

PATHS

Nigeria Partnership for Transforming Health Systems

Technical Brief



Providing Essential Drugs and Equipment

DFID Department for
International
Development

DFID Department for
International
Development

Any opinions expressed, or recommendations made in this report are those of PATHS' consultants and not necessarily those of the Department for International Development (DFID) or any members of the PATHS consortium.

This Technical Brief was written by Angie Roques, STL for Enugu with contributions from Douglas Guest, Health Commodities Project and Emmanuel Sokpo, STL for Jigawa and Kano.



A pharmacist dispensing drugs in Kano

Providing Essential Drugs and Equipment

Summary¹

Poor provision of drugs and equipment in public health facilities has had a negative impact on patient attendance in many Nigerian States, with patients seeing little point in visiting facilities that do not provide them with drugs.

In Igbo speaking states, hospitals are known as “Ulo Ogwu- House of drugs”

In an effort to reverse this situation, the DFID-funded Partnership for Transforming Health Systems Programme (PATHS) and the Health Commodities Project (HCP) worked in partnership with state stakeholders from 2004 to 2008.

While HCP’s focus was on providing drugs and equipment, PATHS focused on establishing the necessary underpinning health sub-systems and supporting

¹ This Technical Brief should be read in conjunction with the Technical Brief ‘Sustainable Drug Supply Systems’

the strengthening of linkages between health providers, and communities.

The difficulties involved in improving a poorly functioning drug supplies management system and in modifying entrenched prescribing habits among drug providers and medical equipment users tend to be grossly underestimated in many health programmes. In this light the synergistic impact of PATHS and HCP has achieved much in a relatively short period, substantially improving key processes and systems involved in the quantification, procurement, distribution, use and safe storage of medical equipment and drug supplies.

As a result of efforts made over 100 containers of drugs and equipment to the tune of £12.9 million have been purchased targeting over 900 facilities in 5 Nigerian states plus the Federal Capital Territory since 2005. Increased drug availability has led to a marked increase in patient attendance at health facilities, as illustrated by Enugu state where patient attendance to selected facilities increased by an average 55 percent annual increase².



KEY FACTS

Over 100 containers of drugs and equipment (valued at £12.9 million) have been delivered through HCP targeting over 900 facilities.

Drugs and equipment being delivered to a PHC facility



© PATHS Photographer

² One must be wary of direct attribution, as the facilities that have been supplied with drugs and equipment are often the facilities that have had other strengthening initiatives.

Introduction

Efficient commodities management is essential for facilities if they are to offer effective health care services to their communities. However the picture across Nigeria is, on the whole, one of neglect with much of its health services (both at primary and secondary level) subject to frequent drug stock outs and having limited amount of often dilapidated or malfunctioning equipment.

The Partnership for Transforming Health Systems (PATHS) commenced operation in 2002. The core purpose was to respond to MDGs 4, 5 & 6 through improving delivery of services, establishing the necessary underpinning systems, increasing access to drugs and strengthening community demands. To support PATHS services and systems strengthening activities the Health Commodities Project (another DFID funded programme) commenced in March 2005 with the core purpose of providing drugs and equipment, particularly to primary care facilities.

In September 2004 PATHS undertook an initial scoping exercise to determine the state of readiness for the receipt of drugs and equipment. This work looked specifically at the health facilities and Central Medical Stores and found both woefully lacking. Therefore in November 2005, HCP undertook a more in depth Logistics Assessment to determine the systems and processes that needed to be strengthened prior to supplying drugs and equipment. This led to the implementation phase of delivering drugs and equipment to the facilities.

The Response

Given the complexity of the required systems strengthening initiatives, the following strategies were adopted either collectively or individually by the partners to meet all the requirements.

KEY STEPS:

Strategies adopted by the partners to meet the required standards

- **Strengthening key systems**
- Undertaking robust quantification exercises
- Commodities management
- Capacity building
- Monitoring and supervision
- Reporting

Strengthening underpinning systems within the facilities and Central Medical Stores.

To ensure efficient and effective use of drugs and equipment, a number of key systems needed to be strengthened. The initial responsibility for systems strengthening fell to PATHS. The systems strengthening³ included:

- Robust financial management system (FMS)
- Drug revolving fund (DRF) or sustainable drug supply system (SDSS)
- Central Medical Store (CMS) management strengthening
- Planned Preventive Maintenance (PPM) system

- Establishment of DRF/Health Facility Management Committees with community participation
- Monitoring, evaluation and supported supervision (MESS) moving to Integrated supportive supervision (ISS) as part of the wider IMPACT initiative (Improved Management through Participatory Appraisal and Continuous Transformation)
- Deferral and Exemption schemes.

HCP started several years after PATHS and complemented PATHS work, especially with the procurement and supplies chain management aspects. By late 2007, HCP had taken increasing responsibility for the funding of DRF implementation, CMS strengthening and distribution of commodities to facility level.

State CMS were visited by PATHS consultants and later the HCP Team to ensure that they had the capacity and competence to receive, warehouse, manage and later distribute the medical supplies. After having been tested in Ekiti for a couple of years, a pharmaceutical inventory control software – mSupply – was installed in all States at the end of 2007. This was done by the software suppliers, who also carried out training in the CMS and centrally.

Other CMS strengthening activities included establishment of autonomous entities with participation of communities in management structures, advocacy for devolution of procurement from State Ministries of Health to CMS level, development of operational guidelines and training on various aspects of logistic management. In some states like Ekiti, it went as far as reviewing the CMS procurement procedures, including pre-qualification of suppliers through tendering procedures; those were fully endorsed by the State government tendering board.

³ For more details around the different systems strengthening initiatives, the reader is directed to other Technical briefs in this series



KEY STEPS:

Strategies adopted by the partners to meet the required standards

- Strengthening key systems
- **Undertaking robust quantification exercises**
- Commodities management
- Capacity building
- Monitoring and supervision
- Reporting

Undertaking robust quantification exercises

In order to ensure that the drugs and equipment to be purchased were fit for purpose, groups of relevant stakeholders were convened to decide on the most appropriate drugs and equipment. These groups included doctors, nurses, community extension workers, pharmacists and laboratory technicians. In 2004, the first Essential Drug Lists (EDL) was developed. The HCP took a further step to engage the World Health Organisation (WHO) in the production of a minimum service package (MSP) with a reference list of drugs, equipment and consumables (for PHC and SHC facilities). This was done in consultation with key stakeholders from federal level and targeted states.

Drugs

Initially there was a paucity of relevant health management information (HMIS) data⁴ to inform the quantification exercise that needed to be undertaken to determine the volume of drugs to be purchased for each facility or CMS. Therefore a population based formula was produced for the drugs by one of the states (Ekiti) and this was then taken up by some of the other states to determine the requirements for each facility. In Jigawa and Kano, a combination of drug consumption data, facility attendance and population coverage were used for quantification. Population coverage was used for quantifying drug requirements in PHC facilities, while drug consumption and facility attendance data helped quantify needs in secondary level facilities.

Given the sheer volume of facilities in each state this proved a time consuming and initially expensive exercise as most states employed consultancy support to undertake this very necessary task. The process was later streamlined.



Lessons Learned

Accelerating the Quantification Process

This was achieved in Jigawa when, instead of using population based formula, the initial quantification per facility was multiplied by the number of facilities with similar attributes like bed capacity and utilisation levels

Equipment

The equipment ordering proved equally taxing. Following the initial selection and quantification by the states, it fell to HCP to provide a detailed specification of each item for ordering purposes. This exercise was conducted by their team in the UK. It is an exacting process as an accurate description must be given to the manufacturer/supplier so that there is no possibility of a misunderstanding and mis-specified items being produced. Some descriptions

⁴ See HMIS technical brief

Example of EOC equipment supplied



received from States were “generic” and too vague, i.e. “bucket” – with no indication of what size, what material, for what use.

The earlier mentioned WHO-supported MSP was developed while the first quantification exercises were almost completed. This meant that the quantification had to be checked against the MSP before ordering could be processed, leading to the revision of some specifications and quantities ordered.

Drawing on lessons from the first batches of procurement, HCP developed in 2008 a standard ordering form with complete specifications, which the stakeholders could learn from and adapt at CMS level.

KEY STEPS:

Strategies adopted by the partners to meet the required standards

- Strengthening key systems
- Undertaking robust quantification exercises
- **Commodities management**
- Capacity building
- Monitoring and supervision
- Reporting

Commodities management

Procurement

Procurement (and the linked process of placing orders) was performed by HCP in both the UK and Nigeria and followed established Standard Operating Procedures (SOPs) and Directives by the European Union (EU). Distribution of medical supplies (almost wholly locally sourced) was to State CMS level, whilst medical equipment (procured internationally) was delivered initially directly to health facilities. This later changed and equipment was also delivered to the CMS.

Medical supplies were sourced locally, medical equipment was sourced internationally

For the first HCP medical supplies order (2006) approximately 60 percent of the supplies were non-compliant; for the second order (2007) the figure dropped to 40 percent. This non-compliance was caused almost entirely by local suppliers not having the internationally required documentation needed when manufacturing or selling drugs. Of the five documents required, the main problem was caused by the suppliers being unable to provide a "Certificate of Good Manufacturing Practice" – a WHO prerequisite and one also required by the Nigerian Government.

To alleviate the shortage caused by the non-compliance, HCP held a workshop in September 2007 with stakeholders in order to discuss this issue and agree on the procurement of alternative medicines that would be compliant.

Unlike medical supplies, the issue of non-compliance was not a problem for medical equipment as they were procured internationally and a lot of effort had been put into providing very precise specifications to providers.

After the first medical supplies order for Enugu was placed in 2006, a Framework Agreement for both medical supplies and medical equipment was applied for from the European Union. This regulatory instrument permits the procurement of supplies over a period of several years without the need for new suppliers to tender for each procurement contract, which greatly speeds up the entire procurement process.

Both local and international procurement processes are under constant review to ensure that they remain streamlined and snag-free. Local suppliers have now attended two annual workshops at Crown Agents detailing documentation requirements and SOPs, parameters and timelines they need to adhere to. At the time of writing this brief, some headway was being made in terms of quality improvement as internationally recognised documentation was increasingly being made available by major Nigerian suppliers.

Distribution

Nearly all medical equipment was imported - over 70 containers in 2007 – all of which was cleared duty free through the Lagos port by the British Deputy High Commission (BDHC). Close liaison between HCP and the BDHC helped to ensure that containers were cleared with the least delay. Notwithstanding the attentive service provided by the BDHC, clearing of containers from the port is an arduous and time-consuming task where timelines could not be relied upon.

Not all State CMS were able to receive the sometimes large consignments, especially medical equipment. In instances where there was a need for interim warehousing, CHAN Medi Pharm (Christian Health Association of Nigeria's Pharmacy Division) was able to provide space in one of their six warehouses country-wide. Using their facilities provided HCP with the opportunity to enhance CHAN's logistics capability. When required, a picking and packing operation was also carried out at these facilities. This arrangement is an option that State CMS could consider in the event of reception of future large consignments.

All supplies were inspected prior to shipment, both in Nigeria and overseas, by HCP inspectors; medical supplies and equipment were then checked by the receiving facility to ensure the correct items and quantities had been received.

Distribution of medical supplies was from the supplier directly into the State CMS. The suppliers were asked to liaise with the CMS when large volumes were to be delivered to ensure that the facility was ready. For the second delivery the supplier's contracts were changed to include responsibility for off-loading delivery vehicles.

Preparation for the safe and secure storage of commodities

Theft from health facilities can be a problem in Nigeria given the lack of a secure external or internal environment. Therefore, every facility prior to receiving drugs had to determine a designated area for the storage of drugs and then make it both safe for storage purposes (e.g. with the provision of shelving, fridges) as well as secure through the installation of metal bars across windows, ceilings and doors. A safe was also requested for holding



© PATHS Photographer

Storage of drugs in a safe and secure environment

internally generated revenue (IGR) monies resulting from DRF sales. Communities were mobilised and encouraged to take personal responsibility for the safety of the drugs and equipment once received and to establish Facility Health Committees (FHC)⁵. A number of LGAs and communities contributed to funding the improvements required to make the store-places a safe environment for effective drug management and some even funded security guards. Sustaining these investments is likely to be challenging.

Improvements in storage capacity and safety at CMS level were also undertaken, mainly with government funding. This ranged from repairing equipment, providing new shelving and air conditioning systems to building of new structures.

Receiving drugs and equipment into CMS/ facilities

Prior to the receipt of drug supplies a stock take was undertaken of drugs already available in the facilities. These were categorised as follows:

- Previously provided non-expired drugs, which were added to the provided seed stock
- Expired drugs which were removed and destroyed
- Private drugs used by the staff to support the facilities which were removed

Initially the drugs and equipment were delivered in some states directly to the facilities. This caused great excitement and was received by community receptions made up of hundreds of people. The events inevitably were used by many of the state politicians/stakeholders as an opportunity to provide tangible evidence of improvements in health care in their various ministries, LGAs, wards and communities.

⁵ For more details on Facility Health Committees see the PATHS Technical Brief on Strengthening Voice and Accountability in the Health Sector.

However most drugs and equipment were delivered straight into the CMS, causing problems in some states due to CMS limited capacity to receive and store such considerable quantities of commodities, especially equipment. This approach, however, rapidly increased general awareness of the DRF scheme and stimulated government commitment to mobilising resources that would eventually improve the functioning of the CMS.

In Kano, the Governor himself went and personally inspected the large consignment at the CMS. His commitment to the scheme was increased as he approved funds for rehabilitation and instructed LGAs to take the necessary steps to receive their consignment.

In Ekiti, while the World Bank Health Systems Development Programme (HSDPII) funded the building of a new warehouse, PATHS/ HCP provided the drugs and the government released an adequate monthly running grant to manage the central drug store as well as funds to shelve the store. This was possible thanks to extensive advocacy to the then Governor who became a promoter of the programme. In addition to the funding, he approved the decentralisation of the drug procurement and the autonomy of the store management.



© Sanctus Okereke

Local clinic and community receiving drugs and equipment, Enugu



Distribution of drugs in Jigawa

© PATHS Photographer



KEY STEPS:

Strategies adopted by the partners to meet the required standards

- Strengthening key systems
- Undertaking robust quantification exercises
- Commodities management
- Capacity building
- **Monitoring and supervision**
- Reporting

Monitoring and supervision

Monitoring and supervision were essential to ensure that:

- Staff were comfortable and confident in the use of the drugs and equipment
- Parallel DRFs were not re-established
- Over or under-stocking of drugs was avoided
- Inventory control was maintained
- All facilities were aware of expiry dates
- There was no decapitalisation of the DRF
- Cash receipts were being utilised
- Accurate accounts were kept
- Use of DRF funds was monitored
- Value for money was achieved
- The increase in patient throughput was recorded
- Medical equipment was effectively used, maintained and repaired
- The CMS was functioning effectively

Monitoring and supervision was provided through the DRF system and the state's own Integrated Supportive Supervision system.

Technical assistance and support to monitoring and supervision was initially provided by PATHS but over time became the responsibility of HCP. The latter appointed in early 2008 an M&E Officer to ensure that HCP M&E requirements were also met.



KEY STEPS:

Strategies adopted by the partners to meet the required standards

- Strengthening key systems
- Undertaking robust quantification exercises
- Commodities management
- Capacity building
- Monitoring and supervision
- **Reporting**

Reporting

Unfortunately, there were delays with the introduction of reporting systems for the drugs and equipment supplied by HCP. This was largely due to the lack of staff which was being gradually addressed with the appointment of HCP State Project Managers in 2007 and additional operations managers in the headquarters in 2008. This delay resulted in difficulties in following the situation on a state-by-state basis and a lot of time was spent by the PATHS teams in liaising between the stakeholders and HCP.

Results

In Enugu 46 facilities were equipped and resourced in 2006

Coverage of health facilities

The timing of the supply of drugs, consumables and equipment was as far as possible aligned with other initiatives (e.g. the SDSS rollout, the identification of key facilities in each ward). In total, 904 facilities have been targeted by HCP supplies, most of which have already been capitalised and are fully running their DRFs.

Patient attendance 2005	Patient attendance 2006	Patient attendance 2007*
53,531	77,339	84,830

* for 2007 data is available up to November

Increase in patronage

An increase in patronage was evident in all states (see PATHS Technical Brief on Sustainable Drug Supply Systems for more information). This is displayed in the graphs and tables. However, attributing positive changes to a single initiative is difficult. In many cases, DRFs were introduced with other systems strengthening initiatives.



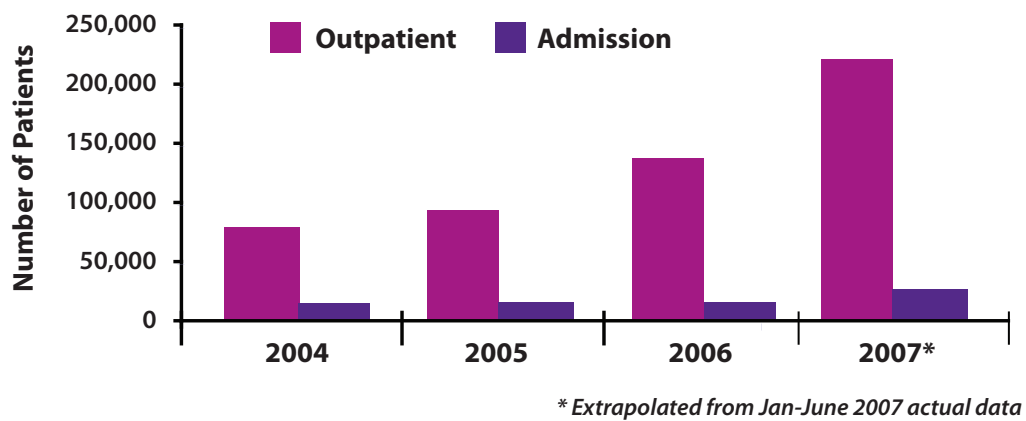
KEY FACTS

Numbers of facilities targeted in each state for HCP supplies and equipment

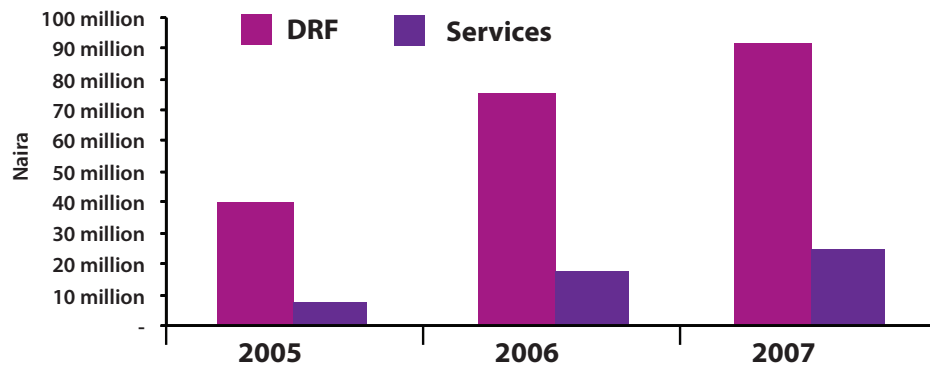
This figure does not tally with the number of facilities actually running DRFs in the States at the time of writing this brief because some facilities were capitalised before the start of HCP using PATHS funds and the DRF roll-out using the latest HCP procurement batch is not completed yet.

State	Hospitals	PHC facilities
Jigawa	23	283
Kano	28	163
Enugu	18	143
Ekiti	23	92
Kaduna	7	48
FCT	11	65
Total	110	794

Patients Attendance in SHC Facilities, Ekiti (Outpatients/Admissions) 2004-2007



Internally Generated Revenue in SHC Facilities in Jigawa





© PATHS Photographer

Drug supplies in the new pharmacy

By early 2008 the impact of receiving the drugs and equipment into the facilities was evident, and a number of tangible benefits could be seen:

- A significant increase in the number of patients attending public sector health facilities
- Substantially increased IGR
- DRF/SDSS have been introduced
- Increased community engagement with their local facility
- Facility health/DRF committees have been established
- Increased transparency at facility level
- Improved procurement processes
- Improved drug management
- Improved inventory control
- Reduced quantity of expired medicines
- Improved equipment usage and management
- Improved planned preventive maintenance systems
- Re-engaged and motivated staff
- Reduced facility staff absenteeism
- Improved infrastructure and more secure facilities
- Improved storage areas
- Improved underpinning systems in both the facilities and CMS

Sustainability

To prevent DRF decapitalisation and loss of equipment and supplies underpinning systems need to be in place, including a robust financial management system, a drug revolving system and a planned preventive maintenance system all supported by a regular monitoring and supportive supervision. All SMOH budgets must contain funding provision to meet the above identified needs. In addition, communities and leaders need to be fully engaged in the procurement process. This will ensure community ownership and community engagement in protecting their health facility.

For example, in Enugu a quarterly review of the performance of the Local Health Authorities (LHAs) was introduced. This included a requirement for the LHAs to provide monthly information on the income generated from the DRF by each facility. This data is reviewed against patient attendance to check that the figures are comparable. The data below illustrates the data presented at the LHA review. Where patient attendance and IGR generated are not comparable, LHA managers need to explain the discrepancy.

In Ekiti, there have been annual DRF reviews with good participation from communities and politicians.

It is equally important to ensure a sustainable drug supply source to replenish the drugs stocks of the facilities. Strengthening CMS is a central success factor for sustaining the provision of quality and affordable drugs to the patients.

Ezeagu Central LHA – December 2007 quarterly review

Facility	Month (2007)	IGR from DRF (N)	Patient Attendance
Umuaji Mgbagbu Owa	August	850	36
	September	8 142	45
	October	5 000	42
	November	4 500	61
Aguobu Owa	August	2 000	86
	September	4 000	109
	October	7 000	112
	November	2 000	139
Mgbagu Owa	August	19 400	117
	September	14 900	92
	October	16 100	228
	November	15 600	333

Lessons Learnt

1. The overall process of getting health commodities (supplies and equipment) into the health facilities was extremely lengthy. Apart from a limited delivery of drugs to 21 Early Bird facilities⁶ in Enugu in March 2006, the first major deliveries took place in 2007. This delay was largely explained by the early challenges faced by the programme (e.g. establishing framework agreements, developing MSP, quantifications, readiness of facilities to receive supplies). Stakeholders were inadequately informed of the long lead times, especially for equipment through international procurement, and expected to receive the medical supplies sooner than was possible. This resulted in a lack of confidence in the process by many of the stakeholders; and led to further demoralisation of staff and communities whose expectations proved difficult to manage by those 'at the coal face'. Ensuring that stakeholders had realistic expectations of delivery periods was a key focus of the initiative in the later stages.
2. The formula used in the quantification exercise for drugs was not robust enough, particularly for PHC facilities. For example, in Enugu, following delivery and usage over a period of two to three months it became evident that some PHC facilities had over-estimated drugs in some areas and under-estimated in others. Later orders were more refined, based on an analysis of facility drug usage patterns, more reliable HMIS data and improved prescribing habits of the facility staff.
3. Whereas a robust model had been developed for managing the DRFs at primary and secondary health facility level, the strengthening of the CMS in the different States has not been as systematic and holistic. This has resulted in some poor practices still being in place at the time of delivery of the first consignments of goods at the CMS. This was later addressed but remained an issue. It is crucial for future procurement initiatives by development partners to build the beneficiaries' capacity to undertake and manage considerable health commodities procurement processes themselves.

⁶ Early Bird facilities were those facilities in Enugu that were identified for sustained support



Lessons Learned

Reasons for over-estimating drug needs

- Poor HMIS data
- Difficulties in defining catchment areas and thus catchment population
- Populations based on out-of-date census data
- Limited knowledge of drug usage in the facilities
- Too wide a selection of drugs
- Capitalising on the opportunity of free drugs to replenish all stocks
- Outright falsification of figures as a matter of habit for receiving donor items

Reasons for under-estimating drug needs

- Limited knowledge of frequently used drugs
- Gross over-prescribing due to current availability
- Poor prescribing habits by facility staff
- Inaccurate population estimates

4. Co-ordination of PATHS and HCP work did not prove easy due to the diverse range of activities that needed to be undertaken by both parties in a cohesive manner. Thus it took considerable time to get the whole process (of systems strengthening and commodity supply) moving at a rate that was acceptable to all parties, including the receiving facilities and communities. It would thus seem appropriate in future that a single agency manages the whole process rather than two different agencies taking responsibility for different aspects of a single process.

Conclusion

Whilst the ultimate benefits have been significant, getting drugs and equipment to health facilities across FCT and five states of Nigeria proved a long and arduous journey for many. The complexities were enormous and should never be underestimated. For effective commodities management the following are needed:

- Robust and proactive management;
- Robust forward planning, and transparency about the potential time lags between the beginning of procurement and likely expected dates of receipt at facility level;
- Management of stakeholder expectations given the time lags;
- Agreed understanding of the division of labour between the participating partners;
- Procurement management processes to be in place as soon as possible including financial management;
- The necessary environment for the safe and secure storage of drugs and equipment should be made available;
- Stakeholders should be engaged in the determination of required drugs equipment, quantification and the definition of the minimum service package;
- Communities should be engaged to take responsibility for the safe keeping and management of the commodities in their respective facilities once delivered;
- The capacity building needs of facility and CMS staff should be identified, managed and sequenced in such a way as to ensure a cohesive training programme;
- Agreement, at an early stage of the programme, as to what the state and national procurement requirements are and these requirements adhered to as soon as feasibly possible.



Partnership for Transforming Health Systems (PATHS)



PATHS is a programme of collaboration with Nigerian partners to develop partnerships for transforming health systems in Nigeria. It is funded by the UK Department for International Development (DFID).

The PATHS Programme is managed by an international consortium on behalf of DFID. Members of the consortium are:

