooled funding mechanism that provides predictable funds

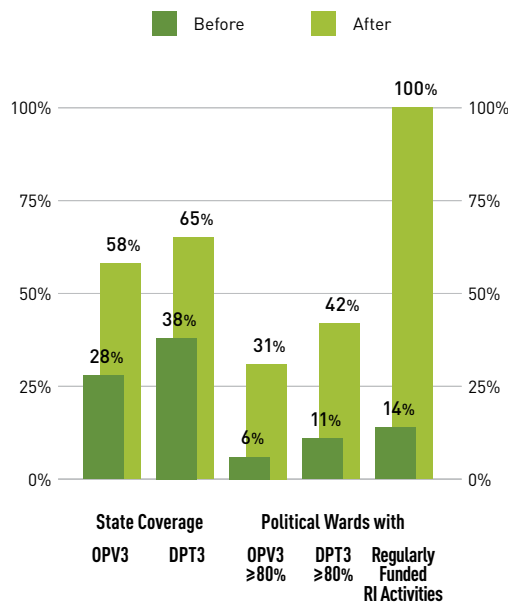
Results and achievements

Surveys before and after the pilot phase of the basket fund showed significant increases in many immunisation indicators.

The success of the immunisation services in Zamfara was also corroborated by the results of national and household surveys. The 2010 NICS survey showed that the fully immunised coverage rate has improved from about 11% in 2006 to 61% in 2010; and the household surveys showed similar improvements – noted in DPT3, OPV3 coverage and fully immunised coverage rates.

Pilot phase – routine immunisation indicators

Percentage



Before: before pilot phase (October 2009), After: after pilot phase (March 2010)

All indicators show significant increases in routine immunisation.

As illustrated above, most immunisation indicators have improved. The increases are attributable to the introduction of the basket fund for the following reasons:

- ◆ There were no other state-wide interventions that would have significantly affected the results
- ◆ The immunisation-related activities supported by the funds are broad activities to strengthen the health system, as recommended by the

Reaching Every District strategy. In Nigeria this has been modified to the Reaching Every Ward strategy.

Use of the fund has contributed to improved efficiency of immunisation systems, regular monthly supervision visits in all LGAs and improvements in data collection.

A key achievement was the establishment of effective administrative procedures and robust checks and balances for the basket fund.

Administrative procedures – checks and balances

Transparent and efficient financial controls included:

- ◆ A pooled account with three sets of signatories before funds can be released
- ◆ Individual LGA accounts with joint signatories maintained by each LGA
- ◆ Monthly fund disbursement from LGA finance clerks directly to beneficiaries
- ◆ Monthly fund retirement by finance clerks and endorsement by LGA chairmen/Director of PHC with future funds released subject to the retirement of the previous tranche of funds received
- ◆ Compliance monitored by the state technical team
- ◆ Fund disbursement and expenditure information publically available

The basket fund is now formalised as a policy in Zamfara state. It has been expanded to cover other PHC services such as polio campaign activities, payment of the LGA allowances of midwives as part of the Midwives Service Scheme, community management of acute malnutrition and community engagement activities.

The basket fund has been commended by an assessment team from WHO Geneva, the DFID midterm review team that assessed the activities of the PRRINN-MNCH programme and by UNICEF. They all recommended it to other states in Nigeria. In 2013, approval was secured from the Executive Governor of Yobe State to institutionalise a basket fund for PHC activities in that state.

The idea was to analyse the bottlenecks and identify possible solutions

GAVI Fund disbursement to programme states

The table depicts the increasing fund disbursement of GAVI (ISS) Funds to PRRINN-MNCH focal States between 2009 and 2012. Further analysis of the fund disbursement data with the NPHCDA could be beneficial.

	2009	2010	2011	2012
Jigawa	£29,176	-	£58,351	-
Katsina	£41,235	£41,235	£41,235	£82,471
Yobe	£18,693	£18,693	-	£37,387
Zamfara	£18,227	£18,227	£36,454	£36,454
Total Disbursed to Programme States	£107,332	£78,156	£136,041	£156,312
Total Disbursed to 36 States & FCT	£977,542	£1,004,459	£773,106	£936,868

3.4 Strengthening the GAVI financial management system

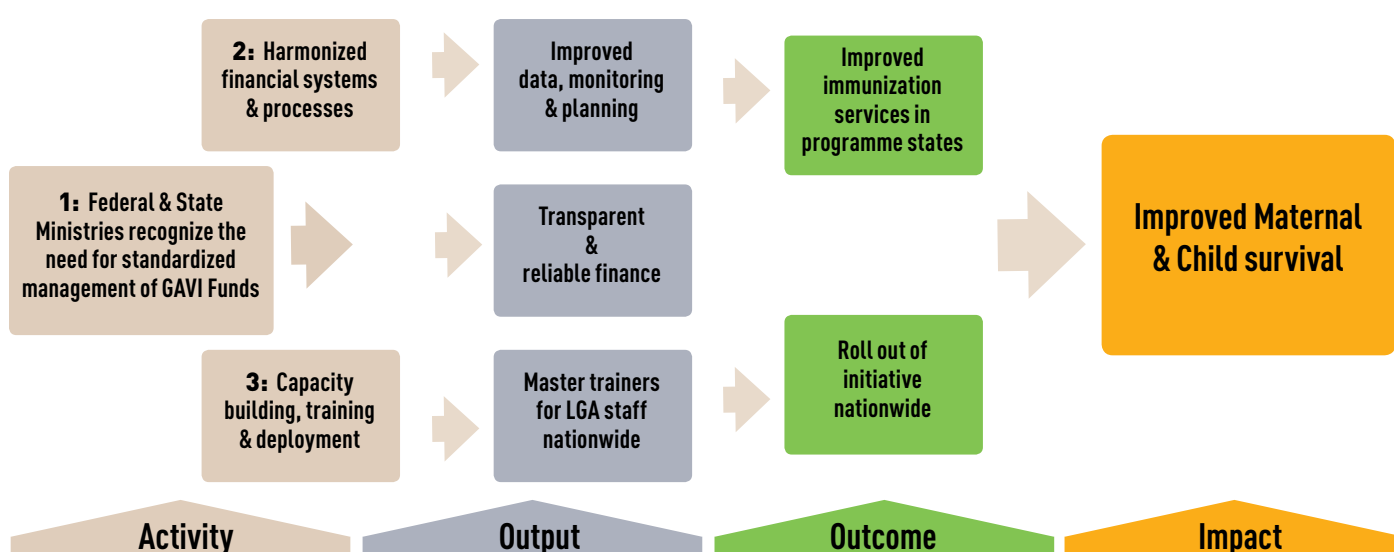
Historically, budgeting and planning have been weak in Nigeria. As part of its mandate to improve governance for primary health care, PRRINN-MNCH worked with the federal government, states, and LGAs to strengthen public financial management by linking budgets, strategies, and policies with actionable and accountable plans. PRRINN-MNCH's work to strengthen the GAVI financial management system is an example of how focusing on financial management can remove administrative bottlenecks, improve budget expenditure, and increase financial flows, resulting in sustainable immunisation funding and programming.

GAVI has provided support to Nigeria since 2001 to introduce new vaccines

and strengthen immunisation and health systems. Despite the need for immunisation support, GAVI funds were not used to their full potential – often because they were stuck in bank accounts with no processes in place to release or retire the money.

Improving financial management systems requires building trust and collaboration with all involved. In 2008, PRRINN team members met with the top management team of the NPHCDA to discuss the operations and management of GAVI funds for Nigeria. The idea was to analyse the bottlenecks and identify possible solutions. It was proposed that PRRINN would work in its four programme states to ascertain procedures on the ground for managing and retiring GAVI funds.

GAVI funds (ISS) financial management strengthening



The NPHCDA is now considering a nationwide rollout of the training to the LGA accounts staff



Health worker preparing a vaccination

PRRINN-MNCH reviewed existing procedures with high-level management officials and visited selected LGAs in each of the states to review accounting books and records. The idea was to ascertain the flow of GAVI funds to date and ensure proper reconciliation with bank statements. At the same time, PRRINN-MNCH supported the states to retire their outstanding releases to the NPHCDA and built the capacity of relevant accounts staff to record and account for amounts received at both state and LGA levels.

Results and achievements

Funding has increased to each of the four PRRINN-MNCH states.

Improvements in the GAVI financial management system have helped to improve access to routine immunisation funds by:

- ◆ Helping states access and reconcile GAVI funds
- ◆ Keeping funding transparent
- ◆ Linking funding to activities
- ◆ Ensuring that money is spent on planned activities
- ◆ Assuring fund providers that funds are safeguarded
- ◆ Minimising risk
- ◆ Increasing the reliability and predictability of funding

At first, the states were sceptical about the benefits of the review exercise. However, they were later convinced that improved transparency in fund management would ensure efficient use of, and easier access to, GAVI funds.

Based on the experience in Jigawa, Katsina, Yobe and Zamfara, the NPHCDA management recognized the need to establish procedural guidelines for GAVI funds.

In collaboration with NPHCDA accounts staff, PRRINN-MNCH supported the development of Financial Management Guidelines for GAVI funds. The guidelines were harmonized with the existing internal accounting procedures for GAVI funds within the NPHCDA. The guidelines include sections on:

- ◆ Responsibilities of stakeholders
- ◆ Receipt and banking procedures
- ◆ Expenditure control and payment procedures
- ◆ Financial reporting
- ◆ Monitoring and evaluation

The guidelines also include financial recording tools and retirement documents.

Initial training on the use of the guidelines was provided for NPHCDA accounts staff and for government staff in the four PRRINN-MNCH states. A Training Guide was also developed and used to conduct a Training of Trainers workshop for a group of core trainers within NPHCDA. Following trainings in the PRRINN-MNCH states, in October-November 2012, two sets of training workshops on the use of the guidelines were conducted for accountants in-charge of GAVI funds and state immunisation officers in all 36 states including the Federal Capital Territory.

With a standardised approach to financial management, the NPHCDA, states and LGAs can now organise, plan, and make informed decisions on immunisation activities and the best way to use GAVI funds to reach immunisation goals. This will ultimately result in increased immunisation coverage and improved maternal and child survival.

The number of children fully immunised has increased significantly since 2009

3.5 Increased uptake of routine immunisation

Comparisons of the PRRINN-MNCH baseline (2009) and endline (2013) household survey data³ in the four states show:

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

Northern Nigeria has historically had the lowest immunisation coverage rates in the country. For political, societal or logistical reasons, vaccines fail to reach and protect children against serious diseases like measles, pertussis and polio and women against tetanus toxoid. At the beginning of the PRRINN programme, the 2008 Nigeria DHS showed DPT3 coverage averaging 8% in Jigawa, Katsina, Yobe and Zamfara States. Measles coverage was equally poor. However, due to methodological differences⁴, or in some cases, differences in timing, different surveys have produced different results.

Measles immunisation coverage

Number of one-year-olds immunised against measles from various surveys⁵

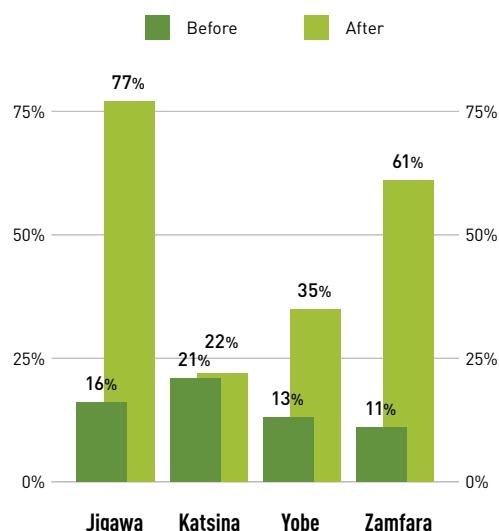
	NICS 2006	MICS 2007	DHS 2008
Jigawa	18.9%	22.6%	8.3%
Katsina	16.5%	22.6%	8.2%
Yobe	22.9%	4.7%	25%
Zamfara	15.2%	5%	14.1%

Sources: DHS 2008 final report table A-10.3; NICS 2006 table 34; and MICS 2007 table C.H.2, p35.

It's important to compare like surveys rather than different surveys. For example, comparison of the 2006 and 2010 NICS data shows the strides that have been made with respect to immunisation coverage in the four PRRINN-MNCH supported states.

Fully immunised infants

Percentage



Before: NICS data (2006) After: NICS data (2010)

Considerable strides have been made in three of the four states.

The same pattern is seen with other immunisation coverage indicators (eg DPT3).

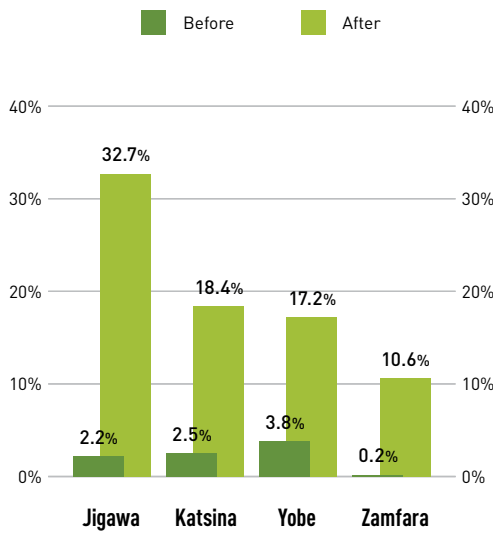
Differences in coverage are also evident in the 2013 DHS and the PRRINN-MNCH 2013 endline household survey. This is a result of the different methodologies used.

Trends in the PRRINN-MNCH household survey data are more in line with the trends shown in the NICS data. But the DHS data are quite different.

The PRRINN-MNCH household surveys⁶ show a vast increase in DPT3 coverage and an impressive increase in fully immunised children and OPV coverage. The pattern in the states shows marked changes across all four states.

Fully immunised coverage

Percentage

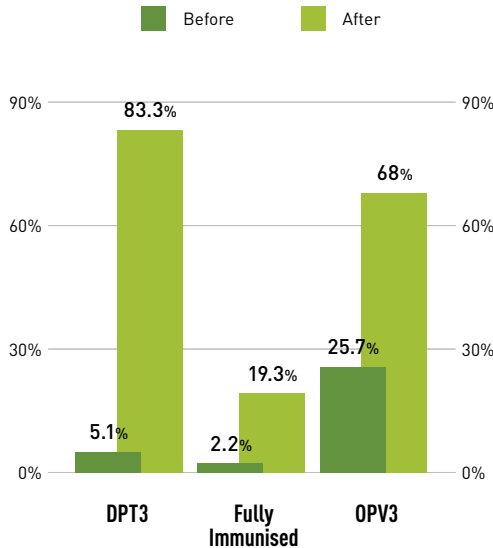


Before: Baseline HHS data (2009) After: Endline HHS data (2013)

An impressive increase has been made in all four states.

Immunisation coverage by type

Percentage



Before: Baseline HHS data (2009) After: Endline HHS data (2013)

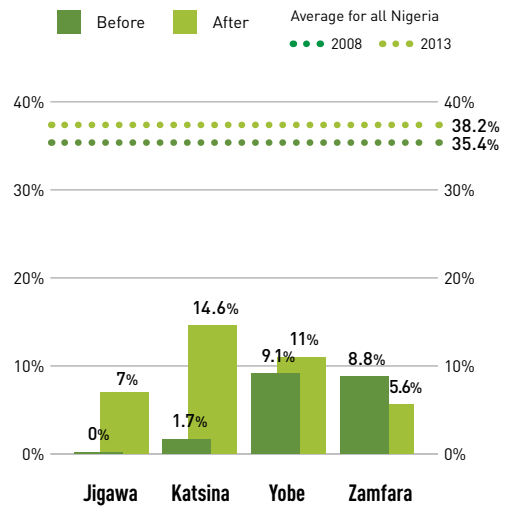
There have been significant increases in immunisation since 2009.

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

The DHS data⁷ show that DPT3 coverage increased in Katsina, Jigawa, and Yobe between 2008 and 2013, with the most marked increase seen in Katsina and Jigawa.⁸ In all cases, DPT3 coverage was well below the Nigerian average. The same pattern is noted for fully immunised children.

DPT3 coverage

Percentage



Before: DHS data (2008) After: DHS data (2013)

Coverage increased in three states, but all are well below national average.

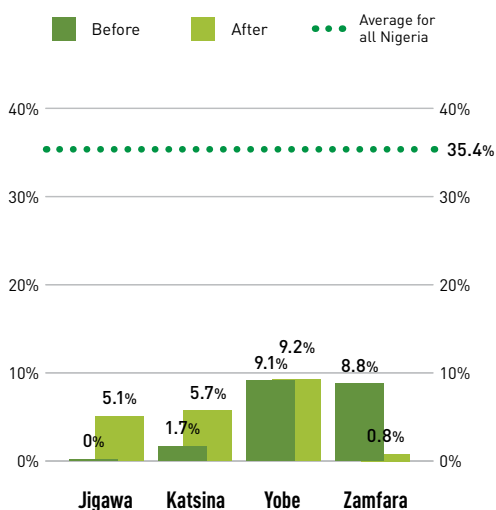
A comparison of DPT3 coverage in the PRRINN-MNCH baseline survey and the 2008 DHS shows similar results in Yobe and some small differences in the other three states.⁹

DPT dropout rate was 57%

By 2013 this rate had been reduced to 11%

DPT3 coverage

Percentage



Before: DHS data (2008) After: Baseline HHS data (2009)

There are differences between the data in three states.

There are marked differences between the immunisation results of the PRRINN-MNCH 2013 endline household survey and the 2013 DHS, particularly in relation to DPT3.

Endline survey (three states)

DPT3	FIC
84.2	15.2

Source: PRRINN-MNCH HHS 2013

DHS 2013 (national)

DPT3	FIC
38.2	25.4

Source: DHS 2013

Programme monitoring and evaluation

Health facilities providing immunisation on a weekly basis

Baseline	Target	Progress
89	468	954

Children under one receiving measles immunisation per year

Baseline	Target	Progress
126,439	1,927,067	2,561,308

Children under one that have received DPT3

Baseline	Target	Progress
59,611	1,077,043	1,844,171

PRRINN-MNCH M&E: Baseline 2009, Target and Progress cumulative to 2013

Key immunisation targets have been surpassed by the programme.

Coverage data

Percentage of infants fully immunised by first birthday

Baseline	Target	Progress
16%	38%	19.3%

Polio incidence reduced to near zero (No. of cases)

Baseline	Target	Progress
237	0	4

DPT3 drop-out rate

Baseline	Target	Progress
57%	15%	11%

PRRINN-MNCH M&E: Baseline 2009, Target and Progress cumulative to 2013

The fact that the DPT3 dropout rates have decreased below the programme target of 15%, and the very low incidence of polio cases, provide further evidence of the good progress made. However, the fully immunised rate has not increased as much as expected.

PRRINN-MNCH has used several indicators to measure service delivery in the four programme states, including DPT drop-out rate. DPT drop-out rate measures the proportion of children who dropped out after the first dose of DPT and did not receive their third dose. The dropout rate is an indicator of parents' satisfaction with immunisation services.

If a parent does not complete the DPT vaccination schedule for their child, it shows that they may have been disappointed with the services received. For example, their child may have had an adverse reaction due to poor immunisation techniques; they may have had a negative interaction with a health care provider; vaccines may have been

unavailable when they brought their child in and they did not return; or they may have had access problems.

At the start of PRRINN-MNCH, the average DPT dropout rate was 57% (57% of children vaccinated against DPT1 did not receive DPT3); by 2013, this rate dropped to 11% showing a significant improvement in immunisation service delivery.

An endline Knowledge, Attitudes and Practices survey implemented by PRRINN-MNCH in 2013⁴⁴ showed a very significant decrease in the number of children never immunised since the baseline KAP survey in 2011 in Katsina, Yobe and Zamfara.



Above: Vaccine storage Below: Child health services

Percentage of children never immunised

State	Before	After	Control
Katsina	75.2%	33%	60.9%
Yobe	80.3%	48.6%	67.3%
Zamfara	83.3%	37.3%	33.3%

Source: Baseline KAP Survey (Q1 2011) Endline KAP Survey (Q1 2013)





Vaccines for immunisation

Polio vaccination in Nigeria – challenges in strengthening RI*

Incentive payments to encourage health workers to get involved in the polio vaccination campaign in Nigeria have had unforeseen consequences. In a world where immunisation has risen up the agenda and is considered a major tool in the fight to save children's lives, the DPT (Diphtheria, Pertussis, Tetanus) vaccination rate in Nigeria has actually dropped.** Dr David Olayemi says part of the story is the unfortunate consequence of the mammoth effort under way to eradicate polio.

“The primary health care system in Nigeria is very weak,” he said. But the polio eradication campaigns, now happening almost every month, empty the health facilities. “You need thousands of volunteers. A lot of the health workers get involved in that as monitors. A lot of them are salaried workers – but because of the incentive packages, they all go out for days and days, every month.”

These low-paid workers are getting extra cash for helping with the polio immunisation campaign, which is funded by a whole range of organisations from Rotary to the Gates Foundation to the Nigerian government. So the health centres are deserted and some children miss out on other immunisations that they need.

But there is another problem too, said Dr Olayemi – vaccination fatigue. The vaccinators put polio drops in the mouth of every small child they can find. Some children are immunised again and again until the families cease to believe it does any good. And they then start refusing. Mothers are given cards to show their child has been immunised, but some lose them and in other cases, the vaccinators refuse to accept them. It may not help that they are paid according to how many children they reach.

The vaccination strategy has to change, says Dr Olayemi, to strengthen the primary healthcare system. GAVI (the Global Alliance for Vaccines and Immunisation) appears to think this is the way forward

too – at a board meeting it agreed to get involved in the polio eradication effort, with a focus on integrating polio vaccination into the general baby vaccination programme and strengthening health systems to do that.

Vaccination services need to be part of a package of healthcare interventions within strengthened primary care centres – and also taken to the children through outreach clinics. The polio vaccination campaign is a response to what the WHO declared is a global emergency, but routine vaccination has to be a part of normal life.

* Extract from input by David Olayemi, senior programme adviser at Save the Children, at the GAVI Partners Forum in Dar es Salaam, December 2012: <http://www.theguardian.com/society/sarah-boseley-global-health/2012/dec/05/vaccines-polio>

** Note that this is not the case in the PRRINN-MNCH supported states

Footnotes:

1. Note that standing permission includes visits for immunisation and for other purposes
2. NICS 2006
3. For the methodology used to calculate the numbers see the report: Cost Effectiveness of Health System Strengthening and Value for Money by Jeff McCaskey, November 2013
4. For more details see Variations in Under-Five Mortality Estimates in Nigeria: Explanations and Implications for Program Monitoring and Evaluation, Maternal and Child Health Journal: DOI 10.1007/s10995-012-1161-1 Published online on 17 October 2012
5. Extracted from ‘Setting up PRRINN/MNCH M&E Framework and Plan, report to PRRINN-MNCH by Henry Lucas, September 2009
6. 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.
7. The DHS data for Nigeria as a whole is included for completeness and as a benchmark.
8. Note that the 2008 data for Jigawa was 0.0
9. Note for the comparison with the 2008 DHS data, Jigawa uses an average of the three states.

4. Generating and using evidence for decision-making and action

4.1 Nahuche health and demographic surveillance system

4.2 District health information system

4.3 Collecting financial management data

4.4 Human resource information system

4.5 Clustering of child mortality – implications for policy and practice

4.6 Results-based financing and conditional cash transfers: research to policy

A pilot Health and Demographic Surveillance System site in Nahuiche, Zamfara state has established an operational research platform to help improve health services.

PRRINN-MNCH catalysed the adoption of the web-based DHIS2 software in Nigeria and successfully pioneered the use of the DHIS2Mobile version for reporting data.

All four target states have improved their gathering of financial management data and this is now being used to strengthen health services.

Web-based HRIS now makes it easier to plan and allocate human resources.

Research revealing that child deaths tend to be clustered among a small proportion of women is being used to address the issue in rural communities.

Research shows strong support for results-based financing and conditional cash transfers to improve services and reduce financial barriers to healthcare.

4. Generating and using evidence for decision-making and action



The Nahuche HDSS compound

4.1 Nahuche health and demographic surveillance system

In 2009, PRRINN-MNCH, in collaboration with the Zamfara state government and with funding from the Norwegian Government, established the Nahuche HDSS site in Bungudu LGA of Zamfara State. The Nahuche HDSS site supports studies aimed at assessing the wider progress and impact of strengthening health systems by longitudinal monitoring of health and demographic events in populations at risk.

The Nahuche HDSS site is 32 kilometres from the state capital, Gusau, and comprises six districts: Bella, Gada, Karakai, Nahuche-Keku, Nahuche-Ubandawaki and Rawayya. Virtually all people living in the study area are Hausa by ethnicity, and either traders or practice subsistence farming. Within Nahuche, compounds or dwelling units are grouped into clusters. This provides an important opportunity to deploy selected interventions within selected clusters to allow for comparison. In Nahuche there are 100 demarcated clusters.

The key objectives of Nahuche HDSS site are to monitor health and population changes and to study links between MNCH service strategies and survival. It also set up to

monitor and evaluate the impact of health and related interventions.

The Nahuche HDSS site is monitoring longitudinal health and demographic dynamics under exceedingly complex circumstances. Cultural factors restrain married women from being interviewed by men, low levels of educational attainment result in largely male-dominated fieldworker teams, and age distortions and other biases occur in the recall of information. Despite these difficulties, information continues to be recorded, edited and reported on population dynamics in a large population.

Results and achievements

The following were completed between 2010 and 2013:

- ◆ A full baseline census for all the six districts of the study area
- ◆ Four 'rounds' (two each year: January-June; July-December) of data collection to update events (information on births, deaths, migration, pregnancies and marriage) including collection of information on maternal and child health indicators

- ◆ Collection of verbal autopsy information from relatives of individuals reported dead
- ◆ Several peer-reviewed scientific publications
- ◆ Acceptance of Nahuche HDSS site as a member of the International Network for the Demographic Evaluation of Populations and Their Health in November 2012
- ◆ Initiatives to sustain the centre such as the strategic MOU (Memorandum of Understanding) with Usmanu Danfodiyo University, Sokoto is a key achievement as the state government alone cannot sustain the centre.

short intervals of time. The baseline census questionnaire collected information on names of household members, relationship to head of household, residence status, sex, date of birth, ethnicity, marital status, education, survival status of parents and household characteristics. The fieldworkers interviewed the head of the household or a designated adult.

A maximum of three revisits were attempted, following which a non-response was recorded. Beginning in January 2011, trained interviewers visited compounds within Nahuche in 120-day work cycles (a 'round'), recorded events in registers, and reported data to the Nahuche computer centre for processing.

Selected vital statistics from the Nahuche HDSS site – 2012

Infant mortality rate

59.8 per 1,000 live births

Child mortality rate

175.5 per 1,000 children

Under-5 mortality rate

224.8 per 1,000 live births

Crude death rate

19.8 per 1,000 midyear population

Total fertility rate

7.4 births per woman

Life expectancy (females)

55.2 years

Life expectancy (males)

54.3 years

Life expectancy (both sexes)

54.7 years

Maternal mortality ratio

1,049 deaths per 100,000 live births

Baseline census and round data

The baseline census was conducted between September and December 2010 (round 0). Nahuche was chosen to ensure a population large enough to detect events, such as neonatal deaths, within

Household population and characteristics

A baseline population of 125,149 in 19,193 households was calculated. The average number of persons per household was 6.5 ranging from 5.6 in Karakai to 6.9 each in Nahuche-Ubandawaki and Rawayya.

About half (49.9%) of the de jure (usual residents) population was female and about 51% were under 15 years of age while 3% was 65 years or older. The average age was 19.6 years.

Selected characteristics of 125,149 individuals, Nahuche baseline census, 2010

De jure population size*

125,149

Male

62,760

Female

62,389

Ratio male to female

1.01

Number of households

19,193

Mean household size**

6.5 individuals

% under five years

20.4%

% under 15 years

50.9%

% 65+ years

3.0%

Mean age (years)***

19.6 years

Median age

14 years

Notes: * De jure population: the permanent population plus temporary migrants. These are people who usually stay in the household for three or more months each year

** Based on de jure population

*** Minimum age in years is 0 and maximum is 115

As of October 2012, the population under surveillance had grown to 137,823.

Maternal mortality ratio

Analysis of data from round 1 provides evidence-based information on maternal mortality in a Northern Nigeria setting. Further, the study complements some of the previous maternal mortality ratio (MMR) figures which have generally been speculative with reference to MMR being 'over 1,000 deaths per 100,000 live births'¹

Maternal mortality estimates

As part of round 1 (Jan-June 2011), a questionnaire for women of reproductive age in 17,173 households focused on maternal and child health seeking behaviour topics as well as sisterhood questions. A maternal death was defined as the death of a woman during pregnancy, childbirth, or in the 42 days after delivery. The reproductive age for estimating maternal mortality using the sisterhood method includes women aged 15-49 years although in some countries with incidence of early marriages, those aged 13 years are also included.

Results from the maternal mortality analysis shows that a total of 17,087 respondents reported 38,761 maternal sisters of reproductive age (15-49 years). Of those, 3,592 were reported dead of which 1,261 were maternal deaths. The total lifetime risk of maternal death was 8% and using 7.5 as the total fertility rate for Zamfara state, the

estimated maternal mortality ratio (MMR) for the surveillance site was 1,049 deaths per 100,000 live births (95% Confidence intervals as (1,021 - 1,136).

Studies conducted in Nahuche

- ◆ Baseline, midterm, and endline MNCH household surveys
- ◆ Bringing MNCH services to 'door step' cluster of studies
 - Outreach services pilot in Yobe
 - Community-Based Service Delivery (CBSD) pilot in Jigawa
 - Mobile PHC in Katsina
- ◆ Performance Based Funding (PBF) studies
 - Demand side in Jigawa, Yobe and Zamfara
 - Supply side in Katsina
- ◆ Midwives recruitment and retention schemes (MRRS) pilot studies
- ◆ Emergency Transport Scheme (ETS) studies (social support and funding mechanisms) – all 4 states
- ◆ Universal Anaesthesia Machine (UAM)
 - three facilities, one each in Katsina, Zamfara and Kano states

Besides the 'direct' health related indices, the HDSS site has the capacity to collect information on other MDG indicators.

Capacity of Nahuche to measure progress of selected MDGs

MDG 1, Target 2: Prevalence of underweight children under 5

Routine collection of nutrition indicators for children aged 5 and below

MDG 2, Target 3: Net enrolment ratio in primary education

Routine updates on educational status of all members aged 6 and above

Proportion of pupils starting grade 1 who reach grade 5

Routine follow-up on all school-age children

DHIS2 software has revolutionised access to HMIS data not just in the four states but across the country

MDG 4, Target 5: Child and infant mortality rates

Routine monitoring of death events among children aged 5 years and below

MDG 5, Target 6: Maternal mortality ratio

Routine monitoring of maternal related deaths among women of reproductive age

% of births attended by skill health personnel

Routine collection of antenatal care and delivery data for all new births

4.2 District health information system

The District Health Information Software is free and open source software that was developed under a global research and development initiative (the Health Information Systems Project) originating from the Department of Informatics, University of Oslo, Norway. The DHIS software is used in many countries in Africa such as Ethiopia, Botswana, Tanzania, Zambia, South Africa and Nigeria. The Federal Ministry of Health, Abuja, has officially adopted the DHIS as the HMIS software for the country.

PRRINN-MNCH introduced version 1.4 of the software to three of its programme states (Katsina, Yobe and Zamfara) in 2007 while it built upon the work of PATHS1 in Jigawa. In 2010 the programme explored the use of version 2 of the DHIS software (web-based) to capture the national NHMIS summary form, known as NHMIS 001, in Zamfara with support from HISP Nigeria.

The DHIS2 operates on a Java-based framework and can run in both online and offline modes. It provides a comprehensive solution for the reporting and analysis of health data at all levels.

Results and achievements

Collaboration between PRRINN-MNCH and HISP-Nigeria catalysed the adoption and use of the web-based DHIS2 software in the whole country and marks a significant

milestone in the history of strengthening HMIS in Nigeria.

PRRINN-MNCH also successfully pioneered the use of the mobile version of the software, DHIS2Mobile, for reporting of the NHMIS form 001 in the country.

Access to NHMIS data: the DHIS2 software is now being used in all four PRRINN-MNCH states. The introduction has revolutionised access to HMIS data not just in the four states but across the country as a whole. Real time health statistics from the four states, which hitherto was not readily available, is now accessible from any location provided there is a laptop and an internet connection. NHMIS data from June 2011 for Zamfara and from January 2012 for the other three states are now available online.²

Building local capacity: the capacity of state and all LGA HMIS officers has been built on the use of the DHIS software. HMIS officers/assistants in all 92 LGAs in the four states are now able to capture and retrieve data from the HMIS website while the state HMIS Officers are able to generate reports which are usually presented to management as well as discussed during performance reviews.

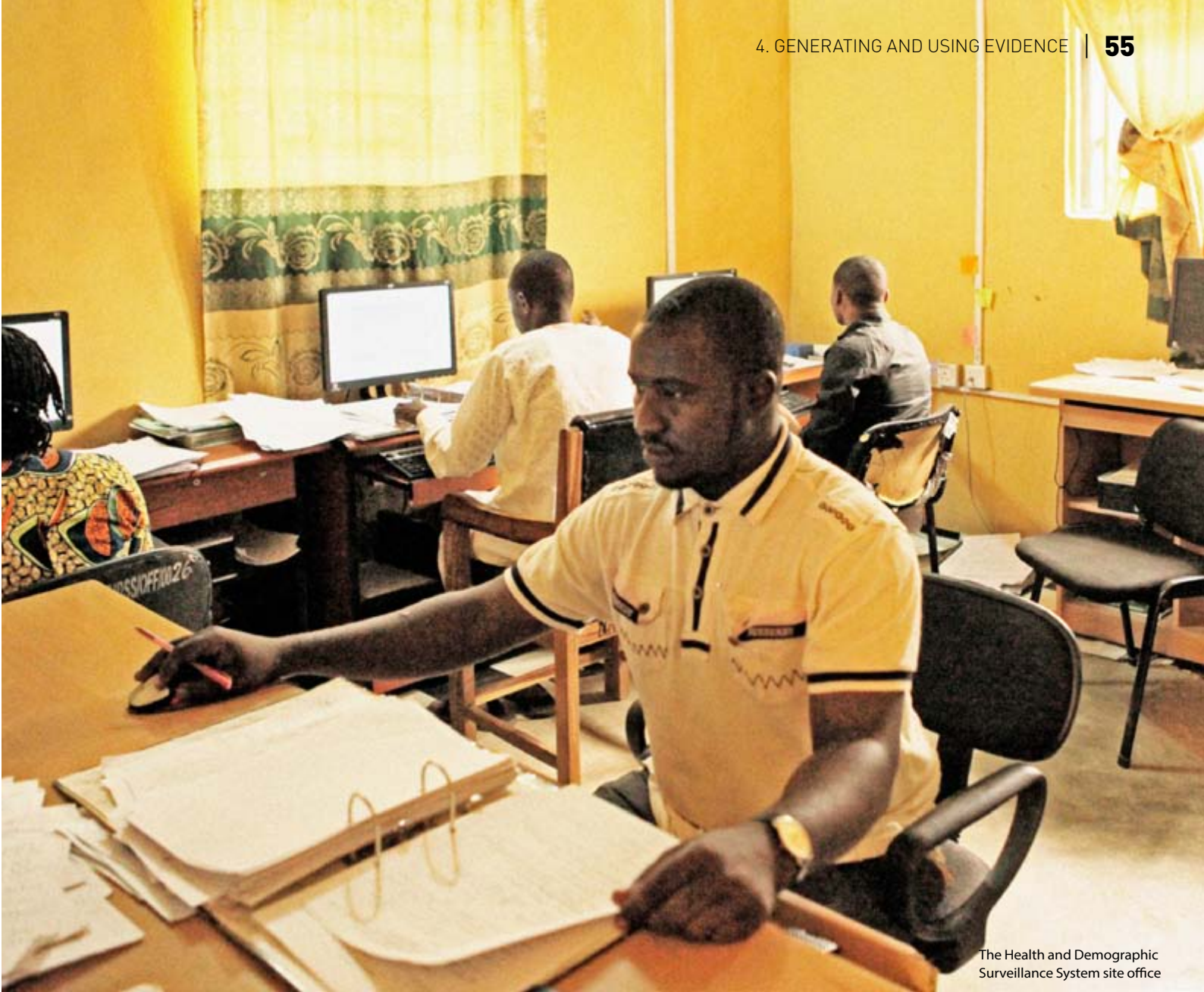
Data tools: all the states are currently using the latest NHMIS data tools (version 2011) which were printed either by the programme or the respective state governments.

Infrastructure: all the state and LGA/Gunduma HMIS offices have the requisite infrastructure, notably laptops and modems which were provided by development partners or the state government.

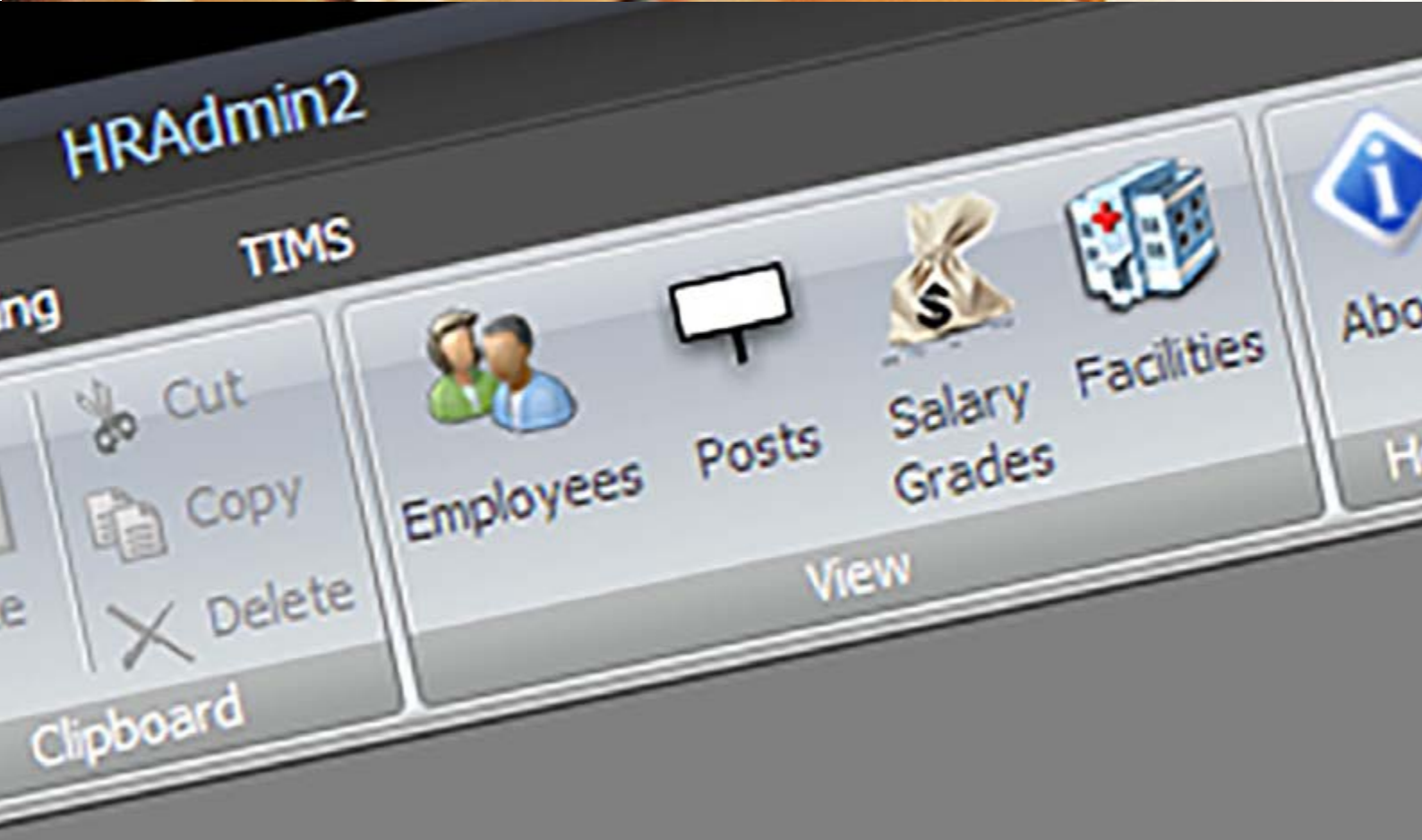
Submission rates: the percentage of all health facilities in the state that have submitted their HMIS data. The rates are over 80% in Jigawa and Katsina and up to 92% in Zamfara for year 2012. In Yobe rates are lower due to the recurrent security challenges. Similarly, timeliness of data submission is above 80% in the states except for Yobe.

Data quality self-assessment: introduced in all the states, and the capacity of the state HMIS has been built to conduct and analyse the findings of the data quality assessments.

Intra and interstate HMIS reviews: a system for regular HMIS reviews within



The Health and Demographic Surveillance System site office



PRRINN-MNCH helped states to collect financial data. This has been used for planning and budgeting

the respective states has been introduced with varying degrees of success. Interstate reviews, which bring together HMIS officers and policy makers from all four states, provide a forum for cross – state sharing thereby promoting learning and knowledge transfer. The main focus is on reviewing progress in HMIS in terms of the whole information cycle.

DHIS2Mobile: a pilot study was implemented in 16 health facilities over a six month period and the positive findings are leading to the adoption of the mobile platform as an effective adjunct to data transmission from HFs.

4.3 Collecting financial management data

As part of strengthening the public financial management system, PRRINN-MNCH helped states to collect financial



Well stocked pharmacy

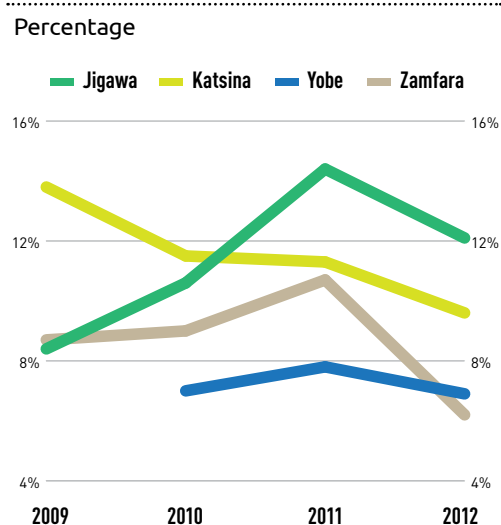
data. This has been used for planning and budgeting, for increasing accountability through tracking expenditure and for advocacy. Strengthening the public financial management system is discussed in detail later in the report.

Results and achievements

The key achievement is ensuring that the data is collected, analysed and used for purposes such as advocacy and tracking. Achievements resulting from strengthening the public financial management system are discussed later in the report.

Data on the percentage of the total budget allocated to health illustrate how far states have come in reaching the target of 15% of total budget as stipulated by the 2001 Abuja Declaration.

Percentage of total budget allocated to health



Jigawa has nearly doubled its health budget, but Yobe's has declined.

Analysis of total expenditure on health shows that Jigawa has more than doubled its health expenditure in the last four years, Katsina has increased its expenditure by approximately 35% and Zamfara by 30% while Yobe was increasing but declined in 2012.

State Health Expenditure per Annum

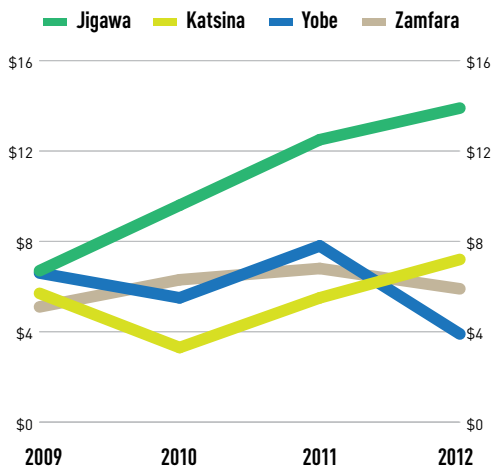
Naira

	2009	2010	2011	2012
Jigawa	₦5.2bn	₦7.7bn	₦10.3bn	₦11.8bn
Katsina	₦5.9bn	₦3.6bn	₦6.1bn	₦8.2bn
Yobe	₦2.8bn	₦2.4bn	₦3.5bn	₦1.8bn
Zamfara	₦3.0bn	₦3.8bn	₦4.2bn	₦3.8bn

Analysis of per capita spend provides additional insights into changes in government health expenditure. The pattern shows an overall increase in three states, and a decrease in Yobe.

Per capita expenditure

Dollars



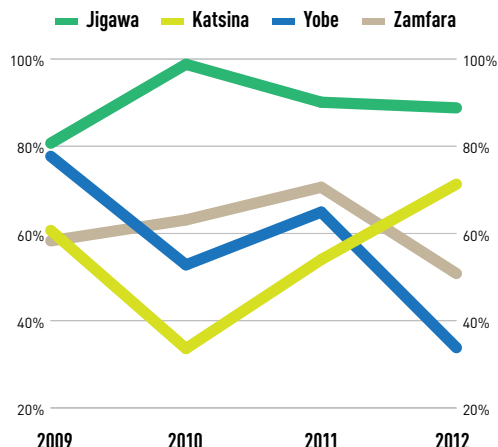
Jigawa is closest to reaching the WHO minimal level of around \$42 per capita per annum.

Data on per capita spend (in \$) illustrate how close the states are to reaching the WHO minimal level of around \$42 per capita per annum. In all cases, the states have a long way to go before they reach the WHO benchmark. However, the analysis in the figure above does not include LGA, Federal Ministry of Health or Federal Ministries, Departments and Agencies expenditure. To obtain a full picture of per capita expenditure data relating to all three levels needs to be captured. Reliable data for all three levels is not yet available.

A further indicator is budget performance which in the health sector is a measure of how accurate government fiscal projections and budgeting processes are, and also how good the budget releases are in relation to the budget. Health budget performance is good in Jigawa, improving in Katsina and deteriorating in Yobe. Zamfara presents a mixed picture, initially improving but deteriorating in 2012.

Budget performance

Percentage

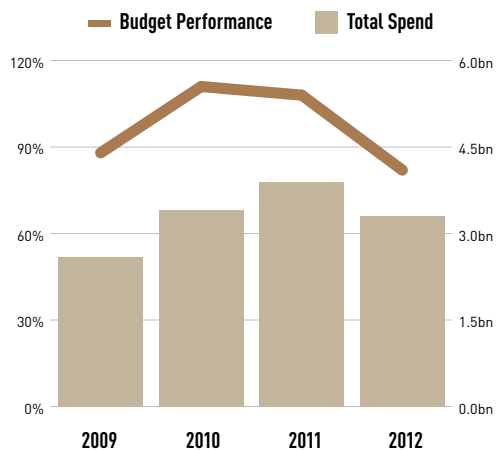


Jigawa performed well, Katsina improved but Yobe and Zamfara declined.

There are three major components to the budget (personnel, overhead and capital). Often there is overbudgeting and underspending on the capital component, but excellent budget performance on the other two components. The Zamfara graph illustrates that budget performance (for personnel and overhead) improved and reached over 100% and total spend (for personnel and overhead) increased, for the years 2009-2011. There was a decline in 2012. This contrasts with overall budget performance between 60 and 70% (with an equal decline in 2012).

Zamfara – personnel and overhead budget performance

Percentage/₦ Billion



4.4 Human resource information system

The HRIS is a system for management of human resource data for policy, planning and implementation purposes. Because over 70% of recurrent health expenditure is spent on Human Resources for Health, accurate HRIS data is required to ensure efficient deployment and use of human resources.

In 2008, PRRINN-MNCH supported an HR audit in the four programme states. By 2009 government partners had agreed that there needed to be an HRIS that could be regularly updated. The HRIS is designed around the existing paper-based payroll system and

involves the paper-based updating of the employee profile forms which are summarized into monthly return sheets. The latter are then captured onto an electronic system using a specially designed HRIS software package. HRAdmin2 is used to capture, collate, analyse and produce appropriate HRH information and reports for health managers.

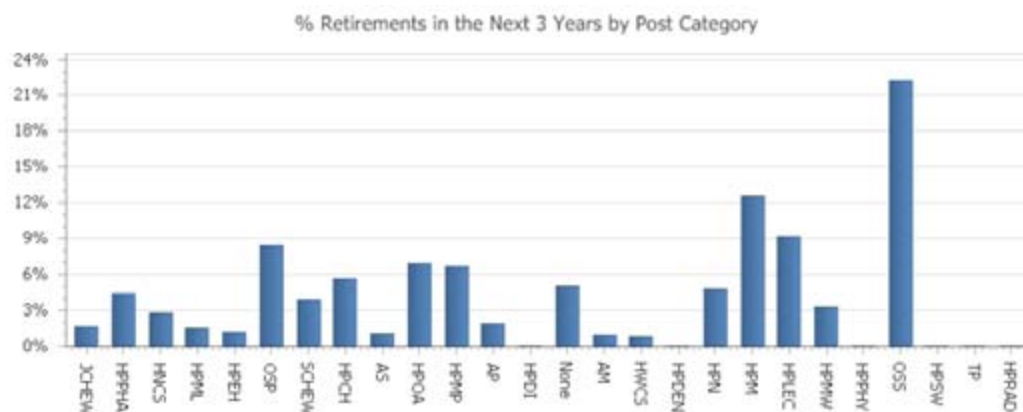
The HRAdmin2 software has been upgraded to address most HRH management issues and is regularly maintained to perform optimally. Regular capacity building on HRIS for HRH managers enhances the quality of data collected and aids analysis of the data for policy and planning purposes.

"In Yobe, an advocacy visit to the State House of Assembly focused on the shortage of health workers with evidence from the HR audit data. In response, the Governor lifted the employment embargo and authorized for 131 unemployed trained CHEWs (Community Health Extension Workers) (75% female) and 76 nurses to be absorbed into the public service immediately.

"Concerted advocacy with key stakeholders in the other three states (Katsina, Zamfara and Jigawa) resulted in the lifting of the embargo on employment of certain categories of skilled birth attendants, especially doctors and midwives."

Examples of reports that are available:

Retirements in the next three years by post category (%)



This data is useful for replacement planning

Workforce gender analysis

n=number of females, N=total number

Workforce Gender Analysis			
Indicator	n	N	Value
Workforce Female/Male Ratio (%)		12985	15% Females : 85% Males
Females in Management Posts	13	284	5%
Females in Health Professional Medical Doctor Posts	8	121	7%
Females in Health Professional Nursing Posts	215	684	31%
Females in Health Professional Midwife Posts	24	62	39%
Females in Health Professional Community Health Posts	30	338	9%
Females in Senior Community Health Extension Worker Posts	159	812	20%
Females in Junior Community Health Worker Posts	117	568	21%
Training & Development			
Indicator	n	N	Value
Employees Obtaining any Career Development	629	11957	5%
Employees Obtaining any Qualification	543	11957	5%
Employees Completing any Course	30	11957	0%
Employees Completing any Training	70	11957	1%

This data is useful for addressing imbalances in gender balance and skills distribution.

Quotes from the 2013 national HRIS dissemination workshop

“I’m convinced! I’m surprised and impressed to observe that the people from the states who are doing the job and putting up the system have developed the technical capacity and the insight on how the HRIS works. Let’s work with national level for integration and spread.”

International NGO representative

“Thank you PRRINN-MNCH for this intervention, especially in the HRIS software which is very, very good and captures everything necessary. FMoH will bring all partners under one roof and PRRINN-MNCH will take leadership to get us to the promised land. We will use our energy to push this HRIS initiative at the federal level and at the HRH partners forum and we will not allow it to die.”

FMoH representative

“It’s a wonderful exercise – to ask for the number of female health workers and to find it by the press of a button!”

International NGO representative

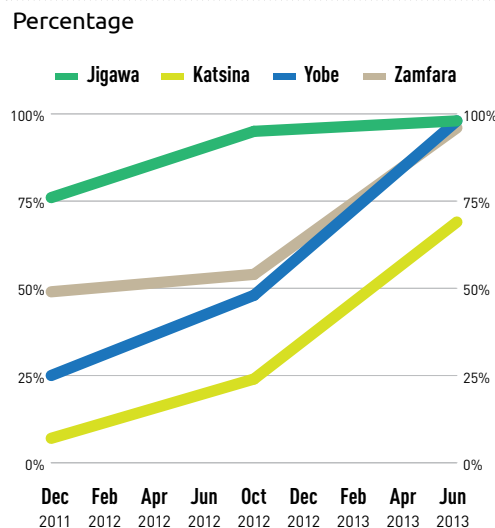
Data from the HRIS can also be used to address the problem of ghost workers and the shortage and maldistribution of the health work force in Nigeria, especially the shortages and maldistribution of female and professional staff. HR challenges have both a technical and political dimension since there are significant vested interests in this area.

Results and achievements

Although there have been some delays in collection of the data, this is now nearing completion.

Reported Completeness of HRIS Personnel Data by State, December 2011-July 2013

Reported completeness of HRIS personnel data by state



Katsina data is steadily catching up with the other three states.

In each state, HR units with HR officers have been established. The HR officers have been trained on HR functions, HR data flowcharts, HR data procedures and use of HRIS.

The primary output of a successful HRIS is a functional and fully populated HRIS system that is regularly updated. This is nearing completion and when complete can provide information that is used regularly for decision-making.

A training information management system module was recently added to the HRIS to manage the large volume of training in the health sector which takes substantial

funding from both government and development partners.

4.5 Clustering of child mortality – implications for policy and practice

There are many reports showing the disproportionately high child mortality suffered among the poorest. However, even among the poorest, child morbidity and mortality is clustered so that some families and some women bear a disproportionate burden – the poor-poor divide.

The known link between poverty and health drives PRRINN-MNCH’s efforts to improve health in underserved areas. However, these public health measures often tend to favour those who have the resources and self-confidence to use services or follow advice. Hence it is vital that strategies for improving health outcomes address the issue of social and health inequalities.

PRRINN-MNCH has been assessing the evidence of social exclusion and its impact on health and the use of health services.

Results and achievements

Evidence shows clustering of child deaths

A series of surveys implemented by PRRINN-MNCH and its partners in 2009 and 2010 set out to explore whether there was evidence of clustering of child deaths in rural communities in Jigawa, Yobe and Zamfara, and, if so, what the causes were. The surveys demonstrated that child deaths were indeed clustered among a small proportion of women.



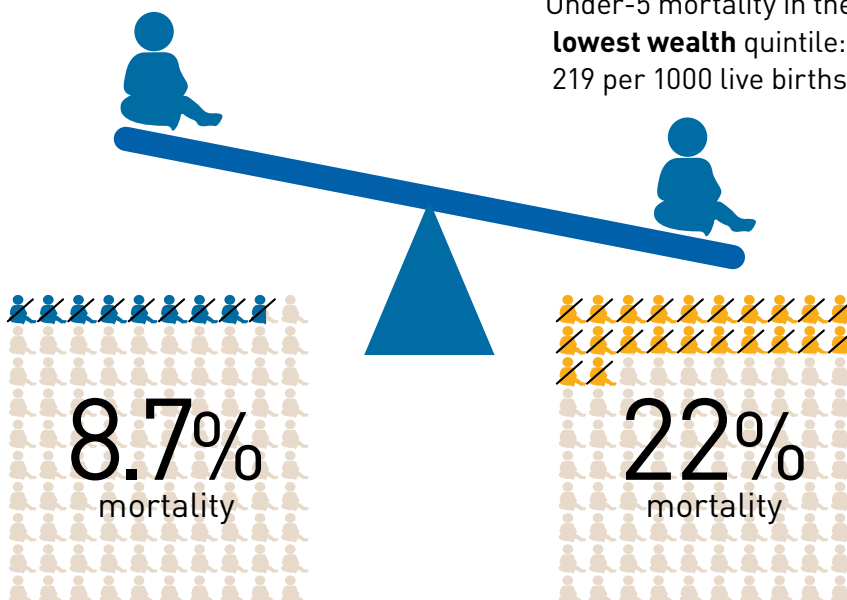
Young mother carrying her newborn

Under-5 mortality: some families and some women bear a disproportionate burden

Under-5 mortality in the **highest wealth** quintile:
87 per 1000 live births

Under-5 mortality in the **lowest wealth** quintile:
219 per 1000 live births

The surveys revealed that 65% of the respondents had no child deaths, 15% had one child death each and 20% had multiple child deaths (an average of three deaths per woman). Moreover, the 20% of women with multiple child deaths had just over 80% of all the deaths.



Clustering of under-5 mortality: identifying vulnerable women and children

65%
of wives
no child dies

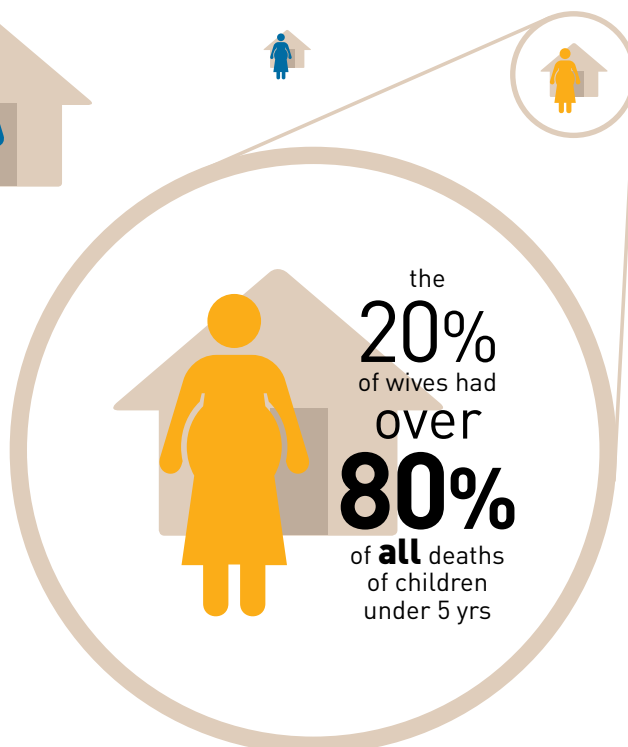
15%
of wives
one child dies

20%
of wives
multiple deaths



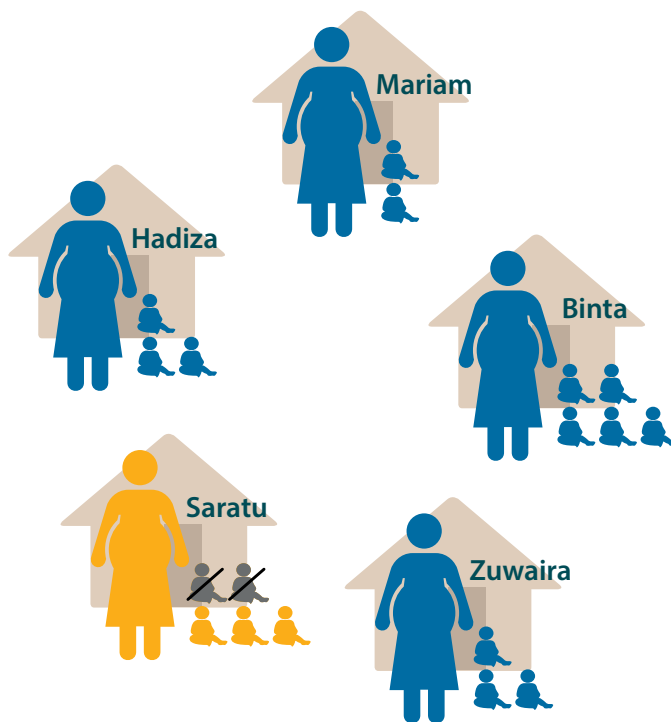
A relatively small group of women suffered most under-5 deaths.

The clustering occurred even within polygynous households; some women and their children were affected and some were not.



Mortality clustering within households

Mallam's family: In Mallam's family there are five wives. Despite the high number of births only one wife, Saratu, has had two child deaths.



Even among polygynous households, the same women tended to suffer child mortality, often due to a lack or respect or social support.

The heavy skew of child mortality was not related to child spacing, distance from health facility, religion, tribe, education, culture, polygyny, marital status, seclusion or employment. Rather a lack of respect and social support shown to a woman at family level were found to be highly important factors.

The six factors that most strongly correlated to child deaths in the clustering survey occurred when the mother:

Rarely, if ever, had anyone older to help look after the children

Had no one to turn to for support if her children had difficulties

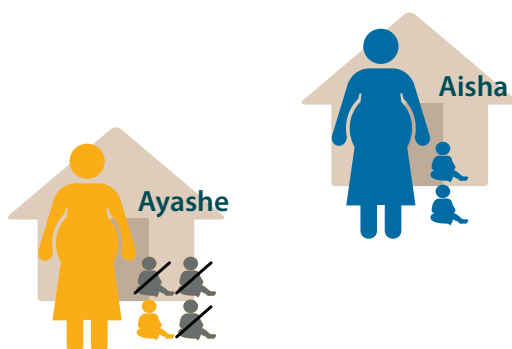
Had no one to turn to for support if she had difficulties

Believed she had little or no respect from relatives, in-laws, husband or others

Had almost no general support from her own relatives or in-laws

The children and the household had a very poor general appearance

Usman's family: Usman's family consists of two wives. Aisha has had two births and no deaths whilst Ayashe has had four births and three deaths.



The first stage of this work was to demonstrate the distribution of child mortality within generally poor rural communities. In poor societies people are much more dependent on social support for health and well-being than they are in wealthy communities. The economy in such communities is often referred to as a 'moral economy' where the currency is mutual obligation, support and rights rather than money. In such situations social capital is everything.

The second stage was to apply this evidence to new strategies and policies. The survey findings imply the need for a shift in strategy by the federal, state and local governments so that social issues are addressed as part of

There are many practical measures that can be taken to address inequities in health provision

a comprehensive approach to primary health care. There are many practical measures that can be taken by government and its partners to address these inequities in health. These should lead to greater social inclusion of women, to improved self-care and care of children, and ultimately to increased use of health services and improved health.

Three key strategies that have been developed and implemented by PRRINN-MNCH and its partners are:

Modifying the training of community workers

Modifying the training of community workers, volunteers and institutions (from health and other development sectors) so they can:

- ◆ Understand the relevance of social factors and social support systems to their work
- ◆ Recognise when people lack confidence or may neglect their children or themselves as a result of lack of social support
- ◆ Adapt their advice or interventions to be relevant to the capacities of the women or families in question
- ◆ Advise women and their families on resources available locally that might help them in their need for support at particular times

Developing local resources for the least supported

Assisting communities to develop local resources to help women in general, but particularly those with poor support – in particular for childcare, conflict resolution and savings schemes.

Promoting inclusiveness at community level

Developing community mechanisms to include women with poor support in group and social activities. This will have a strong impact on the self-esteem and self-confidence of vulnerable women.

Implications for other components of the community engagement strategy

Recognising the importance of family support to health led to the use of indicators of social support in other surveys in the PRRINN-MNCH programme. A baseline survey for the Young Women's Support Group initiative showed three categories of young women:

- Those known locally as the 'Freedom Fighters' who had lots of support and high levels of participation in community gatherings
- Those who had very low levels of support and respect
- Those who had support but weren't interested in public participation

The categories correlated well with levels of health in their children and their use of health services for vaccination or antenatal visits (those with least support having the poorest health and use of health services).

The baseline survey also showed that the groups already had a tendency to exclude the women with least support – thus potentially negating the point of having the groups in the first place.

This impacted on the design of the YWSG component of the PRRINN-MNCH programme.

4.6 Results-based financing and conditional cash transfers: research to policy

From the outset, it was important to determine the effectiveness of performance incentives to improve health outcomes. PRRINN-MNCH worked with state and LGA level Operations Research Advisory Committees to explore options linking performance incentives with results to improve MNCH services. These studies focused on how Results-Based Financing and Conditional Cash Transfers could contribute to increasing service quality and coverage, while reducing financial barriers.

Each Operational Research Advisory Committee undertook its own problem analysis, informed by its respective assessment of health system under-performance. Each study therefore was different, with some focused on supply and how to incentivise facilities and providers to deliver better quality and coverage, others focused on demand and how cash and other social transfers could increase demand while overcoming financial barriers to access. Others combined the two.

The following table summarises the key design elements of each study. Some focused more on supply, others on demand.

Differing elements of performance incentive studies in each of the four states

	Jigawa	Katsina	Yobe	Zamfara
Intervention	Conditional Social Transfer	Results Based Finance	Conditional Social Transfer	Conditional Cash Transfer (vouchers)
Aim	Increase ANC, assisted delivery and fully immunised child	Increase immunisation coverage	Increase ANC, assisted delivery and fully immunised child	Increase ANC, assisted delivery and fully immunised child
Target	Individual woman	Facility, 50:50% facility budget: staff	Individual woman	Women's Savings Groups
Main effect	Yes, ANC & delivery; no, immunisation	No, but reported 'better performance'	No, sampling issue	No, but sense of 'greater awareness'
Comment	Vaccine stock-outs	Exogenous factors	Comparison group not comparable	Target distal to the individual

Some focused more on supply, others on demand

The effect of vouchers and in-kind incentives for antenatal care and assisted delivery in Jigawa

	Intervention (Kadawawa)			Control (Takalafiya)		
	2011	2012	2013	2011	2012	2013
First ANC	410	427	548	391	365	438
Fourth ANC	100	140	217	19	43	60
Facility Delivery	167	117	154	36	60	52

This was the only one of four such surveys which revealed a 'main effect' of performance incentives.



Demonstrating the immunisation schedule

PRRINN-MNCH gained useful insights into how incentives might best be targeted in the future

Results and achievements

Four studies assessed the effect of performance incentives on the quality of service delivery and use of services. Only one, which assessed the role of vouchers and in-kind incentives for antenatal care and assisted delivery in Jigawa, demonstrated significantly improved provision or use of services in the intervention group relative to the comparison group.

The other three studies demonstrated no consistent pattern of increased service provision or use. They did however generate useful insights into how these incentives might be targeted in the future, based on how they were perceived by providers and clients, and on the factors likely to improve performance in the future. Given the emphasis on building stakeholder ownership of the research, even studies demonstrating no 'main effect' can be considered successful.

Taken as a whole, the studies provide 'proof of principle' that RBF and CCT can contribute to improved MNCH in particular circumstances. The studies provided useful insight into the environmental determinants and the mechanisms, systems and key capabilities necessary for RBF and CCT to work effectively. The studies indicated that if 'the basics' are not in place i.e. qualified people, adequate supply chain, and so on, RBF/CCT will likely have a limited effect. Given challenges with the HMIS there were also issues related to data capture and reporting.

ORAC participation in identifying problems and solutions was vital to ensuring the legitimacy of the results or innovations among stakeholders. However, there were challenges in reconciling stakeholder preference with prevailing theory and evidence.

Increasing interest in applying incentives to improving health sector performance was reflected in the participation of more than 30 key opinion leaders at a recent policy roundtable on results-based financing/conditional cash transfers in Abuja in August 2013. The roundtable was convened by PRRINN-MNCH, in collaboration with Federal Ministry of Health, the National Planning Commission and the Nigerian Academy of Science. It gave participants an opportunity to review early experience in a range of performance incentive systems in supply and demand focused on both variants of results-based financing and conditional cash transfers.

Because most of the RBF/CCT work in Nigeria commenced relatively recently, the emphasis of the roundtable was not on results per se but rather on experience with systems to administer RBF/CCT approaches and their integration with the larger health system.

Key points arising from the roundtable included:

- ◆ Each state of the Federation's 36 states is different, and thus RBF/CCT design must reflect the elements that make each state unique.
- ◆ In many parts of Nigeria, particularly in the North East, the North West and the South South, exogenous considerations as well as larger system dysfunctions may have greater influence on health and health system performance than even the best designed and managed RBF/CCT system
- ◆ Ongoing exchange – to learn what fails as well as what works – is necessary, ideally linking with the larger pan-African Performance-Based Financing Community of Practice, along with further informal roundtables, perhaps on a quarterly basis

Footnotes

1. This is far greater than the national average of 545 as reported in the 2008 DHS
2. The process of transferring earlier data from the DHIS1.4 version to the DHIS2 version is ongoing

5. Engaging communities to improve access to quality MNCH services

5.1 Increasing access to MNCH services through community engagement

5.2 Financial burden of paying for emergency maternal health care

5.3 Community emergency systems

5.4 Community-based service delivery

5.5 Community structures – Young Women Support Groups

5.6 Evidence of improved access and awareness

Direct engagement within rural communities is essential to improve knowledge of MNCH services and access to them.

PRRINN-MNCH has used innovative methods to boost community engagement:

Saturating communities with information

Supporting sustainable community emergency schemes (blood donors, emergency transport, Young Women Support Groups and more)

Working with communities to monitor and improve their own MNCH services

More than half of community volunteers are motivated by 'a concern to help others and save lives' rather than financial gain.

PRRINN-MNCH designed an innovative community engagement strategy

5. Engaging communities to improve access to quality MNCH services

5.1 Increasing access to MNCH services through community engagement

PRRINN-MNCH's community engagement strategy was designed to create demand for and equitable access to MNCH services and improved home-based care. Increasing access is a core component of health systems strengthening. This recognises the fact that increasing use of services goes beyond issues of poor supply and low quality services.

Baseline assessments informed the design of the community engagement strategy. Key barriers that prevented women from accessing MNCH services included:

- ◆ Lack of information on maternal and newborn danger signs
- ◆ Concerns about the services received at the health facility
- ◆ Low awareness among rural communities of their right to quality services
- ◆ Lack of male involvement in MNCH
- ◆ Significant physical barriers that delayed the response to health emergencies
- ◆ Lack of respect and social support
- ◆ Absence of formal mechanisms to hold providers to account for poor performance

The CE strategy consists of these three approaches:

Saturating participating communities with information: on maternal and newborn health issues, routine immunisation, and building capacity so that information can turn to knowledge and be acted on.

Supporting the establishment of sustainable community emergency schemes: to respond to MNCH-related delays, including blood donor schemes, emergency savings schemes, the emergency transport scheme, and a system of mother's helpers.

Building community capacity: to monitor their MNCH-related activities, use the data to improve them and increase understanding of and support for the community-level response.

These three strategies include six key components:

Community mobilisation A participatory approach by trained community volunteers is used to :

- ◆ Create demand for emergency and routine MNCH services
- ◆ Promote effective home-based care and
- ◆ Generate community-wide social approval for behaviour change.

Community emergency response systems

Support to create schemes to address barriers to MNCH services and home-based care including:

- ◆ Emergency savings schemes
- ◆ Community-based emergency transport schemes
- ◆ A core group of mother's helpers
- ◆ Community blood donor schemes

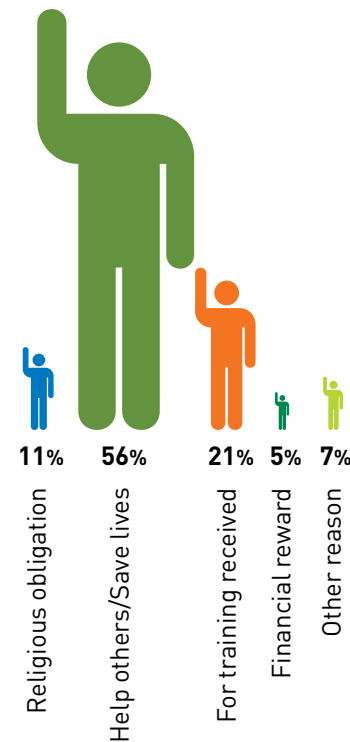
Community monitoring system This generates data at community level, helping the community to see the benefits of activities and support sustained change.

Mentoring and coaching support This ensures that communities receive the assistance they need to move from increased awareness to action. This is intensive initially, becoming lighter over time.

Support for other community structures Including facility health committees and young women support groups.

Community-based service delivery Community Health Extension Workers bring basic health services 'to the doorstep' in remote communities.

Volunteer motivation



Evidence suggests the community engagement strategy is successful

PRRINN-MNCH supports community engagement activities in three different types of intervention site:

'CE Complete' communities: Health volunteers are supported to set up discussion groups on safe motherhood, newborn care and routine immunisation, and the establishment of community systems that address the main barriers to timely use of emergency MNCH services. The volunteers also go door-to-door to encourage a high level of preparedness for safe delivery and use of routine health services among key target groups. To create an enabling environment for changes in social norms and behaviour, traditional, religious and other opinion leaders are encouraged to become advocates for community mobilisation.

'CE Complete Plus' communities: These combine the basic package of support (community mobilisation, emergency systems, monitoring systems, coaching and mentoring support) with one or two additional components, which could be: support for the establishment of Facility Health Committees; participation in a Community Based Service Delivery initiative; or establishment of Young Women's Support Groups.

'CE Light' communities: These benefit from shared information and emergency maternal care systems with the CE Plus and CE Complete communities. They've received very little PRRINN-MNCH support with mobilisation efforts supported by community health volunteers from neighbouring communities.

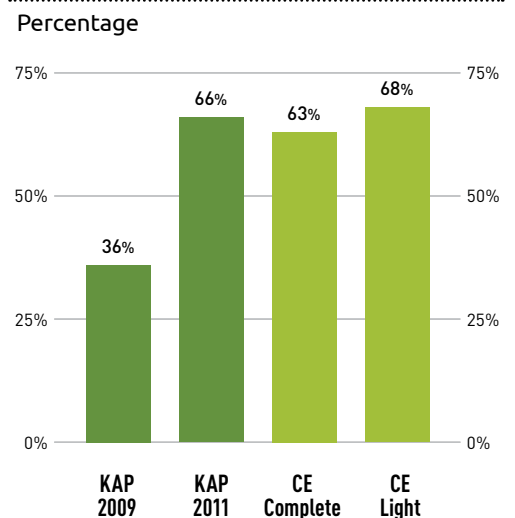
For the local dissemination strategy to work, community volunteers in the sites supported by PRRINN-MNCH and its partners need to feel well-supported, and to be convinced that their activities are making a difference. In the CE Complete and CE Complete Plus sites, a coaching and mentoring support strategy has had a positive impact on volunteers' motivation.

Volunteer motivation

A study into volunteerism in late 2012 found a high level of motivation among community volunteers and drivers of community emergency transport schemes who had been trained by PRRINN-MNCH. More than half were primarily motivated by a concern to help others and save lives. The training from PRRINN-MNCH and a religious obligation to help others were also important for some. Very few volunteers mentioned financial incentives as a key driver behind their involvement in the programme.

A key question for PRRINN-MNCH and its government partners is whether outcomes and impact in the CE Light communities are comparable to those in the sites that are receiving much more intensive support from the programme. Evidence so far suggests that the strategy is working, and hence that this is a cost-effective way to scale up.

Preparedness for maternal emergency by type of site



Source: Baseline (2009) and endline (2011) KAP surveys implemented in cluster 1 communities

CE Light communities showed similar preparedness.

5.2 Financial burden of paying for emergency maternal health care

Poverty is the main driver of high maternal and child mortality. It creates a double burden by compromising the overall health and

Nearly 90% of the poorest live in the three Northern zones

nutritional status of women and children and then compounds the problem by preventing access to health services for those in greatest need. Income poverty is concentrated in the North. Nearly 90% of the lowest income quintile live in the three Northern zones. The North East and the North West have virtually no internally generated revenue. Unemployment is widespread. Geographical disparities in jobs and services contribute to the sense of political alienation in Northern Nigeria, which is a key factor to the current instability.

Northern Nigerians typically spend at least three quarters of their income on food and yet, for the very poor it's insufficient to provide a nutritious diet. As a result pregnant women are iron and vitamin A deficient during pregnancy, which leads to inadequate foetal nutrition, birth complications and low birth weight babies. Undernourished infants and children are predisposed to infection and stunted in growth and mental development.¹

Understanding the context is key to the development of effective community engagement strategies.

Most northern states have committed to introducing free maternal, newborn and child health services, but often without costing the financial implications and ensuring sufficient resources are released to meet the commitment. To build consensus around free care, state governments needed evidence to back up the policy. In response, PRRINN-MNCH designed and implemented a survey to examine the financial burden of emergency maternal health care.

The Financial Burden of Emergency Maternal Health Care Survey² was conducted in Katsina, Yobe and Zamfara in December 2009. It covered 28 communities in eight Local Government Areas across the three states with a total of 1,485 respondents and gathered evidence on:

The costs of emergency maternal care on households

How households raised money in the event of a maternal health emergency

The short and long-term impact on households of financing maternal emergencies

The costs of Emergency Maternal Care

- ◆ Households spent an average of US \$103 when seeking treatment for a maternal emergency
- ◆ Most went on the direct costs of treatment, but indirect costs (eg transport, firewood, food) were also high with an average of \$26 spent, while the maximum was \$183
- ◆ The average sum spent on transport was \$12, with the maximum as much as \$164
- ◆ Paying for food when a patient was admitted was costly. On average, families paid \$17 for the woman and for the family members that had accompanied her
- ◆ The average cost of blood transfusion and a caesarean section was \$47 and \$40 respectively, but some people paid considerably more
- ◆ The cost of different treatments varied considerably across the states, and between cases
- ◆ Families are often dissuaded from seeking care because of unknown, potentially substantial costs
- ◆ Hard-to-reach communities were more likely to incur very significant costs to access emergency maternal care – 33% incurred costs over \$134

In Katsina and Zamfara, only 22% of household heads earned a monthly income more or equivalent to \$97.50 – slightly less than the average cost of dealing with a maternal complication (\$103). In Yobe, this figure was 15% of households.

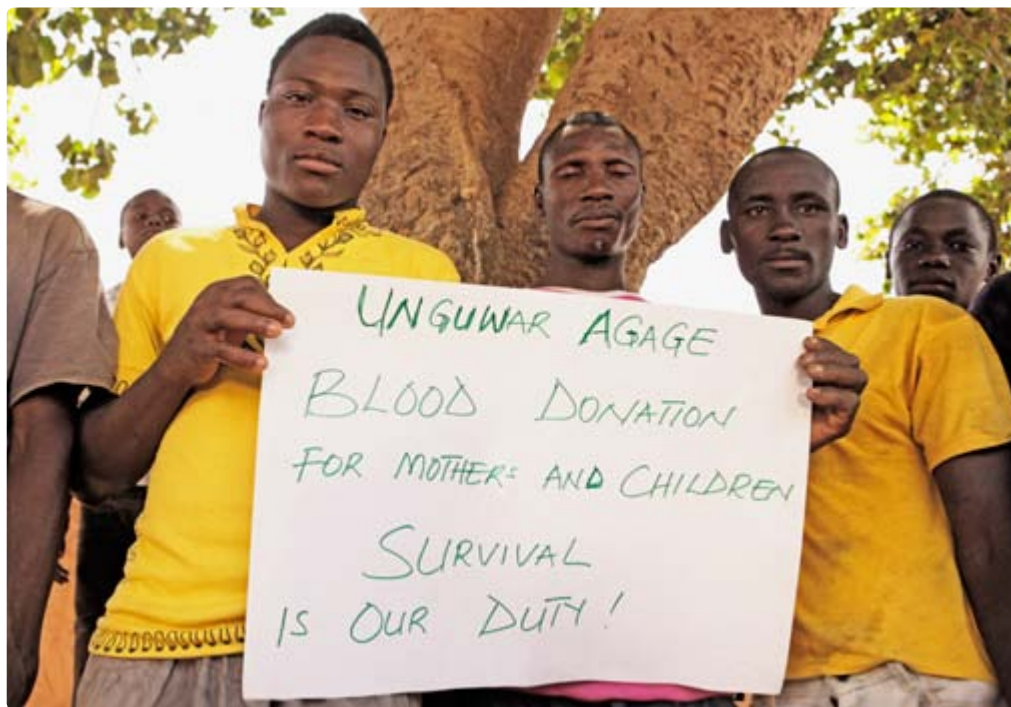
The average cost of a maternal complication was more than the average monthly income of 78% of household heads in the three states.

Any health care expenditure that forces a household to reduce its expenditure on food, on schooling, or on other essential items can be defined as catastrophic (ie likely to deepen a family's poverty).

For many rural people in the north of Nigeria, a maternal complication is a financial catastrophe.

"I have had to sell my produce so now we just eat anything that is available. Of course we thank God that she is alive, but I would not want to find myself in this situation again."

Male household head



Men from Unguwar community

How households raise money to pay for a maternal health emergency

Many households used a mix of strategies to pay for a maternal complication, including use of personal savings, sales of livestock, farm produce or land, and borrowing money from family, friends or money lenders.

The short and long-term impact on households of financing maternal emergencies

Sales of produce, land or livestock often attract lower than market value and many households are unable to recover assets quickly. Among the household heads surveyed:

- ◆ 68% who sold farm produce, 43% who sold land, and 39% who sold livestock or small stock obtained lower than market value
- ◆ 58% who sold land and 44% who sold livestock took more than a year to regain their assets
- ◆ 21% who sold livestock felt that they would never be able to replace the livestock
- ◆ 25% had no livestock or small stock. Half of these respondents belonged to the lowest income group and faced very serious problems in responding to a maternal emergency

Overall the survey found that the additional cost of a maternal complication in a context of poverty can cause both short and long-term hardship. One maternal complication can be the trigger that forces many households deeper into poverty.

PRRINN-MNCH strategies to address the financial burden of health care

Supporting communities to establish emergency maternal care savings schemes

Ensuring that the cost of transfer to a health facility is kept as low as possible in community emergency transport schemes

Addressing the economic empowerment of women through Young Women's Support Groups

Supporting the establishment of blood donor groups at community level, so lessening the burden on some families of having to pay for blood

Establishing a Social Fund to provide community-level financial incentives to sustain the community MNCH response

Advocating for the direct and indirect costs associated with emergency maternal care to be covered within state free MNCH policies

“Before the programme, if for example your wife was sick, it would be your own personal problem. But now such cases are viewed as a whole community problem.”

Community member, Busari LGA, Yobe State

Lack of awareness of maternal danger signs meant that community systems would not be activated quickly

5.3 Community emergency systems

PRRINN-MNCH’s approach was to address simultaneously all the household and community level barriers identified by communities in baseline assessments. It was recognised early on that focusing on one or two barriers was unlikely to make a difference: women with a complication could not use a community emergency transport scheme if they lacked standing permission; women taken to a health facility and requiring blood could still die if blood donors did not accompany them; lack of awareness of maternal danger signs meant that community systems would not be activated quickly, leading to life-threatening delays.

Community monitoring systems managed by participating communities highlighted a high level of activity within these schemes – and a high level of use.

Results and achievements

The endline KAP survey highlighted a high level of awareness of the systems established by communities to respond to the MNCH burden. Moreover, many respondents personally knew people who had benefitted from these systems.

Awareness of community systems to ease cost of MNCH

Aware of Community Volunteers

	Baseline	Endline
Katsina	13.4%	75%
Yobe	2.6%	89%
Zamfara	0.6%	73%

Knows who benefited from blood donation

	Baseline	Endline
Katsina	3.6%	72%
Yobe	0%	36%
Zamfara	0.6%	62%

Aware of blood donor group

	Baseline	Endline
Katsina	3.2%	73%
Yobe	0.2%	76%
Zamfara	0.3%	78%

Aware of Community Savings Fund

	Baseline	Endline
Katsina	3.1%	81%
Yobe	0.6%	83%
Zamfara	0.3%	65%

Contributed to community savings

	Baseline	Endline
Katsina	3%	50%
Yobe	0%	65%
Zamfara	0.3%	48%

Knows beneficiaries of the community fund

	Baseline	Endline
Katsina	2.5%	77%
Yobe	0%	72%
Zamfara	0.1%	50%

Aware of ETS drivers

	Baseline	Endline
Katsina	1.4%	66%
Yobe	0%	85%
Zamfara	0.2%	64%

Knows someone helped by ETS driver

	Baseline	Endline
Katsina	0.1%	71%
Yobe	0%	77%
Zamfara	0.1%	60%

Source: Baseline KAP Survey (2011) Endline KAP Survey (2013)

Awareness of all schemes increased greatly in three states surveyed.

The PRRINN-MNCH 2013 endline household survey also assessed the extent of knowledge of community emergency systems. These questions were not asked in the baseline household survey and hence it is not possible to track changes over time. However, it is assumed that any baseline would have been comparable to the KAP baseline survey, in which case, considerable improvement is demonstrated. The results of the household survey are state-wide, while the KAP survey measures changes in clusters 1-3.

Knowledge of community systems to ease cost of MNCH

Community Saving Scheme

	Awareness
Jigawa	36%
Katsina	36.6%
Yobe	39%
Zamfara	22.1%

Emergency Transport Scheme

	Awareness
Jigawa	39.6%
Katsina	41.8%
Yobe	30.3%
Zamfara	11.5%

Emergency Transport Scheme

	Awareness
Jigawa	46.1%
Katsina	54.5%
Yobe	25.2%
Zamfara	20.3%

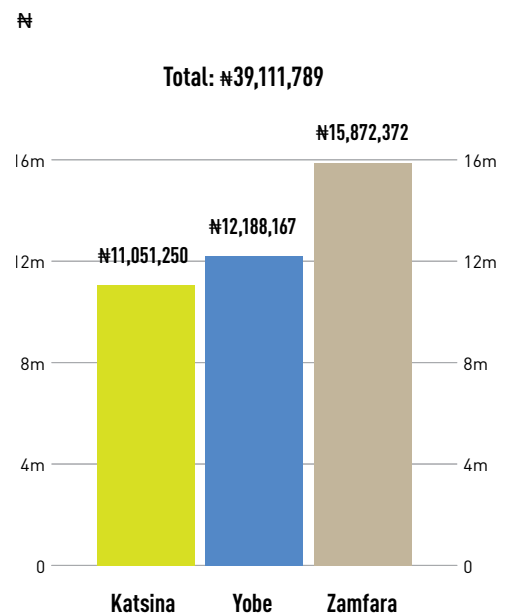
Source: Endline HHS data (2013)

Awareness and use of schemes increased greatly in all four states.

Community emergency savings schemes

A substantial sum of money (N39 million – UK 156,500 pounds) was saved for emergency maternal care by communities in Katsina, Yobe and Zamfara between December 2009 and September 2013. This provides a positive example of additionality – where an investment by a programme leads to the generation of additional resources.

EMC funds saved Dec 2009 – Sep 2013



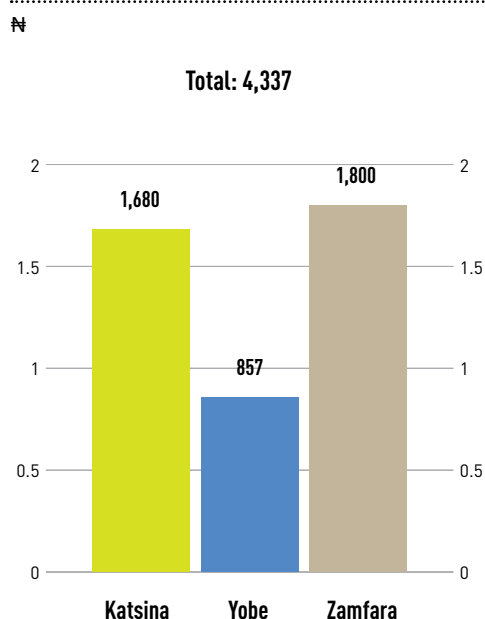
Communities in each state saved a significant sum for the use of EMC systems.

8,970 women with a complication (52% of reported maternal complications), were given a loan or grant from EMC Savings Schemes. This support helped to reduce the cost of accessing emergency maternal health care.

Community blood donor schemes

4,337 women were supported by blood donor groups between December 2009 and September 2013 (25% of reported maternal complications). The high level of blood donor activity is an indication that communities have been successfully mobilised on MNCH-related issues.

Blood donor scheme beneficiaries Dec 2009 – Sep 2013



The high level of blood donor activity shows that communities have responded to MNCH-related issues.

Community emergency transport schemes

Long distances to health facilities, difficult terrain, and the absence of affordable transport options are major challenges for remote, rural communities in the north of Nigeria. Efforts to transfer women with complications commonly fail where transport is not available, where money cannot be found to pay for it, or where seasonal factors make the terrain impassable. This can result in long delays in women reaching vital health care. In some cases, women and their babies die needlessly.

In 2010 three northern states addressed the lack of affordable transport options for maternal emergencies with PRRINN-MNCH's support. Building on previous emergency transport initiatives in the north, including the experiences of the Partnership for Transforming Health Systems¹ Programme (PATHS1), the three states set out to identify a workable solution.

Even remote communities in the north usually have access to cars driven by commercial car drivers, or if they do not, cars and drivers can usually be found in a

neighbouring community. Many of these drivers are members of the National Union of Road Transport Workers. Discussions with the communities and the drivers revealed that transferring women with complications to the health facilities was not a new experience for many of the drivers.

The earlier involvement of the NURTW in establishing ETS in Jigawa and Kano states as part of PATHS1 meant that the union was aware of how effective ETS could be and of the likelihood that its members would embrace such a scheme. State and local government NURTW officials in Katsina, Zamfara and Yobe states readily agreed to work with PRRINN-MNCH, and proactively contributed to the design of an ETS model that suited their local context.

The community emergency transport schemes established in the north address the weakest link in the referral chain – that of linking communities to health facilities.

With the support of the local NURTW and the communities, four volunteer drivers are selected from each community. The drivers are trained on how the ETS works and their role within it. This includes careful handling and lifting of their female patients, road safety, and record keeping. The drivers also learn about other community systems and interventions that have been established to address the wide range of barriers that lead to maternal delays. They're also encouraged to establish a good working relationship with community health volunteers who have also been trained by PRRINN-MNCH.

Local branches of the NURTW provide support and encouragement to the drivers. Drivers who transfer women with complications to the health facilities are given priority loading at motor parks. Local health workers are aware of the ETS drivers and, in some LGAs, drivers or representatives of the local NURTW participate in LGA meetings to discuss progress and challenges with their activities.

19,811 women (115% of reported maternal complications), were supported by community emergency transport schemes. The fact that this figure is higher than 100% indicates that non-emergencies also benefitted from the community ETS, a

**4,000
NURTW
drivers were
trained
between
2010 and
2013**

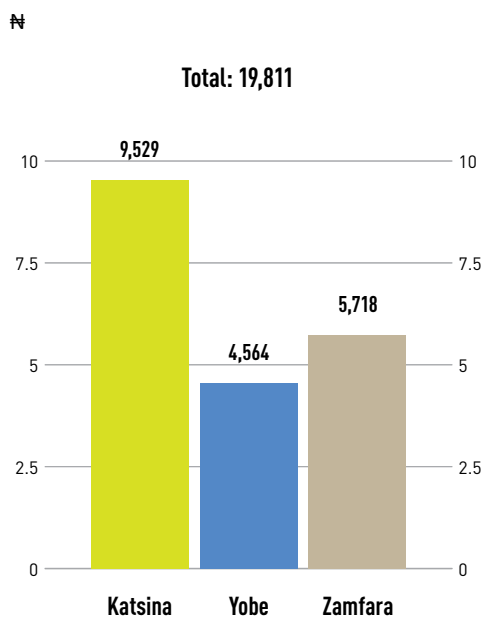
“There are rural communities around Yardaje that were using ox and cart to transport women with a maternal emergency to the health facilities because community members could not afford to hire vehicles. In the process, many lives were lost. Now with the ETS drivers in place they travel to rural communities and transport women in need with minimal payment that the community can afford.”

Village Head, Yardaje, Zango LGA, Katsina State

Evidence suggests that the cost of emergency transport has been significantly reduced

recent extension of the scheme that has opened up access to many more women.

ETS transfers by state, Dec 2009 – Sep 2013



Community ETS transfers helped with 115% of maternal complications, indicating they also benefitted non-emergencies.

Between 2010 and 2013 4,000 NURTW drivers were trained by PRRINN-MNCH and its partners so that they could participate in the community ETS. Master trainers have been trained in all four PRRINN-MNCH

states, building local capacity to support community ETS in future.

There is evidence that ETS is reducing the cost of transport to the health facility. A 2012 study by PRRINN-MNCH compared costs before and after the introduction of ETS. The average reduction in the cost of transport ranged from 41% in Katsina to 70% in Zamfara. In Zamfara, nearly one third of drivers waived their fees entirely.

Communities reporting a reduction in transport costs

Percentage

State	Of more than 50%	Of more than 70%	Total fee waiver
Katsina	34%	5%	0%
Yobe	64%	15%	0%
Zamfara	83%	52%	27%

Source: Baseline KAP Survey (Q1 2011); Endline KAP Survey (Q1 2013) All states showed significant reduction and in Zamfara, many drivers waived their fee altogether.

There is extensive evidence that ETS is welcomed and valued by rural communities.



Woman in labour using a car for emergency transport



“Everyone knows that Naira 500 is the cost to be paid to use the ETS and that is cheap compared to other drivers that one can pay an average of Naira 2,000 to.”

Female community volunteers, Zango LGA, Katsina State

PRRINN has engaged with NURTW at all levels to strengthen the ETS with support for:

The training of a pool of 80 master trainers in each of the programme states

The development of the NURTW ETS Training Manual as one of the union’s key resources for strengthening ETS capacity in Nigeria

The process of institutionalising ETS at the national level of the NURTW by building the capacity of a national ETS Planning Team

The collaboration with NURTW is enhancing scalability and institutionalization of community ETS schemes. In May 2012, the national office of the NURTW signed a Memorandum of Understanding with PRRINN-MNCH to support a nation-wide scale-up of ETS particularly in rural remote

services initiative model from Ghana. CBSD encompasses a global best practice to overcome barriers to access by bringing services close to the ‘door-step’. The strategy is designed to cushion the effects of the strong cultural barriers to hospital delivery, poor health seeking behaviors of women in the programme states and the numerous barriers that stand in the way of women using essential MNCH services. The overarching aim is to reach equity (universal coverage) and appropriately target people and locations, by nesting health workers (Junior Community Health Extension Workers) in the community. Priority is given to those communities least accessible to health facilities.

CBSD addresses equity from two perspectives: (1) eliminates a critical set of physical and economic barriers to access and (2) provides



The immunisation hand acts as a reminder of the immunisation schedule

areas with grave physical access barriers and poor MNCH indicators. The union was supported to devise a scale-up plan and later secured funding from the federal government SURE-P scheme to scale up community ETS to nine new states.

5.4 Community-based service delivery

The CBSD strategy was adapted from the community-based health planning and

the local insight that can enable health workers to address health and social issues by their close interaction with other members of the community health team, including leaders, community volunteers, members of the health committee, community-based organisations and non-governmental organisations working in the community.

Following the successful pilot phase in Jigawa the CBSD model was implemented across the four program states. Thus, CBSD was placed within the context of the

The community-based approach resulted in improved newborn and child health care

overarching PRRINN-MNCH community engagement strategy as a component of other community support structures including health committees.

PRRINN-MNCH supports three CBSD models in the program states: (1) female CHEWs living and working in the communities (CHPS compound) (2) CHEWs stationed at the health facility and conducting outreach services to the communities and (3) CHEWs living in the communities and mainly involved in referrals, encouraging community members to use MNCH services.

Results and achievements

The CBSD strategy was first piloted in Jigawa as an operations research model. The pilot was successful and evidence was used to influence state-level policy and stakeholder buy-in which resulted in an expansion phase, also in Jigawa State.

One of the key lessons learnt from the Jigawa pilot was the need to provide the community health extension workers with transportation to enable referrals, especially to emergency obstetric care facilities. This was recognised as critical by stakeholders and resulted in buying motorbikes for CHEWs with permission for female CHEWs to drive them – a Nigerian first.

Comparison of a high versus low intensity community health worker intervention to promote newborn care and sick child care³

The PRRINN-MNCH-supported intervention zones received public health services plus integrated interventions at primary health care posts and development of a community-based service delivery model with a network of community volunteers and community health workers. Before going to scale in the rest of the state, it was important to identify the effectiveness of the low-intensity volunteer approach versus the more intensive CBSD approach with community health workers.

Stratified cluster sample household surveys at baseline (2009) and follow-up (2011) were conducted to assess changes in newborn and sick child care practices among women with births in the five prior years. The follow-up respondents were grouped by level of intensity of the CHEW interventions in

their community, with low including group activities only led by a trained community volunteer and high including community health volunteer activities plus CBSD from a CHEW providing one-on-one advice and assistance. Analysis focused on changes in newborn and sick child care practices.

Results

Anti-tetanus vaccination coverage during pregnancy increased from baseline 69.2% to 85.7% at follow-up. Breastfeeding within 24 hours increased from 42.9% to 59.0% and more newborns were checked by health workers within 48 hours (from 16.8% at baseline to 26.8% at follow-up). Newborns were more likely to be checked by trained health personnel, and they received more comprehensive newborn care.

Compared to the control communities, in intervention communities more than twice as many women knew to watch for specific newborn danger signs. Compared to the control and low intensity intervention communities, more mothers in the high-intensity communities learned about the care of sick children from CHEWs, with a corresponding decline in family or friends or the TBA for advice.

Significantly fewer mothers did nothing when their child was sick, declining from 35% to 30% for children with fever or cough and from 40% to 31% for children with diarrhoea, and they were more likely to give more fluids or use oral rehydration therapy – more so in the high-intensity intervention communities. Use of medications, both traditional and modern, increased from baseline to follow-up, with no differentiation in use by intervention areas.

Conclusions

The community-based approach to promoting improved newborn and sick child care through community volunteers and community health workers resulted in improved newborn and sick child care. The low-intensity approach with community volunteers appears to have been as effective as the higher intensity CBSD approach with community health workers for several of the key newborn and sick child care indicators, particularly in appropriate home care for children with fever or cough. However,



Young Women's Support Group meeting

CHEWs are able to diagnose and manage a number of other conditions.

5.5 Community structures⁴ – Young Women Support Groups

Young women in rural areas tend to marry and have their first child at a young age. Women who marry young in Northern Nigeria often find themselves at the bottom of the household social hierarchy. Young women often lack social and moral support, whether from husbands, co-wives, or their mother-in-law. They can become extremely vulnerable and isolated, devoid of the self-confidence, resources and opportunities necessary to access health services and related information, or to participate in the social networks vital to the creation of self-respect. Reaching young women proved difficult in the early stages of the programme.

The YWSG initiative is a targeted approach to reach young married women (20 years and below) and to empower them so that they can access the support and services needed to look after their own and their children's health. Focusing on young women helps improve health equity.

Results and achievements

Community groups with safe spaces for girls

Baseline	Target	Progress
n/a	2,000	2006

Source: Baseline 2011, Target and Progress cumulative to 2013

2,006 Young Women's Support Groups, each with an average of 12 members, have been established in the community engagement sites in the four PRRINN-MNCH sites. Hence over 24,000 young women were reached through this initiative.

PRRINN-MNCH supported the development of a Young Women's Support Group Training Manual in collaboration with government stakeholders, including State Ministries of Health, Women's Affairs and Religious Affairs.

The groups were trained on MNCH issues, including nutrition and reproductive health, to improve their knowledge and build their capacity and confidence to take health-improving action.

The YWSGs were also trained in life skills, social support and inclusion, and financial management. These inputs were so successful that older women in the community requested assistance for

YWSGs encourage young women to access vital support and services

A population coverage of less than a million increased to just under 10 million within three years

establishing their own women's groups. This will help put the community engagement activities on a sustainable footing.

Mentors facilitating the groups leveraged access to other support and services, including advice and training on commerce, with the aim of promoting young women's economic advancement.

PRRINN-MNCH and its state and local government partners supported regular coaching and mentoring support visits to the YWSGs to provide encouragement, troubleshoot implementation problems, and monitor progress.

MoRA is supporting the integration of MNCH topics in Islamiyya classes in the intervention communities in the four states; the Agency for Mass Literacy is helping the groups in Zamfara state to access basic literacy classes; SMWA is supporting the groups in Katsina State with economic empowerment activities. In Jigawa, SMWA is supporting the integration of basic literacy in Islamiyya schools with a focus on reaching the YWSGs. Hence the YWSGs have provided a mechanism through which young women can access vital support and services, helping to counter their low status within the household and within communities.

5.6 Evidence of improved access and awareness

By September 2013 PRRINN-MNCH and its government partners had scaled up community engagement activities to 72 LGAs and had reached a population of 9.7 million rural people in 3,360 communities. Mass communications and other strategies such as rapid awareness raising for urban populations extended the demand creation work of the programme further.

The scale-up process was extremely rapid: population coverage of less than a million increased to just under 10 million within three years. CE activities were piloted in a small number of LGAs in each state for 18 months, after which new LGAs were added in a phased manner.

Community engagement – population coverage

PRRINN-MNCH was supporting community engagement activities in 72 LGAs by

September 2013. 1,028 communities (CE Complete or Complete Plus sites) were directly supported by PRRINN-MNCH and its partners. These communities shared their knowledge, their volunteers and their emergency systems with an additional 2,332 neighbouring communities. Hence a total of 3,360 communities had been mobilised to address MNCH issues by September 2013.

A cascade approach, comprising five levels of training, was used to train core trainers, local government personnel, lead community volunteers, regular community volunteers and then ordinary members of the community. This led to the training of 648 staff of the LGA primary health care department, 30,840 lead and regular community volunteers and over 4,000 ETS drivers.

Changes in MNCH knowledge and behaviours

An endline KAP study in March 2013 assessed changes in MNCH-related knowledge, practices and social norms in the PRRINN-MNCH intervention communities⁵ and in a selection of control communities. The study, a follow-up to a baseline KAP study in March 2011, showed that there had been significant improvements in rural people's MNCH-related knowledge and considerable changes in health-seeking behaviour in all states compared to the baseline situation.

The most dramatic increases in MNCH knowledge were seen in Katsina. In this state, knowledge of four or more maternal danger signs increased from 3.1% to 99% and knowledge of newborn danger signs increased from 4% to 99% between 2011 and 2013. Yobe's performance was much more mixed, with some indicators, such as knowledge of maternal danger signs, showing a decrease over time, most likely due to the insecurity in the state.

Knowledge of four or more maternal danger signs

Percentage

State	Before	After
Katsina	3.1%	99%



There have been significant improvements in rural people's MNCH-related knowledge

Yobe	46%	33.8%
Zamfara	1.3%	24.1%

Source: Baseline KAP Survey (Q1 2011); Endline KAP Survey (Q1 2013)

Awareness of maternal danger signs grew significantly except in Yobe.

Knowledge of four or more newborn danger signs

State	Before	After
Katsina	4%	99%
Yobe	25.3%	33.8%
Zamfara	3.4%	24.1%

Source: Baseline KAP Survey (Q1 2011); Endline KAP Survey (Q1 2013)

Awareness of newborn danger signs grew significantly in two years.

The percentage of respondents with no knowledge of newborn danger signs fell considerably between baseline and endline in Katsina and Zamfara (from 48% to 0.2% in Katsina and from 62% to 15.6% in Zamfara). In Zamfara the control sites produced a similar result to the intervention sites. In Yobe, the proportion of respondents with no knowledge of newborn danger signs increased between baseline and endline (from 14.6% to 26.1%).

No knowledge of newborn danger signs

State	Before	After	Control
Katsina	48%	0.2%	60%
Yobe	14.6%	26.1%	23.1%
Zamfara	62%	15.6%	18.2%

Source: Baseline KAP Survey (Q1 2011); Endline KAP Survey (Q1 2013)

Respondents with no knowledge of newborn danger signs declined except in Yobe.

Knowledge of the correct time to begin breastfeeding increased considerably in Katsina and Zamfara (from 21.9% to 61.2% in Katsina and 10.5% to 68.3% in Zamfara)

between baseline and endline KAP surveys. A very small increase, of five percentage points, was recorded in Yobe. The progress seen in Katsina and Zamfara is very positive; newborn health KAP results were quite poor in the cluster 1 endline survey which was conducted in February and March 2011.

Similar progress was made in the intervention and control sites in Yobe and Zamfara. In Katsina in contrast, the intervention sites did much better than the control sites. It's possible that the control sites in Yobe and Zamfara have benefitted from PRRINN-MNCH-supported radio programmes and other interventions.

Knowledge of correct time to begin breastfeeding

State	Before	After	Control
Katsina	21.9%	61.2%	18.7%
Yobe	51.6%	56.6%	58.6%
Zamfara	10.5%	68.3%	72%

Source: Baseline KAP Survey (Q1 2011); Endline KAP Survey (Q1 2013)

In Katsina, the intervention sites did much better than the control sites.

The endline survey found that ordinary members of the community were far more likely to plan for a maternal emergency than at baseline. For example, in Zamfara 12.7% of respondents had a plan at baseline compared to 71.6% at endline, while in Katsina 49% more respondents had a safe pregnancy plan at endline compared to baseline. Significant differences between intervention and control sites were evident in Zamfara and Katsina.

Planned for maternal emergency in current/recent pregnancy

Percentage

State	Before	After	Control
Katsina	47.8%	96.8%	71.4%
Yobe	28.7%	60.6%	58.9%
Zamfara	12.7%	71.6%	46.9%

Source: Baseline KAP Survey (Q1 2011); Endline KAP Survey (Q1 2013)

Community members are now far more likely to plan for a maternal emergency.

Community members in all states showed an increase in nearly all areas of planning to meet possible maternal emergencies, including obtaining standing permission,

knowing the maternal danger signs and identifying a mother's helper.

Plans made for maternal emergency

Save money for EMC

State	Before	After
Katsina	68%	100%
Yobe	92.5%	80.1%
Zamfara	85.5%	78.1%

Know the danger signs

State	Before	After
Katsina	24.1%	100%
Yobe	29.5%	59.6%
Zamfara	2.6%	40.6%

Identify ETS driver

State	Before	After
Katsina	13.2%	83.9%
Yobe	3.4%	25.6%
Zamfara	1.3%	7.9%

Identify woman helper

State	Before	After
Katsina	8.9%	78.9%
Yobe	17.1%	23.5%
Zamfara	5.3%	17.7%

Obtain standing permission

State	Before	After
Katsina	7.6%	75.2%
Yobe	46.6%	26.4%
Zamfara	15.8%	22.4%

Identify blood donors

State	Before	After
Katsina	7.3%	18.8%
Yobe	6.2%	22.7%
Zamfara	0%	5.3%

Source: Baseline KAP Survey (Q1 2011); Endline KAP Survey (Q1 2013)

Mother and newborn in health facility





Community discussions

Correct knowledge of immunisation schedule

Percentage

State	Before	After
Katsina	10.5%	96.9%
Yobe	23.1%	46.2%
Zamfara	0.8%	60.4%

Source: Baseline KAP Survey (Q1 2011); Endline KAP Survey (Q1 2013)

Awareness of immunisation schedule increased in all three states.

The KAP endline survey and data collected through a community monitoring system show that community members used their new knowledge and were more likely to take action in response to a maternal or newborn emergency.

Other results of the KAP study were:

- ◆ Where respondents reported that they lacked support and respect within and outside the household, there was a strong negative impact on MNCH-related knowledge and practice. This highlights the importance of adjusting intervention strategies to reach the least-supported.
- ◆ Community volunteers and members of women's groups (specifically Young Women's Support Groups) were less likely to be poorly-supported, to have low respect from others, or to be less involved in community events or groups. This highlights the importance of women's groups as a strategy for empowering women in the north.

Family member knows about EMC savings

State	Before	After
Katsina	6.3%	76.1%
Yobe	7.5%	28.9%
Zamfara	0%	9.8%

Respondents who have planned at least four of the above

State	Before	After
Katsina	4.1%	96.8%
Yobe	11.6%	27.5%
Zamfara	0%	23.5%

Source: Baseline KAP Survey (Q1 2011); Endline KAP Survey (Q1 2013)

Community members in all states now plan ahead to deal with maternal emergencies.

Immunisation-related knowledge results from the 2013 endline KAP survey were also very positive. Correct knowledge of the timing of the first, second, third and measles vaccinations increased dramatically over time.

Footnotes

1. Extracted and adapted from the DFID PQQ for the Nigerian MNCH2 draft ToR (2013)
2. See PRRINN-MNCH website for full report – www.prrinn-mnch.org
3. Comparison of a high versus low intensity community health worker intervention to promote newborn and child health in Northern Nigeria by Findlay S.E. et al (submitted for publication)
4. Note that the other key community structure (facility health committees) is not discussed here.
5. The 2011 baseline KAP study focused on cluster 2 communities. The 2013 endline KAP survey focused on clusters 1 to 3. An earlier baseline KAP study (2009) and endline KAP study (2011) had focused on cluster 1 communities, with results reported in the 2011 Annual Report.

6. Strengthening governance and systems to support MNCH services

6.1 Understanding the governance/systems interface

6.2 Bringing PHC under one roof

6.3 Planning, budgeting and performance reviews

6.4 Strengthening public finance management systems

6.5 Building management capacity through structured training and mentoring

6.6 Minimum service package

6.7 Sustainable drug supply systems

6.8 Improved structures and funding

'Bringing PHC under one roof' is the primary health care policy helping to align the disparate responsibilities for health at national, state and local levels.

Improved public finance management as well as planning, budgeting and performance reviews are helping to improve services in all four programme states.

PRRINN-MNCH has had considerable success in leveraging extra funding for health.

Training and mentoring for managers is improving the delivery of health services.

A minimum service package allows planners, policy makers and managers to determine the health services in their jurisdiction and the resources needed.

The sustainable drug supply system of drug supply management and financial management is improving pharmaceutical supplies to health facilities in all four programme states.

PRRINN-MNCH has integrated knowledge of the political economy of health with technical solutions to transform the health service

6. Strengthening governance and systems to support MNCH services

6.1 Understanding the governance/systems interface

The Nigerian health service is characterised by poor budgeting, weak governance, and limited supply of basic medicines and equipment to clinics.¹ A strong primary health care system is a prerequisite to deliver comprehensive maternal, newborn, child and routine immunisation services.²

The Nigerian health system is under-budgeted and fragmented.³ Only 7% of federal resources are dedicated to health. Of that, over 75% of this budget is spent on tertiary and curative care. All levels, tertiary, secondary and primary, are funded through separate channels which are not adequately budgeted, monitored or accountable to one another.⁴

Service provision is the interface where politicians, researchers, policymakers, service providers, systems engineers, managers, programme implementers, communities and clients interact and share learning to ensure evidence-based best practice.

PRRINN-MNCH has integrated a deep knowledge of the political economy of Northern Nigeria with technical health system solutions to transform the health service.

For a health programme to catalyse improvements in both governance and systems requires both a broad-based approach and considerable time. In practice however, many health programmes are narrow in focus and limited in duration. Efforts to improve governance and strengthen systems in Nigeria are further complicated by the fragmentation of healthcare systems and resources. Vertical programming and fragmented services are anathema to those promoting an integrated approach to health care delivery.

Complexity theory has increasingly been advocated as a tool for health policy development and health systems reform.⁵ In this theory, health systems are seen as open systems in which different components

are interdependent and can influence each other in a non-linear fashion.⁶ Non-linearity and the notion of emergent behaviour (ie behaviour that is not a property of any of the components of that system, but which result from the interactions of the components) mean that a change in one part of the system can have unpredictable 'ripple effects' in other parts.⁷

The World Health Organisation's report *Systems Thinking For Health System Strengthening*,⁸ was heavily influenced by the ideas of complexity theory, and acknowledges non-linearity and interdependence in a proposed framework for health system strengthening.

Policymakers and health system reformers need to adopt a whole-system approach to ensure changes at one level will not impede changes at another. The complex adaptive systems approach reinforces concepts such as feedback loops (both positive and negative that influence the pace and direction of change); path dependence (processes with similar starting points can have very dissimilar outcomes resulting from different contexts and histories and different choices at key points); scale-free networks (incorporating focal points – including key powerful people – that can dominate a structure); and phase transitions (when critical points – 'tipping points' – are reached and initiate change).⁹

The ideas of complexity theory are closely linked to the Drivers of Change approach adopted by the Department for International Development¹⁰ which has significantly influenced development and health system reform work in Nigeria. The DOC approach conceptualises three interacting components operating within any system and influencing change within it:

Structural features – the history of the state; natural and human resources; economic and social structures; demographic changes; regional issues; globalisation, trade and investment; urbanisation

Conceptual model for understanding Drivers of Change

Three interacting components can influence change within the system.

Source: DFID (2004)¹¹



Institutions – the informal and formal rules, such as political and public administration processes, that determine the realm of possible behaviour by agents

Agents – individuals and organisations pursuing particular interests: the political elite; civil servants; political parties; local government; the judiciary; the military; faith groups; trade unions; civil society groups; the media; the private sector; academics; donors.

The Drivers of Change analytical approach examines the mechanisms through which power is transacted within society and the health system.¹² The DOC approach formed the basis of the political economy assessments undertaken by PRRINN-MNCH at Federal and State level in Nigeria, which led to a deeper understanding of the structural features, the power relations, the institutions (particularly the informal rules) and the agents operating in the health sector.¹³

Both complexity theory and the DOC approach to political economy see the health system as a whole system. Understanding the context in which potential change happens is vital for any new policy to be adopted. This requires a deep and ongoing understanding of the structures, institutions and agents operating within the whole system.

However, complexity theory argues for a deeper analysis of the changes that a new policy will bring, especially a deeper appreciation of non-linearity; understanding of likely feedback loops; awareness of the key points when a theory or approach are likely to be adopted, and of the individuals who are critical to the adoption process.

PRRINN-MNCH states have adopted several strategies to address fragmentation and vertical programming. The underlying principle has been to create a unified approach so that the state can deliver healthcare services more effectively and leverage additional resources.

6.2 Bringing PHC under one roof

Speaking at a two-day national workshop on integrated primary health care governance in Nigeria, the Executive Director of NPHCDA said there are many challenges to running a health system in a federal government:

“The way around it is for all the authorities responsible for basic services from federal to local government levels to agree and bring their authorities ‘under one roof’”

He said primary health care ‘under one roof’ would enhance coordination, collaboration, effectiveness and efficiency; eliminate constraints, fragmentation and managerial uncertainty, wastage of resources and create an enabling environment for implementation of the proposed Health Act.¹⁴

Burdened with some of the highest maternal mortality ratios and child mortality rates in the world, Northern Nigeria’s efforts to improve health services are continually undermined by structural and institutional weaknesses. Fragmentation of the health sector, including management of staff, funds and other resources, has been the most significant intractable problem facing the country’s PHC services. Accountability

The underlying principle has been to create a unified health system

mechanisms are weak and the quality of health services suffer. Communities have little confidence in services provided and use of them is usually very low.

Building on previous work funded by the UK government from 2003 under the Partnership for Transforming Health Systems Programme (PATHS1), PRRINN-MNCH supported stakeholders to:

Use evidence to advocate for policy choices at state and federal levels

Translate policy choices into appropriate legislation and regulations

Develop and use enabling legislation to establish a single, decentralised health system (variants on the district health system)

Collaborate to overcome challenges in translating policy into practice

Key elements of the 'Bringing PHC under one roof' policy

Principle of 'three ones' (one management body, one plan and one monitoring and evaluation system)

Single management body with control over services and resources (human and financial)

Enabling legislative framework

Decentralized authority, responsibility and accountability with appropriate span of control

Integrated supportive supervisory system managed from a single source

Integration of all PHC services under one authority

Effective referral system across the different levels of care

Results and achievements

At federal level the following has been achieved:

- ◆ At the May 2011 National Council on Health (NCH), the apex health policy making body of Nigeria, 'Bringing PHC under one roof' was approved as a policy and implementation guidelines were recommended for use by the states
- ◆ A how-to manual and implementation checklist was developed in 2013 and approved by the NCH in August 2013
- ◆ 'Bringing PHC under one roof' fits the provisions of the National Health Bill, which is awaiting approval
- ◆ Within NPHCDA a unit was established in 2013 to drive PHC under one roof
- ◆ A national steering committee established in 2013 to oversee implementation
- ◆ 23 states have implemented 'Bringing PHC under one roof' in one form or another
- ◆ State-level audit in September 2013 by NPHCDA, with support from PRRINN-MNCH, to monitor progress
- ◆ Three national workshops held over the years
- ◆ Zonal PHC under one roof workshops held in August and scheduled for December 2013
- ◆ Awareness of the benefits of PHC under one roof has increased among donors and partners (eg interest shown from GAVI, EU, WHO)

At state level:

- ◆ All 4 PRRINN-MNCH supported states have accepted the PHC under one roof policy
- ◆ Laws and regulations passed in three states and review of current legislation ongoing in Katsina in 2013
- ◆ Jigawa has integrated PHC and secondary healthcare by establishing the Gunduma Health System
- ◆ Management structures established in three states (excluding Katsina) and



A national policy to integrate management of PHC and end fragmentation in the sector

Boards inaugurated in two states (Jigawa and Yobe)

- ◆ Transfer of services and resources (human, financial, infrastructure) has been completed in Yobe and Jigawa
- ◆ Capacity building of new managers of integrated authorities has started across the four states and among the Gunduma Councils in Jigawa

In 2011, Nigeria instituted a national policy, 'Bringing PHC under one roof' to integrate management of PHC and end fragmentation in the health sector. The policy built on the experience of the Jigawa State Gunduma Health System and the restructuring experiences of other states.

In three of the four PRRINN-MNCH states the policy has been adopted and implemented and in the fourth (Katsina) the current legislation is being reviewed to align with the policy. All four states are progressing in implementing key elements of the policy. This is best illustrated by discussing progress in Jigawa.

Bringing PHC under one roof – results from Jigawa

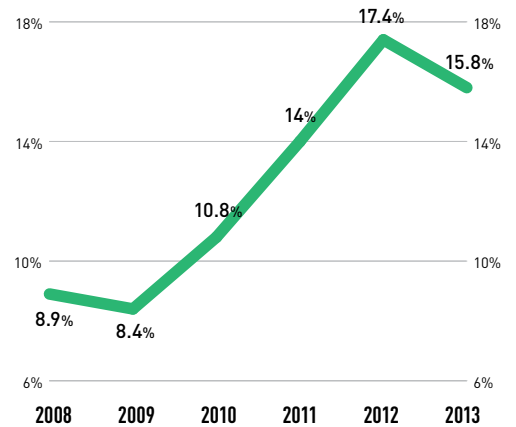
Jigawa's Gunduma Health System amalgamated responsibility for PHC and SHC services and the resources of 27 local government authorities under nine Gunduma Councils which are now accountable to a single Gunduma Health System Board. In Jigawa, the Gunduma legislation was signed into law in 2007 (under the PATHS1 programme) and the accompanying regulations were signed in 2010 (with support from PRRINN-MNCH and PATHS2). This has led to a transformation in health service delivery in Jigawa.

Increased efficiency and coordination of health services (reducing duplication)

The new system has enabled the Jigawa Government to progressively increase the health budget allocation to over 15% since the Gunduma Act was signed. Budget performance has reached over 90% in the same period.

Amount of Jigawa state's budget allocated to health

Percentage



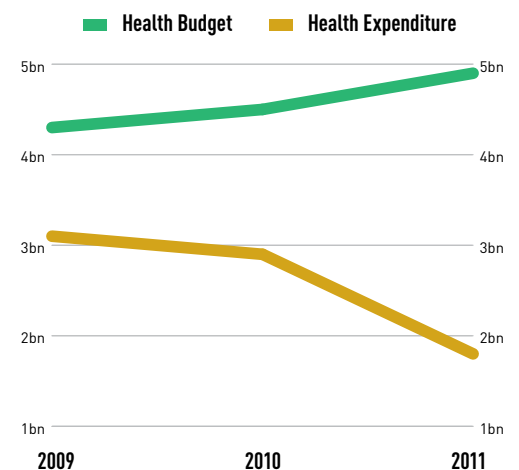
Jigawa's health budget has increased since the Gunduma Act of 2007.

Decentralisation of health services (devolution and de-concentration)

The development of enabling legislation has helped to shift the balance of power over the management of key resources (financial and human), from politicians to managers of the decentralised health system. The graph below shows the shift in expenditure pattern: decreasing State Ministry of Health budget expenditure and increasing Gunduma Health System Board expenditure.

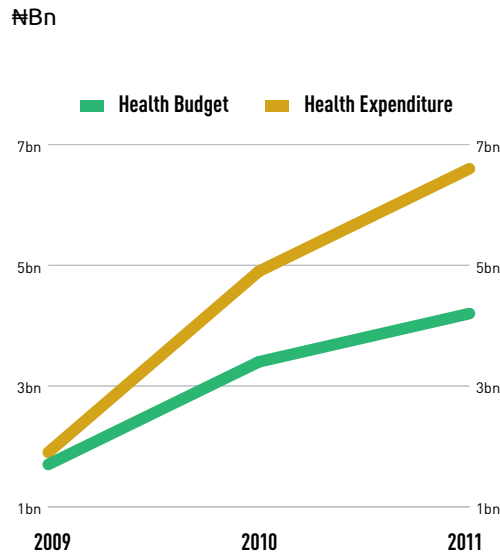
Jigawa expenditure shifts (SMoH)

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Maternal care and immunisation have improved considerably

Jigawa expenditure shifts (GHSB)

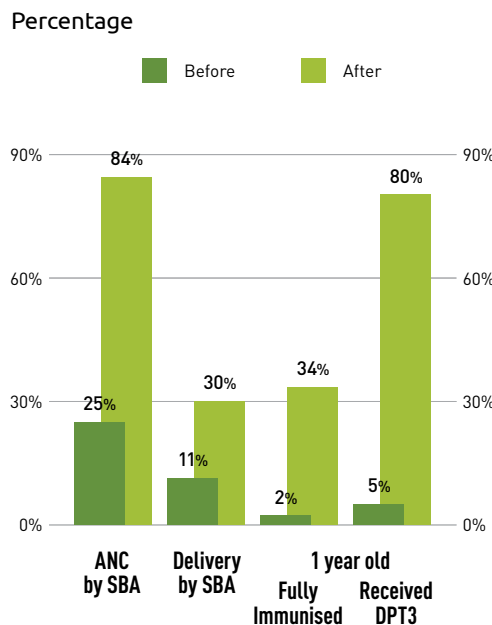


SMoH budget expenditure has declined while GHSB expenditure has increased.

Increased confidence and use of services

Over the last five years there have been significant changes in maternal and health indices.

Changes in service provision



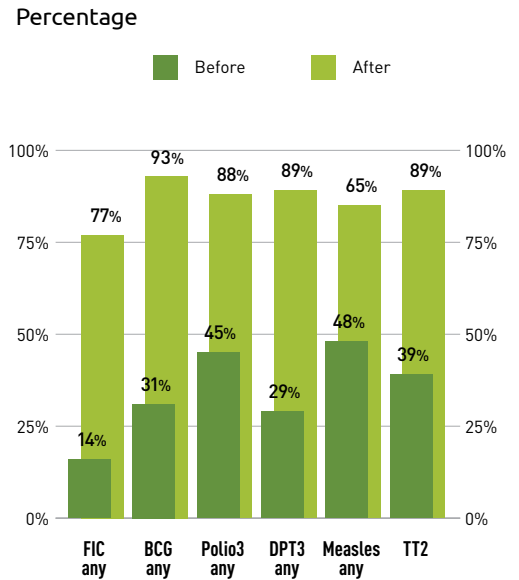
Before : Baseline HHS data (2009) After: Endline HHS data (2013)

Maternal care and immunisation have improved considerably.

Based on the findings of the PRRINN-MNCH household surveys conducted in 2009

(baseline) and 2013 (endline) there have been significant increases in immunisation coverage since the Gunduma system was established. This was seen in both the household survey data and the NICS data.

Comparison of NICS data Jigawa state



Before: NICS data (2006) After: NICS data (2010)

Immunisation coverage has increased significantly.

Lessons from PRRINN-MNCH's PHC under one roof experience

It's not enough to have a good idea, backed by evidence – it needs to be translated into new policies and legislation. But to do so:

- ◆ Political will and commitment are essential
- ◆ Considerable time is needed – fragmentation is quick, integration is lengthy
- ◆ The devil is in the detail of implementation
- ◆ Working at the governance/systems interface is key

Identifying and leveraging power and economic interests

Laying the foundations for the development of the PHC under one roof policy was time consuming and the advocacy approaches used were

Considerable time is needed – fragmentation is quick, integration is lengthy

multi-pronged. Enormous, careful and sustained efforts were made to include all stakeholders in all stages of policy development – from politicians to senior government officials, service providers, progressive institutions and community leaders. Evidence of malfunctioning health services and successes from other African countries was used to urge politicians to review policy choices and to illustrate advantages in certain policy choices.

Implementing policy into practice through institutional restructuring

Practical issues such as the rationalisation of government management structures are complex in any setting, even more so as stakeholders had minimal experience of unitary and decentralised health systems. Multiple issues needed to be dealt with, in an ongoing manner.

Emphasis was on transferring services and responsibility from one tier of government to another, human and financial resource reorganisation and the reorganisation of State Ministries of Health, Local Government and Local Government Authority structures to play new roles.

6.3 Planning, budgeting and performance reviews

In 2009, the FMoH designed the National Strategic Health Development Plan Framework (2010-2015) which consisted of eight priority areas: leadership and governance, service delivery, human resources for health, health financing, health information system, community participation and ownership, partnerships for health and research for health. PRRINN-MNCH has assisted the states to develop state-specific strategic plans and to use these as a template to produce annual operational plans.

PRRINN-MNCH's approach consisted of identifying and building the capacity of an SMOH planning and budgeting team and assisting them and other members of the SMOH and MDAs to develop costed annual operational plans. This was done at both state and sub-state levels (Gundumas in Jigawa, LGAs in other states). Emphasis was placed on ensuring that costed plans were within budget and aligned with the annual

budget cycle. In addition, PRRINN-MNCH worked with government to develop realistic fiscal projections. All states were supported to develop a monitoring and evaluation framework for the plans and assisted to conduct regular reviews.

The following strategies were used by PRRINN-MNCH:

Capacity building

Build the capacity of the Directorate of Planning Research and Statistics and the Budget and Planning Committee

Build better understanding of the key processes in the planning, budgeting and performance review system among stakeholders and in government

Strengthen capacity to defend budgets

Strengthen capacity to access funds through memo writing (and document previous impact) enabling the states to advocate more effectively for the release of budgeted funds

Encourage and support states to leverage extra funds from other sources, for example MDGs, SURE-P

Planning

Break down annual plans into service units and quarterly plans so each person, group and unit were aware of what they needed to do

Link planning at LGA level with the SMLGCA and the SPHCDB

Resolving the ongoing mismatch between plans, budgets and fund release, which was often caused by inflated fiscal projections with unrealistic budget allocations

Budgeting

Align budget codes in health plans with ministry's budget codes

Separate the budget by department and unit and add specific M&E targets

Negotiate the joint account between states and LGAs. These are centrally controlled by the governor and impact on budget release particularly at LGA level

Increase capacity to deal with late approval and release of budget

Emphasis was on ensuring state costed plans were within budget and aligned to M&E framework

Strengthen budget monitoring by both states and LGAs

Monitoring and evaluation

Strengthen M&E frameworks to ensure they're comprehensive, measurable and linked to annual plans in all four states

Establish executive dashboards for key performance indicators to ensure politicians are aware of current and past performance

Review

Support performance reviews focusing on budget release tracking, planned activity implementation rate and M&E framework indicator performance

Follow up on issues arising in performance reviews – strengthening the entire performance review process

Link to the Joint Annual Review process

Results and achievements

- ◆ All four PRRINN-MNCH States and many LGAs have costed annual plans aligned to their respective strategic health plans, the available budget envelope and in line with the budget cycle
- ◆ All four states have monitoring and evaluation frameworks to measure performance
- ◆ A system of performance reviews has been introduced in all four states
- ◆ Expenditure tracking tools are available and are being used to inform management decision-making

In the four PRRINN-MNCH supported states, the key management functions of planning, budgeting and performance review have been strengthened in the SMOH and other state MDAs. Activities have been geared to ensure that:

Annual plans are costed according to the budget available and in line with the State Strategic Health and Development Plan and the budget cycle.

Plans have an M&E framework and SMART indicators.

Regular performance reviews track progress with the M&E framework (targets and milestones), with budget release according to the approved plan.

6.4 Strengthening public finance management systems

PFM focuses on increasing health sector access to financial resources and ensures that health managers use financial resources in an accountable and transparent manner. This guarantees value for money and provides a safety net for the poor and those at greatest risk.

Finance is a major obstacle in the provision of better health services. Financial transparency and accountability are at the core of the global agenda to improve health funding, manage costs in the most effective manner and to ensure value for money. For UKaid and many other development partners, value for money has become a priority.

Since 2009 PRRINN-MNCH has supported these five areas:

Budgeting:

- ◆ Strengthening of the annual budget process: budget planning, budget preparation, budget execution (accounting, auditing), budget monitoring and evaluation
- ◆ Expenditure tracking by line item and programme
- ◆ Tracking of health sector budget performance: design of programme and sub-programme budget structures; capacity building and advocacy

Public health expenditure reviews:

This includes introducing and supporting the concept of regular budget activity reviews at 3-6 month intervals. Expenditure reviews look at budget release and expenditure, and the relationship between release and service provision.

Financial management system strengthening:

With a focus on strengthening state and LGA financial management systems. This covers financial management systems in the SMOH and its agencies including PHC Boards and the Gunduma System, state medical stores, LGA health departments and at health facility level, with a special focus on drug supply systems.

Supporting PHC under one roof:

- ◆ Helping to establish 'pooled funds' that require state and LGA joint financial contributions
- ◆ Building the capacity of the managers of pooled funds
- ◆ Provision of financial and operational manuals and guidelines for pooled funds to ensure that funds flow in a transparent manner

Mobilisation of federal government PHC resources by states and LGAs:

This includes designing, streamlining and strengthening financial mechanisms for leveraging funding from federal to state and LGA levels for immunisation and health care.

Since financial control is key to the struggle for political and economic power by politicians and other political stakeholders such as traditional institutions, bureaucrats and the private sector, the process of strengthening financial management in the health sector has a strong governance dimension. Strengthening PFM means taking actions that could potentially affect a range of powerful individuals and groups. The following challenges were encountered during the early stages of the PRRINN-MNCH programme:

Political interference, often leading to unrealistic fiscal projections, overbudgeting and ultimately central allocation of resources for political priorities

Irregular and incomplete release of budgeted funds due to poor fiscal projections

Limited capacity of administrators to defend their budgets

Poor memo writing leading to limited release of budgeted resources

Inadequate oversight by the legislative arm of government, especially at state and LGA levels, leading to a failure to call the executive branch to account

Distortion of budget processes and implementation due to the absence of transparency and accountability at all levels

Weak capacity and commitment of budget planning teams grounded in their past experience where budgets and planning were seen as exercises in futility

Poor resource mobilisation, coordination and harmonization of funds at federal and state levels due to vested interests of development partners

Limited capacity of the State Assembly and NGOs to track budget allocations and budget releases

Basket funds improve access to finance

Results and achievements

- ◆ The states use expenditure tracking and budget templates, budget development guidelines and expenditure review manuals
- ◆ In most states, health sector budgets are more realistic and better linked to annual health plans
- ◆ Jigawa and Zamfara have developed medium term expenditure frameworks
- ◆ Access to financial data at state and LGA levels has improved significantly
- ◆ Consolidated budget performance for Jigawa and Zamfara State Health Sector depicts a steady improvement in the budgeting process and skills as well as in budget execution and implementation processes
- ◆ The state health sector budget's proportion has shown an upward trend for three programme states

At federal level, PRRINN-MNCH support has assisted in:

- ◆ Leveraging of financial resources including support to lobby for GAVI, MDG and other development partner funds to Nigeria and to the PRRINN-MNCH supported states
- ◆ Designing and building the capacity of NPHCDA to manage GAVI funds via the development of guidelines and manuals and training of staff
- ◆ Building government capacity to access SURE-P health funds

At state level, PRRINN-MNCH support includes:

- ◆ Establishing budget and planning committees in the PRRINN-MNCH states and building their capacity to use PFM guidelines and manuals. The training has covered use of budget templates, tracking tools and processes, and unit costing
- ◆ Support to introduce appropriate budget codes in health budgets to improve budgeting and expenditure tracking
- ◆ Establishing budget monitoring and tracking systems in all four states

- ◆ Introducing a culture of regular budget reviews at state and sub-state levels ensuring that budget and expenditure figures are available and that financial data are reliable
- ◆ Integrating budgets and plans at state, Gunduma and PHC Board levels
- ◆ Supporting the establishment of pooled funds by developing financial management guidelines and training stakeholders in their use
- ◆ Strengthening advocacy to policy makers and influential people to improve health funding

Success in leveraging extra resources for health

Basket fund in Zamfara

To strengthen PHC delivery in Zamfara a pooled fund (called the basket fund) was created. State, local government and development partners contributed to this fund. The funds were used for tasks such as supervision, vaccine distribution and outreach services. This has contributed to improved immunisation coverage, among other service improvements.

GAVI funds

Many states did not have the mechanisms in place to effectively retire GAVI funds for strengthening health systems. Before 2009 none of the states had accessed more than one tranche of funding. Following support provided to access and retire these funds, performance in the states has improved and GAVI funds are available on an ongoing basis.

Using the MDG funds in Jigawa

MDG funds were made available for states to access. The creation of an integrated health system in Jigawa (the Gunduma system) allowed for single integrated health plans to be developed. This has meant that multiple funding sources can be used to strengthen the healthcare delivery system. Using a MSP approach, the Gunduma Board has directed MDG funds for maintenance and refurbishing of facilities in the state. In 2009 ₦377million was spent in this way and ₦609million in 2010.

Toughest job in Nigerian healthcare

Extract from the UK Guardian newspaper Guardian Professional, Wednesday 11 September 2013

How do you create demand for services where there is little confidence in the quality of care and 1 million children under five die every year from preventable diseases? Dr Ado Jimada Gana Muhammad (executive director of the National Primary Health Care Development Agency – NPHCDA) has arguably the toughest job in Nigerian healthcare.

“This is the frontline,” he says. “If we do not get it [primary healthcare] right, the knock-on effects for the whole of the healthcare system are too large to calculate. And for many Nigerians, this [primary healthcare] is their first interaction with the system – it will be the basis for their entire view of healthcare, and whether or not they want to use it again in future... over the years our quality of care has eroded. You can have everything right, but if the quality of care is not there it erodes confidence”.

And the first products he is trying to create demand for are vaccinations. “No primary healthcare can succeed without immunisations. It is the most common form of primary healthcare, and successful delivery of vaccinations can save millions of dollars later... as treatment of diseases is much more expensive than preventing them. We have needed to think about the entire system and address problems along every step of the way. First, we have had to address our cold chain – the way we keep vaccinations refrigerated from the minute they land in the country to when they are finally utilised, possibly months later in a rural community which is not connected to the national grid.”

Staffing has also been a huge issue: “There is no use spending all that money if the vaccine ends up lying in a community cold store because no-one can administer it,” he says. So in the past two years 6,000 frontline workers – midwives and community officers – have been deployed to more than 2,000 health centres across the country.

Targets have also been introduced, and by keeping strict records of immunisation coverage, questions are now being asked when those targets are not met. “A very important component of this strategic plan is accountability,” Muhammad says. “Over the years, accountability and transparency have been missing, and people should be held accountable for their actions or inactions.”

But despite the progress being made, some of the issues with healthcare delivery in Nigeria stem from the country’s fractured federal system of governance. Much time is spent developing strategies for the entire nation, but when it comes to implementing them, the politics of federalism grind progress to a halt. “You have multiple players when you come to primary healthcare in the state, and that has caused a lot of inefficiency in the system and a lack of co-ordination,” Muhammad says. The health ministry provides the policy and direction for how healthcare will be distributed in the state. “But when it comes to funding primary healthcare that comes from the ministry of local government affairs. You also have human resources coming from the local government service commission.”

To combat red tape, Muhammad has developed the primary healthcare under one roof initiative. “We have the whole primary healthcare delivery domiciled on one platform – that is, the state’s own primary healthcare development agency. The staff of the primary healthcare department in the local government departments and areas will now be absorbed into [that] agency. And we are beginning to see it work.”

“We have the whole primary healthcare delivery domiciled on one platform – that is, the state’s own primary healthcare development agency. The staff of the primary healthcare department in the local government departments and areas will now be absorbed into that agency. And we are beginning to see it work.”

Dr Ado Jimada Gana Muhammad



A work-based course for new managers has built professional competency in the health sector

6.5 Building management capacity through structured training and mentoring

Building the capacity of mid-level managers in the health sector in Nigeria has been sorely neglected. There have been few management courses, and those that do exist tend to be classroom-based. Few courses offer work-based coaching and mentoring and an iterative approach to problem-based, contextually rooted and team-based management capacity building.

The problem is further compounded by the explosion of new management structures as a result of the 'Bringing PHC under one roof' policy and the subsequent requirement for a new cadre of effective managers. Nigeria needs to develop a national management capacity-building programme that draws on international experience.

Training for mid-level managers: underlying philosophy

Where resources are scarce, professional capacity ('know-what', 'know-how', 'know-why' and 'care-why') becomes one of the most important resources for delivering quality services. The notion of competence focuses on the development of knowledge, skills and attitude. However, traditional competency building interventions generally focus on developing and strengthening knowledge ('know-what') and skills ('know-how'). Rarely do they impact on attitude ('care-why') and almost never on transferring learning to engage with organisational systems and processes ('know-why').

Sustained and continuous development of individual professional competency needs an organisational environment which rewards going beyond the professional execution of tasks, to strategic leadership and team-motivated creativity. This organisational ability starts with individual 'know-what' and 'know-how' and is then sustained and developed by a deep understanding of organisational systems and processes ('know-why') and by the will, motivation and ability to adapt and innovate to create successful results ('care-why').

Results and achievements

- ◆ Capacity building programme for managers introduced at state and sub-state levels
- ◆ Systems and service delivery projects identified by health service managers have led to significant positive changes, including improvements in morale

Through the capacity building programme, issues identified and addressed by the different state management boards include:

- ◆ Reviewing and strengthening the referral system in Jigawa – the Gunduma Councils now manage emergency health services
- ◆ Revising the PHC Development Agency Act in Katsina – a final draft is now under consideration
- ◆ Addressing the inadequate numbers and maldistribution of skilled health workers in Yobe – this has led to the lifting of the employment embargo, recruitment of new staff, transfer of all staff to the new PHC Board and a more rational distribution of existing staff

PRRINN-MNCH has created a structured programme for new managers. This programme can be tailored to state-specific circumstances, adjusted according to budget availability and linked to a certificated programme through a tertiary institution, where appropriate.

Eight facilitators have been selected from the PRRINN-MNCH programme states and nearby tertiary institutions to form the nucleus of the capacity-building team.

An initial workshop was held for the facilitators to discuss and share educational approaches, build a common philosophy and design the course for state-level managers. A capacity building plan for mid-level managers was agreed, comprising two training modules per year (one in July and one in November).

In 2012, the first year of the course, the July module focused on leadership and governance of the new structures and the November module focused on planning and monitoring. In 2013 the first module focused on performance review. In July 2013, the course was run for the

Systems and service delivery projects identified by health service managers have led to significant positive changes

Gunduma Council managers in Jigawa. This was the first course for managers at the sub-state management level.

All four PRRINN-MNCH states send six to eight people each – including four to five managers from the new PHC Boards, and the relevant director from the State Ministry of Health. The presence of the Director General or Executive Director from each state is vital.

Each module is structured in the following ways:

- ◆ Participants share challenges and successes, and discuss solutions
- ◆ Facilitators provide input in their area of expertise, tailored to the specific context in the state – this might be on human resources, health management information systems, sustainable drug supply system, or other areas
- ◆ Facilitators work with the teams to develop a project that can benefit their work context. The teams then return to work on their ‘project’
- ◆ Facilitators mentor the teams during the implementation of the project.
- ◆ These projects are then discussed during the next training module

Although primarily focused on managers in the new PHC Boards, the management strengthening approach has been adapted for use by the Women for Health programme where it's used to build the capacity of managers in training institutions (Schools of Nursing and Schools of Health Technology).

The importance of building the capacity of managers in a structured manner has not yet been fully realised. If the gains from the restructuring and reorganisation of the health service are to be fully realised, management capacity building is crucial and significant resources need to be committed to see that this happens. The capacity building programme will enhance value for money and ensure sustainability of the changes.

6.6 Minimum service package

A minimum service package (MSP) allows planners, policy makers and managers to determine the range of health services that will be delivered within their jurisdiction and

the resources that are needed to enable this to happen.

The development of the MSP was driven by two key issues:

The need for states to implement government policies around MSPs which had been developed by the FMOH under the integrated maternal, neonatal and child health policy and the NPHCDA under the ward minimum health care package

The importance of states aligning with the political imperative of providing free MNCH services at the point of delivery – many governors across Nigeria have declared free MNCH services.

The set of activities were geared to ensure that:

States were aware of the need to classify facilities according to federal guidelines and then determine the services to be delivered at each level and the resources (human, infrastructure, equipment, drug, commodity and financial) needed to do this.

Tools, specifically a costing model tool and HR planner tool, were developed to cost the MSP, allowing for different assumptions and outcomes to satisfy local resource availability and political requirements.

The MSP tools were linked to service delivery planning via the service delivery planning tool.

The tools could be used to identify funding gaps so that states could approach funders for additional resources (eg GAVI, MDG Fund, SURE-P).

The MSP is a key issue for strengthening health systems and has important governance dimensions. The PRRINN-MNCH states have focused on:

- ◆ Building a better understanding of the key MSP processes
- ◆ Strengthening the capacity of state governments to use the MSP tools
- ◆ Building political understanding of the MSP tools and their possible uses to strengthen ownership
- ◆ Documenting changes and results from implementation of the MSP and using these data for advocacy purposes

PRRINN-MNCH supported the development of tools which are now being used by many other states

- ◆ Strengthening capacity at federal level (FMOH and NPHCDA) to support the MSP process
- ◆ Building links with development partners and UN agencies to strengthen understanding and use of the MSP
- ◆ Considering whether identifying and strengthening private sector capacity could assist state governments in using the tools
- ◆ Linking the cluster approach to the MSP, ensuring a coordinated approach.

Results and achievements

PRRINN-MNCH has supported the development of three tools:

- ◆ Costing tool
- ◆ HR planner tool
- ◆ Service delivery planning tool

Together these make up the MSP tool and allow states to use the tools for strategic health service planning and for redistributing available resources. The tools have been piloted in two states and disseminated in two national workshops. They are now being used by many other states.

MSP tools have been piloted in two states (Zamfara and Yobe)

Zamfara and Yobe have agreed the classification of facilities, services and resources needed at different levels

MSP tools have been linked to the HR Planner (a HR planning database)

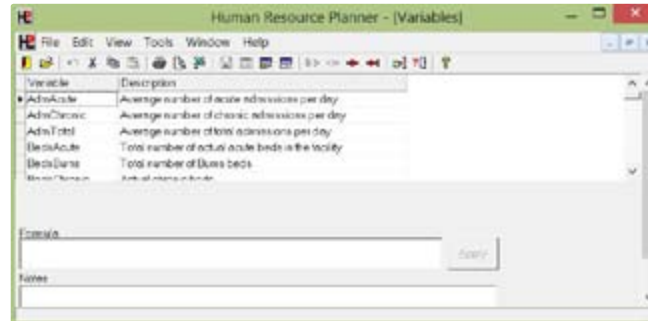
Manuals and tools have been shared with the NPHCDA, other states and development partners and are now being finalised

Some states have used the MSP approach to identify gaps and channel resources

Two sets of MSP workshops have been held with federal level structures and state level structures to introduce the tools

The HR planner tool

Used to plan the human resources required for the minimum service package



The costing model tool

Used to cost the minimum service package

State	Yobe				
Date					
NPHCDA designation	General Hospital	Rural Hospital	Comp health centre	Primary health centre	Primary health clinic
State nomenclature	General Hospital	Cottage Hospital	N/A	Primary Health Centre	Health Clinic
Calculated Population	254,000	100,000		25,000	2,000
Opening days per week	7	7	7	5	5
Beds	150	50	50	10	0
% of attendances admitted	20%	20%	10%	0%	0%
Average length of stay (days)	6	6	5	5	n.a
Specialist services available		n.a	n.a	n.a	n.a
Personnel total from HR Planner (n/a)	61,000,000	32,000,000	25,000,000	9,000,000	2,000,000
% of operations seen as day cases	25%				
Avg no of prescriptions per OPD attendance	2				
Avg no of prescriptions per admission	2				
Avg no ANC attendances per pregnancy	2				
Policy decisions					
% of free drugs provided free	100%	100%	0%	50%	100%
% of ROP replenished per annum	20%	20%	0%	20%	20%
% of recurrent value for miscellaneous	10%	10%	0%	10%	10%
% Salary Allowance Factor	58%	58%	58%	58%	58%

Sustainable drug supply systems now have a total coverage of over 4 million people across four states



A state governor inspects pharmaceutical supplies

6.7 Sustainable drug supply systems

The sustainable drug supply system is a combination of drug supply management and financial management systems designed to bring all drug supply systems (whether for-profit or not-for-profit) under one roof. The idea is to ensure that consumers can get affordable, quality drugs and supplies at health facilities and in the community (where appropriate) when they need them. SDSS operates on two levels: at the level of the central medical stores where the emphasis is on procurement and distribution systems to ensure a sustained source of supply; and health facility level.

SDSS has 12 implementation steps which start from a systems review and design, through procurement to rollout at facility level. The process includes capacity building of health managers, service providers, and empowering communities so that they can participate in and help oversee drug management.

SDSS fits with the global agenda that aims to ensure the provision of basic drugs for MNCH services. In addition, sustainable drug supply systems are part of the Nigerian government's agenda to save one million lives.

Results and achievements

- ◆ All four states have adopted the SDSS approach to improving drug supplies in their health facilities
- ◆ The working capital at the Central Medical Store in Zamfara has risen from less than ₦200,000 in 2010 to over ₦10,000,000 in 2013

Sustainable drug supply systems have been established in all four states (Jigawa supported by the PATHS 1 and 2 programmes). All PRRINN-MNCH states have a policy on an essential and tracer drug list by facility type; they have quantified their drug needs and procurement has been made through Crown Agents for all implementation clusters. SDSS implementation covers all cluster three facilities (39 facilities) with a total population coverage of about over 1 million people in each state; implementation in clusters four and five has been completed in Zamfara and is in progress in Katsina and Yobe States.

State medical stores act as central distribution points. Some states such as Yobe and Zamfara have rehabilitated their Central Medical Stores and deployed staff to improve the management and overall function of the stores. Zamfara CMS has progressed to carry out bulk procurement and management of its drugs and supplies

The creation of pooled funds allows all stakeholders to contribute and oversee shared resources

and because of impressive progress, the governor recently procured four vehicles to improve supervision of the scheme.

Capacity building of health managers and service providers is ongoing. Communities are continually being mobilised for local ownership, while several operational guidelines and manuals have been produced to enhance implementation and ensure sustainability.

There is ongoing advocacy to enhance the role of the CMS to serve as the assured source of drug supply for the whole state. Advocacy efforts are also focusing on harmonizing the management of multiple drug supply sources and systems into one system – the SDSS.

6.8 Improved structures and funding

Key results include:

- ◆ Substantial reorganisation of health care services in the four PRRINN-MNCH states as a result of the ‘Bringing PHC under one roof’ strategy
- ◆ Creation of pooled health care funds in Jigawa, Zamfara and Yobe
- ◆ Early movement towards a Sector-Wide Approach in Jigawa state
- ◆ Development of state annual health planning, budgeting and review processes
- ◆ Introduction and adoption by the National PHC Development Agency, of Minimum Service Package tools to guide strategic health service planning

Addressing fragmented services

In Nigeria, health services are delivered by all three levels of government (Federal, State and Local Government). However, in practice this has led to a very fragmented health care delivery system especially at PHC level. Resources (eg financial, human) are controlled by different bodies or schemes all with different rules and operating mechanisms. To some extent, this is the cause of the poor health indices.

Implementing a policy of ‘Bringing PHC under one roof’ to create a single management framework responsible for

service delivery, finance and human resource management has been a key priority of PRRINN-MNCH and its partners. This has led to considerable reorganisation of services in the four states.

Accessing fragmented resources (particularly human and financial)

Politicians and bureaucrats need to be convinced to part with the resources under their control. Resources tend to be allocated to specific tasks and monitored in vertical (and often parallel) systems so that results can be directly attributed to the specific intervention and resource pool. However, health systems are complex and fragmentation of health care delivery, management and resources undermines the efficiency of the system. Adopting an integrated health systems approach has enabled the PRRINN-MNCH states to leverage extra resources for health care delivery, leading to positive benefits especially in sustainability and additionality.

A key strategy has been the creation of pooled or basket funds that allow all stakeholders (state and local government and development partners) to contribute and oversee shared resources.

The PRRINN-MNCH states have been able to access and use resources from different sources as a result of these strategies. This has included:

- ◆ Accessing and effectively retiring federal level funds (eg GAVI, MDG, NHIS and SURE-P55)
- ◆ Ensuring that HR programmes (eg the Midwives Service Scheme) are aligned with the plans and functioning of the integrated health system
- ◆ Ensuring that resources are used in line with an investment plan based on the MSP model (eg Jigawa has used MDG resources to focus on strengthening one facility per ward).

Footnotes

1. Federal Ministry of Health. National Health Strategic Development Plan: Federal Ministry of Health and World Health Organisation; 2010.
2. DFID (2010) Choices for women: planned pregnancies, safe births and healthy newborns. The UK's framework for results for improving reproductive, maternal and neonatal health in the developing world.
3. Federal Ministry of Health. National Health Strategic Development Plan: Federal Ministry of Health and World Health Organisation; 2010.
4. Extracted and adapted from the DFID PQQ for the Nigerian MNCH2 draft ToR (2013)
5. Paina, Ligia, and David H Peters, 2012, "Understanding Pathways for Scaling up Health Services Through the Lens of Complex Adaptive Systems." *Health Policy and Planning* 27: 365–373.
6. Pourbohloul, Balak and Marie-Paule Kieny, 2011, "Complex Systems Analysis: Towards Holistic Approaches To Health Systems Planning and Policy." *Bull World Health Organisation* 89: 242.
7. Dattee, Brice, and James Barlow, 2010, "Complexity And Whole-system Change Programmes." *Journal of Health Services Research and Policy* 15 (Suppl 2): 19–25.
8. WHO, 2009, *Systems thinking for health systems strengthening*, edited by Don de Savigny and Taghreed Adam. Available at http://whqlibdoc.who.int/publications/2009/9789241563895_eng.pdf
9. Ibid Paina, Ligia, and David H Peters, 2012
10. Heymans, Chris, and Chris Pycroft, 200, "Drivers of Change in Nigeria: A Preliminary Overview." DFID-Nigeria's Drivers of Change Initiative (July): 1–67; and Leftwich, Adrian, 2006, "Drivers of Change: Refining the Analytical Framework." Department of Politics, University of York (April): 1–74.
11. DFID, 2004, *DFID Drivers of Change Public Information Note*. London: Department for International Development
12. Ibid Leftwich, 2006; and Haider, Huma, and Sumedh Rao, 2010, "Political and Social Analysis for Development Policy and Practice: An Overview of Five Approaches." *Governance and Social Development Resource Centre* (September): 1–37.
13. Anyebe, William, Jo Bezzano, and Simon Foot, 2005, "Country Level Testing: The Health Sector in Nigeria." *An Analytical Framework for Understanding the Political Economy of Sector and Policy Arena* (November): 1–63; and SPARC & SAVI. 2009. "Political Economy Assessment – Jigawa State, Final Report." SPARC and SAVI (April): 1–33.
14. Blog by Musa Umar Bologi, June 27th 2013, *Blueprint Nigeria*



7. Addressing challenges

8. Conclusions

**9. Knowledge management –
materials developed**

**Glossary of acronyms
used in this report**

7. Addressing challenges

In previous annual reports, challenges that have affected PRRINN-MNCH and its government partners have included:

Inadequate release of budgeted resources ● Lack of political will to effect necessary HR changes ● Slow progress with sustainable drug supply systems ● Imbalance between routine immunisation and Immunisation Plus Days ● The failure of traditional social support mechanisms ● Limited capacity of mid-level managers ● Gap between antenatal care and facility deliveries by skilled birth attendants ● Slow cluster rollout ● Inadequate collaboration with religious leaders ● Inadequate funding for PHC.

This section addresses how PRRINN-MNCH has responded to these challenges and some others that include:

Inadequate use of information

Maintaining volunteerism

Inadequate release of budgeted resources

This is a recurrent problem largely due to poor fiscal projections and overbudgeting, often for political reasons as this allows key political figures to 'cherry pick' projects for support. PRRINN-MNCH has supported FMS strengthening partly to tackle this issue. In addition, the capacity building programme for managers has tackled memo writing, another challenge affecting budget release. As of 2013, there was evidence that budget performance had improved, but more progress needs to be made.

Lack of political will to effect necessary human resource changes

Political interference in the placement of health workers has led to a poorly distributed workforce. When combined with

the long-standing problem of ghost health workers (individuals who are recorded as employed and paid, but do not work for the salary) rural health facilities face grave shortages of suitably trained staff. PRRINN-MNCH has supported the creation of a functioning HRIS and the establishment and strengthening of a high-level HR committee in each state.

These two initiatives have provided the information and the tools necessary for advocacy and implementation of a more rational HR system. There has been exceptional progress to date, but there is a need for continued support to ensure the sustainability of the initiatives.

Slow progress with sustainable drug supply systems

A lack of political will has also slowed down changes in drug delivery systems. Resistance to change and vested interests have impaired progress. Through a combination of advocacy and patient, sustained work, progress is being made. The great strides recently made in the SDSS in Zamfara were highlighted earlier in this report.

Imbalance between RI and IPDs

PRRINN-MNCH has collected sufficient evidence to strengthen the call for the balance between supplemental immunisation activities and routine immunisation to be reassessed. The programme has used this information to advocate with some success at federal and state levels.

To strengthen RI services, PRRINN-MNCH has supported a wide range of initiatives, and progress has been extraordinary in a number of cases. The Zamfara basket fund helps to ensure sufficient funding for fuel and vehicles to maintain a regular delivery schedule. The introduction of new vaccines to Nigeria provided excellent opportunities to build skills and cold chain capacity.

PRRINN-MNCH has also worked to minimise vaccine stock-outs through strengthening and monitoring vaccine procurement, forecasting and storage systems.

The failure of traditional social support mechanisms

PRRINN-MNCH's ground-breaking work on the clustering of morbidity and mortality among women who lack support and respect within the household has led to the resurrection of social support mechanisms that specifically target these groups. Advocacy to traditional and religious leaders and training of health workers on the clustering effect have supported the process of reviving traditional social support mechanisms.

Limited capacity of mid-level managers

This key challenge has been given insufficient attention in Nigeria. In the four PRRINN-MNCH states a capacity building programme for managers at SPHCB (or equivalent) level has been introduced. This programme was extended to cover Gunduma managers in Jigawa (sub-state level management). The programme is work-based and has a strong mentoring and coaching component.

Gap between ANC and facility deliveries by SBA

This has been an ongoing problem across Nigeria. Early indications are that, at least in some states, this gap is narrowing. PRRINN-MNCH household survey data show a marked increase in ANC attendance by SBAs and an even greater increase in deliveries by SBA in at least two of the states.

Slow cluster rollout

While the cluster approach to improving MNCH service delivery has significant benefits, progress in rolling out the approach has been slower than expected in the PRRINN-MNCH states. Some system strengthening and service delivery improvement activities (eg training of health workers and demand-side activities) have been faster than others (eg refurbishment of facilities and implementing the SDSS).

Corrective measures have been adopted and the programme is fast closing the gap – it should attain full coverage (ie all clusters in Zamfara and Yobe and half the clusters in Katsina) by the end of the programme. Measures include tightening up the facility rehabilitation and equipment procurement processes. SDSS implementation has also gained steam with roll-out to cluster four achieved in 2013.

Inadequate collaboration with religious leaders

PRRINN-MNCH has collaborated with religious leaders in a number of areas:

- ◆ Communicating messages around the need for women to attend ANC and deliver in a health facility
- ◆ Understanding the clustering effect of morbidity and mortality
- ◆ The need to revitalise social support systems that reach these women
- ◆ Identifying young girls who are suitable for health worker training

These activities have led to a much better acceptance of the initiatives promoted by PRRINN-MNCH.

Inadequate funding for PHC

PRRINN-MNCH has supported a number of activities to increase funding for PHC. In Zamfara, the basket fund was adopted to pool and increase funds for immunisation and PHC in general. One remarkable feature was the checks and balances introduced to safeguard the funds and ensure that they were used according to costed plans. The basket fund approach has since been adopted by Yobe.

In Jigawa, PRRINN-MNCH supported the development of the pooled fund for similar purposes but addressing both PHC and SHC. Early steps to a SWAp are now being taken in Jigawa. PRRINN-MNCH also worked with the NPHCDA to ensure that GAVI funds are properly used and accounted for. This has enhanced the flow of GAVI funds to the states. The same approach is now being used for the SURE-P funds.

A study into volunteerism found a high level of retention and self-motivation among community health volunteers, who stated that their primary driver was to 'help others and save lives'

Inadequate use of information

This is an issue across all sources of information (routine HMIS data, financial systems and human resource systems data). PRRINN-MNCH has supported many mechanisms to overcome this challenge. For routine HMIS data, PRRINN-MNCH has worked closely with a local NGO (HISP Nigeria) to support the strengthening of routine health information systems. Assistance has included resources (eg data collection tools, computers), training, data quality audits and review workshops.

The key initiative was introducing the web-based DHIS2 which allows real time data to be seen and compared. This has galvanised health service managers to ensure the accuracy of the data that is generated routinely. Financial and human resource data has been captured and used for advocacy purposes, leading to changes in distribution and employment patterns of health workers and improved budget performance.

A focus on developing costed plans led to the development of a linked M&E framework, which ensures that during regular reviews service and financial data are used to track progress. In addition, the MSP work has combined these two sets of data and allowed a more rational planning process to emerge.

Finally, the capacity building programme for managers has incorporated an emphasis on managers using data in their day-to-day management tasks.

Maintaining volunteerism

The strategy of leveraging volunteerism in support of MNCH is being threatened by other initiatives which have introduced financial and other incentives for community health volunteers. Some of these approaches could have limited potential for being sustained in the medium – to long-term if they attract individuals who are motivated primarily by personal gain and if they fail to build social capital. For instance, PRRINN-MNCH collaborated with the McArthur Foundation to pilot a Payment Model for Emergency Transport System for Obstetric Emergencies in Northern Nigeria. The research activity impacted negatively on the local 'spirit of volunteerism' intrinsic to the ETS approach. As a result, the pilot was closed.

A study into volunteerism undertaken by PRRINN-MNCH in 2012 found a high level of retention and self-motivation among community health volunteers working in the four programme states, the majority of whom stated that their primary driver was to "help others and save lives". Most of the volunteers indicated an intention to continue volunteering in future: they could see at first hand the positive effects of their volunteering efforts in terms of a reduction in maternal and newborn deaths in their communities and reported that they had gained respect in the community.

PRRINN-MNCH has been supporting operations research into the effectiveness and efficiency of the volunteer approach that it has been supporting in four states and the NPHCDA funded Village Health Worker initiative which provides paid incentives for lay community health workers. The research will examine the respective merits of both approaches and hopefully inform future community demand policies.

Some other initiatives have also introduced disincentives for community volunteers. This includes the Jigawa State Ministry of Women's Affairs and Social Development emergency transport system initiative which purchased and placed ETS vehicles in communities alongside the NURTW ETS system without a solid partnership agreement. This has been hard to address.

Insecurity

The ongoing violence and destabilisation in the north will continue to pose significant challenges to the PRRINN-MNCH programme and all health-related work in the Northern Nigerian states. For example, in a context of insecurity, transferring women to a health facility late at night becomes extremely challenging. Yobe state is the most affected.

8. Conclusions

The programme's focus on the minimum service package was a response to the call for free healthcare for mothers and babies.

The community responded with savings schemes; emergency transport schemes; and blood donor groups

In July 2013, UKaid Nigeria commissioned a poverty analysis paper. Based on this analysis and with the input of Nigerian civil society organisations, a series of recommendations were proposed. The health-related recommendations are outlined below together with an overview of what PRRINN-MNCH has done in these areas.

Federal level:

Pass the National Health Bill which protects and allocates resources toward primary healthcare.

PRRINN-MNCH has been part of all advocacy initiatives to ensure that the bill is passed into law. Despite the non-passage of the bill, elements such as the SPHCB and the PHC fund are part and parcel of PRRINN-MNCH supported initiatives such as 'Bringing PHC under one roof' and the pooled/basket funds.

Aim for universal coverage that follows the principles of 'proportional universalism' (effectively targeting resources to cover the key gaps per segment of the population) and that has a strong results focus per disease. This will propel Nigeria to achieve the MDGs.

PRRINN-MNCH has shown significant increases in coverage and use of MNCH services. This has translated into reduced mortality indicators. The clustering of child deaths identified by PRRINN-MNCH in Northern Nigeria has helped focus services and support mechanisms on those groups that are most in need.

Accelerate efforts under 'Saving 1 Million Lives' to reach the 2015 targets for reducing preventable deaths.

The broad-based health systems strengthening approach adopted by PRRINN-MNCH has led to significant decreases in infant and under-five mortality rates and this has been converted into lives saved.

State level:

Reform the management of primary health care by introducing **primary health care boards** that are independently managed to enable a pooling of budgets between state and LGA level, and more transparent allocation of resources.

PRRINN-MNCH has been leading the 'Bringing PHC under one roof' initiative.

Once these structures and systems are consolidated, it will be feasible to move away from parallel health programmes and towards a **sector-wide approach** for health.

PRRINN-MNCH initiated the SWAp process in Jigawa.

Properly resource and manage exemption schemes targeting the poor and vulnerable.

Ensure that they are costed, budgeted for and the funds released. If these schemes are not run effectively they often compound the problem, leading to stock-outs and low quality delivery.

PRRINN-MNCH's work on implementing SDSS has targeted this area. The programme's focus on the minimum service package was a response to the call for free MNCH. PRRINN-MNCH has also given priority to the establishment of community response systems that address the lack of affordability of MNCH services. This includes the establishment of community savings schemes; keeping the cost of emergency transport low through the community emergency transport schemes; and establishing community blood donor groups, which remove the need to purchase blood.

9. Knowledge management – materials developed

Northern Nigeria Maternal, Newborn and Child Health Programme: Selected Analyses from Population-Based Baseline Survey

Feb-11

Henry V. Doctor, Radheshyam Bairagi, Sally E Findley, Stephane Helleringer and Tukur Dahiru
The Open Demography Journal, 2011, Vol 4, Pg11-21

Estimating Maternal Mortality Level in Rural Northern Nigeria by the Sisterhood Method

Aug-12

Henry V Doctor, Sally E Findley and Godwin Y Afenyadu
International Journal of Population Research, Volume 2012, Article ID 464657, 5 pages
www.hindawi.com/journals/ijpr/2012/464657

Maternal mortality in Northern Nigeria: Findings of a Health and Demographic surveillance system in Zamfara State, Nigeria

Apr-12

Henry V Doctor, Alabi Olatunji, Sally E Findley, Godwin Y Afenyadu, Ahmad Abdulwahab and Abdulazeez Jumare
Published online on 27 April 2012 Tropical Doctor: DOI 10.1258/td.2012.120062

Variations in Under-Five Mortality Estimates in Nigeria: Explanations and Implications for Program Monitoring and Evaluation

Sep-12

Henry V Doctor
Maternal and Child Health Journal: DOI 10.1007/s10995-012-1161-1
Published online on 17 October 2012

Making Pictures Speak Louder than Voice: Efforts To Improve Child Survival Through 'Majigi' In Jigawa State, Nigeria

Sep-11

Yusuf Yusufari, Henry V Doctor, Salisu A Koki, Isa M Surajo
International Journal of Health Research, September 2011; Vol 4 (No. 3): P135-141.
<http://www.ijhr.org>

Utilization of Non-Skilled Birth Attendants in Northern Nigeria: A Rough Terrain to the Health-Related MDGs

Jun-10

Henry V Doctor and Tukur Dahiru
African Journal of Reproductive Health Jun 2010; 14(2): 37

Using community-based research to shape the design and delivery of Maternal Health Services in Northern Nigeria

Jul-12

Henry V Doctor, Sally E Findley, Alastair Ager, Giorgio Cometto, Godwin Y Afenyadu, Fatima Adamu and Cathy Green
Reproductive Health Matters, 2012, Vol 20 No. 39. Pg 104–112.
www.rhm-elsevier.com

Evidence-based health programme planning in northern Nigeria: results from the Nahuiche health and demographic surveillance system pilot census

Feb-11

Henry V Doctor, Sally E Findley and Abdulazeez Jumare
Journal of Rural and Tropical Public Health 2011, VOL 10, p. 21–28

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Awareness of Critical Danger Signs of Pregnancy and Delivery, Preparations for Delivery, and Utilization of Skilled Birth Attendants in Nigeria

Feb-13

Henry V Doctor, Sally E Findley, Giorgio Commetto and Godwin Y Ayenyadu
Journal of Health Care for the Poor and Underserved 2013, Vol 24(1): 152-170

.....

Mobile clinic services to serve rural populations in Katsina State, Nigeria: perceptions of services and patterns of utilization

Jul-13

Grace Peters, Henry V Doctor, Godwin Y Afenyadu, Sally Findley and Alastair Ager
Health Policy and Planning, July 26 2013; p.1-8

.....

Performance Based Financing and Uptake of Maternal and Child Health services in Yobe state, Northern Nigeria

Jan-13

Garba M. Ashir, Henry V Doctor and Godwin Y Ayenyadu
Global Journal of Health Science; Vol 5, No 3; 2013 ISSN 1916-9736 E-ISSN 1916-9744
<http://dx.doi.org/10.5539/gjhs.v5n3p34>

.....

Female health workers at the doorstep: an implementation pilot of community-based, maternal newborn and child health service delivery in Jigawa, northern Nigeria.

Forthcoming

Charles A Uzundu, Henry V Doctor, Sally E Findley, Godwin Y Afenyadu and Alastair Ager

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Bridging the Communication Gap: Successes and Challenges of Mobile Phone Technology in a Health and Demographic Surveillance System in Northern Nigeria

Jan-13

Henry V Doctor, Alabi Olatunji and Abdulazeez Jumare
Online Journal of Public Health Informatics ISSN 1947-2579
<http://ojphi.org> Vol.4, No. 3, 2012

In addition, numerous conference presentations have been made – both in and outside Nigeria.

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The role of transport union in increasing rural women access to emergency maternal care in Northern Nigeria

Mar-13

Cathy Green, Fatima Adamu and Idris Abdulrahman
World Transport Policy and Practice, Vol. 19 No. 2 March 2013; p. 29-45

Glossary of acronyms used in this report

ACCESS	Access to Clinical and Community Maternal, Neonatal and Women's Health Services	EMC	Emergency Maternal Care
ANC	Antenatal Care	EmONC	Emergency Obstetric and Neonatal Care
BCG	Bacillus Calmette–Guérin	EPF	Employee Profile Form
BEmOC	Basic Emergency Obstetric Care	EmOC	Emergency Obstetric Care
BEOC	Basic Emergency Obstetric Care	ETS	Emergency Transport Scheme
CBO	Community-based Organisations	EU	European Union
CBSD	Community-based Service Delivery	FANC	Focussed ANC
CCT	Conditional Cash Transfers	FHC	Facility Health Committee
CE	Community Engagement	FIC	Fully Immunised Child
CEmOC	Comprehensive Emergency Obstetric Care	FIGO	International Federation of Gynaecology and Obstetrics
CEOC	Comprehensive Emergency Obstetric Care	FMoH	Federal Ministry of Health
CHEW	Community Health Extension Worker	FMS	Financial Management System
CHPS	Community-based Health Planning and Services	FP	Family Planning
CHV	Community Health Volunteer	GAVI	Global Alliance for Vaccines and Immunisation
CIDA	Canadian International Development Agency	GHSB	Gunduma Health Systems Board
CMAM	Community Management of Acute Malnutrition	HDSS	Health Demographic Surveillance Site
CMS	Central Medical Store	HERFON	Health Reform Foundation of Nigeria
CS	Caesarean Section	HF	Health Facility
CST	Conditional Social Transfer	HHS	Household Surveys
CV	Community Volunteer	Hib	Haemophilus Influenza Type b
DFID	Department for International Development	HISP	Health Information Systems Programme
DHIS	District Health Information System	HMIS	Health Management Information System
DHS	Demographic and Health Survey	HPI	Health Partners International
DOC	Drivers of Change	HR	Human Resource
DPT	Diphtheria, Pertussis and Tetanus	HRH	Human Resources for Health
DU	Dwelling Unit	HRIS	Human Resource Information System
		HTI	Health Training Institution

ICM	International Confederation of Midwives	NICS	National Immunisation Cluster Survey
INDEPTH	International Network for the Demographic Evaluation of Populations and their Health	NPHCDA	National PHC Development Agency
IMR	Infant Mortality Rate	NPC	National Planning Commission
IPDs	Immunisation Plus Days	NURTW	National Union of Road Transport Workers
ISS	Integrated Supportive Supervision	OPV	Oral Polio Vaccine
JAR	Joint Annual Review	OR	Operational Research
JCHEW	Junior CHEW	ORAC	Operational Research Advisory Committee
KAP	Knowledge, Attitude, Practice	PATHS	Partnership for Transforming Health Systems
KMC	Kangaroo Mother Care	PBF	Performance Based Funding
LBW	Low Birth Weight	PEI	Polio Eradication Initiative
LEC	Local Engagement Consultant	PFM	Public Finance Management
LGA	Local Government Area	PHC	Primary Health Care
LSS	Life Saving Skills	PHCUOR	PHC Under One Roof
M&E	Monitoring and Evaluation	PLAMAHS	Planning and Management of Assets in Health Services
MDA	Ministries, Departments and Agencies	PNC	Post Natal Care
MDG	Millennium Development Goal	PRRINN	Partnership for Reviving Routine Immunisation in Northern Nigeria
MDR	Maternal Death Review	QI	Quality Improvement
METS	Models for Emergency Transport Schemes	Q1	Quarter One
MI	Micronutrient Initiative	RBF	Results Based Financing
MICS	Multiple Indicator Cluster Survey	RED	Reach Every District
MMR	Maternal Mortality Ratio	REW	Reach Every Ward
MNCH	Maternal, Newborn and Child Health	RI	Routine Immunisation
MoRA	Ministry of Religious Affairs	RMNCH	Reproductive, Maternal, Neonatal and Child Health
MOU	Memorandum of Understanding	SBA	Skilled Birth Attendant
MRS	Monthly Return Sheets	SDSS	Sustainable Drug Supply System
MSP	Minimum Service Package	SIACC	State Interagency Co-ordinating Committee
MSS	Midwives Service Scheme	SMART	Specific, Measurable, Attainable, Relevant, Time-bound
NA	Not Applicable	SMoH	State Ministry of Health
NAS	National Academy of Sciences	SMoLG	State Ministry of Local Government
NCH	National Council of Health	SMWA	State Ministry of Women Affairs
NDHS	Nigerian Demographic and Health Survey	SPHCB	State PHC Board
NGO	Non-Governmental Organisation		
NHMIS	National HMIS		

SURE-P	Subsidy Re-investment and Empowerment Programme
SVD	Spontaneous Vaginal Delivery
SWAp	Sector-Wide Approach
TIMS	Training Information Management System
TSS	Technical Supportive Supervision
U5MR	Under-Five Mortality Rate
UAM	Universal Anaesthesia Machine
UHC	Universal Health Coverage
UKAID	United Kingdom Agency for International Development
UN	United Nations
UNFPA	United Nations Family Planning Association
UNICEF	United Nations Children's' Fund
VfM	Value for Money
W4H	Women for Health
WHO	World Health Organisation
YWSG	Young Women's Support Group

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PRRINN-MNCH worked with the federal, state and local governments, 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.

“The PRRINN-MNCH programme is the backbone of the success we recorded in the area of reducing maternal, neonatal and child mortality and morbidity.”

Dr. Emmanuel Abanida, Director Disease Control and EPI at the NPHCDA

www.prrinn-mnch.org

www.healthpartners-int.co.uk

www.save-the-children.org.uk

www.gridconsulting.net



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