



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

Knowledge summaries:
**Sharing
the lessons
learned in
Northern
Nigeria**



The writing of this set of Knowledge Summaries has drawn on the work of all the PRRINN-MNCH employees and consortium members, and the commitment and contribution of health workers and communities at LGA, state and federal levels. For this we are extremely grateful.

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Design by Atyeo Linklater. Photographs largely supplied by Okikiola Akinkugbe.

Contents:

Governance and systems

- Minimum service packages – 1 of 8
- Adopting a minimum service package approach – 2 of 8
- Leveraging extra resources – 3 of 8
- The Zamfara state basket fund – 4 of 8
- Strengthening the GAVI system – 5 of 8
- Sector-wide approaches to health provision – 6 of 8
- Creating better managers – 7 of 8
- Efficient transport management systems – 8 of 8

Health service delivery

- Using the cluster approach – 1 of 8
- Gap in uptake of antenatal care – 2 of 8
- Reintroducing kangaroo mother care – 3 of 8
- The midwives service scheme – 4 of 8
- Improving service quality – 5 of 8
- Technical and integrated supportive provision – 6 of 8
- Maternal death reviews – 7 of 8
- Improving routine immunisation – 8 of 8

Community engagement

- Community engagement to improve access to MNCH – 1 of 7
- Scaling up community engagement – 2 of 7
- Including women and children with least social support – 3 of 7
- Emergency transport schemes – 4 of 7
- Working with volunteers – 5 of 7
- Working with religious leaders – 6 of 7
- Young women's support groups – 7 of 7

Evidence for decision-making

- Improving data collection with DHIS2 – 1 of 6
- Maternal mortality estimates – 2 of 6
- Performance-based financing pilots – 3 of 6
- Using mobile phones – 4 of 6
- Women Investing Savings for Health – 5 of 6
- Using the TICK sheet – 6 of 6

Overview

This set of Knowledge Summaries highlights key achievements from the PRRINN-MNCH programme in Northern Nigeria under four streams of work: Governance and systems; Health service delivery; Community engagement and Evidence for decision-making. This is part of a package of materials including a Final Report and a set of Technical Briefs.

Covering a population of over 19 million, PRRINN-MNCH was an innovative DFID/Norwegian Government funded programme (2006-2014), established to address these health issues. The consortium managing PRRINN-MNCH consisted of three partners (Health Partners International as lead partner, with GRID Consulting Ltd and Save the Children) as well as several associates.

The programme combined health systems strengthening with routine immunisation and maternal, newborn and child health interventions, merging horizontal and vertical approaches simultaneously. PRRINN-MNCH aimed to revitalize Primary Health Care and improve the availability, quality and utilization of maternal, newborn and child health services, including ante-, peri- and post-natal care, emergency obstetric newborn care, essential care for newborns and infants, young child feeding and nutrition, and routine immunisation against preventable diseases.

PRRINN-MNCH assisted each state (Katsina, Zamfara, Jigawa, Yobe) to achieve significant improvements in health indicators, by supporting many federal, state and local government health systems strengthening and service delivery initiatives, in combination with community engagement efforts.

Independently verified evidence of significant programme impact includes dramatic reductions in the infant mortality rate, reduced from 90 to 56 per 1000 live births, while the under five year mortality rate was reduced from 160 to 90 per 1000 live births. There was a significant increase in fully immunised children coverage from 2.2% to 19.3% and births attended by skilled birth attendants increased from 11.2% to 26.8%.

Some communities in Katsina are now celebrating two years of no maternal mortality, results that can be directly attributed to the work of PRRINN-MNCH.

PRRINN-MNCH has consistently exceeded expectations and the programme 'made outstanding achievements in a very difficult environment'¹.

1. Duby, Fiona (August 2012) PRRINN-MNCH Annual Review 2011: DFID Report

Minimum service packages

institutionalising strategic service delivery planning

The challenge: MSP as a priority

The primary health care (PHC) system should provide universal access to a minimum service package (MSP). Federal policy documents describe MSP as “a priority set of health interventions which should be provided in PHC centres on a daily basis, at all times and at little or no cost to clients, through government financing mechanisms”.

However, the PHC system is fragmented and managed by multiple different entities. There is no overall service delivery planning framework and facilities are built and serviced according to political and community imperatives.

The development of the strategic service delivery planning tools was driven by two key issues:

- Government policies on MSPs
- The political imperative to provide free MNCH services at the point of delivery – many state governors across Nigeria have declared free MNCH services

Key messages: Planning for the delivery of MSPs needs to become standardised and routine to be most effective.

- 1** Government policy has identified the minimum service package (MSP) of healthcare as a priority.
- 2** Three tools were developed to cost each MSP: the costing tool, the HR planner tool and the service delivery planning tool.
- 3** These tools are now being used to make informed decisions about the provision of, and strategic planning for, healthcare.

The response: tools to cost each MSP

PRRINN-MNCH piloted strategic service delivery planning tools, based on an MSP costing model, with NPHCDA (National PHC Development Agency). The tools assist policy makers and health managers to create a ‘cut to fit’ PHC package of care they can afford. The three tools define the minimum service package, the types of facilities, the appropriate skills mix and staff models as well as the facility equipment, infrastructure requirements and sustainable drug supply needs for the different levels.

These are then costed and used to determine the gap analysis. This forms the basis for an adjustable service delivery plan and the gap can be used to drive an investment plan using resources from government and development partners.

Essentially, the service delivery planning tools allow planners, policy makers and managers to determine the range of health services that will be delivered within their jurisdiction and the resources needed to make this happen.

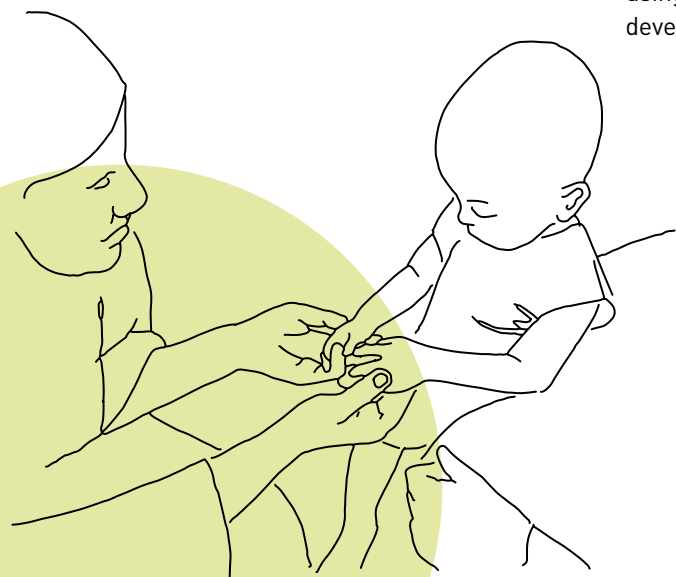
Three tools were developed:

- Costing tool
- HR planner tool
- Service delivery planning tool

Over three years, activities ensured that:

States were aware of the need to classify facilities according to federal guidelines, determine the services to be delivered and the resources (human, infrastructure/equipment, drug/commodity and financial) needed. A costing model tool and HR planner tool were developed to cost the MSP, allowing for different outcomes to satisfy local resources and political requirements.

The MSP tools were linked to service delivery planning via the service delivery planning tool.



The tools were used to identify

funding gaps so that states could approach funders for additional resources (eg GAVI, MDG Fund, SURE-P).¹

In the PRRINN-MNCH-supported states the focus has been on building a better understanding of the key processes of the MSP and strengthening the capacity of state governments to use the MSP tools. It's also been essential to build political understanding of the strategic service delivery planning tools to strengthen ownership and capacity at federal level to support the process.

Data on changes and results have been compiled for advocacy purposes and links have been built with development partners and UN agencies to strengthen understanding and use of the strategic service delivery planning tools. There have also been moves to consider strengthening private sector capacity to assist state governments in using the tools. Linking the clustering approach to the tools will to ensure a coordinated approach.

The results: MSP planning is working

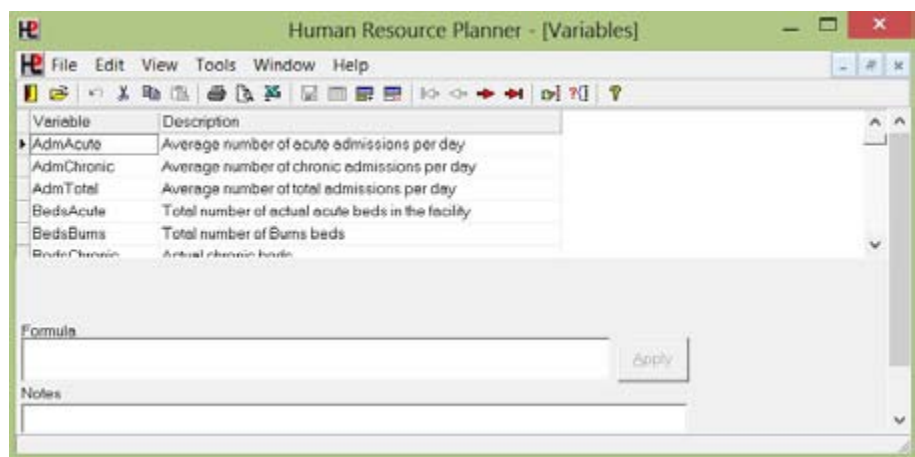
Over the last three years:

- Strategic service delivery planning tools have been piloted in two states (Zamfara and Yobe)
- Zamfara and Yobe have agreed the classification of facilities and the services and resources needed at different levels
- Manuals and tools have been shared with the NPHCDA, other states and development partners
- Some states have used the strategic service delivery planning tools to identify gaps and channel resources
- Two sets of workshops have been held with federal level structures and state-level structures to introduce the strategic service delivery planning tools

Fig 1: Examples of the tools

The costing model tool and HR planner tool provide an invaluable framework for calculating the cost of each MSP.

State	Yobe				
Date					
NPHCDA designation	General Hospital	Rural Hospital	Comp health centre	Primary Health Centre	Primary health clinic
State nurses Salary	General Hospital	Cottage Hospital	HA	Primary Health Centre	Health Clinic
Cost/visit/Population	350,000	100,000		20,000	2,000
Opening days per week	7	7	7	5	5
Beds	150	50	50	10	0
% of attendances admitted	20%	20%	10%	5%	2%
Average length of stay (days)	6	3	3	3	3
Specialist services available	6	3	3	3	3
Personal total from HR Planner (naira)	\$1,700,000	\$2,000,000	\$8,000,000	\$9,000,000	\$2,800,000
% 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%	5%	50%	100%
% of SOP registered per annum	20%	20%	5%	20%	20%
% of recurrent value for miscellaneous	10%	10%	5%	10%	10%
% Salary Allowance Factor	58%	58%	58%	58%	58%



Policy implications

Critical policy choices are sometimes made (eg free MNCH services) without fully realising the implications. The strategic service delivery planning tools allow for financial implications to be calculated so policy decisions can be informed by reliable data. In addition, the tools can model different scenarios and allow policy makers and administrators to more effectively manage the health service through realistic health service planning.

Conclusion

The interest shown by NPHCDA and states other than those supported by PRRINN-MNCH, highlights the need for the strategic service planning tools and the important use to which they can be put.

¹ GAVI – Global Alliance for Vaccines and Immunisation, MDG – Millennium Development Goal, SURE-P – Subsidy Re-investment and Empowerment Programme

Adopting a minimum service package approach

The challenge: new policy initiatives lack tools for implementation

The number and types of recent policy initiatives in the health sector in Nigeria, such as the new Health Bill, the National Health Insurance Scheme, and the Northern Governors' commitment to free maternal, neonatal and child health (MNCH) services all require a broad-based but simple strategy to ensure they can be implemented and provide access to basic health services. The ward minimum health care package (WMHCP) and the integrated maternal, newborn and child health (IMNCH) initiative were introduced by the federal government to provide this implementation strategy but with limited success.

The response: developing the MSP approach

The PRRINN-MNCH partner states undertook a process of defining the MSPs for the various types of health facility and to advocate for nation-wide adoption and implementation. In Zamfara, Yobe and Katsina activities included:

Key messages: Government-led initiatives to implement health strategies had met with limited success, requiring a new, simple, yet more effective approach - the minimum service package (MSP).

- 1 The MSP approach is needed to implement key health policies.
- 2 The set of tools developed allows states to tailor policies to their own context.
- 3 Both technical and political skills are needed for far-reaching policy initiatives.

- Helping the states define their MSPs
 - Helping the states define the staffing needs of facilities
 - Costing each state's MSP
 - Supporting states to define investment planning and rationalisation of facilities
- One outcome of this support to the three states was the development both of a process to assist states to design an MSP and the development of a number of computer tools to assist in this process, including estimating the cost of the state MSP.

The results

1. A system to identify the facilities that can cover each level of population has been developed by each state eg:

ZAMFARA	
Facility type	Population coverage
Health clinic	2,000 – 5,000
Primary HC centre	10,000-30,000
Rural hospital	Rural LGA 200,000 – 300,000
General hospital	Urban LGA 300,000 – 500,000

KATSINA	
Facility type	Population coverage
Health clinic	2,000 – 5,000
Primary HC centre	10,000-30,000
Comprehensive HC centre	Rural LGA 200,000 – 300,000
General hospital	Urban LGA 300,000 – 500,000



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2. Minimum health services are provided by each type of facility to ensure standards and enhance accountability. This is based on the National PHC Development Agency (NPHCDA) service intervention classification guidelines which include:

- Control of communicable diseases (malaria, STI/HIV/AIDS)
- Child survival
- Maternal and newborn care
- Nutrition
- Non-communicable diseases prevention

3. The list of resources required by each type of facility is documented: drugs, equipment, infrastructure, human resources and utility services.

4. Quantification and cost of all the resources required is based on workload estimates.

5. Estimation of resources available from government and partners.

6. A plan for rational distribution of facilities and services ensures equity and coverage.

Three tools were developed to i) assist states in costing MSP services for each facility type, ii) plan for human resource needs and iii) cost for planning and rationalisation of facilities. Overall these tools will assist in:

- Defining and estimating the cost of the staff establishment required to implement a state-defined MSP at each level of care
- Estimating the cost of MSPs – as the assumptions and deliverables can be altered, the model is a dynamic way to illustrate the costs of different packages
- Estimating the cost of providing a full, free MNCH package or of phasing in aspects of the full package
- Estimating the full costs of a service delivery plan that will allow state governments to identify funding gaps which could be used to source additional funds from internal funding mechanisms (eg MDG fund) or external development partner funding



The next steps will provide a solid platform to build full implementation of MSPs in each state:

1. Lobby for policy adoption of the system to match facility type to level of population

2. Build the technical capacity to use costing tools and generate evidence for rationalisation of facilities and budget allocation

3. Disseminate information on MSP and facility rationalisation to influence distribution of resources

Policy implications

Developing the MSP allows for the easy implementation of several key policies developed by the Federal Ministry of Health and other government structures. This includes key MNCH policies such as free MNCH services and the IMNCH policy initiative.

Conclusion

MSP implementation is both a policy and political issue as well as a technical health and economic issue. There is need for both broad stakeholder acceptance and technical competence to generate appropriate evidence to inform facility distribution, resource allocation and distribution as well as human resource rationalisation. However, all these issues require time.



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Leveraging extra resources

Broad and unified health programmes to improve healthcare delivery

The challenge: creating a unified structure

Many of the interventions and programmes used to tackle issues with healthcare delivery in Northern Nigeria are narrow in focus and limited in duration. In addition, the allocation of resources is often fragmented. This vertical programming and fragmentation rarely delivers the best results. In response to this, PRRINN-MNCH, which works in the four Northern Nigeria states of Jigawa, Katsina, Yobe and Zamfara, has adopted an alternative approach.

The underlying principle has been to create a unified structure that has allowed either PRRINN-MNCH or the state to leverage additional resources to more effectively deliver health care services.

The response: expanding the focus of the PRRINN programme

Initially, the PRRINN programme was a narrow immunisation programme to strengthen the primary health care (PHC) system. Several challenges faced the consortium managing the PRRINN programme. For example, in relation to the programme's governance and systems focus, a key initiative was to support planning. But, should the programme support a narrow

Key messages: Broadening the focus of health programmes and unifying their delivery is making improvements to healthcare.

- 1** The fragmented nature of healthcare delivery in Northern Nigeria often results in intermittent programmes that are narrow in focus and limited in duration.
- 2** State-wide health planning has led to improved leveraging of extra resources and means resources can be used more effectively.
- 3** The leveraging of extra resources and better use of them has led to health improvements in all four PRRINN-MNCH states.

immunisation planning process, a PHC planning process or a state-wide health planning process? What would the state stakeholders want?

A decision was taken early on in the programme to support a state-wide health planning process.

Similar dilemmas were faced with other system strengthening components eg HMIS (the online Health Management Information System), supervision, supply chain management, human resource management and community engagement to increase demand and accountability regarding MNCH services.

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 by the table (Fig 1).

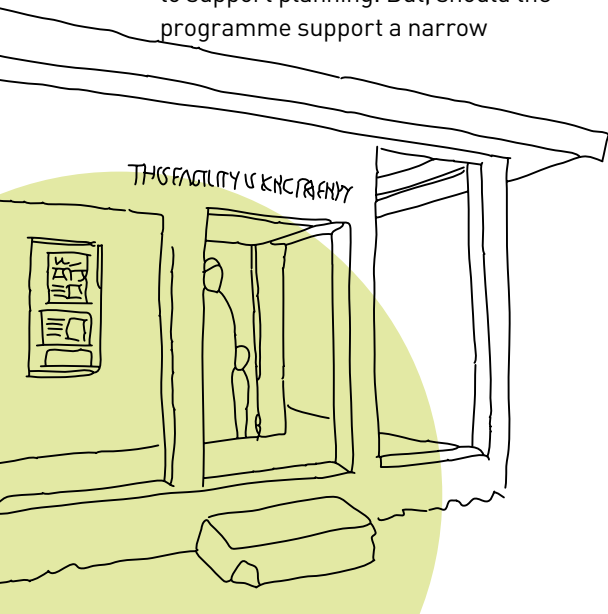
The table illustrates that the narrow focus on immunisation was not adequate to deal with the problems facing mothers and children in Northern Nigeria. To effectively challenge the poor immunisation coverage indicators, the approach needed to broaden to cover governance, voice and accountability, systems and community engagement issues.

Management decisions by the PRRINN programme to expand focus and adopt a whole health systems approach rather than a narrower immunisation, MNCH or primary healthcare (PHC) approach were often linked to increased funding.

The results: unifying resources

Health services in Nigeria are delivered by all three levels of government (federal, state and local government) which has led to a very fragmented healthcare delivery system. Resources (financial and human) are controlled by multiple different bodies or schemes, all with different rules and operating mechanisms. The following strategies have been used to address problems associated with this fragmentation:

- Implementing the policy of 'bringing PHC under one roof' to create a single management framework responsible for service delivery, finance and HR management
- Introducing a cluster approach to providing emergency obstetric and newborn care (EmONC). A cluster serves 500,000 people, with one comprehensive EmONC facility, four basic EmONC facilities and eight PHC facilities open all day, every day



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Fig 1: Funding for health programmes

A broader focus incorporating other elements besides immunisation was needed to address the problems facing mothers and children.

Programme	Funding	Duration	Comment
PRRINN	Approx £20m	2006-2012	Immunisation focus
MNCH	Approx £20m	2008-2013	Ext to include MNCH services
PRRINN	Approx £20m	to end 2013	Aligned with MNCH component
YWSG	Approx £4m	2012-2013	Community-based work with young women's groups
Micronutrient Initiative	Approx £2m	2012-2013	Funded by CIDA and focused on micronutrients

■ Creating pooled or basket funds that allow for all stakeholders (inclusive of state and local government and development partners) to contribute and oversee shared resources

■ Using a minimum service package (MSP) approach to develop and implement strategic service delivery planning (including HR strategic planning)

Adopting these strategies has allowed the states to access and retire federal level funds and ensure that HR programmes are aligned with the plans and functions of the integrated system.

More effective use of resources

Basket fund in Zamfara

To strengthen PHC delivery in Zamfara, a pooled fund (called the basket fund) was created with contributions from state, local government and development partners. The funds were used for supervision, vaccine distribution and outreach services, contributing to improved immunisation coverage. Similar systems have been introduced in Jigawa and Yobe and in Jigawa first steps have been taken towards introducing a SWAp (sector wide approach) mechanism.

GAVI and other funds

Many states did not have the mechanisms in place to effectively retire GAVI funds. Following PRRINN-MNCH support, performance in the states

has improved. Before 2009 none of the states had accessed more than one tranche. This approach has informed support to other funding mechanisms (eg SURE-P and the MDG funds)¹.

MSP informing strategic service delivery planning

The PHC system should provide universal access to a minimum service package (MSP). Federal policy documents provide for an MSP described as:

“A priority set of health interventions which should be provided in PHC centres on a daily basis, at all times and at little or no cost to clients, through government financing mechanisms.”

PRRINN-MNCH has piloted an MSP costing model with NPHCDA (the National PHC Development Agency). The MSP costing and planning model helps policy makers and health managers to decide on a 'cut to fit' size of PHC package of care they can afford, at each facility level. The model uses three tools to define the minimum service package:

- The types and levels of facilities
- An appropriate skills mix and types of staff required for various levels
- Facility equipment and infrastructure requirements and Sustainable Drug Supply System (SDSS) needs

These are then costed and used to analyse the gap. A service delivery plan can then be adjusted and the gap used to drive an investment plan

using resources from government and development partners.

For example, the creation of an integrated health system in Jigawa has allowed the development of strategic service delivery plans based on an MSP approach. Within each ward one facility has been identified for support and MDG funds have been used for maintenance and refurbishing of these facilities. In 2009, N377million was spent in this way and N609million in 2010.

Adopting the cluster approach

This has ensured that resources (human and financial) have remained focussed on key facilities. Rehabilitation of facilities and implementation of system strengthening initiatives (eg sustainable drug supply systems) have followed the selected cluster facilities. Federal initiatives like the midwives service scheme have adopted the cluster model and are aligned with the plans and functioning of the integrated health system.

Policy implications

Those who control resources – whether politicians or bureaucrats – often need to be convinced to part with them. The general approach has been to fragment the resource pools so that resources can be allocated to specific tasks and monitored in a vertical system. This way, results can be directly attributed to the specific intervention and resource pool. However, the reality does not often support this approach. Health systems are complex and the fragmentation of healthcare delivery, services and resources, often has detrimental effects.

Conclusion

Adopting an integrated approach to health systems, both by PRRINN-MNCH and the four states, has led to leveraging of extra, and better use of existing, resources for health care delivery. This has helped improve health indices in all four states.

¹ GAVI -- Global Alliance for Vaccines and Immunisation; MDG - Millennium Development Goals; SURE-P -- Subsidy Reinvestment and Empowerment Programme



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The Zamfara state basket fund

A transparent and efficient funding option to improve health services

The challenge: regular funds issue for healthcare

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 for children dropped to 42% in 2006, while in Zamfara state it fell to 11%. Absence of guaranteed funding to finance critical recurrent activities is consistently cited as a key challenge for PHC services, particularly routine immunisation in Zamfara.

The response: basket fund leads to increased immunisation

The Zamfara Basket Fund is an innovative pooled funding mechanism that provides predictable funds to finance crucial recurrent PHC activities with transparent disbursement and efficient use safeguards. The pilot phase (October 2009 to March 2010) was supported by PRRINN-MNCH to address three challenges:

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

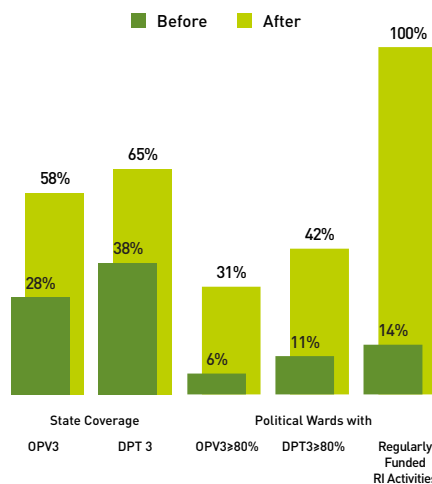
Key Messages: The basket fund is an effective way of financing healthcare initiatives in a sustainable way. This is particularly important for recurrent activities such as routine immunisation.

- 1** Children fully immunised coverage rate in Zamfara state had fallen to 11% – well below the national average.
- 2** The Zamfara basket fund with support from PRRINN-MNCH provided an innovative pooled funding system for recurrent primary health care.
- 3** Child immunisation greatly increased and the system is now state policy in Zamfara. Yobe state is also considering its own basket fund.

The results:

Fig 1: Routine immunisation indicators before and after pilot phase

All indicators had improved by the end of the pilot phase.



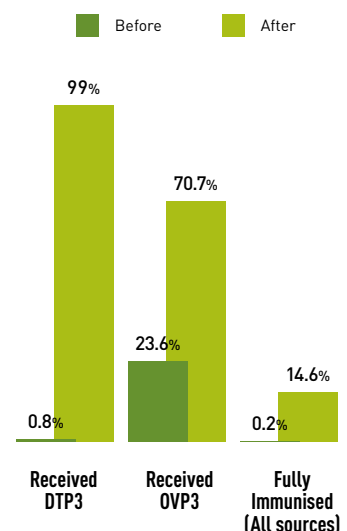
Surveys before and after the pilot phase of the basket fund showed significant increases in many immunisation indicators.

The success of the immunisation services in Zamfara was also corroborated by the results of national and household surveys. The 2010 NICS survey (see The challenge) showed that the fully immunised coverage rate has

improved from about 11% in 2006 to 61% in 2010; and the household surveys (HHS) showed similar improvements.

Fig 2: Zamfara – Percentage of 1 year old children immunised

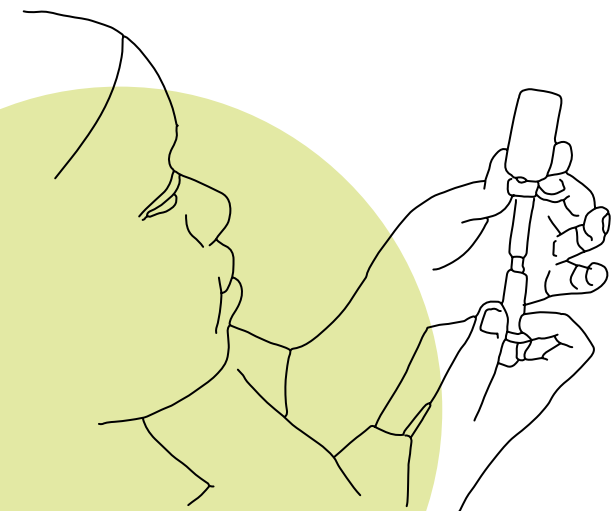
Comparison of baseline and endline household surveys (HHS)



All indicators had improved by the end of the pilot phase.

Regular funding from the basket fund led to huge increases in immunised children.

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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 Nigerian government 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.

As shown, most immunisation indicators have improved. The increases are attributable to the basket fund because:

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

recommended by the Reaching Every District (RED) strategy, known as the Reaching Every Ward (REW) strategy in Nigeria.

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

Administrative procedures/ checks and balances

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

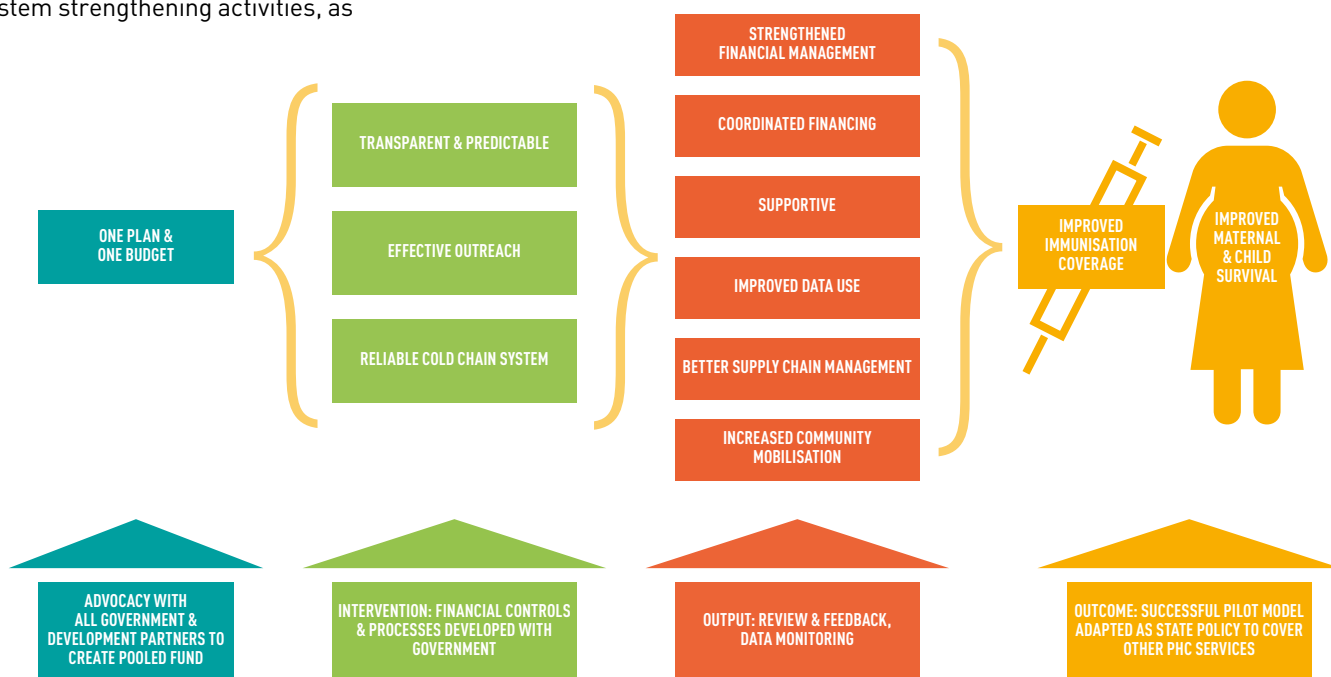
- Pooled account with three sets of signatories before funds can be released
- Individual LGA accounts with joint signatories maintained by each LGA
- Monthly fund disbursal from LGA finance clerks directly to beneficiaries
- Monthly fund retirement by finance clerks and endorsement by LGA chairmen/director of PHC and future funds are released subject to the retirement of previous funds

- Compliance monitored by the state technical team
- Fund disbursement and expenditure information publicly available

Conclusion: how the basket fund supports MNCH PHC services

The basket fund is now 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 (CMAM) and community engagement (CE) activities.

The basket fund has been recommended by an assessment team from WHO Geneva, the DFID mid-term 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.



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Strengthening the GAVI system

through sound financial management

The challenge: accessing the GAVI funds

Since 2001, GAVI has provided support to Nigeria for immunisation and the introduction of new vaccines. However, despite the urgent need for immunisation, the GAVI funds available were not being used fully because formal processes were not in place to release and retire the money correctly.

PRRINN-MNCH carried out an assessment in Jigawa, Katsina, Yobe and Zamfara which showed that all four states had accessed and used their first allocation of funding. However, because the states were unable to retire this first tranche of funds they could not release the next allocation.

The response: improving financial management systems

After the initial assessment, the PRRINN-MNCH team met with the senior management of the National Primary Health Care Development Agency (NPHCDA) to discuss the operations and management of GAVI funds. Between them they agreed that PRRINN-MNCH would work in the four project states to clarify the situation and put in place effective procedures for managing and retiring the GAVI funds. This included:

- A review of existing procedures with high-level management officials

Key messages: Training for accounts staff and new financial procedures have helped release Global Alliance for Vaccines and Immunisation (GAVI) funds for routine immunisation.

- 1 Lack of established financial procedures hampered access to GAVI funds for immunisation support frozen in bank accounts.
- 2 PRRINN-MNCH worked with accounts staff to develop the Financial Management Guidelines for GAVI funds which were then harmonised with existing accounting procedures.
- 3 Sound financial management and transparency are improving access to GAVI funds. The new procedures are leading directly to a rise in immunisation and therefore improved child and maternal survival rates.

- Visits to selected local government areas (LGAs) to review accounting books and records

- Clarification of the inflow and outflow of GAVI funds to date and reconciliation with bank statements

- Provision of support to retire outstanding releases to the NPHCDA

- Capacity-building of relevant accounts staff so that they were able to record and account for funds received at both state and LGA levels.

The results: increased funding and more immunisation

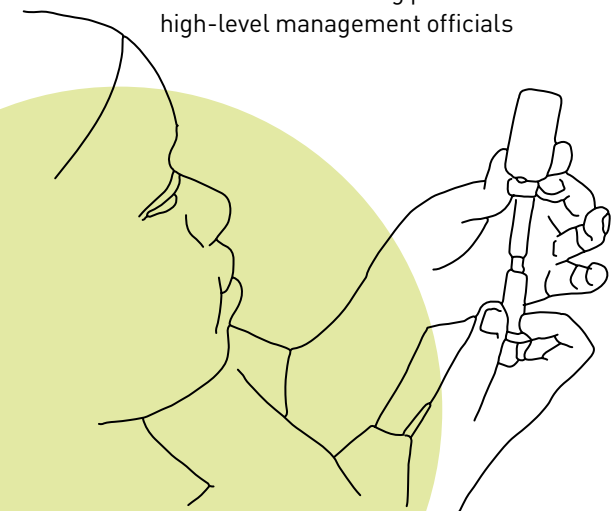
Initial scepticism was replaced with a recognition that improved transparency in fund management would ensure efficient use of and easier access to the GAVI fund.

Before 2009, none of the states had accessed more than one tranche of the funding. However, as Fig 1 shows, the disbursement of GAVI (ISS) funds to PRRINN-MNCH focal states between 2009 and 2012 increased significantly.

Fig 1: GAVI fund disbursement to programme states

	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	£107,332	£78,156	£136,041	£156,312
Total for the FCT and 36 States	£977,542	£1,004,459	£773,106	£936,868

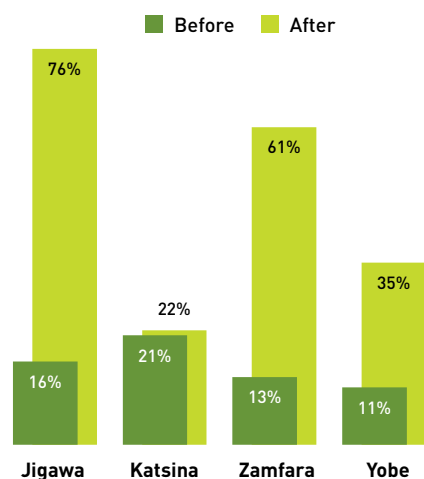
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In addition, the increasing fund disbursement has been one of the factors contributing to the rise in immunisation coverage in the programme states (Fig 2).

Fig 2: Immunisation of one year olds

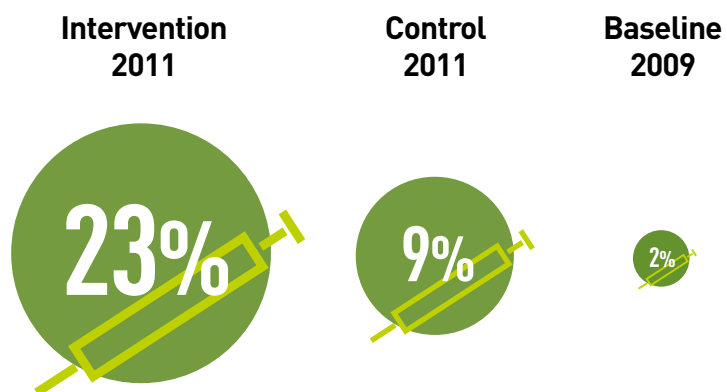
Source: 2006 and 2010 NICS Survey results



This data is supported by the PRRINN-MNCH household survey data (Fig 3) which showed significant increase in immunisation coverage, particularly in the intervention sites.

Fig 3: Percentage of one year olds fully immunized

Source: PRRINN-MNCH household survey



Policy implications

Guidelines: PRRINN-MNCH worked with the NPHCDA accounts staff to develop the Financial Management Guidelines for GAVI funds which were harmonised with existing internal accounting procedures.

The guidelines outline:

- The responsibilities of stakeholders
- Receipt and banking procedures
- Expenditure control and payment procedures
- Financial reporting
- Monitoring and evaluation.
- They also include financial recording tools and retirement documents.

Training: NPHCDA accounts staff in the PRRINN-MNCH states were trained on the use of the guidelines. A Training Guide for trainers was also developed, along with workshops for NPHCDA staff. In October and November 2012, two sets of training workshops were conducted for Accountants-in-Charge of GAVI fund and State Immunisation Officers (SIOs) in all the 36 states of the country.



Crucially, the NPHCDA is now considering further nationwide roll-out of the training on the use of the guidelines to the LGA accounts staff who are the ultimate managers of the funds.

Conclusion

This programme has shown that good financial management helps to improve access to routine immunisation by:

- Helping states access and reconcile GAVI funds
- Keeping funding transparent and ensuring the money is spent on planned activities
- Assuring fund providers that funds are safeguarded
- Increasing reliability and predictability of funding
- Ensuring sustainability of operational costs.

With a standardised and effective 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 funding to reach immunisation goals. Ultimately, this results in increased immunisation coverage and improved maternal and child survival.



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Sector-wide approaches to health provision

What is the SWAp?

The SWAp is not a funding instrument but a tried and tested approach for working partnerships between governments and development agencies to improve health systems. Countries such as Ghana, Zambia and Malawi have been using the SWAp approach for a number of years. These programmes took time to develop, but are now well-established and they have deepened the policy dialogue as well as leveraging additional funds. Procedures have been adapted to each country but all aim to achieve international best practice.

How does the SWAp work?

The SWAp operates at several levels, including:

The sector policy: The government takes responsibility for setting policies, priorities and standards which apply to all public activity in the sector, including those financed by development partners.

The sector expenditure programme: All significant funding for the sector supports a single-sector policy and expenditure programme which covers at least one year and is under government leadership, with the participation of key stakeholders.

Key messages: The sector-wide approach (SWAp) to health service provision can offer a variety of benefits to both governments and development partners.

- 1 The SWAp is not the same as budget support or budget pooling arrangements, such as 'basket' funding, it's a tried and tested approach for working partnerships between governments and development agencies to improve health services.
- 2 Jigawa state is in an ideal position to successfully implement the SWAp as it receives a high level of development support, and has an active reform agenda and workforce.

The sector partnership: Partners adopt common approaches across the sector and work towards relying on government procedures to disburse and account for all funds.

The monitoring and evaluation (M&E) plan: Partners agree common M&E procedures and indicators of success, and rely on government procedures to measure progress.

The SWAp is not the same as budget support or budget pooling arrangements, such as 'basket' funding. This distinction is important and can be a source of confusion. At various stages of a sector programme, appropriate forms of assistance may include technical assistance, an earmarked project, commodity support, pooling of funds and untied budget support. The intention is that as the SWAp evolves – and trust and confidence increase – development partners will gradually move towards providing a greater part, if not all, of their support as untied budgetary assistance.

How the SWAp develops

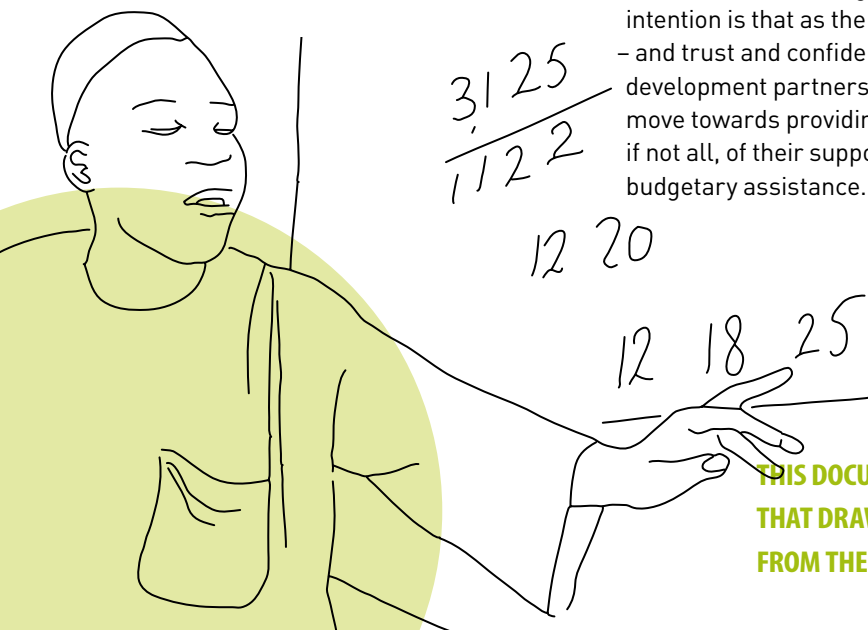
There are several typical stages involved in the development of a successful SWAp:

Analysis: The government must have a clear vision of its role in the sector and a will to make choices to fund priority programmes. Critical issues may need to be resolved at a senior political level.

Options: The government establishes the policy direction and priorities based on broad consultation in preparation of their programme. Non-governmental organisations (NGOs) and the private sector must be included in this process.

Dialogue: Dialogue must be established between the government, development partners and other stakeholders at the national and sector level. All development partners take a longer term view of development of the sector.

Monitoring and evaluation: Key indicators of sector performance need to be defined. They should not necessarily be conditional but should help measure progress.



Strategy: The strategy is formulated, costed and linked to realistic resources. Annual budget plans are also created.

Implementation: Institution building is a key component of implementation.

Procedures: Procedures are agreed for discussing new policy and programme developments and dealing with disagreements. Progress, using common procedures, is sequenced:

- Capacity and confidence-building, beginning with joint assessments and reviews
- Common financial and procurement practices, which require a period of review followed by capacity and confidence-building
- A formal memorandum of understanding/code of conduct/aide mémoire, to reach consensus and set out management and implementation arrangements and the sources of finance

SWAp in Jigawa: progress to date

Jigawa state has begun to put the SWAp 'building blocks' in place, although there are still challenges to be addressed.

Effective leadership and institutional capacity: The state has demonstrated great commitment to the reform of the health sector and has a clear and relevant public policy goal. However, the private sector and civil society organisations have yet to be fully engaged and government control of development partner resources is limited.

Sector policy, strategy and plan:

There is increasing government ownership of policy formulation, strategy development and planning. However, these strategies have not been widely disseminated so most stakeholders are unaware of them and do not use them.

Sector expenditure framework:

The state health sector has taken steps to improve the budgeting process, and budgetary allocation and spending reflect the priorities of the health sector. Despite an increase in donor support in the health sector, the funding remains fragmented and is not properly integrated into the state budgeting process.

In general, there is much enthusiasm from government officials, development partners and civil society organisations (CSOs) on SWAp implementation. However, there are concerns about poor donor coordination and the challenges in the leadership and stewardship role of the State Ministry of Health (SMoH).

Benefits and difficulties

There are many benefits for both government and partners from the creation of a SWAp for health service provision.

The benefits for government

- All resources support the government strategy
- Government-defined expenditure programme and agreed consultation procedures reduce the costs of dealing with development partners
- Builds capacity without duplication
- Can increase donor commitments, on a longer term and in a less constrained form

The difficulties

- Obligation to consult
- High negotiation costs and uncertain returns
- Development partners may be slow to adapt (eg adopt common procedures)
- Risk of a loss of momentum if preparation is prolonged with slump in project commitments

The benefits for development partners

- Ensures a supportive policy environment so that aid programmes have sustained benefits
- Have an influence on policy across the whole sector
- Accountability is increased and wastage reduced

The difficulties

- Reduced visibility
- Risk of association with decisions they disapprove of
- Less scope to manage and control projects
- Need to compromise on idea of best practice
- Need to change procedures and relax control on use of donor funds

Policy implications

To create a successful SWAp in Jigawa, the following elements are all necessary:

Commitment to provide technical skills, time and other resources using the existing communication channels and networks to raise awareness among development partners, government and non-government stakeholders to build consensus on SWAp in Jigawa

A conducive operating environment for effective collaboration between partners and government created by reviving the existing mechanisms (including the health sector committee)

Support for the ongoing efforts to improve performance monitoring of the health sector in Jigawa.

Support for activities that will improve the alignment, harmonisation and use of government systems like the Gunduma pool account and a single HMIS.

Help to strengthen and reposition the SMoH so that it can provide effective leadership.



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Creating better managers

through structured training and mentoring

The challenge: addressing a lack of management capacity

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 Primary Health Care (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.

Key messages: A new training package to counter the lack of hands-on training and mentoring for mid-level health sector managers has delivered promising results.

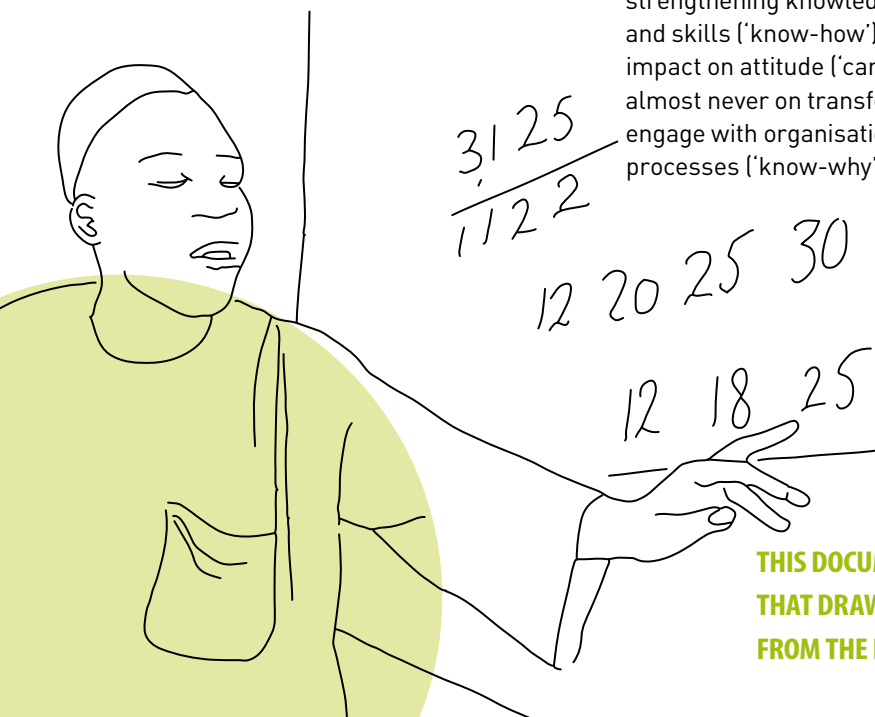
- 1** To counter Nigeria's lack of sufficient mid-level health sector managers, PRRINN-MNCH has developed a comprehensive training package using facilitators to improve the knowledge, skills and attitude of new managers.
- 2** Two modules per year are planned, with a clear structure including: sharing challenges; technical input on specific issues; work-based assignment development; team mentoring; project review.
- 3** The first training module made significant advances and will be used to further train sub-state managers in Jigawa state. Positive results in other African countries, including enhanced value for money and sustainability, imply success for this initiative in Nigeria too.

The response: a comprehensive training package

In a resource-scarce environment, 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').

Based on this philosophy, PRRINN-MNCH has created a structured training package for new managers. This package can be tailored to state-specific circumstances, adjusted according to the budget available and linked to a certificated programme through a tertiary institution, if needed.



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Facilitators: Eight facilitators have been selected from the four PRRINN-MNCH states (Jigawa, Katsina, Yobe and Zamfara) and nearby tertiary institutions and they 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.

Modules: Two 'modules' are planned per year – one in July and one in November. In 2012, the first year of the course, the July module was focused on leadership and governance of the new structures and the November module was on planning and monitoring.

All four states are involved and send six to eight people each - four to five from the new PHC Boards, the relevant director from the State Ministries of Health and some PRRINN-MNCH managers from the state. The presence of 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 on developing an assignment/project that can benefit their work context. The teams then return to work on their assignment

- Facilitators mentor the teams during the implementation of the assignment
- These assignments are then discussed during the next module.

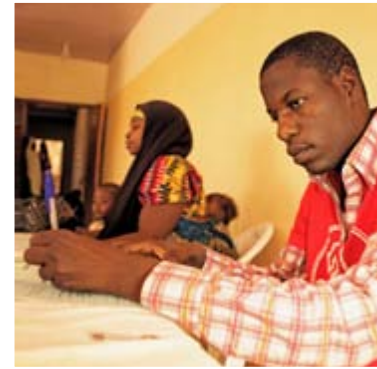
The results: scaling up and rolling out

The capacity-building programme began in 2012 and two modules have been held to date. Senior managers from the four states attended the modules and each team embarked on their assignments between modules, supported by the mentoring system.

Issues addressed by the different state management boards include:

- Reviewing and strengthening the referral system in Jigawa - the Gunduma Councils now manage the emergency services and have been supplied with the necessary resources for the emergency ambulance referral system
- 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.

Although it is primarily focused on managers in the new PHC Boards, the programme has been adapted for use by the Women for Health programme and is being used to build the capacity of managers in training institutions (Schools of Nursing and



Schools of Health Technology). In 2013, the programme will be used to train managers at sub-state management levels (Gunduma Council level) in Jigawa state.

Policy implications

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 realised, management capacity-building is crucial. The capacity-building programme will enhance value for money and ensure sustainability of the changes.

Conclusion

Although the capacity-building programme is in its infancy, the model has been used successfully in other African countries and initial feedback and observations suggest that it will be equally successful in Nigeria.



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Efficient transport management

systems to improve health delivery

The challenge: achieving effective transport management

There is significant concern for the high levels of illness and death among mothers and children in Northern Nigeria, where the rates of maternal, newborn and child mortality are some of the highest in the world.

Delays in the transfer of maternal cases from communities to health facilities often result in women losing their lives during childbirth. The long distances to health facilities, high cost of using commercial transport in the event of an obstetric emergency and the lack of available transport at night are all factors that contribute to a high risk of death during pregnancy in Nigeria.

Non-delivery of healthcare and other basic services is often attributed to a lack of available transport. However, when more vehicles are provided, increases in service delivery often fail to materialise because the systems that underpin their operation are absent. Effective management of existing vehicles can often improve service delivery and make investment in new vehicles go further in the future.

Key messages: An efficient transport management system (TMS) is vital for providing prompt access to maternal health services, making vaccines more readily available and improving immunisation coverage.

- 1** Women in labour need to be able to reach health facilities promptly, and child vaccinations need to be available when they get there.
- 2** To get vaccinations to health facilities there needs to be an efficient transport system to deliver them.
- 3** There are a number of challenges to TMS that need to be addressed and recommendations to be considered.

The cold chain and related transportation is vital for making vaccines more readily available and improving immunisation coverage. Furthermore, maternal referral requires the presence of a well-managed ambulance system. Therefore, a successful TMS is crucial to achieving the aims of the PRRINN-MNCH project.

The response: targeted training and system management

Across all four states a core series of activities focused on TMS strengthening included:

- Training state transport managers in TMS
- Training LGA transport officers in TMS
- Development of TMS policy and plans and follow-up implementation
- Introduction of logbooks for managing vehicle usage
- Training of PRRINN-MNCH senior programme officers (supply side)
- Monitoring and supervisory visits

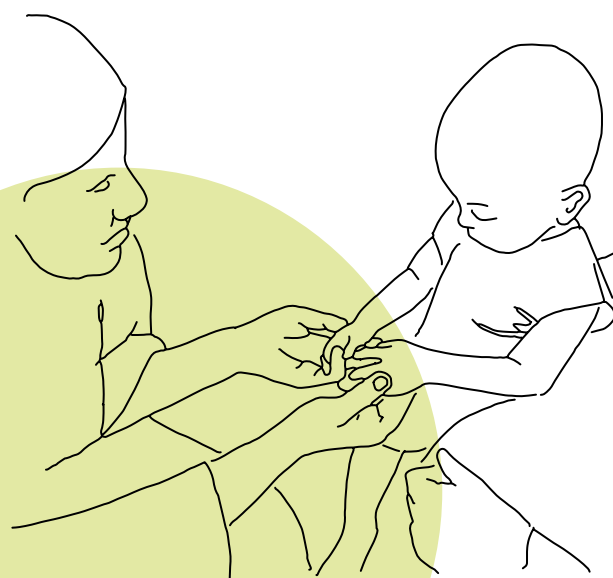
Peripheral activities also included:

- Training of ambulance drivers
- Introduction of the motorcycle revolving fund and training of ward focal persons on the use and maintenance of motorcycles in Jigawa state

A team of TMS experts focused on logistics and the improvement of the cold chain necessary for the safe transportation of vaccines, as well as the movement of health personnel. This began with an assessment of the condition of transport available in each state. This then led to the development of operational guidelines for scheduling, maintenance, and overall management of transport prior to training with the appropriate staff. With this in place, the experts worked with all stakeholders to find solutions to any shortfalls in transport to meet the demands of the state.

The results: quantifying tangible health outcomes

All four of the target states now have approved transport guidelines detailing policies on use, maintenance, scheduling etc. Key performance indicators (KPIs) have been developed



and a transport performance management tool collated, while quality of data collation and KPI reporting from the LGAs has improved.

Capacity building measures now include:

- Transport management training for transport officers, transport managers and programme supply officers as well as training for 98 drivers

- The scale up of the motorcycle TMS with a link for monitoring vaccine logistics through the cold chain officers and ward focal persons. Here TMS training took place in seven Gunduma councils involving over 200 cold chain officers, immunisation and service delivery staff

- Capacity to develop and implement TMS plans as well as transport guidelines, training of trainers, etc

- The Jigawa RI motorcycle scheme has led to increased immunisation coverage and the economic life of the motorcycles has been prolonged. Improvements in TMS KPIs also suggest that fleets are being operated more effectively which should have an impact on increasing referrals, larger numbers of commodities distributed and more monitoring and supervisory services

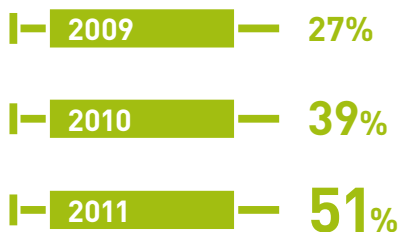
- Planned preventative maintenance (PPM) strategies

This TMS was especially successful in Jigawa where the activities were linked to a revolving fund loan and training scheme for motorcycle riders. Feedback from a range of stakeholders in Jigawa during the qualitative interviews was extremely positive:

“It is a very important initiative. It addresses the maintenance culture, reduces costs, improves service delivery and also reduces delays in transporting pregnant mothers to health facilities.” – Supply-side programme officer, Jigawa

A review of the Jigawa RI scheme in 2011 reported that ‘95% of all the motorcycles distributed since 2009 are still functioning very well. Immunisation coverage (fully immunised children) in the five councils has changed progressively from 27% in 2009 to 39% in 2010 and 51% in 2011’ (Fig 1).

Fig 1: Three-year RI coverage in five Gunduma councils (2009-2011)



However, there have also been a number of challenges to implementation across all states:

- A lack of sustainable funding for transport means maintenance is still a problem
- The lack of an M&E framework at the outset has made it difficult to quantify tangible health outcomes from the TMS activities
- A lack of budget for practical day-to-day TMS activities
- The small fleet means that it’s difficult to demonstrate the tangible benefits that a functioning TMS is proven to have

Conclusion

Challenges during the implementation of the TMS include:

- A lack of adequate, sustainable funding for vehicle running and transport maintenance costs within the State Ministry of Health (SMoH)
- Producing ideal fleet models and subsequent vehicle procurement plans for each state

- Many health workers are still paying for their own transport and there’s a lack of vehicle pooling, which leads to staff leaving

- Proving a demonstrable link between the TMS activities and health outcomes

A review of the TMS highlighted these recommendations:

- Continuing with refresher TMS and driver training as well as M&E activities

- Scaling up the Jigawa RI motorcycle initiative to other states

- Releasing the funds that were banked for replacement motorcycles

- Any future TMS programme should establish mechanisms from the outset to track and consolidate simple transport KPIs and explore the feasibility of embedding health outcome indicators that can be practically measured from the outset

Overall, the TMS clearly added value to the PRRINN-MNCH programme and has the potential to add even more as some of the processes become embedded and these need to be monitored more carefully. The Executive Chairman of the Katsina State Primary Health Care Development Agency (KSPHCDA) said:

“Two years after the training, I have seen so much difference in the drivers’ performance... safety, maintenance and first aid management of patients have become the norm for most of the 30 trained drivers. KSPHCDA appreciates the good work of PRRINN-MNCH; we need to do more.”

Therefore, despite the challenges, the TMS is still recognised as a core component of health system strengthening and should be incorporated in any future projects.



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Using the cluster approach

to increase the availability of emergency obstetric care

The challenge: poor availability of EmOC

Most obstetric complications can't be predicted and occur suddenly and unexpectedly, so availability and prompt access to good quality emergency obstetric care (EmOC) is essential for all pregnant women. Providing skilled birth attendants (SBAs) able to prevent, detect and manage major obstetric complications, together with an enabling environment (equipment, drugs and other supplies as well as a back-up referral system), is probably the single most important factor in improving maternal and newborn health (MNH) outcomes.

Baseline surveys conducted by PRRINN-MNCH in Katsina, Yobe and Zamfara states in 2009 indicated a serious deficit in the availability of health facilities providing both comprehensive and basic EmOC relative to international standards.

Key messages: The cluster approach identifies areas of need and allows provision to be scaled up in a consistent manner.

- 1** The availability of emergency obstetric care (EmOC) according to international standards is woefully lacking in Northern Nigeria.
- 2** PRRINN-MNCH implemented a cluster approach in a phased manner to increase significantly the number of health facilities providing EmOC with skilled health workers.
- 3** Further expansion and consolidation should reap enormous benefits in health outcomes for pregnant women and newborns.

Fig 1: Baseline availability of comprehensive and basic EmOC in PRRINN-MNCH-supported states

State	Katsina	Yobe	Zamfara	Total
Recommended no of CEmOC	12	5	7	24
Facilities offering CEmOC	2	0	0	2
Recommended no of BEmOC	48	20	28	96
Facilities offering BEmOC	2	0	0	2

The response: more EmOC facilities

For minimum access to EmOC, UNICEF/WHO/UNFPA recommends for every 500,000 population, five facilities providing EmOC, with at least one providing comprehensive EmOC. Signal functions of EmOC are shown in the box on page 2.

If a facility performs each of the first seven signal functions, it qualifies as providing basic EmOC (BEmOC). If it provides all nine functions, it qualifies

as a comprehensive EmOC facility (CEmOC). EmOC facilities should be equally distributed for optimal coverage.

PRRINN-MNCH adapted the universally recommended cluster approach to include primary health care (PHC) services providing EmOC services 24 hours a day, seven days a week.

PRRINN-MNCH selected one CEmOC cluster in each state initially to phase in programme activities and gradually expanded to a total of 19 clusters across the three states.



Fig 2: Expanded access to emergency obstetric care 2009-13

All indicators showed significant improvements in the provision of EmOC

Indicators	Baseline	Target	Progress
Facilities providing CEmOC	2	18	19
PHC and BEmOC facilities providing 24/7 deliveries by trained staff	NA	144	167
Maternal complications transferred to facility via ETS	0	9,195	19,811
Caesarian sections	NA	4,650	12,487



Essential obstetric care signal functions are:

- 1 – Administration of parenteral antibiotics
- 2 – Administration of parenteral oxytocic drugs
- 3 – Administration of parenteral anticonvulsants for treatment of eclampsia and severe pre-eclampsia
- 4 – Performance of manual removal of placenta
- 5 – Performance of removal of retained products (eg vacuum aspiration)
- 6 – Performance of assisted vaginal delivery (eg vacuum extraction)
- 7 – Newborn resuscitation with mask and bag (Ambu bag)
- 8 – Performance of obstetric surgery (caesarean section)
- 9 – Performance of blood transfusion

The results: significant improvements in EmOC

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

- Training of health staff in EmOC and routine immunisation (RI) had reached all 19 clusters and all targeted health facilities
- Community engagement activities had begun in all 19 clusters
- Provision of equipment had reached ten clusters with plans to reach the other nine by end December 2013

- Refurbishment of infrastructure was completed in 12 clusters with plans to complete the other seven by early 2014
- Establishment of a sustainable drug supply system (SDSS) had covered 12 clusters with the other seven to be completed by end December 2013
- For all indicators the programme surpassed the cumulative targets – in many cases substantially

Policy implications

The PRRINN-MNCH supported clusters cover the whole state in Yobe and Zamfara but only half of Katsina because of the large population – continuing the roll-out will have a significant impact on MNH outcomes in the near future.

Linking the cluster approach to a minimum service package has ensured an integrated and cohesive strategy that can be expanded to other states.

Conclusion

The cluster approach has assisted in step-wise scaling up of programme activities to new areas and keeps project activities focused, integrated and coordinated. If adopted by stakeholders at state and local government level, new health facilities could be sited where they're needed most and all health service and system support mechanisms could be more appropriately targeted and phased in.



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Gap in uptake of antenatal care and skilled attendance at birth

The challenge: little ANC and very few SBAs at birth

Increasing the number of births assisted by SBAs is an important factor in reducing maternal deaths as most deaths occur around the time of delivery. ANC provides the opportunity to make initial contact with health workers, detect and manage problems in pregnancy and promote a safe birth¹. In sub-Saharan Africa, women with four ANC visits are over seven times more likely than those with no antenatal care to deliver at a health facility².

In Nigeria, use of ANC by pregnant women is 61% on average: however, women in North-Western Nigeria have the lowest ANC attendance in the country at 41% (Fig 1). The figures for skilled attendance at delivery are significantly lower, at 38% on average and a mere 12% for the North West zone³.

1. Abou-Zahr CL, Wardlaw TM: Antenatal care in developing countries: promises, achievements, and missed opportunities: an analysis of trends, levels and differentials, 1990-2001 Geneva: WHO; 2003.

2. Guliani H, Sepehri A, Serieux J: What impact does contact with the prenatal care system have on women's use of facility delivery? Evidence from low-income countries. *Soc Sci Med* 2012, 74(12):1882-1890.

3. National Population Commission (NPC) [Nigeria] and ICF Macro: Nigeria Demographic and Health Survey 2013, Preliminary Results. Abuja, Nigeria: National Population Commission and ICF Macro. 2013

Key messages: Targeted strategies are helping to improve the gap between receiving antenatal care and the presence of a skilled birth attendant at birth.

- 1 Antenatal care provides an important opportunity to encourage a safe delivery with a skilled birth attendant, but in Northern Nigeria, only 41% of pregnant women have any ANC and as few as 12% deliver with the assistance of an SBA.
- 2 Despite PRRINN-MNCH's achievement in increasing both ANC and deliveries with SBAs, the gap between ANC and delivery with an SBA is only narrowing very slowly.
- 3 Targeted strategies to address the key barriers to SBA use at delivery can help to accelerate progress.

The response: improve ANC and boost SBAs in rural areas

To increase the low use of skilled maternal health care, the government of Nigeria launched two important initiatives:

The Focused Antenatal Care (FANC) model promoted by the World Health Organisation (WHO), to improve the quality of ANC and promote goal-oriented and women-centred care by skilled providers.

The Midwifery Service Scheme (MSS) to address the SBA shortage in rural areas.

Since 2008, PRRINN-MNCH has supported the government's efforts in four northern Nigerian states: Jigawa, Katsina, Yobe and Zamfara. PRRINN-MNCH developed an integrated training manual on FANC, Postnatal care (PNC) and Family Planning (FP) in 2011 and conducted capacity building activities on emergency obstetric care and interpersonal communication, as well

as counselling training for SBAs. Job aids, protocols and guidelines on ANC and delivery care were also developed for all supported facilities.

The results: still not enough deliveries by SBAs

The support for SBAs resulted in a significant increase in ANC and deliveries conducted by SBAs in all targeted facilities, although delivery rates remain much lower than ANC rates (Fig 2).

Reducing the gap

Baseline and endline household surveys by PRRINN-MCNH confirm the increasing trend of ANC and deliveries by an SBA, and show early indications that the gap between them is narrowing. In Yobe and Zamfara states, only about one third of women who had ANC also had a delivery assisted by an SBA at baseline, whereas at endline, almost half did so in Yobe and well over half in Zamfara.



Fig 1: Use of ANC and SBA by region

The most pronounced gap between overall ANC and attendance by SBAs is in Northern Nigeria.

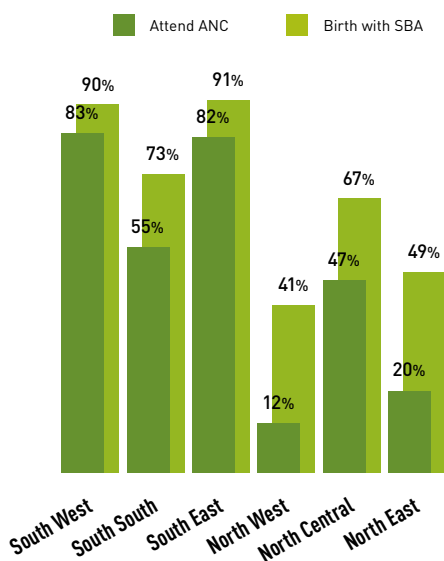
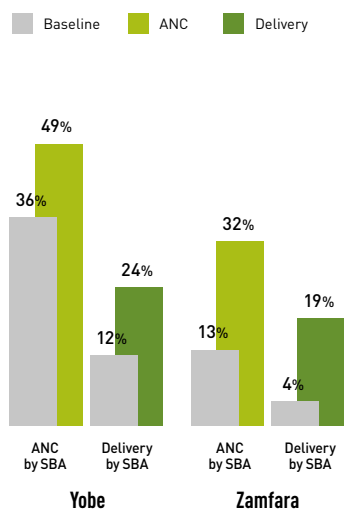


Fig 3: ANC and delivery conducted by SBA

The gap between ANC and SBA attendance at birth has narrowed, but only slightly.



Policy implications

- Continue improving the quality of ANC to encourage more deliveries with SBAs
- Complement quality of care improvements with initiatives to improve the availability of equipment and drugs
- Consider alternative health financing measures to attract clients to health facilities and cut their costs
- Increase involvement of men and obtain their support for SBAs

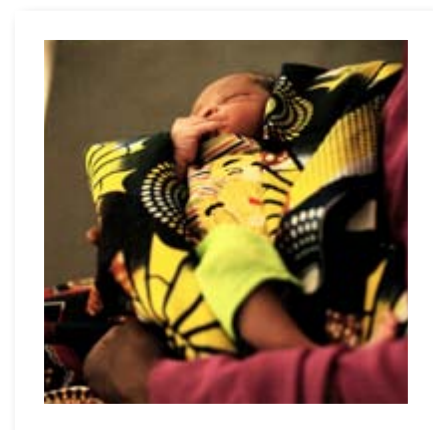
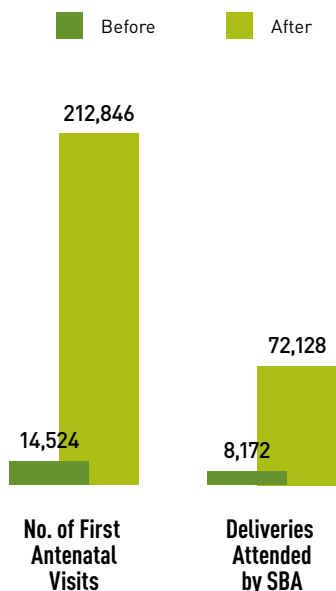


Fig 2: Increasing access to MNCH services in PRRINN-MNCH targeted states

ANC and attendance at birth by SBAs have both increased significantly.



Factors affecting SBA use

The following factors were found to be important in influencing SBA use:

Barriers:

- Not enough skilled birth attendants
- Lack of equipment and supplies
- Poverty

Enablers:

- Availability of staff
- Husband's approval
- Affordable service

Conclusion

Improving delivery rates assisted by SBAs is particularly challenging and requires much more than simply enhancing the skills of healthcare providers. Nevertheless, there are many areas where health managers and providers can make a difference.

Women are more likely to use health facilities where there is wider availability of skilled personnel working in an enabling environment and with interventions to remove user fees.



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

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Reintroducing kangaroo mother care

The challenge: saving lives with KMC

An estimated 14%¹ of Nigerian newborns are low birth weight (LBW). These babies account for the majority of newborn deaths. Reaching all preterm babies in Nigeria with kangaroo mother care (KMC) alone by 2015 would save an estimated 19,000 lives².

Although there is no specific KMC policy, KMC is one of the key interventions for special care of low birth weight/preterm babies in Nigeria. KMC is included in the national integrated maternal newborn and child health (IMNCH) strategy, as well as the infant and young child feeding guidelines, the national child health policy, and key strategies for community integrated management of childhood illnesses (IMCI). KMC reduces the dependence on incubators, which is important in a context where few incubators exist and where there are regular power outages.

1. Unicef. State of the World's Children 2010. New York: Unicef

2. Science in Action; Saving the lives of Africa's mothers, newborns & children 2009

Key messages: Kangaroo mother care is an important factor in saving the lives of low birth weight babies.

- 1 Reaching all preterm babies in Nigeria with KMC by 2015 could save an estimated 19,000 lives.
- 2 National targets relating to KMC training have not quite been reached.
- 3 The stage is set to roll out KMC across Nigeria and is expected to result in a considerable reduction in neonatal morbidity and mortality.

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 16 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.

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

* Access to clinical and community maternal, neonatal and women's health services

The response: policies and training

PRRINN-MNCH has supported the following activities to strengthen KMC:

Collaboration with the Federal Ministry of Health (FMoH) for the revision of the KMC training package.

The national KMC training packages were reviewed, revised and adapted for use in Nigeria at the extraordinary core technical meeting on newborns organised by the FMoH in Kaduna in September 2010. Key outputs of this meeting were 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 LBW 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.



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Targeted CEmOC/BEmOC facilities with at least three health workers trained in KMC

	BASELINE	TARGET 2013	PROGRESS 2013
Facilities with three or more trained health workers	0	90	60
CEmOC facilities practising KMC	0	18	15
BEmOC facilities practising KMC	0	65	60

Data from Katsina – Jan to Sept 2013

	MALE	FEMALE	TOTAL
No of LBW babies admitted to KMC	88	70	158
<1000g	0	0	0
1000g - 1499g	3	4	7
1500g - 1999g	8	11	19
2000g - 2500g	77	55	132

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



Targets relating to the number of staff trained in KMC have not been reached. However, the target relating to the number of EMOc facilities practising KMC was almost achieved by September 2013.

Policy implications

The stage is now set for KMC to be rolled out across the country. This will have the effect of reducing neonatal morbidity and mortality, especially on low birth weight babies.



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The midwives service scheme

The challenge: ongoing shortage of SBAs

In 2010, an estimated 40,000 Nigerian women died from complications in pregnancy and childbirth. Although this represents a decline in maternal deaths compared with the situation in 1990, many of these deaths could be prevented if women were seen during antenatal care (ANC) and assisted by a skilled birth attendant (SBA) during delivery. However, in 2008 61% of births in Nigeria occurred without an SBA and in 2013 this was still 62%. Moreover, critical shortages of SBAs especially in remote rural areas and in the northern states remain an issue.

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 embargoes on health worker recruitment are common in some northern states); ineffective deployment; poor monitoring, supervision and regulation.

Key messages: The midwives service scheme helps to address the critical shortage of skilled birth attendants in Northern Nigeria.

- 1 Key federal level health policy initiatives need support from development partners.
- 2 This support needs to be early and sustained.
- 3 The MSS has played an important role in increasing the numbers of SBAs in Northern Nigeria and improving access to MNCH care.

The response: the midwives service scheme

The national midwives service scheme (MSS) 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.

The National PHC Development Agency (NPHCDA) initiated the MSS using resources from the Millennium Development Goal (MDG) fund. In each state four midwives were deployed to each of the selected PHC facilities to provide maternal and child health care services on a 24/7 basis.

A selection of four PHC facilities is clustered around the general hospital with 156 clusters nationwide. Six of these clusters are in the PRRINN-MNCH target states (Katsina, Yobe and Zamfara). The first midwives were posted in late 2009/early 2010. This

was followed by a second wave of both midwives and community health extension workers (CHEWs) in late 2010.

PRRINN-MNCH has supported the MSS by:

- Providing technical support to the NPHCDA and FMOH (Federal Ministry of Health) in the design, 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



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Increase in the number of SBAs in PRRINN-targeted facilities

INDICATOR	BASELINE	TARGET 2013	PROGRESS 2013
BEmOC offering 24/7 delivery by trained staff	N/a	72	77
CEmOC facilities with at least 6 (nurse) midwives	1	18	22
BEmOC facilities with at least 2 (nurse) midwives	3	65	63
PHC facilities with at least 1 midwife	0	72	49

Increased SBA access in Katsina, Yobe and Zamfara.

INDICATOR	BASELINE 2009	CUMULATIVE TARGET 2013	CUMULATIVE PROGRESS 2013
1st ANC visits	14,524	510,169	709,928
Deliveries attended by skilled birth attendants	8,172	382,629	297,349
Postnatal visits in targeted PHC facilities	2,488	81,101	103,736

The results: more SBAs in targeted health facilities

The MSS has been key to increasing the number of SBAs in targeted facilities. There are now more midwives in health facilities though PHC facilities show slightly less progress.

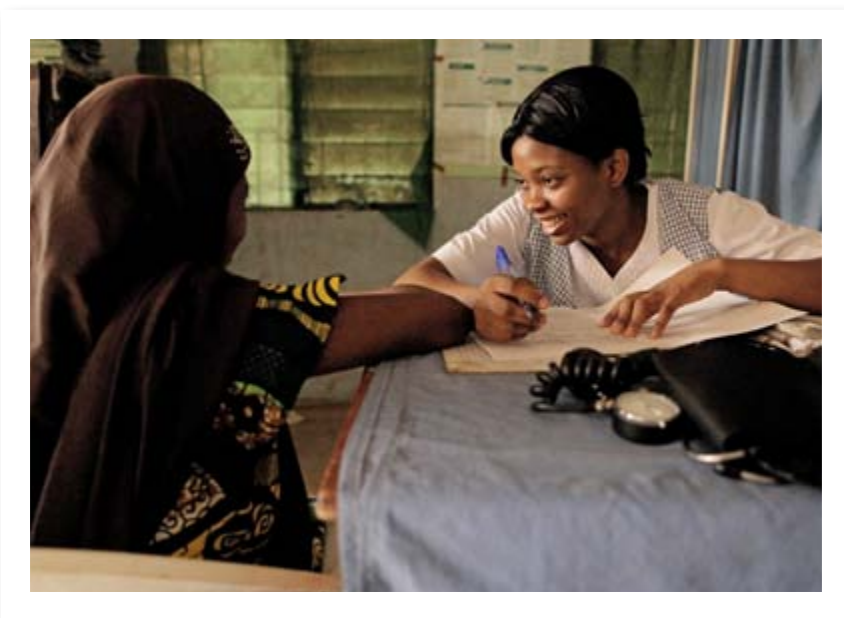
This has increased access to SBAs in the three PRRINN-MNCH-supported states (Katsina, Yobe and Zamfara).

Policy implications

PRRINN-MNCH has shown that value can be added to key federal-level policy initiatives. It is important to offer broad-based support to ensure that these policy initiatives are supported and strengthened. Such support needs to be offered from an early stage and throughout the life of the initiative.

Conclusions

Multiple mechanisms are necessary to address the shortage of SBAs in Northern Nigeria and the MSS is a creative response to the challenge. PRRINN-MNCH through its support has ensured that much of the proposed value in the MSS initiative has been realised.



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Improving service quality

through well-trained, 'on the ground' teams

The challenge: delivering better maternal, newborn and child health services

Nigeria has some of the highest rates of maternal, neonatal and child mortality in the world. These high mortality rates are also characterised by wide disparities between the north and the south, with consistently poorer indicators for maternal, newborn and child health (MNCH) in northern states.

Increasing the coverage of MNCH services is not enough to reduce maternal, neonatal and child mortality and morbidity. In order for such services to be truly effective in reducing mortality and morbidity, we must also ensure that they are of an acceptable standard and expected quality. This not only leads to better health outcomes, but it also results in improved clients' satisfaction, increased job satisfaction for health workers, increased utilisation of essential MNCH services and a reduction of delay in presentation at health facilities, which particularly affects treatment outcome of life-threatening complications.

During health facility baseline surveys, client satisfaction surveys, maternal and peri-natal death reviews and supportive supervision, it has been observed that MNCH services in the northern states are of poor quality, which adversely affects service utilisation and health outcomes. Increasingly, it is recognised that to address these failings and achieve the Millennium Development Goals related to MNCH, coverage and access to key interventions needs to be increased, but quality of care also needs to be improved.

What is quality of care?

Quality of care is a complex issue with many definitions, each capturing different aspects. Those which are emphasised depend on the perspective of the person looking at them.

Key messages: Facility-based quality improvement teams are raising standards for maternal, newborn and child health services, particularly in northern Nigeria.

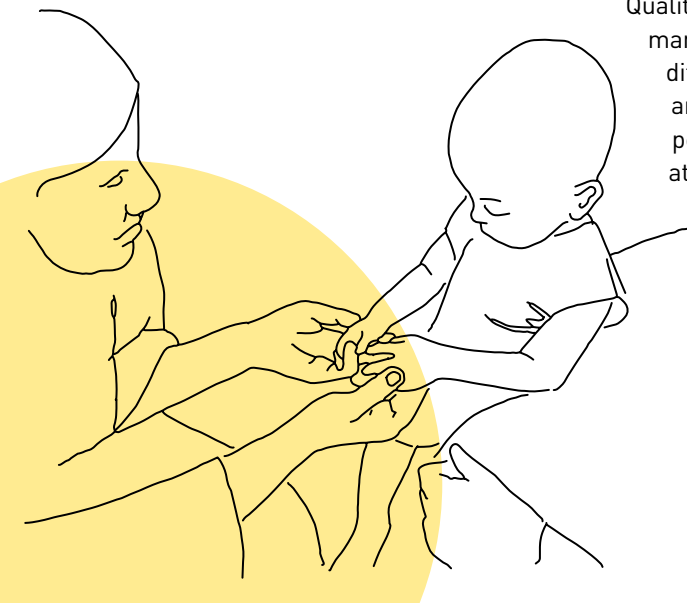
- 1 Improvements to quality of care can lead to better mortality rates, better utilisation rates, reduced delays in seeking care and improved morale among health workers.
- 2 PRRINN-MNCH has established quality improvement teams, identifying local solutions to quality of care issues and taking action to improve them, without the need for directives from the Ministry Of Health.
- 3 Basic but essential elements including health workers' attitude to patients, hygiene and staff punctuality are being improved through routine on-the-job training and mentoring but the initiative needs support at higher levels.

The main perspectives of quality of care in the health care setting are those of:

- Consumers (the patients, clients and the community at large)
- Health care providers
- Health planners, managers and coordinators.

The various dimensions of quality of care include:

- Effectiveness
- Technical competence
- Interpersonal communication
- Client/patient centred-ness (responsive-ness to clients' and patients' needs and expectations)
- Safety
- Efficiency
- Timeliness and continuity
- Equity.



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Quality of care is also related to different dimensions of the health care system which incorporates structure, process and outcome.

Structure: the characteristics of the resources in the health delivery system (what has to be in place to provide services) such as the number of qualified staff, functioning equipment, number of road worthy vehicles, policy guidelines and management systems.

Process: what is actually done to and for the patient and how it is done.

Outcome: includes mortality, patient satisfaction, coverage and attendance levels.

It is important to focus on all of these aspects, as health outcomes are dependent on the effectiveness of all three.

The response: establishing effective 'on the ground' teams

Improving quality of care can be achieved by establishing continuous Quality Improvement (QI) processes. The World Health Organization proposes, going 'beyond the numbers' and recommends some specific QI methods for MNCH, which assist in identifying quality of care problems and improve quality of these services.

Based on these principles, PRRINN-MNCH has developed a QI approach, initiating on-going QI processes in the Emergency Obstetric and Newborn

Care (EmONC) facilities it supports. Health facilities identify quality of care problems, analyse the root causes and come up with interventions to address these problems and improve quality of care. The ultimate aim is to reduce maternal, peri-natal and child mortality and morbidity and increase client, patient and staff satisfaction.

Trained QI teams have been established in the health facilities. A training manual and workshops have been developed for these teams. Four workshops, each lasting between two to four days, are conducted at intervals of three months. In this way participants gradually build up their knowledge and skills. In between these workshops participants apply the knowledge and skills developed within their own health facilities.

QI teams also conduct facility-based maternal and peri-natal death reviews, which help to identify critical shortcomings in quality of care and weaknesses in the organisation and provision of MNCH services. Criterion-based audit has been introduced as a means to assess the performance of health workers. Exit interviews with clients and focus group discussions in the community can also identify concerns of clients and patients.

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

The results: making changes sustainable

All EmONC facilities supported by PRRINN-MNCH have established QI teams, which meet regularly to discuss quality of care issues and initiate QI activities. This activity has resulted in quality of care improvements in:

- Health worker attitudes and behaviour towards clients and patients
- Staff punctuality
- Cleanliness and waste disposal
- Knowledge and skills through on-the-job training
- Management of patients
- Increased availability of resources, such as equipment and essential drugs
- Establishment of emergency cupboards in labour wards.

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

Policy implications

During this process, there have been some challenges. These have included: a lack of support from the local government and state level of the Ministry of Health (notably in providing necessary resources); a lack of supportive supervision of the QI team; and frequent transfer out of staff who were trained in QI. These issues will require continued attention for the programme to succeed.

Conclusions

QI teams have learnt that many of the quality of care problems can be solved at health facility level instead of waiting for the Ministry of Health to act. They have also recognised that team work is important, as well as collaboration with health committees and communities, as this can help to mobilise resources. However, QI teams need support from higher levels in terms of supportive supervision and provision of resources. QI needs to be institutionalised in the State Ministry of Health, where a committee provides policy guidance, support and monitors the QI processes.



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Technical and integrated supportive supervision

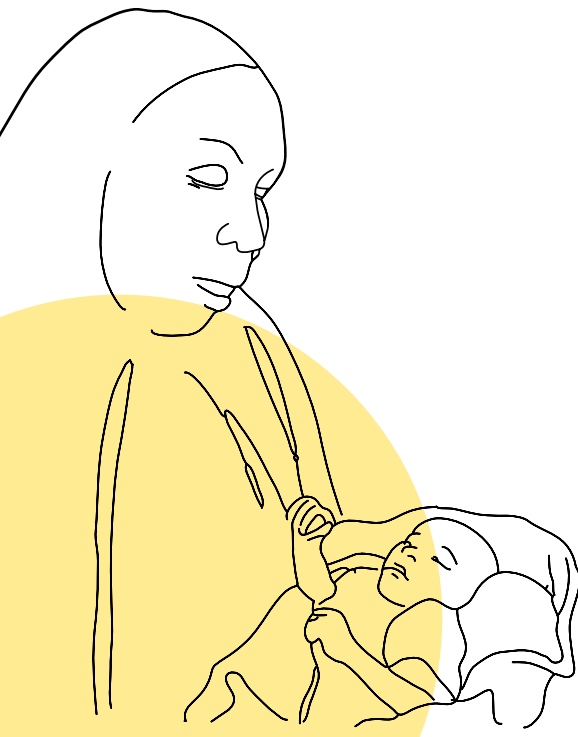
The challenge: little, if any supervision

Supervision activities are non-existent in many states in Nigeria. Largely for cost reasons, supervision occurs randomly and seldom. In many cases, programmes conduct vertical supervision activities with separate checklists, further increasing the fragmentation of the health sector in Nigeria.

The response: new systems ensure support

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

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



Key messages: Ongoing supportive supervision helps health workers develop and ensures consistent quality of service.

- 1** Cost and other factors mean that ongoing supervision of health workers in Northern Nigeria has been intermittent at best, non-existent at worst.
- 2** PRRINN-MNCH has identified a two-pronged approach: integrated supportive supervision (ISS) which focuses on managers to supervise systems and services, and technical supportive supervision (TSS) which focuses on health workers to improve quality of care.
- 3** Supervision is the most important factor in improving healthcare. The two initiatives working together are cost-effective and have led to ongoing improvements in health service delivery across all four PRRINN-MNCH states.

ISS

ISS consists of three core elements:

- 1. An organisational framework** with integrated, trained supervision teams that report to a coordinating structure at state level.
- 2. A supervisory process** with regular ISS visits which:
 - Are comprehensive, not just 'in-and-out visits'
 - Keep to an agreed timetable
 - 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)
- 3. Review mechanisms** which include:
 - Feedback to management from the visiting team
 - Summary visit reports and verbal feedback to facility management and

managers at the State Ministry of Health (SMoH) or equivalent

- Progress/review meetings, at least quarterly, of managers of facilities/LGAs (local government areas) 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

TSS consists of the same three core elements – an organisational framework, a supervisory process and review mechanisms.

Each state TSS team includes experts in obstetrics and gynaecology and paediatrics from the state's Federal Medical Centre as well as other doctors and midwives, who are usually trainers on MNCH issues, such as KMC (kangaroo mother care), FANC (focussed antenatal care), PNC (post natal care), FP (family planning), IMCI

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(integrated management of childhood illnesses), LSS (life-saving skills) and EmONC (emergency obstetric and newborn care).

The state ISS team includes managers from different departments and programmes. The composition of ISS teams (managers) and TSS teams (clinicians) is repeated at sub-state and facility levels.

A combined approach

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, the TSS teams formed at state level focus on the clinical aspects of MNCH services and provide supportive supervision and follow-up of health workers after in-service training to ensure that what they have learned is put into practice.



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



Other achievements of 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 quality improvement (QI) teams
- Maternal Death Reviews conducted, with their benefits widely recognised by participating staff
- Maternity Local Engagement Consultants (LECs) 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

There have also been improvements in the quality of care and service delivery, including:

- Increased use of partographs to monitor labour
- Increase in cleanliness of delivery rooms and maternity section
- Placement of emergency drugs in maternity/delivery rooms (emergency cupboard or refrigerator for oxytocin) to improve timely management of maternal complications

- Tables for newborn resuscitation and resuscitation equipment provided by EmOC (emergency obstetric care) health facilities

Policy implications

Both ISS and TSS are important and need managerial and clinical support if the service is to flourish. Splitting supervision into these two components and developing a layered approach is key to implementing a successful supervision system.



Conclusion

Supervision is often seen as a costly exercise. However, it is probably the single most important activity in improving health care. Good supervision helps both the supervisor and the supervisee and ensures that the health team functions as a team in resolving issues that affect health service delivery.



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Maternal death reviews

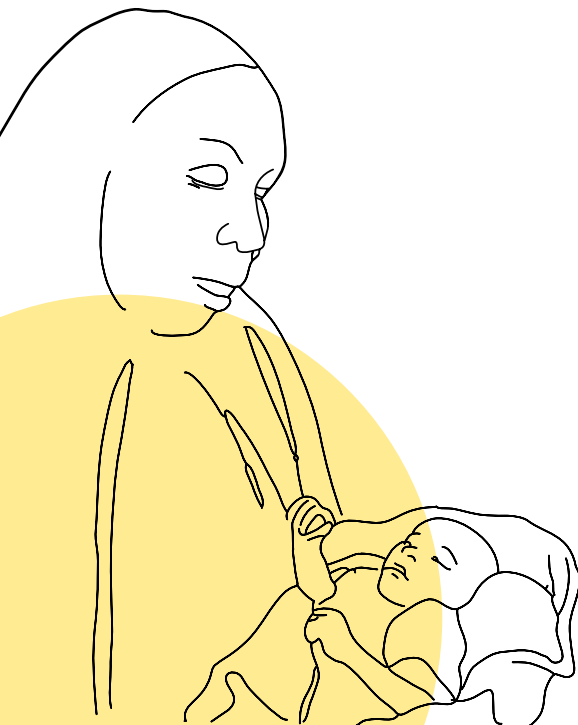
Understanding and addressing why mothers are dying

The challenge: improving maternal survival rates in Northern Nigeria

Nigeria has some of the highest rates of maternal, neonatal and child mortality in the world. These high mortality rates are also characterised by wide disparities between the north and the south, with consistently poorer indicators for maternal, newborn and child health (MNCH) in northern states.

In order to address this issue and achieve the Millennium Development Goals related to MNCH, it is crucial that not only is the coverage and access to vital MNCH interventions increased, but that the quality of care is also improved.

Maternal death reviews (MDR) in health facilities play a vital role in identifying important quality of care problems. They identify the obstetric causes of death but, crucially, they also shed light on other, avoidable, contributing factors. This can highlight shortcomings in care and weaknesses in the organisation and provision of health services. In short, they provide an understanding of the 'whole story' of why a mother has died.



Key messages: Maternal death reviews are a key factor in preventing maternal deaths, especially in northern Nigeria, but on-going commitment and teamwork are essential for them to be effective.

- 1** To help counter significantly higher maternal death rates, PRRINN-MNCH initiated facility-based Maternal Death Reviews to identify causes of death and potential shortcomings of care in an anonymous, blame-free environment.
- 2** MDR training and mentoring for health staff has led to improved procedures, new equipment, better use of existing resources and identification of new requirements.
- 3** Impediments to MDRs have been identified and targeted for improvement, but each state needs a dedicated committee to ensure effectiveness, leading to better patient care and improved survival rates for new mothers.

The purpose of MDR is to identify avoidable and remedial factors, initiate action to solve the identified problems, improve the quality of care and prevent future deaths. The MDR aims to solve problems, rather than punish people. It works on these following principles:

- Anonymity
- Confidentiality
- No apportioning of blame
- Interviews are conducted in a non-threatening environment
- There is a commitment to act.

The response: training staff to review maternal deaths

In 2011, PRRINN-MNCH initiated facility-based MDR in Emergency Obstetric & Newborn Care (EmONC) facilities in Katsina, Yobe and Zamfara as part of a wider Quality Improvement (QI) initiative.

Members of QI teams at each facility were trained to review maternal deaths after the chairperson (the 'champion'

of the MDR process) has collected all the information required. This includes patient records and additional data from interviews with staff who were involved in the case. The review teams include:

- A doctor, either the principal medical officer or the doctor in charge of maternity
- The matron in charge of the maternity unit
- The chief nursing officer
- The in-charges of the laboratory, operating theatre and pharmacy.

Sometimes a community member of the health facility committee takes part, and for small EmONC facilities the Officer in-charge and the MCH coordinator or PHC director of the Local Government Area (LGA) may also be a member.

Mentoring support is given to the QI teams in initiating and conducting MDRs through supportive supervision visits. At subsequent QI workshops and through quarterly meetings at LGA level, the QI teams present and discuss some of their

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cases and share experiences with MDR.

The results: improving the quality of care and building capacity

During an evaluation of the MDR process in 2013, it was found that all members of the QI teams interviewed expressed enthusiasm about the process and provided much positive feedback. Improvements initiated in quality of care include:

- Better treatment of patients by following protocols after training
- Better utilisation of human resources
- The acquisition of equipment, such as resuscitation equipment
- The establishment of emergency cupboards with life-saving drugs in labour wards
- Posting of additional skilled staff.

In early 2013, a review of the MDR process was conducted. 105 forms were analysed from the beginning of 2012 when the MDRs began. The following was highlighted:

- Only 11% of patients had been to ANC;
- 53% of patients were admitted from home, with only 13% from other facilities;
- 66% died post partum while 34% died undelivered;
- Most of the patients were admitted in a critically ill condition and about half died in the first 24 hours;
- The direct causes of death were hypertensive disorders (26%), post partum haemorrhage (25%), puerperal sepsis (11%), abortions (3%) and one death from obstructed labour. In 16% of cases there was no direct cause of death.
- 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 family, including delays in agreeing to the management plan proposed by the health worker. Health worker problems included incomplete initial assessment and inadequate patient resuscitation. Administrative problems included absence of trained staff 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. Of the 12 babies assessed, mean weight was 3kg and mean Apgar score at 5 minutes was 7.5.

To build capacity in the states, some team members have been taught to train and support others. Existing MDR recording and reporting tools from other countries had previously been reviewed and adapted for northern Nigeria. The set of tools was presented to and approved by the State Ministries of Health.

Policy implications

Throughout the implementation process, there have been some challenges which will need continued focus. These include:

- Health workers fearing they will be blamed for deaths
- A shortage of staff and high workload making it difficult to convene the review team, resulting in irregular MDR meetings
- A relatively small proportion of reported maternal deaths being reviewed, particularly when hospitals have a large number of deaths
- Frequent transfer of key members of the QI teams which has stalled the MDR process in several health facilities
- Insufficient and infrequent support of the QI teams, resulting in piecemeal application of the process
- Poor record keeping making it difficult to review all maternal deaths effectively
- Difficulty institutionalising the MDR process within the structures of the Ministry of Health at LGA and state level.



It is also clear that facility-based MDR does not provide information on women dying in the community, where different contributing factors may play a role.

Conclusions

To be successful, MDR requires teamwork and commitment and health facilities need a 'champion' to spearhead regular facility-based MDRs. Obtaining additional information on the maternal death cases through interviews and during discussion at the MDR meetings is important to obtain the full story, since patient records are poorly kept. Supportive supervision of MDR committees is very important, particularly in the initiation stage of the MDR process when the review teams need technical, team-building, and moral support.

Quarterly MDR meetings at LGA or cluster level facilitate sharing of experiences and help in capacity-building. These should be attended by staff from various health facilities, who present and discuss some of their reviewed maternal deaths. Such meetings often depend on donor-funding.

To institutionalise MDR, there is need to establish a committee at state level, which oversees MDRs and Peri-Natal Death Reviews (PNDRs), provides guidance and support, and monitors the process. There is also a need for written policy guidance on MDR from the Federal Ministry of Health.



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Improving routine immunisation

Key accomplishments within a state-wide Primary Health Care system

The challenge: routine immunisation losing out to irregular campaigns

RI in Northern Nigeria has historically suffered from poor services, vaccine stock-outs and lack of community engagement. This has led to low immunisation coverage rates. This has been further complicated by supplemental activities such as immunisation plus days (IPDs). The large number of these days, the monetisation of the process and the time spent in planning and implementation has meant that the PHC system has often ground to a halt. IPDs have become the only game in town, to the detriment of routine immunisation.

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.

The response: a broad approach to strengthen RI

A strong routine immunisation system not only decreases childhood disease, but also increases the likelihood that more children will be reached by

Key messages: Strengthening primary health care systems and service delivery while building community engagement has resulted in significant improvements in routine immunisation services.

- 1 Routine immunisation in Northern Nigeria has historically been a challenge, and is complicated by over-emphasis on sporadic immunisation plus days.
- 2 RI in all four PRRINN-MNCH intervention states has grown through steady emphasis on coordination of PHC services, better leveraging of existing funds, improved service delivery and tracking, plus promotion of the need for immunisation.

polio vaccination 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 by health care workers – all with support and funding from national and sub-national governments and international partners.

While supporting the polio eradication initiative (PEI), the focus of PRRINN-MNCH's work has been on strengthening the RI system through a broad-based health system strengthening approach.

Governance of immunisation

Improved coordination of PHC services through the development of 'PHC under one roof' (PHCUOR) into Nigerian national policy and state legislation. Jigawa, Yobe and Zamfara have established state

PHC or Gunduma/district boards, amalgamating responsibilities and services in line with the PHCUOR policy. The process is ongoing in Katsina.

Enhanced policy making, planning and budgeting via support to state-led annual processes. More efficient processes free up more funds for the PHC system, including immunisation.

Advanced the proper functioning of the State Interagency Coordination Committee (SIACC). PRRINN-MNCH collaborates with partners including WHO, UNICEF, PATHS2 and GAVI to implement RI activities such as training and micro planning.

Instituted effective performance reviews (RI being a key component) to monitor progress against targets and guide decision making.

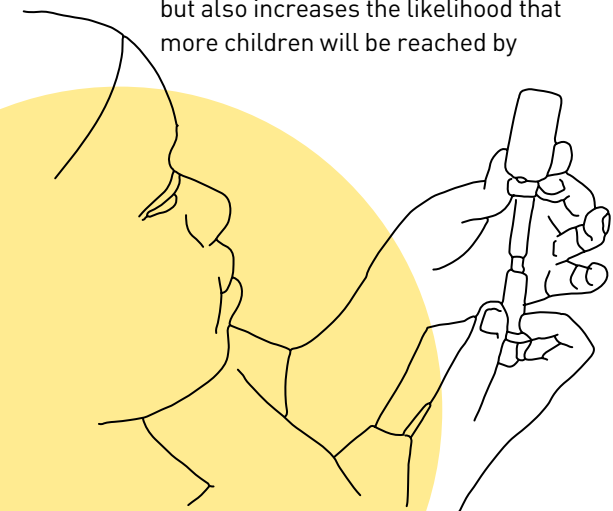
Increased focus on RI through advocacy.

Health financing

Expanded availability of funds for RI through a pooled funding mechanism in Jigawa and a basket fund in Zamfara.

Supported leveraging of additional resources for RI, with improved account management and transparency. All four states have been accessing and retiring GAVI funds for the last four years.

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Service delivery (immunisation)

Enhanced technical skills for RI services through regular training and supportive supervision. Thousands of health workers have been trained in the four states on different aspects of immunisation including Reaching Every Ward (REW) strategy, vaccines management and surveillance.

Expanded systems for supportive supervision at state and Local Government Area (LGA) levels in all four states.

Expanded planned maintenance via increased state government capacity for maintenance of solar refrigerators.

Improved vaccine storage capacity at state and LGA/health facility levels through buying and maintaining solar refrigerators; over 100 solar refrigerators are maintained every year across the four states.

Improved access to RI services through support for outreach immunisation services, as well as the vaccine distribution system from state to LGA and from LGA to health facilities.

Health Management Information Systems (HMIS)

Enhanced access to immunisation data with DHIS2 software in the programme states. Data is accessible via the internet.

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

Introduced mobile phones to track vaccine stock-outs.

Demand creation

Mothers' awareness of the immunisation schedule improved through the activities of community volunteers as part of the Routine Immunisation Community Engagement (RICE) strategy. Knowledge of vaccination schedules among women increased from 7% to 52%.

Increased standing permission to take child to facilities for immunisation from 40% to 82%.

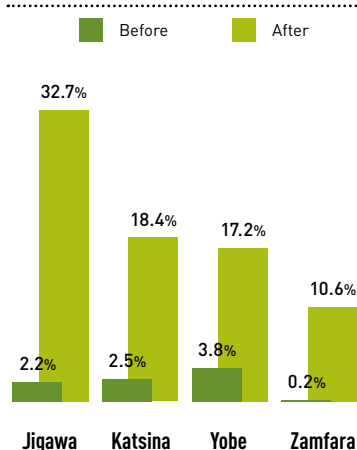
Promoted RI through the use of communication materials, including radio jingles, the 'vaccination hand' poster and RI training DVD which was adopted nationally.

The results

Working to strengthen primary health care systems and service delivery while building community engagement has resulted in significant improvements in routine immunisation services.

The PRRINN-MNCH household surveys show a vast increase in DPT3 coverage and an impressive increase in fully immunised children and OPV (Oral Polio Vaccine) coverage. Surveys show marked changes across all four states.

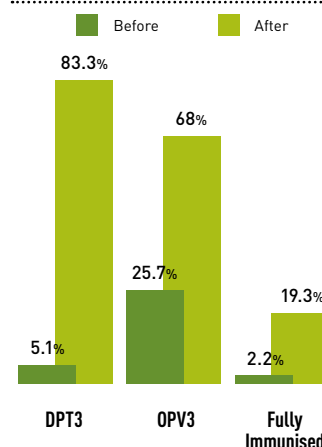
Fig 1: Fully immunised coverage



Source: Baseline data 2009, Endline data 2013

The number of fully immunised children increased significantly in all four states.

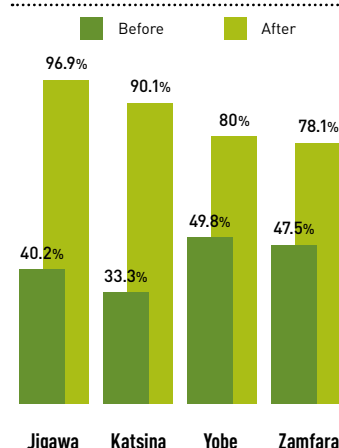
Fig 2: Immunisation coverage



Source: HHS data: Baseline data 2009, Endline data 2013

Women who know the number of immunisation visits and who have standing permission to take a child to a health facility also increased between the PRRINN-MNCH baseline and endline household surveys (HHS). Some states show a more impressive increase than others.

Fig 3: Women with permission to take a child to the health centre



Source: HHS data: Baseline data 2009, Endline data 2013

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

Strengthening routine immunisation services requires a broad based health systems strengthening approach.



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Community engagement

to improve access to maternal, newborn and child health services

The challenge: multiple barriers to MNCH services

Baseline studies undertaken by PRRINN-MNCH identified a wide range of household and community level barriers to use of MNCH services. But communities, health managers, administrators and health workers lacked the know-how and resources to address the low demand for services.

The response: community-level interventions

At community level a number of interventions were used to address MNCH access barriers:

- A participatory community mobilisation approach facilitated by community volunteers was used to create demand for MNCH services.
- Communication body tools were used to increase awareness of maternal and newborn danger signs and the routine immunisation schedule, and community discussion groups provided space for reflection on the MNCH situation and what could be done about it.
- Community systems to address access, affordability and other barriers were established, such as Emergency Transport Schemes (ETS), community blood donor groups, and emergency maternal care savings schemes.



Key messages:

- 1** Improving access to MNCH services in rural Northern Nigeria requires a strategy that addresses all household and community level barriers simultaneously.
- 2** The 'scalability' of community interventions needs to be considered from the outset.
- 3** Restructuring of the health sector so that primary health care is 'under one roof' will help to ensure a properly resourced institutional home for community MNCH activities.

- In some sites, young women's support groups (YWSGs) were established to reach out to and support women who would otherwise be excluded from community level change processes.

- A community monitoring system generated data on the activities and changes that were underway at community level, including use of the community emergency systems.

- Facility health committees were established or strengthened. These played an important role in demanding accountability for service delivery failures, as well as supporting and monitoring the community-based MNCH response.

Government interventions

- Local government health departments were supported to create 'demand creation teams'. Together with representatives of state ministries, these teams provided mentoring and coaching support to communities.
- State and local government were supported to include community-based MNCH activities in their health plans and budgets.



The results: communities helping themselves

Coverage

By September 2013 PRRINN-MNCH was supporting community engagement activities in 2,400 communities in 45 local government areas (LGAs) in Katsina, Yobe and Zamfara states, covering an estimated population of 4.3 million.

The creation of a core group of community engagement trainers in each state, use of a cascade training approach, adoption of a community health volunteer approach, and a strategy of local dissemination, enabled the activities to be scaled up rapidly.

Behaviour change

A household survey found that between 2009 and 2013:

- Antenatal care rates increased from 25% to 51%
- Skilled birth attendance rates increased from 11% to 27%
- Children who had received DPT3 vaccine increased from 5% to 42%

YWSGs had a positive effect on health-related knowledge and practice. A survey undertaken in 2013 found that members of these groups were more likely than non-members to:

- Know four or more maternal danger signs
- Give birth in a health facility
- Have the complete set of vaccinations

Community systems were heavily used and helped to avert many potential maternal and newborn deaths. Between December 2009 and September 2013:

- 19,811 pregnant women with a complication were supported by ETS
- Intervention communities saved N39 million and 9,000 women were assisted with these funds
- 4,337 women were supported by community blood donors

Challenging service delivery failures

By 2013 the PRRINN-MNCH-supported facility health committees were meeting regularly, had maintained their membership, matured over time and were functioning across the breadth of their remit. Unlike in the past, many of the committees reported that their advocacy efforts to government had positive outcomes.

Extent of institutionalisation

State strategic health plans included budget lines for MNCH demand-side activities. LGA demand creation teams had accrued substantial capacity to oversee and monitor community-level MNCH activities. Nevertheless, as the programme drew to a close, few of the LGAs had committed funds to sustain or expand the community engagement work.

In contrast, in Jigawa state, the Gunduma Health System councils established to run health services in different parts of the state as a result of health sector restructuring received regular funds for community MNCH interventions, and institutional responsibility for demand-side health activities was clear.



Policy implications

The community engagement approach had many positive effects on MNCH-related knowledge and behaviour. By the end of 2013 there were signs that communities were on the cusp of a more substantial shift in health-seeking behaviours.

PRRINN-MNCH's experience to date suggests the following:

- Because of the size of the states, there is some way to go to achieve state-wide coverage. However, the



methodologies used by the programme and its partners – a community health volunteer model, a cascade training approach and a strategy of local dissemination to neighbouring communities – are inherently 'scalable'.

- For MNCH behaviour to change in rural communities all demand-side barriers need to be addressed simultaneously in a comprehensive approach.

- Without a shift to 'primary health care under one roof', local governments are likely to find it difficult to adequately resource and support the community MNCH response.

Conclusion

PRRINN-MNCH demonstrated that it is possible to devise an effective and culturally appropriate community engagement approach to address demand-side MNCH barriers in a challenging environment. Establishing a clear institutional home for these efforts within government will be vital in future – and will be facilitated by wider health sector restructuring efforts.



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Scaling up community engagement

to improve access to maternal, newborn and child health services

The challenge: large populations needed to be reached

When PRRINN-MNCH started working in Katsina, Yobe and Zamfara states, numerous barriers prevented or delayed communities using MNCH services. Baseline studies showed that if health-seeking behaviours were to change, all barriers had to be addressed simultaneously and entire communities had to be mobilised around a MNCH agenda.

A further challenge was to design an approach that could be implemented at scale by local partners. The combined population of the local government areas (LGAs) in which PRRINN-MNCH was working was 9.5 million. Previously all other health-related community engagement (CE) activities in the north of Nigeria had been implemented on a small scale, usually on a pilot basis. PRRINN-MNCH was therefore in new territory.

Key messages:

- 1** PRRINN-MNCH used a strategy of local dissemination to rapidly scale up a successful community engagement approach. The end results were achieved in a highly cost-effective way.
- 2** Successful local dissemination depends on the quality and sustainability of the MNCH response in 'hub' communities. LGAs need to provide low-key, ongoing support to these communities help maintain motivation and focus.

The response: local dissemination

PRRINN-MNCH and its partners adopted a three-part strategy to achieve scale:

- Test a community engagement approach in pilot intervention sites
- Scale up the approach using government and programme resources
- Use a strategy of local dissemination to roll out on a much greater scale

The CE approach was tested initially in nine LGAs in three states covering a population of approximately 250,000. The pilot sites were particularly remote or hard to reach.

The pilot phase lasted 18 months. Thirty six new LGAs were then added over a 17-month period, increasing population coverage to 1.74 million (a seven-fold increase). Despite the rapid pace of scale-up, only 20% of the potential population of the intervention LGAs was being reached. Hence it was important to find a way to increase coverage.

The programme adopted a strategy of local dissemination to increase coverage. Trained community health volunteers in the PRRINN-MNCH

supported intervention sites ('CE complete communities' or hub communities) shared what they knew, and provided ongoing support and encouragement, to neighbouring communities ('CE light communities') with minimal external support.

A key question for PRRINN-MNCH and its partners was whether outcomes and impact in the CE light communities were comparable to those in the sites that received more intensive support from the programme and its partners.

The results: positive changes in CE light communities

A knowledge, attitudes and practices endline survey (KAP) in early 2011 found considerable positive shifts in MNCH attitudes and behaviour in the CE light communities.

All three states showed a dramatic improvement in knowledge of at least four maternal danger signs in both types of community (Fig 1).

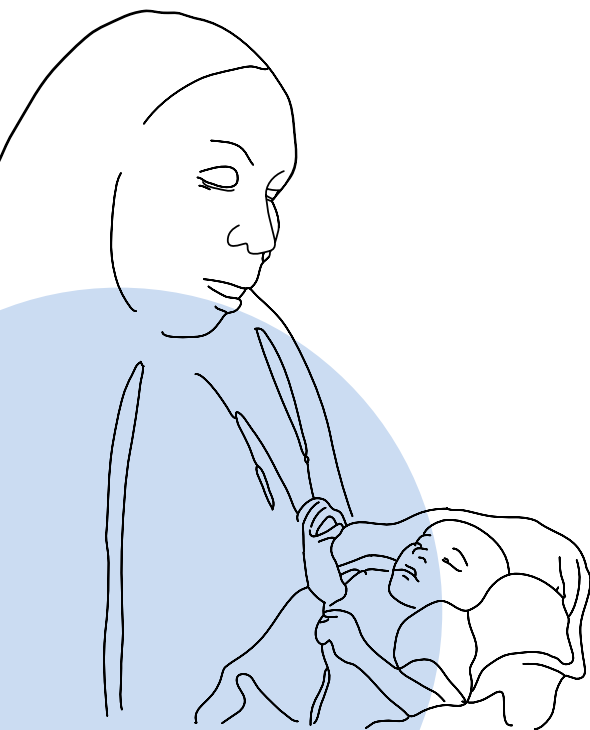
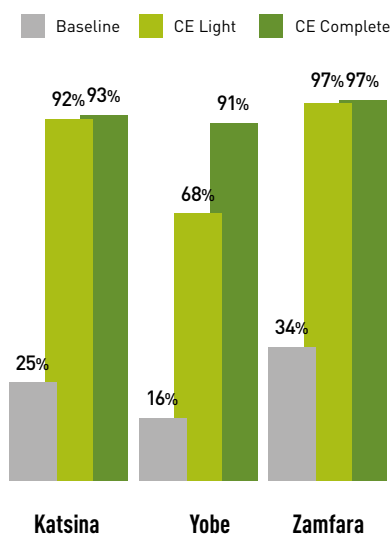
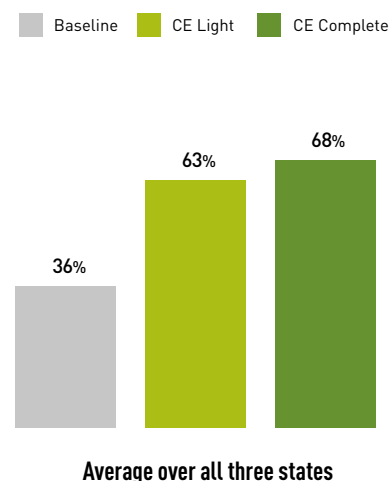


Fig 1: Knowledge of 4+ maternal danger signs by type of site



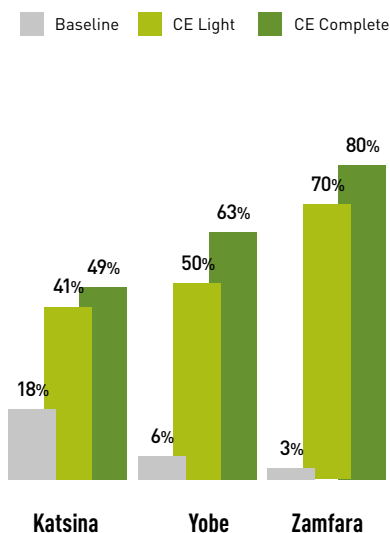
The percentage of respondents who were prepared for a maternal emergency was similar in the CE complete and CE light sites (68% and 63% respectively) compared to a baseline result of 36% (Fig 2).

Fig 2: Preparedness for maternal emergency by type of site



In relation to children with the complete set of vaccinations, both types of site had results that were substantially better than the baseline situation (Fig 3).

Fig 3: Children with 4 vaccinations by type of site



Policy implications

The local dissemination strategy resulted in a three-fold increase in the number of intervention communities across the three states (from 806 to 2,398). Population coverage increased from 1.74 million to 4.3 million people. This translated into 45% coverage of the intervention LGAs. The sites included many of the most remote or hard to reach communities. In future, continued emphasis on providing direct support to hub communities while promoting local dissemination will allow the LGAs and eventually the states to achieve 100% coverage at speed.

Considering the minimal external investments made in the CE light sites, with the results derived from communities' own investments, the

changes in MNCH attitudes and behaviour were obtained in a highly cost-effective way.

“The MNCH activities have brought progress to our community... we are now united and we do things together. We have started rolling out to other communities like Afuntuna, Chadi and Kadirawa.” Community Health Volunteer, Katsina

The fact that communities drove the process of local dissemination, choosing where and when to support neighbouring communities, also bodes well for long-term sustainable change. The efforts to reach out to and support neighbouring communities point to improved prospects for greater social support and cohesion.

Performance in the CE light communities mirrored closely that of the CE complete communities. Hence, getting the strategy right in the core communities is essential to maximise positive spin-offs from these initial community-based investments.

Conclusion

Taking community-based MNCH interventions to scale where large populations are scattered over huge geographical areas is challenging. PRRINN-MNCH demonstrated that it is possible to design a comprehensive, integrated and inclusive community engagement approach which empowers rural communities to address poor MNCH indicators, while rolling this out at scale.



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Including women and children with the least social support

The challenge: finding evidence of clustering

Demographers have shown that child deaths often tend to cluster among a few women. Yet the reasons for the clustering are generally not well understood. As a result, health policy makers and programme staff lack information on how to respond appropriately.

When the PRRINN-MNCH programme began, reliable evidence that clustering of mortality occurs in the northern states did not exist. So that health inequities could be better understood in Northern Nigeria, PRRINN-MNCH set out to fill the gap in the evidence base.

The response: measuring extent of support

A child mortality clustering survey in Jigawa, Yobe and Zamfara states in 2009-10 focused on communities that were uniform in their overall cultural, employment and wealth patterns. A variety of measures of support were examined including cognitive, emotional, practical and financial support. Women were also asked about the extent to which they felt respected. The appearance of the household, of the women themselves, and of their children, were assessed subjectively.

Key messages:

- 1** Child mortality is clustered among a small proportion of women in rural communities in Northern Nigeria. Lack of individual social support is a key contributing factor.
- 2** Health programmes that ignore issues of social support may exacerbate divides among the poor and are likely to make slow progress towards maternal, newborn and child health targets.
- 3** A greater emphasis on social factors is needed in Nigerian Primary Health Care policy and strategy.

65%
of wives
no child dies
under 5



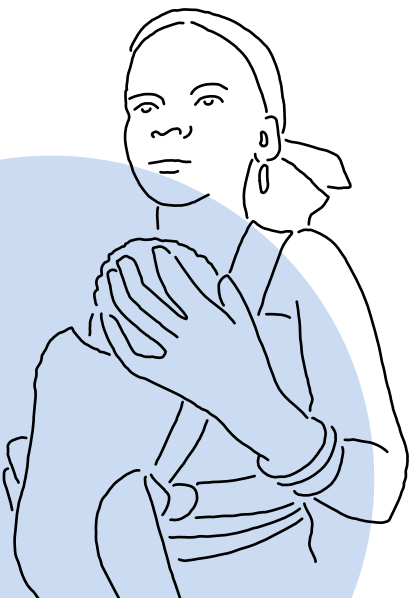
15%
of wives
one child dies
under 5



20%
of wives
multiple deaths
of children
under 5



20%
of wives had
over
80%
of **all** deaths
of children
under 5 yrs



Results: 20% of women had 80% of child deaths

The survey found that the burden of mortality and morbidity was indeed skewed in rural parts of Jigawa, Yobe and Zamfara. A small proportion of mothers and children suffered poor health and rarely used services. The skew happened irrespective of proximity to health facilities, poverty, level of education or household composition. The skew was very striking: 80% of child mortality was suffered by 20% of women. These women suffered multiple child deaths – an average of three deaths each.

65% of women in the survey sites had no child deaths, despite the fact that their general environment was poor.

A lack of respect and support shown to a woman were important contributing factors to the clustering. The fact that clustering was found in polygynous households suggests that generalised socio-economic factors that affect the entire population (eg lack of education, lack of wealth, lack of resources, culture, beliefs) play a lesser role in explaining child deaths than the immediate social factors surrounding a woman.



Policy implications

Addressing the skewed burden of ill-health in rural Northern Nigeria requires a change in primary health care strategy towards a more comprehensive and holistic approach which places greater emphasis on addressing the social factors that affect health. Practical steps taken by PRRINN-MNCH to address health inequities include:

■ **Supporting participatory group processes:** Participatory group processes can help improve young women's belief in their own capabilities and mental health and hence maternal, newborn and child health. PRRINN-MNCH placed considerable emphasis on the formation of women's groups and on ensuring the least-supported women were included in these.

■ **Training of front-line health providers:** Health workers in Nigeria lack training in the social factors that affect health seeking and decision making. PRRINN-MNCH worked with government partners to modify the training of a core group of front-line health workers – community health extension workers (CHEWs) – so that they were better able to recognise and interact with the least-supported women.

■ **Sensitisation of community health team:** PRRINN-MNCH developed the concept of a community health team where all those working to improve the health and well-being of the community were trained to have a strong focus on the least-supported.

■ **Working with religious leaders:** Religious leaders have considerable influence in rural areas and operate very effectively as mass communicators. PRRINN-MNCH involved religious leaders in the analysis of the clustering survey findings and in the identification of solutions.



Conclusion

Social issues at community and family level contribute to the inequities in health that result in high levels of maternal, newborn and child mortality in Nigeria. The failure to identify and address these issues within poor populations has stalled progress towards achievement of health targets.

PRRINN-MNCH has taken steps to ensure that the women and children who suffer a disproportionate burden of ill health are considered in all programme activities. Many of the practical strategies adopted by the programme can easily be replicated by government, civil society organisations and development partners.



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Emergency transport schemes

for prevention of maternal mortality

The challenge: travel is hard

Long distances to health facilities, difficult terrain and costly transport are major challenges for remote, rural communities in the north of Nigeria. Efforts to transfer pregnant 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. Lack of security adds a further challenging dimension. All these factors can result in long delays in women reaching vital health care.

The response: recruiting local drivers

The three northern states of Katsina, Zamfara and Yobe addressed the lack of affordable rural transport options for maternal emergencies with community-based emergency transport schemes (ETS).

The ETS model used a locally-available mode of transport – passenger transport vehicles driven by commercial drivers belonging to the National Union of Road Transport Workers (NURTW).



Key messages:

- 1** Community-based emergency transport schemes (ETS) fill a crucial gap in the referral chain and can prevent many maternal and newborn deaths.
- 2** A partnership with a transport union resulted in the establishment of a highly successful ETS in three states in the north of Nigeria.
- 3** ETS works best as part of a comprehensive strategy which addresses key MNCH barriers simultaneously.

Even remote communities in the north usually have access to cars driven by NURTW drivers and if not, cars can usually be found in neighbouring communities.

Four drivers from each community were trained to provide a '24/7' service. Officials from the NURTW were trained as core trainers and cascaded the driver training down through the PRRINN-MNCH communities. Local branches of the NURTW provided supervisory support and encouragement to the drivers. Special incentives – such as priority loading at motorparks – were provided in some areas. Drivers were encouraged to keep the cost of the transfers as low as possible.

The results: ETS saving lives

By September 2013 3,200 ETS drivers were operational. ETS was initially implemented in 806 intervention sites in 45 local government areas (LGAs). The volunteer community health



workers and drivers in these sites were encouraged to roll out their activities to as many neighbouring communities as possible. This resulted in inclusion of a further 1,592 communities, and an estimated population coverage of 4.3 million.

Over a four-year period, 19,811 pregnant women were transferred to a health facility by trained ETS drivers (Fig 1). Most transfers were for maternal complications. Hence the ETS drivers played a vital role in helping to prevent maternal and newborn deaths.



Fig 1: ETS transfers by state, Dec 2009-Sep 2013

ETS transfers helped to save lives in all three states.

Yobe	4,564
Katsina	9,529
Zamfara	5,718
Total	19,811

PRRINN-MNCH had exceeded its end of programme target of 5,000 ETS transfers four times over by September 2013.

ETS helped to reduce the cost of emergency transport for communities. The average reduction in the cost of transport ranged from 41% in Katsina to 70% in Zamfara.

ETS was welcomed and highly valued by rural communities, with many examples of women who had been assisted by the schemes readily shared by community members. A concern for reaching and assisting the least-supported women was reflected in the attitudes and actions of the drivers. Driver drop-out rates were low and the majority of drivers stated their intention to continue. This bodes well for the future sustainability of the ETS.



“Now families take their sick ones to the hospital because they have structures in the community they can rely on.” [Community member, Yobe State]

Policy implications

PRRINN-MNCH’s recent support for ETS has focused on ensuring that the scheme has a strong ‘institutional home’ and is sustainable into the future. The national NURTW Head Office has assumed leadership of the initiative and a plan for building the capacity of the national, state and LGA NURTW offices and branches has been agreed so that ETS activities can be effectively monitored and supervised.

With PRRINN-MNCH’s support, the NURTW attracted funding from the federal SURE-P (Subsidy Re-investment and Empowerment Programme) initiative in 2013 and plans are underway to roll ETS out to eight new states plus the Federal Capital Territory. Recognition that community ETS is an essential part of the safe motherhood response will help to sustain the scheme.

Conclusion

ETS helped to avert numerous maternal and newborn deaths in the three PRRINN-MNCH states. The success and sustainability of the next phase depends to a large extent on the degree to which ETS is embedded within a wider process of community mobilisation on MNCH issues. A stand-alone transport solution may be ineffective unless other barriers to use of health services are addressed simultaneously at community level.



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

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Working with volunteers

to improve maternal, newborn and child health

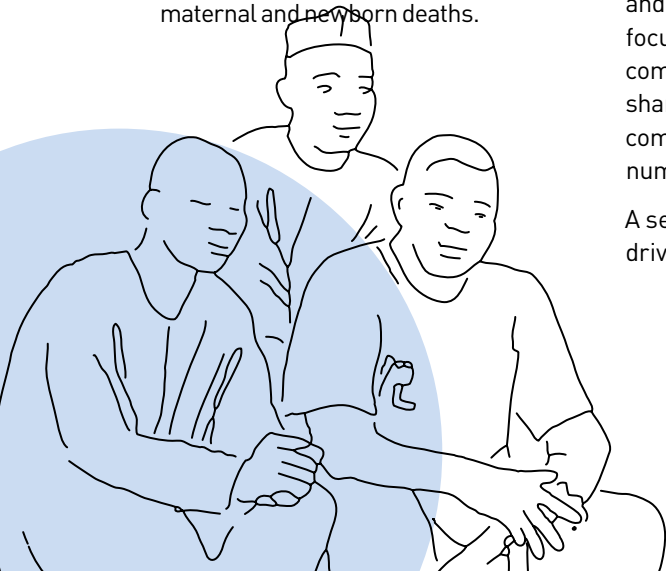
The challenge: community volunteerism can address many barriers

Nigeria has a long and impressive record of health-related volunteerism. Building on this tradition, PRRINN-MNCH has since 2008 been supporting one of the largest and longest-lasting community health volunteer initiatives in Northern Nigeria covering three states (Katsina, Yobe and Zamfara). This knowledge summary presents some of the achievements of the volunteer initiative and looks at the features that contributed to its success.

When PRRINN-MNCH started there were many barriers that prevented communities from using MNCH services:

- Lack of awareness of newborn and maternal danger signs
- Families unprepared for safe pregnancy and delivery
- Lack of information on routine immunization services and motivation to use them
- Physical and financial access barriers which delayed the response to maternal emergencies

Immunization rates were low, institutional delivery rates were extremely low, and a frequent failure to respond to maternal health emergencies resulted in many maternal and newborn deaths.



Key messages: Volunteering is a valuable asset, putting local knowledge, skills, dynamism, creativity and a concern for others to good use.

- 1** Well designed and managed community volunteer programmes can be effective and sustainable, with benefits beyond the health sector.
- 2** The concept of a 'community health team' to complement health services and medically trained health providers is gaining traction in northern Nigeria.
- 3** Communal rather than individual incentives may provide an alternative to putting volunteers on salary in some high poverty contexts.

The response: training volunteers to raise community awareness

PRRINN-MNCH and its government partners trained 24,000 community health volunteers in 806 communities located in 45 Local Government Areas across three states over three years. The volunteers were trained to build social approval within the community for MNCH-related behaviour change by:

- Raising awareness of essential aspects of MNCH and routine immunization
- Providing support for the establishment of community systems to tackle barriers of access and affordability

In a structured programme of coaching and mentoring support, the volunteers focused initially on mobilising their own communities. Some later went on to share what they knew with neighbouring communities, increasing the total number of communities reached to 2,398.

A second group of volunteers were drivers from the National Union of

Road Transport Workers (NURTW) who operated a community-based Emergency Transport Scheme (ETS). Approximately 3,200 drivers were trained by PRRINN-MNCH, and some went on to train other drivers in their own and neighbouring communities.

The results: communities are better prepared

Significant positive changes in health-seeking behaviour took place in the intervention sites. A Knowledge, Attitudes and Practices (KAP) survey in 2013 found that communities were far better prepared for a maternal emergency than in the baseline survey of 2009. The proportion of women with a plan for maternal emergency increased from 48% to 97% in Katsina; 29% to 61% in Yobe and 13% to 72% in Zamfara (PRRINN-MNCH 2013a).

The actions of volunteer drivers resulted in many potential maternal deaths being averted: between the start of the community mobilisation activities in December 2009 and September 2013, 19,811 ETS transfers took place (PRRINN-MNCH 2013b). Furthermore, skilled birth

attendance rates increased from 11% to **24%**. There were also dramatic falls in the proportion of children who had never been immunized: from 75% to **33%** in Katsina; from 80% to **49%** in Yobe; and from 83% to **37%** in Zamfara (PRRINN-MNCH 2013a).

If the volunteer approach is to be scaled up further within Nigeria, three questions are important:

What motivated the volunteers to work so hard in support of their communities?

What aspects of the volunteer approach contributed to its effectiveness?

What are the prospects for sustaining the volunteers' work?

A 2012 study found that more than half the community health volunteers and ETS drivers were primarily motivated by a concern to help others and save lives – 55% and 56% respectively (Soyoola, 2012). Many other volunteers cited the training that they had received as their primary motivation.

The research also looked at how much time was spent by the volunteers on their MNCH-related activities. Just over 65% of the community health volunteers spent two hours or less per week – inputs that were considered to be manageable. ETS drivers spent more time (two hours or more per week) on their voluntary activities, although most argued that this was not a major burden for them.

The research also identified low drop-out rates: **1.5%** in Zamfara, **0.3%** in Katsina, and **14%** in Yobe among volunteers who had been working between 24-36 months. The higher drop-out rate in Yobe is not unexpected considering the high level of insecurity

in this state. Between 96% and 100% of the volunteers (depending on the state) said they intended to continue their voluntary work, which bodes well for the future sustainability of the initiative.

Policy implications: volunteers can promote self-help within communities

Several factors contributed to the effectiveness of the volunteer approach:

- **Quick, visible impact** Quick and highly visible results with lives saved and other positive health outcomes were major motivating factors.
- **Strong emphasis on volunteerism** Individuals motivated primarily by financial gain were filtered out early in the process.
- **Emphasis on self-help** The idea of 'self-help' was strongly promoted in the community engagement approach and this encouraged communities to think of volunteering as a worthwhile and valuable activity.
- **Time-bound inputs** The volunteers were required for a small number of hours per week after an initial period of intensive activity when discussion groups were rolled out across the community.
- **Mentoring and coaching support** A system of mentoring and coaching support involving local and LGA staff helped to maintain volunteer motivation in the critical early stages of the volunteer effort.
- **Community recognition** Communities were encouraged to recognise and reward the volunteers and ETS drivers for their efforts.
- **Mutual support** The large number of volunteers trained in every community meant they could offer each other support and encouragement.

The research also highlighted how thoughts on how to sustain and support their families were never far from the minds of volunteers. In response, PRRINN-MNCH is currently testing whether a Social Fund, which provides a group incentive in the form of a cash transfer, will help to maintain volunteer motivation in the long term. The Fund will determine whether alternative methods of 'rewarding' volunteers (ie other than salaries) have a positive impact on volunteer motivation and retention in a high poverty context.

Conclusion

These positive results indicate that with good training and support, a volunteer approach can be effective. The results of the volunteer study suggested that there are good prospects for sustaining the work of the volunteers beyond the end of PRRINN-MNCH.

Occasional support visits from state or local government, or officials from the local branch of NURTW, help to maintain volunteer motivation. It is vital that these agencies budget appropriately for monitoring and supervisory support so that the volunteers get the support and encouragement they need.

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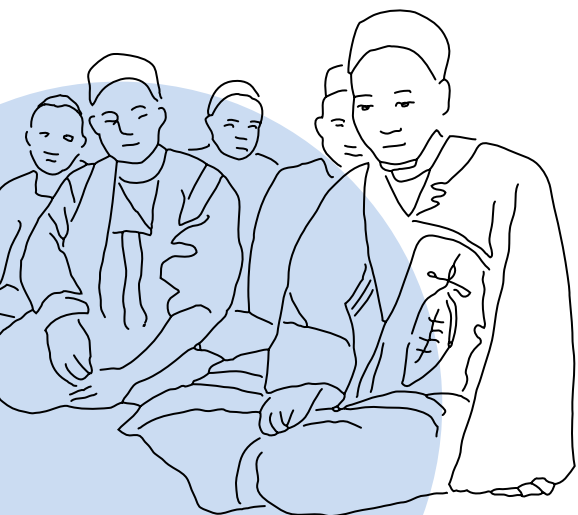
Working with religious leaders

to improve maternal, newborn and child health

The challenge: communities lack information on MNCH issues

When PRRINN-MNCH began working in the four northern states of Katsina, Yobe, Jigawa and Zamfara, awareness of appropriate maternal, newborn and childcare practices was low. Numerous practical barriers such as lack of transport and money also prevented families from using health services. Communities lacked the knowledge, structures and systems to work together to address their high mortality rates and therefore many had little faith in healthcare.

PRRINN-MNCH and its partners designed a participatory community engagement approach which could be rolled out at speed across entire communities. However, the sheer scale of the programme posed a significant challenge: the 72 local government areas (LGAs) in the area had an estimated population of 15 million. Complementary rapid awareness-raising strategies were needed so the programme could reach the entire population.



Key messages:

- 1** Religious leaders can play an important role in disseminating MNCH information across a large population and persuading communities to change established behaviour and attitudes.
- 2** Religious leaders can also help to promote a shift in thinking away from 'charity' towards broader-based support for the least supported who are likely to suffer the heaviest burden of ill-health.
- 3** A facilitative approach is required where religious leaders are supported to use health-related information to devise their own key messages and preferred means of communicating them.

The response: recognising the crucial role of religious leaders

Early on, PRRINN-MNCH recognised the importance of working with religious leaders to change hearts and minds in favour of women's health. In a context where Islam permeates every aspect of life, provides a framework for personal conduct, and an establishment view on family life and communal activity, religious leaders are extremely important opinion leaders and can help to shift social norms in positive ways.

Working through existing Islamic structures and systems therefore made sense. This included preachers and scholars at mosques, teachers at Islamiyya schools (these provide Islamic education at community level), and religious radio broadcasts. Engagement with Islamic organisations such as the Federation of Muslim Women's Association of Nigeria (FOMWAN), the Council of Ulama (council of senior Muslim scholars), and government structures such as the Ministry of Religious Affairs created an enabling environment for the work.



PRRINN-MNCH's strategy was to bring a cross section of religious leaders from each state together in an initial workshop in 2011 where they were supported to review the MNCH situation in their state and decide on an appropriate course of action.

The wide range of Islamic preachers and scholars included Malamin Kauye (preachers), Malamin Tsangaya (Quranic teachers), Malamin Zaure (local scholars), Limamin Gari (township Imams), Mai Tafsiri (Quranic interpreters) and Babban Liman (Chief Imams at LGA level).

Detailed discussions about the provisions of the Holy Quran, and of

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Quranic Hadith (reports of the deeds and sayings of the Prophet Muhammad) and how these legitimized taking action to save women's and children's lives were the centrepiece of the workshops. This analysis provided the framework for the religious leaders to take action.

“Make not your own hands contribute to your destruction, but do good; for Allah loveth those who do good.”
(Extract from the Holy Quran used by religious leaders.)

The workshop produced an action plan with multiple strategies that the religious leaders could use to increase awareness of the importance of antenatal care. The main points included facility delivery, preparedness for maternal emergencies, and routine immunization. Religious leaders were supported to develop messages and produce leaflets on key MNCH-related topics. In a cascade training approach, each workshop participant was encouraged to share information and their action plans with other local religious leaders, so encouraging their peers to use key MNCH themes in their teaching.

Considerable emphasis was placed on disseminating MNCH-related information during Ramadan (the month of fasting) in 2011. This included:

- Preaching during regular Friday prayers, so reaching considerable numbers of men.

- Integrating messages on MNCH into radio slots for religious broadcasts.
- Including a variety of MNCH-related topics into the teaching curricula of Islamiyya schools, which could be found in most communities.

In each state, the Ministry of Religious Affairs agreed to support and monitor the efforts of the religious leaders. Subsequent workshops were held to review progress, share experiences, realign workplans and introduce new topics.

The results: reaching wider audiences

Monitoring during Ramadan in 2011 provided evidence of the capacity of religious leaders to reach large populations. The fifty or so religious leaders who attended the initial planning workshop in 2011 trained just under 1,600 peers who went on to preach on MNCH issues. 82,000 copies of Hausa language leaflets designed by the workshop participants were distributed at Friday prayers and thousands more leaflets were photocopied and distributed by Islamic institutions.

The MNCH-oriented teachings of Islamic scholars in Katsina and Zamfara were recorded on radio cassettes and proved to be extremely popular, with many copies sold. Across the four states, 29 radio and 13 television programmes on MNCH-related issues were aired by Islamic scholars.

In Katsina, the Ministry of Religious Affairs supported 13 radio discussions on MNCH-related issues on Companion FM radio and Katsina state radio.

The religious leaders continued their work beyond the end of Ramadan, ensuring that key messages about women's and children's rights to good health were delivered during Friday prayers (Jumu'ah) and during radio broadcasts. By 2013 a household survey

by PRRINN-MNCH found that **60%** had heard religious leaders talking about health-related issues, providing evidence of their effectiveness as mass communicators.

Policy implications and conclusion: an effective strategy

Working with religious leaders is an important and highly effective strategy to promote MNCH. However, for the strategy to work, it requires a facilitative approach where religious leaders are supported to use health-related information to devise their own key messages and preferred means of communicating them.

In the PRRINN-MNCH states, the involvement of key ministries such as the Ministry of Religious Affairs provided a means to monitor the work of religious leaders – and an entry point for integrating MNCH-related topics into the curricula of Islamiyya schools.

PRRINN-MNCH's initial emphasis was on working with religious leaders to promote better MNCH. More recently, it has extended its focus to supporting religious leaders to address the lack of women in the health workforce (in partnership with the W4H programme), as well as social isolation and lack of support at community level – conditions that can have a devastating effect on health status and health outcomes.

In contexts where community-level social safety nets are weak or have disappeared with growing poverty and hardship, religious leaders have the influence and reach to promote a shift in thinking away from 'charity' towards broader-based support for and empowerment of the least-supported, leading to improved health.



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Young women's support groups

Empowering young women and improving maternal health

The challenge: some young women lack support

Many young married women in the north of Nigeria lack health-related information and have poor access to health services due to social-cultural restrictions on their freedom of expression and physical mobility. For some, this results in a lack of preparation for the start of sexual activity, and lack of preparedness for delivery. Some women face particular hardships because they lack the social and practical support of their husbands and families. Special strategies are required to reach these women.

A 2012 PRRINN-MNCH survey found that 21% of young married women fell into the 'least-supported' category. They were less likely than their peers to use health services, and had the least confidence in looking after themselves or their children.

The response: empowering young women

PRRINN-MNCH began working in Katsina, Jigawa, Zamfara and Yobe states in 2008. A community engagement approach was designed to address the barriers that led to poor home-based care of pregnant women and newborns, and restricted the use of health services. Young married



Key messages:

- 1** Targeted strategies are required to improve maternal, newborn and child health among young married women in the north of Nigeria.
- 2** Young women's support groups (YWSGs) in PRRINN-MNCH communities had positive effects on health-seeking behaviour. The benefits of these groups extended beyond health.
- 3** If the least-supported young women are to be reached, a strategy of 'targeting within an age-specific target group' is essential.

women were not always reached by these efforts, and hence the young women's support group (YWSG) Initiative¹ was established.

The YWSGs were based on a simple idea – that young women were likely to respond positively to information and support provided by female mentors from their own community who were close in age. Mentors who had already been trained by PRRINN-MNCH were given extra training to strengthen their facilitation skills and introduce new topics.

The mentors helped to establish groups of 10-12 young married women aged 20 years and below. Discussion groups began with a focus on MNCH, and moved on to other topics such as nutrition, reproductive health, and financial management as well as communication and negotiation skills. The groups were encouraged to explore who the least-supported women were, and to find ways to include them.

The results: improved knowledge and health

By September 2013, after 12 months, PRRINN-MNCH and its government partners had trained over 4,000

mentors to work with over 2,000 YWSGs in 40 local government areas in four northern states. The groups reached over 24,000 young women.

The YWSGs reached 24,000 women in four states in less than a year.

The YWSG model, which uses a cascade training approach, shows good potential to achieve complete coverage of target groups if implemented in a phased manner.

The YWSG groups had a positive effect on health-related knowledge and practice. A survey conducted in mid-2013 found that members of YWSGs were more likely than non-members to:

- Know four or more maternal danger signs
- Know when to put a newborn to the breast for the first time
- Give birth in a health facility
- Know the correct immunisation schedule
- Have vaccinated their most recent child
- Have the complete set of vaccinations

1. With funding from the UK Department for International Development through the Girl Hub initiative.

Fig 1: MNCH knowledge and practice

YWSG members were more likely to know about maternal health issues.

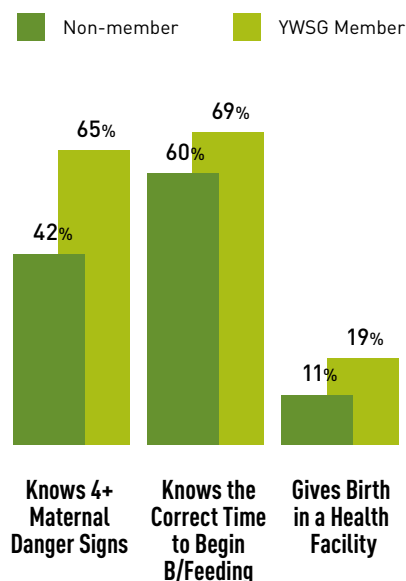
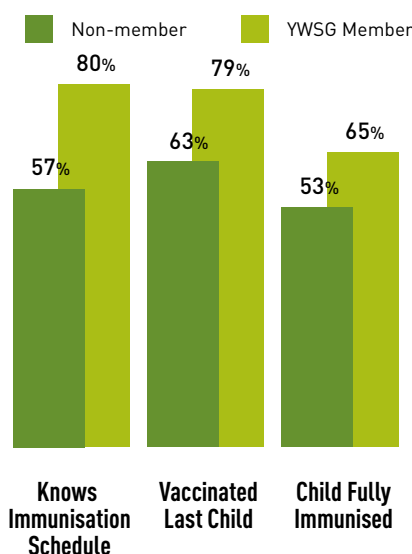


Fig 2: Immunisation knowledge and practice

YWSG members were also likely to know more about immunisation.



The effect of the YWSGs extended beyond health, and included improvements in economic status and women's confidence and social status. Members of the YWSGs

also reported greater capacity to resolve conflicts with husbands and other family members. Some husbands reported greater harmony at home.

Sahura argued that the YWSG initiative had changed the life of her entire family. She pounded grain for other families, which was considered one of the most menial tasks that a woman could be involved in. Loans provided by the YWSG enabled her to start a tailoring and spaghetti-making business. She quickly paid off the loans, trained her sisters to work for the business, and was able to provide her husband with capital to start his own business. Between them, they make an average profit of N8,000 per month. [Katsina]

Many of the groups were able to highlight positive examples of how the least-supported women had been reached and included in the groups.

"A woman who is under-supported joined the group lately. She was always dirty together with her child. In fact she only tied a wrapper around her chest. But she has changed now, wears a dress, washes her child when coming to meetings, and participates a lot." [Jigawa]

Conclusion and policy implications

The potential of the YWSGs to improve MNCH and to empower young women both economically and socially was evident after 12 months. The YWSGs had benefits that extended beyond improvements in health: general improvements in quality of life were apparent as some of the young married women developed the confidence and capacity to begin forming their own social networks and explore opportunities for self-development.



The rapid roll-out of the YWSGs, which took place in less than a year, was enabled by:

- Prior knowledge and capacity of PRRINN-MNCH and its partners when rapidly scaling up community engagement activities
- Host communities which had participated in MNCH-related activities and were receptive to the groups
- Religious leaders' support, who saw the YWSGs as an effective way to reach vulnerable young women

To ensure that all the least-supported women are reached, the next phase needs to focus on attaining full coverage of the target age group. The number of groups in each community needs to increase three-fold. An expansion of this size is feasible: the YWSG approach uses a cascade training approach which lends itself to rapid scale-up.

Ongoing support from external coaching and mentoring teams who can help maintain group motivation and leverage external resources for the groups is required to ensure that they continue to function effectively. Embedding the YWSGs into the everyday work of government agencies is a future priority.



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Improving data collection

with the District Health Information System 2 (DHIS2)

The challenge: lack of complete, correct and consistent data

Routine health management information systems (HMIS) are plagued by a lack of the '3Cs':

- Complete data due to submission delays
- Correct data due to poor data capture
- Consistent data due to inadequate supervision and monitoring

Complete, correct and consistent data gives managers the confidence to use that data in decision-making.

Routine health information systems were strengthened by the DHIS under the Partnership for Transforming Health Systems (PATHS1) programme in 2002. The District Health Information System (DHIS) is free and open source software that is used in many countries in Africa such as Ethiopia, Botswana, Tanzania, Zambia, South Africa and Nigeria. The Federal Ministry of Health in Abuja has officially adopted the DHIS as the HMIS software for the country.

Key messages: The revised DHIS2 is an online data management tool that improves access to information for health professionals.

- 1 It provides a comprehensive system for capturing complete, correct and consistent data at all levels in both online and offline modes.
- 2 Information can be accessed from any location with a computer and an internet connection.
- 3 DHIS2 has revolutionised access to Health Management Information System (HMIS) data not just in the northern states, but across Nigeria, allowing real-time information to influence decision making.



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. This led to significant improvements. For example, in Yobe, data collected became suitable for managers to compare trends over a year and between years.

However, there were still issues with the 3Cs and thus the timely use of data for decision-making.

The response: comprehensive online data capture

In 2010 Zamfara explored the use of version 2 of the DHIS software (web-based) to capture the national NHMIS summary form, known as NHMIS 001, 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. This led to the DHIS2 replacing the DHIS1.4 across the whole country.

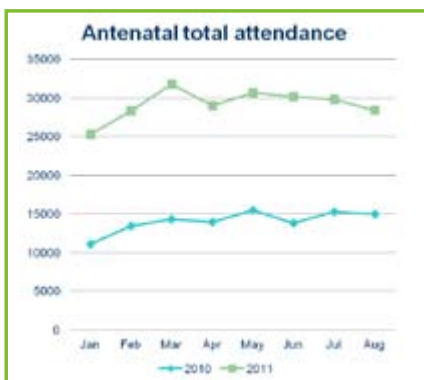
Building local capacity: the capacity of state and all local government authority (LGA) HMIS officers has been built on the use of the DHIS software. HMIS officers/assistants in all 92 LGAs in the four states are now able to capture and retrieve data from the HMIS website while the state HMIS officers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



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Fig 1: Sample DHIS2 data charts

DHIS2 allows managers to analyse trends and patterns.



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.

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 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.

The results: DHIS2 has revolutionised access to HMIS 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 (and all other 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.



Building capacity, providing the tools, the reviews and the data quality self-assessments have all improved the completeness, the correctness and consistency of the data. For example, for completeness: the percentage of all health facilities in the state that have submitted their HMIS data has increased significantly. The rates are over 80% in Jigawa and Katsina and up to 92% in Zamfara. 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.

Policy implications

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.

Conclusion

Strengthening the completeness, correctness and consistency of health data, through the introduction of the DHIS2, has ensured that states across Nigeria are using real-time information to guide decision-making.



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Maternal mortality estimates

The challenge: inaccurate maternal mortality estimates

Nigeria contributes substantially to the global burden of maternal mortality – success in reducing this is critical to achieving the 5th Millennium Development Goal (MDG 5). Reliable estimates of maternal mortality are essential for effective planning of resource allocation, and for monitoring the impact of maternal health interventions.

Although global maternal deaths reduced by 35% from 526,300 in 1980 to 342,900 in 2010, in Nigeria they actually increased from an estimated 473 deaths per 100,000 live births (95% confidence interval – CI: 306-703) in 1990 to 608 (95% CI: 372-946) in 2008¹. The wide confidence intervals reflect the lack of precision in the estimates; thus, the numbers should be interpreted as orders of magnitude rather than exact ratios.

Key messages: Maternal death related to pregnancy and childbirth is a sensitive indicator of a weak health system.

- 1** Obtaining accurate maternal mortality data is extremely difficult in countries with poor registration systems and contributes to a lack of appropriate targeting of essential resources.
- 2** PRRINN-MNCH used the 'sisterhood method' to estimate maternal mortality in selected Northern Nigerian states and identified a much higher maternal mortality and lifetime risk of maternal death than the national average.
- 3** Attaining the 5th Millennium Development Goal (MDG 5) will only be possible with accelerated efforts to improve the health system and ensure wider access to essential maternal health services.



A further complication is the wide disparities in health-related data across Nigeria, with the north performing significantly worse than the south². For example, the Nigerian Demographic and Health Survey (NDHS) of 2008 indicated that in the northern region, 59% of pregnant women had no antenatal care and nine out of ten women delivered their babies at home. The corresponding

numbers in the south-east and south-west regions were 13% for no antenatal care and two out of ten for home deliveries.

The response: the 'sisterhood method' survey

PRRINN-MNCH carried out an extensive survey in the programme states of Jigawa, Katsina, Yobe and Zamfara to define more appropriate estimates of the lifetime risk of maternal death and the associated maternal mortality ratio (MMR). The 'sisterhood method' was employed, where women of reproductive age were asked about any sisters who had died during pregnancy, labour or within 42 days after delivery.

This technique provides reasonable estimates if 3,000 sisters or more are studied. In this case, 3,080 respondents were interviewed between July and August 2011.





The results: reliable evidence

The respondents reported 7,731 sisters of which 593 were reported dead, 298 of them due to maternal-related causes. This results in a lifetime risk (LTR) of 9% or one in 11, and using the estimated total fertility rate of 7.3 from the NDHS 2008, gives an average MMR in the study area of 1,271 maternal deaths per 100,000 live births, with 95% confidence intervals of 1,152 to 1,445.

When disaggregated by 5-year age groups, the data also showed a common trend of high maternal mortality in the age groups 20-24, 25-29, and 30-34, in which at least 16% of the deaths reported was a maternal death. The MMR estimate based on respondents aged 30 years and below was very high at 1,751 maternal deaths per 100,000 live births.

Policy implications

The maternal mortality situation in Northern Nigeria is one of the worst in the world and is much worse than the national average statistics suggest.

This is largely due to poor health systems, low use of antenatal care – particularly by skilled health workers, and a preference for home deliveries³.

Programmes aimed at improving the infrastructure and access to health services in rural areas will probably have a great impact on maternal health outcomes.

Innovations such as those pioneered by PRRINN-MNCH on emergency transport schemes and improving quality of emergency obstetric care (EOC) services, especially in rural areas, will help to stem the high level of maternal mortality.

Creating demand by making the community aware of the benefits of antenatal care, as well as wider availability of emergency transport and EOC at nearby health facilities will increase the use of maternal and child health services.

Interventions that delay pregnancy in young married women could contribute significantly to minimising the LTR of maternal death.

Conclusion

The MMR in Northern Nigeria has been long speculated to be in excess of 1,000 maternal deaths per 100,000 live births. This study provides reliable evidence that this is indeed the case, with an estimated MMR of 1,271 (95% CI: 1,152–1,445).

Scaling up interventions to accelerate the reduction of maternal mortality, such as increasing the availability of skilled birth attendants, promotion of facility delivery, improving antenatal care attendance, implementation of emergency transport schemes in hard-to-reach rural areas and expanding family planning use will all help the attainment of MDG 5.



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Performance-based financing pilots

The challenge: need to achieve results

The status of maternal, newborn and child health (MNCH) indicators in Northern Nigeria is among the worst in the world. The factors contributing to this situation are complex and include health system weaknesses, poverty, poor governance, socio-cultural traditions and security issues.

Increasing interest in health financing options which link payment with output or results to improve health system performance is rapidly extending among African policy makers¹. However, while strong evidence of impact remains scarce² it is recognised that the strengths and weaknesses of different PBF approaches need more extensive research and documentation³.

The response: PBF schemes

The PRRINN-MNCH operations research (OR) team worked with state operations research advisory committees (SORAC) to explore options linking performance incentives with results to improve MNCH in the states of Zamfara, Yobe, Jigawa and Katsina.

Key messages: Performance-based financing (PBF) schemes have demonstrated some success in improving coverage of maternal, newborn and child health (MCNH) services.

- 1 The experiences in PBF pilot studies by PRRINN-MNCH confirm that PBF schemes can work in Northern Nigeria.
- 2 The studies provided useful insight into the specific mechanisms and systems required to enable such interventions to function effectively.

Performance-based financing is the provision of cash or goods against measurable actions or the achievement of pre-defined performance targets.

The mechanism is targeted at solving a pre-determined performance problem and can focus on the supply-side, for example, at health facility level, or on the demand-side to influence individual behaviour.

The PBF schemes were:

- Incentivising women's groups (WISH groups) with cash to increase uptake of MNCH services in Zamfara
- Directly rewarding pregnant women and mothers with cash for antenatal care visits, delivering in a health facility and fully immunising their children in Yobe using vouchers that were redeemed for cash
- Directly rewarding pregnant women and mothers 'in kind' for uptake of appropriate health care in Jigawa: rewards included a baby pack, soap, and cloth
- Incentivising health facilities and health workers with cash to achieve pre-defined performance targets in Katsina



The results: improved services

Some, though not all, of the studies demonstrated a main effect in terms of improved provision or use of desired services.

For example, in Yobe, antenatal care visits and assisted deliveries increased significantly in intervention areas compared to control areas (Figs 1 and 2).

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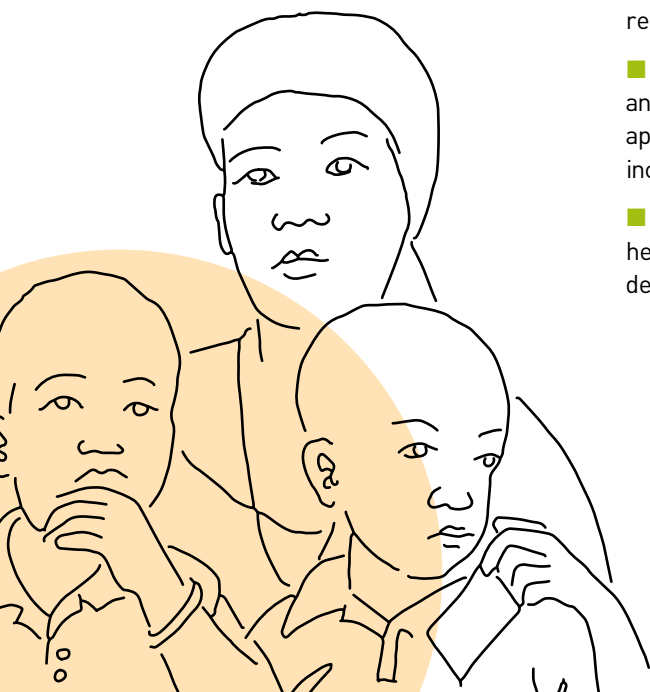
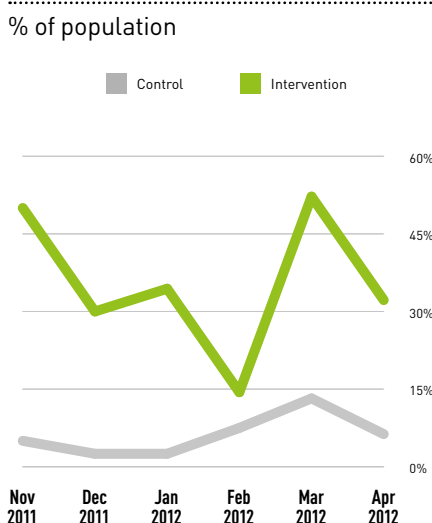
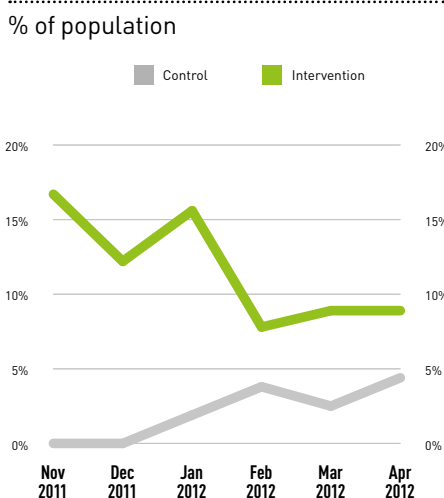


Fig 1: Comparison of the 4th antenatal care visit by PBF pilot study, Yobe state



Access to ANC increased significantly.

Fig 2: Comparison of women with skilled assistance at delivery by PBF pilot study, Yobe state



Births with the assistance of a skilled birth attendant increased greatly.

Similarly, the 'in kind' intervention in Jigawa demonstrated a positive effect in terms of first and fourth antenatal visit and attended deliveries.

By contrast, with interventions where the incentive was less directly related to the desired behaviour, no main effect was observed, as was the case in the WISH groups, where the incentive went to the group not the individual. Similarly, perhaps for reasons complicated by breaks in the vaccine cold chain, as well as outside factors such as the strikes, elections and Boko Haram, incentives associated with immunisation coverage in Katsina also failed to demonstrate a main effect.

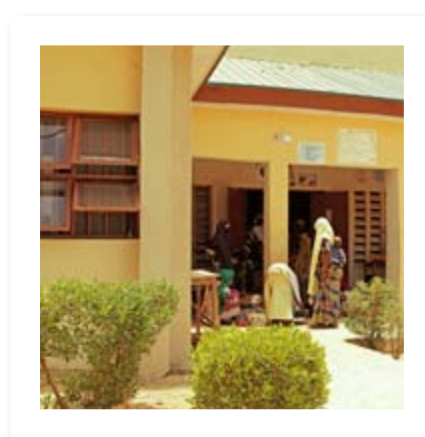
In general, therefore, there was a more positive effect with interventions where there was a direct relation between incentive and desired results.

Policy implications

Beyond 'proof of principle' that PBF interventions can work in Nigeria, insight was generated into the mechanism and system requirements necessary for these approaches to work: this knowledge will be helpful for policy-makers deciding how to scale up such schemes.

In general, if the basics are not in place – qualified human resources, adequate supply chain, etc – PBF schemes will likely have a limited positive effect and given the general state of the health management information system (HMIS) there are also challenges related to data capture and reporting. To establish the 'segregation of responsibility' necessary for PBF schemes to function, there are capacity constraints, particularly in the rural north.

The SORAC participation was vital to ensure the legitimacy of any results or innovations among stakeholders, though there were challenges in reconciling the preferences of stakeholders with prevailing theory and evidence.



Conclusion

Taken as a whole, the studies provide 'proof of principle' that PBF schemes can contribute to improved use of MNCH services. They also shed light on the circumstances under which such initiatives might work. Of equal importance, the studies provided useful insight into the environmental determinants and the mechanisms, systems and key capabilities necessary for PBF interventions to realise their promise in practice.

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Using mobile phones

to improve health management information systems

The challenge: incomplete or late forms

Obtaining monthly reports from rural facilities on services delivered, especially immunisation and maternal health services, has been a major challenge. Traditionally, monthly summary reports from registers track health worker and patient interactions. These contain around 150 data elements, and are submitted to the Local Government Primary Health Care coordinator who either inputs them into the District Health Information System (DHIS) software, or sends them on to the state level for data capture.

However, some states struggle to reach data completeness of 50% and, in general, only 50% of facilities report within 45 days of the end of the reporting period. Key issues are the lack of time to manually transcribe data from registers to health management information system (HMIS) forms, plus the cost and time required to transport the data from health facilities to LGA headquarters.

Key messages: Mobile phones are changing the way health workers are recording essential data.

- 1 Monthly data submitted manually from health facilities to the local government areas (LGAs) in Nigeria is often incomplete and late.
- 2 PRRINN-MNCH has tested user-friendly mobile phone applications linked to the web-based District Health Information System (DHIS2) and achieved impressive improvements in data completeness and timeliness at relatively low cost.
- 3 There is huge potential for this initiative to help transform data management in health.

The response: mobiles are quicker and cheaper

As part of the PRRINN-MNCH initiative to strengthen the HMIS in the Northern Nigerian states of Yobe, Katsina and Zamfara, mobile technology was used to improve reporting completeness and timeliness from selected health facilities. Mobile data submission was also expected to reduce costs since no travel was involved.

Rapid mobile technology advances in Nigeria have enabled these pilot studies to be taken to a higher level in a short time with the introduction of GPRS (General Packet Radio Service) and EDGE (Enhanced Data rates for GSM Evolution) connectivity. This has reduced the cost of sending data significantly. Furthermore, the DHIS2 software – a web-based upgrading of the original DHIS – includes a mobile module that allows users to capture a

defined dataset on a mobile phone.

After testing mobile phones in health facilities and LGAs in Yobe and Katsina, PRRINN-MNCH experimented with mobiles in hard-to-reach health facilities in Zamfara state with persistently low reporting rates. The mobile phone used in the Zamfara pilot was a Nokia ASHA 200, which costs about \$85 (NGN14,000), and proved to be the most stable and user-friendly phone of those surveyed.

The results: more complete reports on time

Ease of use: All the users (100%) described the DHIS mobile as being very easy to use and user friendly. The whole process of accessing the internet, loading the dataset, data capture and report submission took just 10-15 minutes. However, in many facilities this was partly due to the fact that they do



not offer some of the services and skip those reporting sections.

Preference: All the users (100%) preferred the mobile phone to submit data as it saves them the time and cost of taking the data to the LGA headquarters before the 5th of each month.

Cost: Interestingly, it cost next to nothing to submit the data as most of the GSM networks have promotions that offer free data bundles for airtime purchased.

Completeness: The completeness of data submission was 100% from Aug 2012 to Dec 2013: ie all the 96 expected reports were received compared to a submission rate of between 12.5%-37.5% in the seven months preceding the study.

Timeliness: The overall timeliness of report submission before the 5th of each month was 57%, rising to 100% by the 8th. This was in part due to some challenges with the server, when the users could not upload their completed data in time.

Data quality: Comparison between a sample of data captured directly by the LGA and those captured by the health facilities showed the accuracy of the reporting was good.

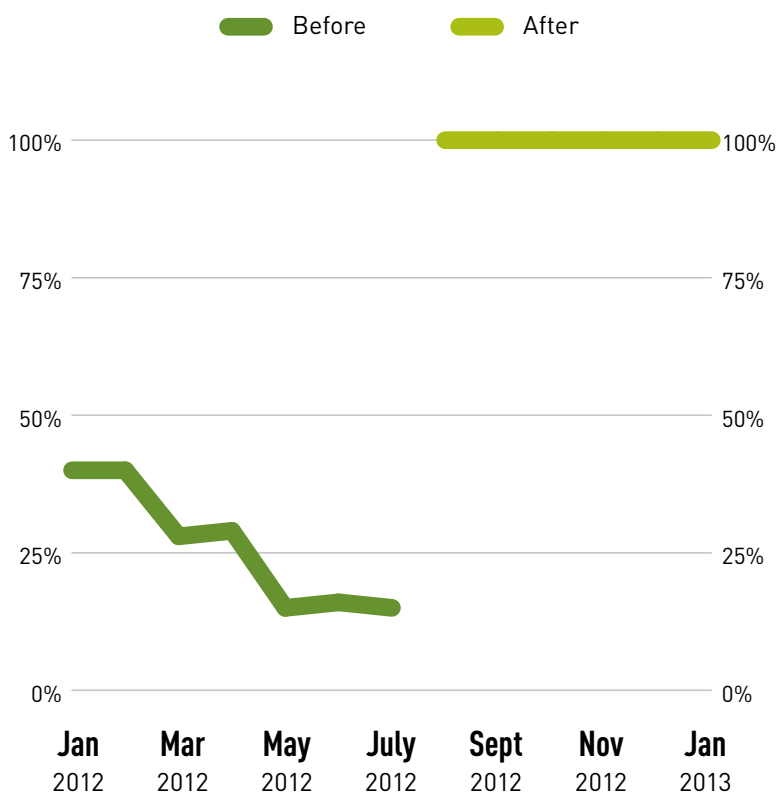
Policy implications

1. The use of mobiles for reporting has obvious cost-saving benefits. Not only are travel costs eliminated, but the time spent travelling to and from facilities to submit data is significantly reduced.

2. The capturing of data at the health facility level allows the LGA to concentrate on data analysis, address data quality, provide feedback to the health facilities, disseminate information to policy makers and promote the use of information.

Fig 1: Submission rates before (Jan 12-Jul 12) and after (Aug 12-Jan 13) the study

Use of mobile phones for submission grew from less than 40% to 100%.



3. While the data submission in these pilots has been restricted to the NHMIS001 form, or a subset of this data, the potential is for mobiles to be used for other reporting priorities, such as maternal and neonatal deaths, disease surveillance data or priority communicable diseases.

Conclusion

There are numerous examples in Nigeria where mobile phones are used to submit health service data. However, most of these rely on donor-funded support, which carries the risk of the initiative folding when the donor support ends.

The initiatives in Yobe and Katsina, and more recently in Zamfara, have sought to build sustainable systems. The

introduction of the DHIS2 in Nigeria has radically changed the potential for the sustainable deployment of mobile information systems. Though the initial pilot system was heavily dependent on a national consultant, the mobile module of the DHIS2 can be easily managed by advanced DHIS2 users. In addition, users in health facilities appear to have very little difficulty in using the application.



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Women Investing Savings for Health

(WISH) groups offering improved access to healthcare

The challenge: financial barriers to MNCH services

Extremely limited access to essential maternal, newborn and child health (MNCH) services contributes to the high maternal, newborn and child mortality rates in Northern Nigeria. The Nigerian Demographic and Health Survey (NDHS) of 2008 indicated that, in the northern region, 59% of pregnant women had no antenatal care (ANC) and nine out of ten women delivered their babies at home.

Research conducted by PRRINN-MNCH found that the key reasons for such poor access to health care include the paucity of nearby quality health facilities and financial barriers faced by families. Recent experience in Africa and elsewhere demonstrates that performance-based financing (PBF) initiatives can have a range of positive effects in increasing demand for appropriate MNCH services and improving the quality of those services.^{1,2}

Key messages: WISH community groups were established to address financial barriers leading to poor access to essential maternal, newborn and child health services in Northern Nigeria. However, a pilot study found these weren't as successful as had been hoped.

- 1** Community-based women's savings groups form a potential vehicle to influence positive health-seeking behaviour.
- 2** A performance-based incentive scheme introduced by PRRINN-MNCH aimed to encourage WISH groups to support increased use of MNCH services.
- 3** Although there was an increase in savings through the incentive scheme and awareness of MNCH issues, this did not translate into higher use of critical services.
- 4** Further research is needed to explore the benefit that can be gained from such community groups and the investment required to achieve better health outcomes.

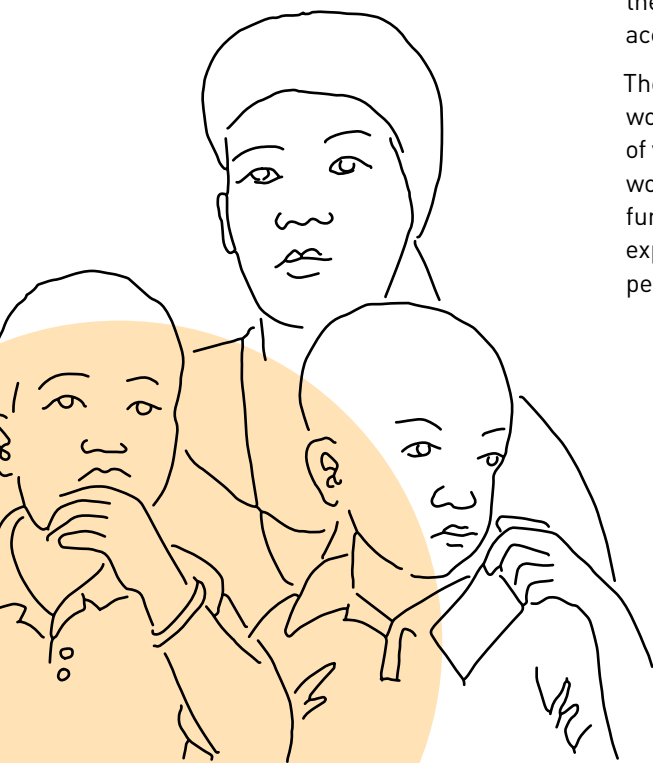
The response: pilot study of WISH groups

PRRINN-MNCH is implementing a comprehensive programme of support to address both supply and demand-side weaknesses in the Northern Nigerian health system. This support included a pilot initiative to test the feasibility of using community-based women's groups as a vehicle to support their members and communities to access essential MNCH services.

The WISH groups are a specific set of women's groups, based on principles of voluntary membership and led by women, which build up an emergency fund of savings to cover health expenses. PRRINN-MNCH introduced a performance-based incentive scheme

that rewarded existing WISH groups for mobilising women to increase uptake of antenatal care (ANC), delivery at the facility, postnatal care (PNC), and routine immunisation (RI) for infants.

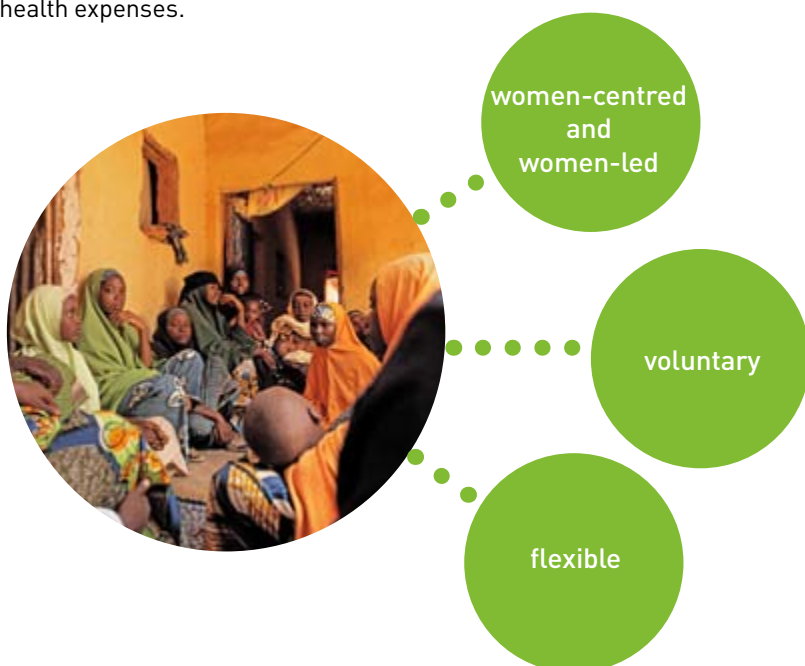
Fixed amounts for each service were agreed between state officials and community members, and WISH groups were paid according to the individual numbers accessing care, as well as a group bonus if they reached a pre-agreed target for each service. The demand-side motivation was complemented by an emergency transport system and quality improvement interventions in the health facilities. The pilot was implemented for one year between March 2012 and March 2013.



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Fig 1: WISH group principles

The groups build up emergency funds of savings to cover members' health expenses.



The specific objectives of the study were to:

- Evaluate how effective women's savings clubs are for mobilising savings
- Examine the best ways to combine social and financial support to promote safe deliveries through the WISH model
- Assess the impact of these women's community savings groups (group incentives) on the use of MNCH services

The results: insufficient incentives

The WISH groups had all established savings from member contributions before the PBF scheme was introduced, and although the incentive scheme increased the savings, member contributions dropped over time. Discussions with community members revealed that the incentives were not perceived to be sufficient and some did not feel they derived adequate individual benefit from their contributions.

However, community members, and particularly women, showed a higher level of awareness of key MNCH topics after mobilisation efforts. WISH groups actively conducted health outreach and mobilisation activities but faced challenges in convincing husbands to allow their wives to deliver at health facilities.

Monitoring of the use of services showed an irregular pattern with no obvious trend or significant changes over time. This is likely to be a result of the inability of WISH groups to overcome social and financial constraints to enable individual behaviour change.

Policy implications

Community-based women's saving groups can be an effective channel to rally communities around shared areas of concern, develop increased social capital through group solidarity, and improve awareness of MNCH issues. However, achieving increased use of MNCH services will require broader social and cultural factors to be

addressed, through greater involvement of men and ongoing community mobilisation to ensure a critical mass of support for such activities. The benefits of individual versus group incentives also needs further exploration and research.

Conclusion

This pilot study has demonstrated the potential value of using women's saving groups as a channel to encourage availability of funds for emergency MNCH problems within the community and to foster greater awareness about local health issues and actions required. However, translating this into increased use of critical MNCH services and improved health outcomes in these communities warrants further investigation into persistent social, cultural and financial barriers, and will likely require additional investments.



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Using the TICK sheet

to improve documentation of routine immunisations

The challenge: under-reporting of immunisation

Improving routine immunisation (RI) coverage is a keystone of the PRRINN-MNCH programme. National surveys and the programme baseline survey consistently report extremely low immunisation rates in the supported states. For example, in Zamfara only 5.4% of children aged 12-23 months had received all basic vaccinations¹ and this only improved to 10.6% in the PRRINN-MNCH endline survey, 2013. While there are many contributing factors, a significant problem lies in accurate data collection.

Normally, all vaccinations given should be recorded in the child health card and in two sets of registers in the primary health care (PHC) facility – a daily tally sheet, which tracks the number of doses delivered by day in groups of five (tallies) and the immunisation register, which contains one line per child and records all their immunisations. However, this is a tedious process and records from the tally sheets are often not fully transcribed, resulting in under-reporting in the monthly summary sheets. PRRINN-MNCH surveys estimated that the real coverage rate in Zamfara was more likely to be around 15%.

Key messages: Inaccurate data is one of the factors in the extremely low immunisation rates officially reported in Northern Nigeria.

- 1** PRRINN-MNCH implemented a pilot study to test the effectiveness of an adapted format using a 'TICK sheet' to simplify and improve data collection.
- 2** The results showed substantially improved immunisation rates in the intervention sites and a generally high level of satisfaction among health workers using the sheets.
- 3** Policy makers should continue to improve the TICK sheet and expand its use.

The response: introducing the TICK sheet

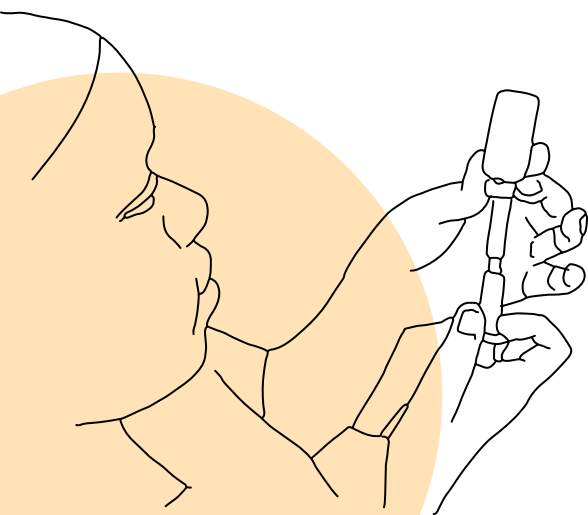
In close collaboration with the Federal Ministry of Health and following detailed discussions with health workers, the Zamfara state team proposed a change to the tally sheet that would transform it into an 'immunisation TICK sheet'. This would improve the function of the former tally sheet and simplify its link to the immunisation register. Health workers merely had to tick the correct vaccination for each child. Columns were added to document when a child is fully immunised and record their immunisation card number.

The idea was that these changes would stimulate greater card use by mothers and health workers, and increase awareness about when a child was fully immunised. The TICK sheet also incorporated tetanus toxoid immunisation in pregnant women.

Advantages of the TICK sheet:

- It requires the recording of the patient's card number, which means that health workers can link the register to the tick sheet, thus improving data collection
- It includes information on card retention, fully immunised children (FIC) and adverse effects from immunisations (AEFI)
- If information is recorded in the tick sheet but not the register, it can easily be added later using the child's registration or card number
- Because of the link between the tick sheet and register, records are harder to falsify

The study was implemented from June 2011 for 11 months in two intervention facilities and two control facilities (which continued using the regular tally sheet). Weekly supervision was provided



for the first six months and then discontinued for the final five months. The objectives of the study were to:

- Test the effect of the TICK sheet at PHC facilities on the completeness and reliability of reporting
- Assess the effect of the TICK sheet on reporting of fully immunised children and immunisation coverage rates in PHC facilities, as well as additional indices like AEFI (events following immunisation) and card retention
- Evaluate the effect of supervision on documentation of routine immunisation
- Assess the RI provider's perception and acceptance of the process of recording and tracking of immunisations

Fig 1: Differences in documented RI coverage rate for DPT vaccine

Reporting was greatly increased.

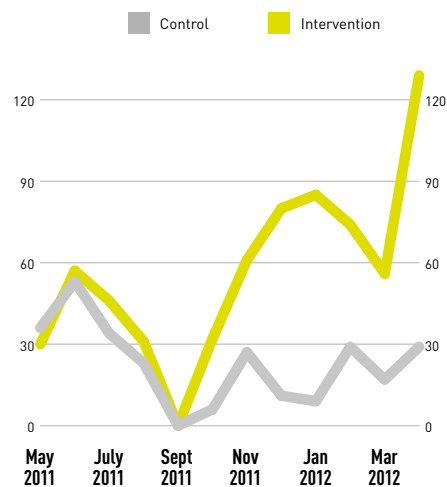
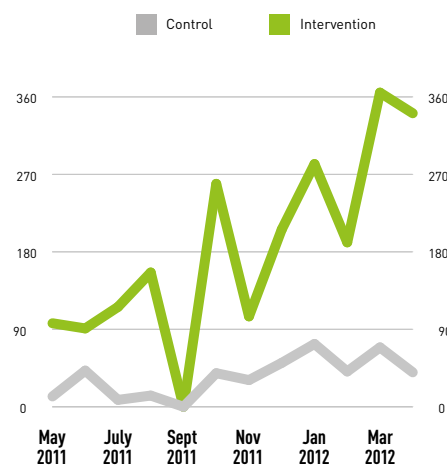


Fig 2: Differences in documented tetanus toxoid vaccination coverage for pregnant women



The results: differences in data revealed

There were stark differences in immunisation-related data collection between intervention and control sites.

Differences in coverage were even more pronounced. Users of the TICK sheet reported that:

- They liked using it because it gives more client information which can easily be cross-referenced with the immunisation register
- All fully immunised children (FIC) are easily identified
- It's quick and easy to use as names of antigens don't have to be written out, but simply ticked, thus speeding up the process
- Limitations with the TICK sheet included the lack of a bottom row for noting the grand total and lack of provision for the name of the client or the date
- Shortages of vaccines undermined efforts to increase immunisation coverage

Policy implications

The TICK sheet proved to be an effective mechanism to improve data collection and increase reported immunisation coverage.

- Additional advantages include a speedier vaccination process, thus shortening the waiting time for clients, and easier interpretation of data for health workers, enabling them to track clients and ensure full immunisation more effectively.
- The Zamfara government should continue to improve the sheet, test its acceptability in other facilities and monitor results to share with the federal government and promote further expansion.



Conclusion

The TICK sheet is an effective tool in enabling more accurate recording of RI in health facilities. Expanding its use could have a significant impact on health outcomes in pregnant women and children.

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This set of Knowledge Summaries highlights key achievements from the PRRINN-MNCH programme in Northern Nigeria under four streams of work: Governance and Systems, Health Service Delivery, Community Engagement, and Evidence for Decision-making.

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.

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