

32815

Africa Region Human Development
Working Paper Series

Decentralized Delivery of Primary Health Services in Nigeria

*Survey Evidence from the States
of Lagos and Kogi*

*Monica Das Gupta,
Varun Gauri
Stuti Khemani*

September 24, 2003

Development Research Group
The World Bank

Copyright © June 2004
Human Development Sector
Africa Region
The World Bank

The findings, interpretations, and conclusions expressed in this report are entirely those of the author and should not be attributed in any manner to the World Bank, to its affiliated organizations, or to members of its Board of Executive Directors or the countries they represent. The World Bank does not guarantee the accuracy of the data included in this publication and accepts no responsibility for any consequence of their use.

Typography by The Word Express
Cover design by the Word Express
Cover photo: World Bank photolibrary

Contents

Foreword	v
Abstract	vii
Executive Summary	1
1. Introduction	7
2. Survey Results	13
3. Emerging Issues	63
4. Main Conclusions and Policy Lessons	73
Bibliography	77
Boxes	
Box 1: Survey Instruments at the Health Facility Level	10
Box 2: Survey Instrument at the Local Government Level	11
Tables	
Table 2.1.1: Ownership of Facilities	13
Table 2.1.2: Number of Facilities by State and Facility Type	14
Table 2.1.3: Condition of Facilities by Type of Facility	15
Table 2.1.4: Percent Distribution of Main Source of Water by Facility Type	17
Table 2.1.5: Percent of Each Type of Facility with Various Amenities	18
Table 2.1.6: How Vaccines are Stored	19
Table 2.1.7: How Equipment Is Usually Sterilized	21
Table 2.1.8: Average Distance from LGA and Other Health Facilities by Facility Type	22
Table 2.2.1: Principal Decisionmakers for Facility Functioning	26
Table 2.2.2: Activities of Primary Health Care Management Committee	29
Table 2.2.3: Community Participation in Kogi and Lagos	30
Table 2.2.4: Community Participation in Kogi across Facility Types	31
Table 2.3.1: Main Supplier of Facility Resources	32
Table 2.3.2: Per Capita LGA Revenues	34
Table 2.3.3: Local Government Health Expenditure	37
Table 2.4.1: Number of Health Workers by Facility Type	39

Table 2.4.2:	Designation of Health Staff in the Sample by State	40
Table 2.4.3:	Personal Characteristics of Staff	40
Table 2.4.4:	Percent of Staff that Supplement Salary	41
Table 2.4.5:	Household Condition of Staff	41
Table 2.4.6:	Monthly Salary by Designation and Facility Type	42
Table 2.4.7:	Percent of Staff Receiving In-kind Benefits by Designation	
Table 2.4.8:	Determinants of Monthly Wages	43
Table 2.4.9:	Average Number of Years Working in Current Health Facility	43
Table 2.4.10:	Total Days Spent in Training in Previous Year by Designation and Facility Type	45
Table II.4.11:	Total days spent in training in last year by designation and facility type	46
Table 2.4.12:	Professional Attitudes	46
Table 2.4.13:	Availability of Drugs, Equipment, and Surveillance Records	47
Table 2.5.1:	Percent of Facilities Providing Specific Services by Facility Type	49
Table 2.5.2:	Average Number of Outputs by Facility Type between March and May 2002	51
Table 2.5.3:	Facility-Level Average Output per Staff in Categories 1–7 Facilities between March and May 2002	52
Table 2.5.4:	Tracer and Immediately Notifiable Diseases, Percentage of Facilities by Facility Type	53
Table 2.5.5:	Percent of Staff Performing Various Duties in One Week by Category of Staff	54
Table 2.5.6:	Number of Days Worked in One Week by Category of Staff	56
Table 2.5.7:	Patients Seen Outside Facility per Week by Category of Staff	56
Table 2.5.8:	Percent of Staff with Various Attributes by Category of Staff	57
Table 2.5.9:	Number and Types of Sanitary Inspections Conducted in the Local Government Authorities between March and May 2002	59
Table 2.5.10:	Immunization during Special Drives and on Routine Basis	61
Table 3.1.1:	Impact of Community Participation on Facility Productivity	65
Table 3.1.2:	Impact of Community Participation on General Facility Characteristics	66
Table 3.1.3:	Impact of Community Participation on Availability of Essential Drugs	67
Table 3.2.1:	Non-payment of Staff Salaries in Selected Local Government Authorities in Kogi	69
Table 3.2.2:	Impact of Non-payment of Staff Salaries on Facility Performance	71
 Figures		
Figure 2.3.1:	Composition of Kogi State Revenues	35
Figure 2.3.2:	Composition of Lagos State Revenues	36
Figure 2.3.3:	Composition of Health Expenditures for Kogi, 2000	37
Figure 2.3.4:	Composition of Health Expenditures for Lagos, 2000	37
Figure 3.2.1:	Non-payment of Staff Salaries in Kogi and Lagos	69

Foreword

Nigeria is one of the few countries in the developing world that has systematically decentralized the delivery of basic services in health and education to locally elected governments and community-based organizations. This study uses an extensive survey of primary health facilities and local governments in the states of Lagos and Kogi to analyze how local institutions function in practice in delivering basic health services, and to draw lessons for improving public accountability. The newly developed survey methodology employed in the study enables rich analysis of outcomes in primary health service delivery at the front lines, in terms of the range of services provided, facility infrastructure, availability of essential supplies and equipment, staffing patterns and provider incentives. Facility-level data on service delivery outcomes has been linked to data collected from local governments on the governance environment and financing arrangements to shed light on the political economy of decentralized service delivery.

It is increasingly being recognized that simply allocating greater public resources to basic health services is not enough to ensure that quality services are made available to the vast majority of poor citizens in the developing world. The impact of public spending on actual outcomes in

health service delivery depends critically on existing institutions and incentives in the public sector. In recent years, public revenues in Nigeria have increased substantially due to the boom in world oil prices, and some of this windfall is being channeled into increased spending on primary health care. Yet, there remains a concern whether the institutions of public accountability in the country will effectively allow these large spending programs to translate into improved services and outcomes. A major channel through which increased public resources are expected to impact basic health and education services in Nigeria is that of spending by local governments that are largely responsible for these services. It is therefore important to delve deeper into the role of local governments and community organizations in basic health service delivery.

The relative roles of the three tiers of government—federal, state, and the local government authorities (LGAs)—in public service delivery has emerged as one of the most important topics of open and vigorous debate in the new democratic climate in Nigeria. There have been increasing calls for intergovernmental fiscal relations to be reassessed in light of a widespread belief that although the states and local government authorities are assigned primary responsibility for the delivery of basic public services, they are not

equipped with adequate revenue resources to fulfill their expenditure obligations because the bulk of government revenues is retained by the federal government. This has culminated in an amendment to the revenue-sharing formula in the Federation which increases resources available to the decentralized levels of governments.

In addition to the constitutional provisions for decentralization to locally elected governments, health policy in Nigeria has been guided by the Bamako initiative of encouraging and sustaining community participation in primary health care service delivery. Community participation has been institutionalized through the creation of Village Development Committees and District Development Committees that are grass-roots organizations expected to work closely with local governments in monitoring and supporting

primary health care services. Recently there have been several governmental initiatives to strengthen these institutions of community participation to improve health services.

This detailed survey evidence from frontline service delivery agencies and local governments provides valuable knowledge on how the decentralized system of primary health service delivery actually works in Nigeria. The findings will enrich the policy dialogue within the country and beyond about innovative institutional solutions to improve public accountability.

Ok Pannenberg
Senior Advisor for Health, Nutrition, and
Population
Human Development Department
Africa Region

Abstract

This report presents findings from a survey of 252 primary health facilities and 30 local governments carried out in the states of Kogi and Lagos in Nigeria in the latter part of 2002. Nigeria is one of the few countries in the developing world to systematically decentralize the delivery of basic health and education services to locally elected governments. Its health policy has also been guided by the Bamako Initiative to encourage and sustain community participation in primary health care services. The survey data provide systematic evidence on how these institutions of decentralization are functioning at the level local—governments and community based organizations—to deliver primary health service.

The evidence shows that locally elected governments indeed *do* assume responsibility for

services provided in primary health care facilities. However, the service delivery environments between the two states are strikingly different. In largely urban Lagos, public delivery by local governments is influenced by the availability of private facilities and proximity to referral centers in the state. In largely rural Kogi, primary health services are predominantly provided in public facilities, but with extensive community participation in the maintenance of service delivery. The survey identified an issue which is highly relevant for decentralization policies—the non-payment of health staff salaries in Kogi—which is suggestive of problems with local accountability when local governments are heavily dependent on fiscal transfers from higher tiers of government.

Executive Summary

Motivation and Objectives

This study analyzes decentralized delivery of primary health services in two states in Nigeria, Lagos and Kogi, to understand how existing institutional arrangements work in practice and how they impact service delivery outcomes. Nigeria is one of the few countries in the developing world to have systematically decentralized the delivery of basic health and education services to locally elected governments. In addition, its health policy has been guided by the Bamako initiative to encourage and sustain community participation in primary health care services. The study therefore focuses on the role of local governments and community based organizations in the delivery of primary health care services. The outcomes of interest are measured as performance of public health facilities, in terms of actual service delivery outputs at the level of frontline delivery agencies—services provided, facility infrastructure, availability of essential supplies and equipment, staffing patterns and provider incentives. Although these are not the ultimate outcomes we care about, such as improvement in household health indicators, focusing on them may nevertheless enhance our understanding of what public budgets “buy” in terms of intermediate service delivery outcomes.

In addition to its analytical objectives, the conduct of this study was specifically designed to promote evidence-based policy dialogue in Nigeria by engaging the active participation of the overarching government agency in the country responsible for monitoring and supervising outcomes in primary health care service delivery—the National Primary Health Care Development Agency (NPHCDA). The terms of reference for this study were developed in partnership with NPHCDA, with the agency closely involved at every stage right from study design to its implementation and subsequent analysis.

Methodology

The methodology adopted to address the objectives of study is based on extensive and rigorous survey work, at the level of frontline public service delivery agencies—the primary health care facilities—and the local governments. Three basic survey instruments of primary data collection were used—one, administered to public officials at the local government level to collect information on the governance environment and public financing patterns; second, administered to the facility manager for general facility characteristics and services provided, including direct data collection from facility records; and third,

administered to individual staff at the facility level for data on working environment and incentives. The survey was undertaken during June-August 2002, with data collected in 30 local governments, 252 health facilities, and from over 700 health workers, in Lagos and Kogi states.

Facility-level data on service delivery outcomes was linked to data collected from local governments on the governance environment and financing arrangements. This micro-level survey approach has allowed a deeper investigation of actual outcomes in public service delivery at the frontline, and the impact on these outcomes of broader institutions of governance and financing arrangements, than more aggregative tools of public expenditure analysis.

Governance Environment and Financing Arrangements

A strict interpretation of the Constitution of Nigeria with regard to the sharing of responsibilities between the three tiers of government implies that it is the state governments that have principal responsibility for basic services such as primary health and primary education, with the extent of participation of Local Government Authorities (LGAs) in the execution of these responsibilities determined at the discretion of individual state governments. The constitutional existence of state-level discretion may lead to disparities across local governments or across states in the extent to which responsibility for primary health services is effectively decentralized. In the face of such constitutional ambiguity, the survey of LGAs and health facilities attempted to assess the actual extent of decentralization of services to local governments.

The overwhelming majority of LGA respondents indicated the LGA as the principal decision-maker for most of the areas of facility-level provision of primary health services. There was no systematic variation across local governments in the extent of decentralization of responsibility. The facility-level respondents similarly indicated the

LGA as the principal decision-maker for most service provision decisions at the facility level, as compared to the other two tiers of government. The state and federal governments were indicated very infrequently as principal decision-makers for any area, and even then for only one or two areas of decision-making in any individual facility. This evidence for the health sector is a striking contrast to available evidence for service delivery in other sectors—such as primary education, water and sanitation—that are characterized by considerable overlap and confusion with regard to the sharing of responsibilities between the three tiers, often at the expense of undermining LGA responsibility and accountability.

Community participation in primary health care service delivery has been institutionalized in Nigeria through the creation of Village Development Committees and District Development Committees. There are striking differences in the sharing of responsibilities between the LGA and community development committees in the two states of Lagos and Kogi studied here. In Lagos, more than 80% of facility-level respondents indicated the LGA as principal decision-maker in most areas of service delivery at the facility level, while in Kogi, only about 50% indicated the LGA as principal decision-maker. The remaining facilities in Kogi listed either the community development committees or the facility head or both as the principal decision-makers. Community organizations are particularly active in Kogi in the areas of building maintenance, and acquiring drugs, medical supplies, and equipment for the facilities. There is comparatively little community engagement in setting charges for drugs, as was envisioned by the Bamako Initiative and almost negligible in disciplining staff, which is overwhelmingly indicated as the responsibility of local governments.

Amongst government agencies the LGA is the main source of financing of primary health service delivery at the facility level. Staff salaries, facility building construction and maintenance, supply of drugs, equipment and other medical

commodities, are all predominantly provided by local governments in Lagos state. However, in Kogi, community-based organizations and facility staff are frequently indicated by facility respondents as the main source of drugs (for 28% of facility respondents), medical supplies (31%), and building maintenance (57%). It is surprising to note that as many as 15% of facilities in Kogi indicate staff personal funds as the main source of facility resources, which if accurate probably implies that staff compensate themselves from facility revenues. In Lagos, for the majority of facilities (over 85%) resources were either provided by the LGA or indicated as not provided at all in the last twelve months. Staff salaries are almost exclusively provided by local governments in both states.

Local governments in Kogi are overwhelmingly dependent on statutory allocations from the Federation Account for their revenues, and receive almost nothing from the state government. Revenue sources of local governments in Lagos are more diversified—bulk of their revenues comes from two sources, the Federation Account and the VAT, but a significant amount is also internally generated from local tax bases. This is as one would expect given that Lagos state is the urban center of Nigeria, while Kogi is a largely rural state. The consequences for basic health service delivery between the two states is therefore clear—services in Kogi are more vulnerable to external shocks that affect oil prices, which is why, perhaps, communities in Kogi take a more active role in maintaining basic health services. Bulk of LGA health expenditures are allocated to staff salaries—in Kogi in 2000, LGAs on average spent 78% of health expenditures on salaries, while in Lagos, LGAs spent 65% on average on staff salaries.

Facility Characteristics and Services Provided

Public health care facilities in Lagos and Kogi function in quite different contexts. In Lagos, a

much higher proportion of public facilities are of higher level, whereas in Kogi 80% of facilities are health posts. Moreover, Lagos facilities are proximate to a much higher density of referral centers and private facilities than those in Kogi, and are also much better provided with public amenities such as water and electricity. The data indicate that Kogi facilities succeed in functioning under very difficult circumstances in terms of lack of basic amenities, and maintain public facilities better than those in Lagos, despite their better endowments. A substantial proportion of facilities in both states were in poor repair.

Given the relative shortage of alternative sources of care, Kogi health posts necessarily meet a much wider range of the health care needs of the population they serve. For example, Kogi health posts provide a full range of services including antenatal and postnatal care, deliveries, and in-patient malaria treatment, while those in Lagos concentrate mostly on outpatient consultations (for children and adults) and immunizations.

The services provided in different types of facilities show a pattern consistent with the relative advantages of lower-level facilities in terms of proximity to their patients. For example, the average number of home visits per staff declines, the higher the type of facility. Only 30% of PHCs compared with 64% of health posts/dispensaries conduct in-patient deliveries, and similar figures prevail for in-patient malaria treatment. One possible reason for this might be that staff do not stay overnight in these facilities, unlike health posts where staff reside on the premises or very nearby.

There is an impressive range of sanitary inspections conducted in Nigeria. 70% of LGAs were reported to have undertaken food vendor certification in the past year, and all conducted most of the prescribed forms of sanitary inspection: of public water sources, of markets, house-to-house inspections for public health nuisances, and inspection of food sellers.

Immunization is provided through the regular health services on a routine basis, as

well as through the National Immunization Drive. It appears that, despite the high-profile pressure of the National Immunization Drive, that the routine immunization effort may be more effective. For example, 37% of the LGAs sampled did not carry out polio (NID) immunization during the preceding three months. Facilities for storing vaccines are poor, especially in Kogi.

Although the majority of public health facilities were observed to be clean and functioning and providing a range of health services, there is some suggestion of poor quality of services for some of the conditions that are reported as the main causes of mortality and morbidity among women and children, namely malaria, diarrhea, and vaccine preventable diseases. For example, although malarial drugs were available in more than 60% of the facilities surveyed, there was no equipment nor expertise for testing for malaria in more than 90% of the facilities, thereby implying that drugs are administered on the basis of symptoms alone. This may be the best strategy available given the constraints, but is not optimal for effectively controlling and treating the disease.

Strengthening of policies on preventive health care is urgent in light of evidence that public health surveillance may be particularly poor in rural states—in Kogi, only 38% of facilities were able to show records of tracer and immediately notifiable diseases to the survey interviewer, compared to 94% of facilities in Lagos that produced these records.

Availability of Essential Drugs and Equipment

Many health facilities reported shortages of basic health equipment. For instance, 95% did not have microscopes, 59% did not have sterile gloves, 98% did not have a malaria smear, and 95% did not have a urine test strip. Lagos facilities were six times more likely to have a generator, but Kogi facilities were much more

likely to have pharmaceutical products, such as chloroquine, paracetamol, antibiotics, ORS sachets, and multivitamins. A likely explanation for this is that whereas in Lagos alternative suppliers are available, such as pharmacies, in Kogi the public clinics effectively function as pharmacies in which health staff sell privately acquired products. It is not clear whether this health staff are responding to shortages in public supply, or whether facility owned products are being expropriated. In Lagos, the public-private ownership correlations for these products are also negative but much smaller. Vaccines were far more likely to be available in Lagos facilities. That might suggest better public provision in Lagos but might also be an artifact of differing delivery schedules in the two states.

Staffing Patterns

The average health facility in the sample had 7.85 health workers, but the average for health posts was 2.3 workers. Health facility types were unevenly located across the two states in the sample: 93% of health posts in the sample were located in Kogi state while 75% of the remaining higher level facilities were located in Lagos. As a result, while 61% of all facilities in the sample were in Kogi, 66% of the staff were from Lagos. Kogi had a mean of 4.0 staff per facility; in Lagos there was a mean of 13.7 primary health care staff per facility. Staff in Lagos had more clinical training. For example, while nurses make up about 10% of total staff in Kogi, nurses constituted 20% of all staff in Lagos. Similarly, 7% of Kogi staff were midwives, compared to 26% in Lagos.

The average age of staff was 41 years, but doctors were younger than the rest of the cadre, with an average age of 30 years. A large majority of health staff were women, with exceptions again being doctors (50%) and environmental health officers (21%). The large majority of staff in almost all categories had some amount of

post-secondary education. Only about 28% of staff were indigenous to the communities in which they are working, with percent indigene ranging from 0% for doctors to 41% for nurses. Staff had on average 14 years of experience in primary health care, but doctors had relatively less experience, with an average of 2.6 years of work in the field. Almost all staff (96%) were employed by the LGA, though half of the 10 medical officers in the sample were employed by the federal government and half by the LGA. Medical officers rarely worked in public facilities – only one in four type 3 facilities had a physician on staff, and the sole type 4 facility in the sample did not have any.

About 45% of staff were supplementing their income in some way. The most common sources of supplemental income were agricultural work and commerce. About 17% of staff reported supplementing their work with some form of health-related activities, including clinical work, home health care, or the sale of medicines. In-kind benefits typically did not constitute a large element of an average staff member's reimbursement package: 63% of health staff did not receive any in-kind benefits at all. For those who did receive in-kind benefits, the most common benefit was free health care, which 21% of staff received.

The monthly salaries of health staff were, on average, 26306 Naira (about US\$220), in 2001. The highest paid staff were midwives, CHOS, and nurses. Doctors, surprisingly, were the lowest paid. The reason for the low pay of doctors is likely related to the fact that doctors were on average more than ten years younger than their colleagues in other designations. An estimation of staff salaries using a standard Mincerian earnings function found that, controlling for gender, experience, education, state, local competition, and unobserved LGA characteristics, civil service pay scale explained the largest fraction of health worker salaries. In other words, traditional civil service pay scales, rather than locally determined rewards for performance, remained the dominant element in the incentive environment for primary health care staff.

Despite the fact that local conditions were not significantly affecting salaries, there was a substantial amount of churning among health staff. The average length of tenure in the current facility was short, about 2.7 years. Medical officers had been working in the current facility for three months (given their age, most were probably just out of medical school), and nurses and midwives had an average tenure in the current facility of less than two years. Senior and junior health education workers had longer tenures (most were in Kogi, where staff typically had a longer average time in the current facility than Lagos).

The data on work done by different categories of staff indicate that most tasks are done by all the grades of staff. Nurse-midwives are the work-horses, a much higher percent of them than other staff do deliveries, immunizations, antenatal care, and family planning. High percentages also do out-patient care and health education. Substantial proportions of the staff, including those in the non-professional grades, report seeing patients privately outside the facility — and it can be assumed that such data is subject to under-reporting. Doctors do the most “moonlighting”: 90% of doctors compared with 50-60% of other categories of staff report seeing patients outside the facility.

Impact of Governance and Financing Environment on Service Delivery

A striking feature of public delivery of primary health services in Nigeria was revealed through the survey—public resources, in fact, do not appear to be reaching their intended destinations. There is evidence of large scale leakage in public resources in Kogi, away from original budget allocations. Although staff salaries account for 78% of health expenditures and 20% of total LGA revenues, on average, the survey of facility staff in Kogi revealed that 42% of them had not been paid their salaries for more than 6 months in the past year. Using the survey

data, we estimated and compared actual staff costs per facility in each LGA with what the LGA reported as budget allocations towards staff salaries per facility within its jurisdiction, and found that even when budget allocations were sufficient to cover estimated actual costs, the staff survey showed non-payment of salaries for several months in the year before the survey. There is, in fact, no significant correlation between local government revenues and resources budgeted towards staff salaries with the non-payment of salaries. Hence, the non-payment of salaries cannot be explained by lack of resources available to local governments.

The analysis also showed that the greater is the extent of non-payment of salaries, the higher is the likelihood that facility staff in fact behave as private providers—with more services provided outside the facility through home visits, and with essential drugs being privately provided, either funded by staff own resources or expropriated from facility stocks.

This evidence suggests that there is a general problem of accountability at the local government level in the use of public resources that are transferred from higher tiers of government and about which, therefore, local citizens may not be well informed since they are not the tax-payers. In and of itself, this analysis does not suggest that the counterfactual would be true—that is, more centralized delivery in the hands of the state or federal government would be better. The analysis undertaken here cannot address this question because we cannot compare outcomes across more or less decentralized systems. But the overall policy lesson that the analysis does

suggest is that of strengthening local government accountability. We propose one major channel for this purpose—providing citizens with greater information about the resources and responsibilities of their local representatives, so they are empowered to hold them accountable for the delivery of basic services.

We undertook some analysis of the impact of community participation in Kogi on various performance indicators at the facility level. The most striking result is that community participation is significantly associated with greater productivity per staff in providing inpatient deliveries, immunizations, and outpatient consultation. While an appealing interpretation of this association may be that greater community participation makes facility staff more responsive to the health needs of the community they serve, there are alternative interpretations, and the analysis undertaken here is too limited to draw strong conclusions about the causal impact of community participation on service delivery.

There is also a significant negative correlation of community participation in facilities with record-keeping at the facility level for public health surveillance. A causal interpretation of this would suggest that with more decentralized management and monitoring of facilities by the immediate communities they service, some facility activities with beneficial spillovers outside the community are likely to be underprovided. This underscores the need to strengthen the role of local governments in improving public health management and closely coordinating activities in service delivery with community based organizations.

Introduction

It is increasingly acknowledged that there are weak links in the chain from public spending to actual outcomes in making basic services available to poor people. Simply increasing budget allocations to essential services such as health and education is not enough to ensure that quality services are indeed delivered. Even when resources are appropriately allocated they may not reach their intended destinations because of organizational and incentive problems in public agencies. Even when resources reach the health clinic or the primary school the actual service providers may have weak incentives or capacities to deliver effectively.

Cross-country evidence suggests that total public spending on health has had a surprisingly low impact on average health outcomes, relative to other socio-economic characteristics such as income per-capita and female education (Filmer et al. 2000; Musgrove, 1996). New empirical evidence that the impact of public spending on basic health outcomes depends upon the overall governance environment provides an important explanation for the observed weak relationship between public spending and outcomes. Rajkumar and Swaroop (2002) find that greater public spending on health significantly lowers child and infant mortality rates

only in countries with good governance, as measured by lower corruption and quality of the bureaucracy. The role of institutions and incentives in the public sector in translating budgeted resources into actual outcomes is therefore critical.

These issues are particularly important for the public delivery of basic health services in Nigeria. The paramount issue in the health sector in Nigeria in the 1980s was the tightening financial constraints imposed upon public spending in health following a fiscal crisis and decline in the country's oil revenues. In the last five years, however, public revenues in Nigeria have increased fivefold thanks to a boom in world oil prices, and the new democratic government has been eager to use the windfall to deliver so-called "democracy dividends" to the people. In particular, spending on primary health care has increased substantially. Funding for the National Programme of Immunization (NPI) for instance, has gone from N9 million in 1998, to close to N7.5 billion in 2001. Allocations for programs to control diseases such as malaria, guineaworm and so on has increased to about 165 million in the 2001 budget. (The World Bank, 2001). Revenues of Local Government Authorities (LGAs) that are primarily responsible for public spending on primary health care, has increased from

an average of 5 percent of GDP between 1990 and 1998, to over 10 percent of GDP in recent years after the oil price increase in 1999 (IMF, 2001).

However, there is still little known about whether the institutions and incentives in the public sector in Nigeria will actually allow large spending programs to effectively deliver basic services to the people. There are few concrete answers to questions such as—what has public spending achieved in terms of actual outcomes in service delivery? Do public resources actually reach their intended destinations? How accountable are public service providers to their expected beneficiaries? This study provides some answers to these questions through the analysis of extensive data on expenditures on primary health care and service delivery processes and outcomes, that was collected through a survey of local governments and public primary health care facilities in the states of Lagos and Kogi over June-August 2002.

The micro-level survey approach of this study has allowed a deeper investigation of actual outcomes in service delivery at the frontline, and the impact on these outcomes of broader institutions of governance and financing arrangements, than more aggregative tools of public expenditure analysis. A new survey tool, the Quantitative Service Delivery Survey (QSDS), was employed, in which the facility or frontline service provider is the main unit of analysis in much the same way as a household is the unit of analysis in household surveys, and a firm is

the unit of analysis in enterprise or investment climate surveys.¹ Both qualitative and quantitative data was collected at the facility level through interviews of facility staff and directly from facility records. Facility-level data was linked to data collected from local governments on the governance environment and financing arrangements.

1.1 Participation, Ownership, and Capacity-Building

In addition to its analytical objectives, the conduct of this study was specifically designed to promote evidence-based policy dialogue in Nigeria by engaging the active participation of the overarching government agency in the country responsible for monitoring and supervising outcomes in primary health care service delivery—the National Primary Health Care Development Agency (NPHCDA). The terms of reference for this study were developed in partnership with NPHCDA, with the agency closely involved at every stage right from study design to its implementation and subsequent analysis. This partnership has facilitated ownership of the results of the analysis, and is therefore more likely to allow for greater policy impact. In addition, both NPHCDA and the World Bank research team worked closely with the local consultants that implemented the study to build local capacity in developing potentially useful survey instruments and a methodology that would be useful for analyzing the impact of public expenditures on service delivery outcomes.

It was agreed to undertake the study at the state-level, given the enormous diversity across the different states in Nigeria and the decentralized nature of service delivery in primary health care. It was further agreed to focus on only two states so that the survey instruments and analytical methodology could be appropriately developed on a manageable scale, given logistical difficulties with conducting fieldwork. NPHCDA expressed interest in

¹ Provider or facility surveys have been undertaken from time to time in the context of large household surveys such as the Living Standard Measurement Study (LSMS) surveys, the Demographic and Health Surveys (DHS), and RAND's Family Life Surveys. However, these surveys do not focus on the incentive environment of and public expenditure flows to public providers. Lindelow and Wagstaff (2002) provide a review of various health facility surveys.

subsequently expanding the work to other states based on success of the instruments and interest expressed by state governments. Lagos and Kogi states were selected for the study on the basis of the interest expressed by their Commissioners of Health, and the possibility of contrasting service delivery between largely urban and largely rural settings in two different geo-political regions.

1.2 Objectives of the study

It was agreed that the objective would be to study the following three issues: 1) the flow of resources allocated in public budgets to the front-line service delivery agency, that is, the primary health care facilities, 2) analysis of provider behavior and provider incentives in shaping outcomes at the health facility level, and 3) the role of local governments and community participation in determining outcomes in public primary health care service delivery.

The National Health Policy adopted by the present democratic government in 1999 lays out the roles and functions of each tier of government in primary health care. While the federal government is assigned the responsibility of overall policy formulation, coordination, and adherence to internationally recognized standards, the state government with the active participation of local governments is responsible for actually delivering primary health care services. However, neither the National Health Policy nor the Constitution of 1999 makes clear prescriptions about the delineation of responsibilities and authorities between the states and local governments. Instead the official language seems to suggest that state governments have the ultimate responsibility for delivering primary health care, while the role of local governments can vary within a state and across states depending on particular state policies and local socio-economic conditions.²

This lack of clarity in constitutional prescriptions may, therefore, have led to large variations

within a state and across states in the extent of autonomy and the nature of responsibilities of local governments in the public delivery of primary health care services. Hence, an additional interest of this study is to understand whether there is variation in the extent of local government autonomy and correlate it with variation in service delivery outcomes at the level of the health facility.

The National Health Policy also emphasizes the role of community participation in the delivery of primary health care services. It indicates that local governments shall mobilize communities to participate in the provision maintenance of health services, eliciting the support of various formal and informal community leaders. The study is also designed to examine the role of community participation in shaping outcomes in primary health care service delivery.

Given these objectives it was decided to focus the study exclusively on the performance of public health facilities, focusing explicitly on the supply side of the determinants of actual

² To quote: “*With the general guidance, support and technical supervision of State Health Ministries, under the aegis of Ministries of Local Government, Local Government Councils shall design and implement strategies to discharge the responsibilities assigned to them under the Constitution, and to meet the health needs of the local community.*” (page 26, National Health Policy)

The Constitution in its turn is also not clear in its prescriptions. To quote from the Fourth Schedule which provides a list of functions to be performed by Local Government Councils:

“*The functions of a local government council shall include participation of such council in the Government of a State as respects the following matters: (a) the provision and maintenance of primary, adult and vocational education; (b) the development of agriculture and natural resources, other than the exploitation of minerals; (c) the provision and maintenance of health services; and (d) such other functions as may be conferred on a local government council by the House of Assembly of the State.*”

outcomes, as in improved health indicators, that we care about. Consequently, the study is not designed to address issues of public-private partnership in delivering basic services, nor issues of household demand and responsiveness to public initiatives.

I.3 The Survey Approach

The approach adopted to addressing these issues revolves around extensive and rigorous survey work, at the level of the primary health care facilities and the local governments. Two basic survey instruments of primary data collection were agreed upon, based on collecting information from government officials and public service delivery facilities:

1. Survey of primary health care facilities—including interviews of facility managers and

workers, as well as direct collection of data on inputs and outputs from facility records

2. Survey of local governments (under whose jurisdiction the health facilities reside)—including interviews of local government treasurers for information on budgeted resources and investment activity, and interviews of primary health care coordinators for roles, responsibilities, and outcomes at the local government level

Box 1 and 2 summarize the type of information collected through each type of instrument. The focus of the study is thus public service delivery outcomes as measured at the level of front-line delivery agencies—the public primary health care facilities. We also originally planned to include interviews of patients present at the health facilities, to get the user's perspective on public service delivery, but found that difficult to

Box 1

Survey instruments at the health facility level

The facility level survey instruments were designed to collect data along the following lines:

1. Basic characteristics of the health facility: who built it; when was it built; what other facilities exist in the neighborhood; access to the facility; hours of service etc.
2. Type of services provided: focusing on ante-natal care; deliveries; outpatient services, with special emphasis on malaria and routine immunization
3. Availability of essential equipment to provide the above services
4. Availability of essential drugs to provide the above services
5. Utilization of the above services, referral practices
6. Tracking and use of epidemiological and public health data
7. Characteristics of health facility staff: professional qualifications; training; salary structure, and whether payments are received in a timely fashion; informal payments received; fringe benefits received; do they have their own private practice; time allocation across different services; residence; place of origin
8. Sources of financing—who finances the building infrastructure and its maintenance; who finances the purchase of basic equipment; who finances the purchase of drugs; what is the user fee policy; revenues from user fees; retention rate of these revenues; financing available from the community
9. Management structure and institutions of accountability: activities of and interaction with the local government and with the community development committees

follow-through given local capacity constraints in implementing a survey of this kind.

The survey instruments were developed through an iterative process of discussions between the World Bank team, NPHCDA, and local consultants at the University of Ibadan, over the months of March-May 2002. During May 2002, four questionnaires were finalized through repeated field-testing—1) Health Facility Questionnaire: to be administered to the health facility manager, and to collect recorded data on inputs and outputs at the facility level; 2) Staff Questionnaire: to be administered to individual health workers; 3) Local Government Treasurer Questionnaire: to collect local government budgetary information; and 4) Primary Health Care Coordinator Questionnaire: to collect information on local government activities and policies in primary health care ser-

vice delivery. The survey was undertaken during June-August 2002, with data collected in 30 local governments in Lagos and Kogi states, 252 health facilities, and from over 700 health workers.

A multi-stage sampling process was employed where first 15 local governments were randomly selected from each state; second, 100 facilities from Lagos and 152 facilities from Kogi were selected using a combination of random and purposive sampling from the list of all public primary health care facilities in the 30 selected LGAs that was provided by the state governments; third, the field data collectors were instructed to interview all staff present at the health facility at the time of the visit, if the total number of staff in a facility were less than or equal to 10. In cases where the total number of staff were greater than 10, the field staff were

Box 2

Survey instrument at the local government level

The local government survey instruments were designed to collect data along the following lines:

1. Basic characteristics: when was the local government created, population, proportion urban and rural, presence of an urban center, presence of NGOs and international donors
2. Number of primary health care facilities by type (types 1 and 2) and ownership (public—local government, state, and federal government; private-for-profit; private-not-for-profit)
3. Supervisory responsibilities over the general functioning of the primary health care centers
4. Health staff: number of staff by type of professional training and civil service cadre; salary;
5. Monitoring the performance of health staff: how is staff performance monitored and by whom; are staff rewarded for good performance or sanctioned for poor performance, and how; instances when local government has received complaints; what disciplinary action was taken
6. Budget and financing: data on actual LGA revenues and expenditure from available budget documents;
7. Management structures: functioning of the Primary Health Care Management Committee (PHCMC), the Primary Health Care Technical Committee (PHCTC), and the community based organizations—the Village Development Committee (VDC) and the District Development Committee (DDC)
8. Health services outputs at the local government level: records of immunization, and environmental health activities

instructed to randomly select 10 staff, but making sure that one staff in each of the major ten categories of primary health care workers was included in the sample.

Health facilities were selected through a combination of random and purposive sampling. First, all facilities were randomly selected from the available list for 30 LGAs. This process resulted in no facility being selected from a few LGAs. Between 1-3 facilities were then randomly selected from these LGAs, and an equal number of facilities were randomly dropped from over-represented LGAs, defined as those where the proportion of selected facility per LGA is higher than the average proportion of selected facilities for all sampled LGAs. A list of replacement facilities was also randomly selected in the event of closure or non-functioning of any facility in the original sample. An inordinate amount of facilities were replaced in Kogi (27 in total), some due to inaccessibility given remote locations and hostile terrain, and some due to non-availability of any health staff. The local community volunteered in these cases that the reason there was no staff available was because of non-payment of salaries by the LGA. This characteristic of the func-

tioning of health facilities in Kogi is a striking result that will be discussed in this report.

I.4 Organization of the Report

The rest of the report is organized as follows. Section II presents the evidence obtained from the survey—II.1 provides a general overview of the characteristics of public facilities providing primary health care services in Nigeria; II.2 describes the governance environment within which service delivery takes place; II.3 discusses financing arrangements for essential services provided at the facility level; II.4 analyzes staff issues and availability of essential inputs at the facility level; II.5 describes the outputs and outcomes delivered at the health facilities. Section III explores some emerging issues in primary health services delivery in Nigeria—the role of community participation, staff incentives, and decentralized management by local governments, in the performance of health facilities. Finally, section IV presents the main conclusions of this study and the policy lessons going forward.

Survey Results

II.1 General description of the facilities

The public health care service system in Nigeria is delivered through a tiered package of facilities. At the lowest rung of the tier are the Type I facilities, known as health posts/ clinics. These are village-level facilities, typically staffed by a junior paramedic and an assistant, with the most basic amenities. Type II facilities, also known as Primary Health Centres, are larger facilities with a more diverse complement of staff and amenities (see tables below). There are supposed to be at least one such facility in each health district. Type III facilities, called Community Health Centres, are intended to be equipped and staffed as mini-hospitals, and to serve as referral centers for the facilities below them.

The local government records indicate that the local government owns the great majority (71%) of public health care facilities in the regions sampled. The private sector is the other major player, owning 25% of all facilities. The state owned less than 3% of all facilities, while the federal government owned less than 1%.

The two states are quite different in their profiles. In Kogi, the LGAs own 90% of the facilities, while another 7% are state-owned and less than 1% are owned by the federal government. Only 7% are privately owned. Lagos presents a

very different picture—there, the majority (61%) of facilities were privately owned. 34% were owned by the LGAs, 3% by the state, and around 1% by the federal government.

A total of 252 facilities were sampled, 150 in Kogi and 100 in Lagos. 80% of the facilities sampled in Kogi were health posts/ dispensaries, 15% were Primary Health Centers, 4% were Community Health Centers, and one was of unclassified type. In Lagos, only 9% of the sampled facilities were health posts/ dispensaries, while 47% were Primary Health Centers and 39% were Community Health Centers. The preponderance of higher-level facilities in Lagos was underscored by the presence of a tertiary hospital. 4 of the facilities in Lagos were of unclassified type.

Table II.1.1
Ownership of Facilities

	All	Kogi	Lagos
Ownership			
LGA	827	695	132
State	33	20	13
Federal	8	2	6
Private/Non-Government	291	56	235

As discussed below, the Lagos facilities were also geographically more proximate to referral centers, as well as to a range of private facilities, than those in Kogi. Thus our study findings need to be understood in the context of very substantial differences in the nature of health facilities available to people between the two states, as well as corresponding differences in the context in which the facility staff function. For people in Kogi, health posts and dispensaries necessarily have to meet a wider range of health care needs for the population, regardless of the resources available to them. The profile that emerges below in this report indicates that Kogi facilities succeed in functioning under very difficult circumstances in terms of lack of basic amenities. By contrast, people in Lagos have a variety of private facilities available to them, and public facilities appear to be less well maintained, despite having much better amenities such as water and electricity.

Condition of Facilities (Table II.1.3)

Around 30% of health posts were classified by the interviewers as “dirty/very dirty”, while only 10% of PHCs and CHCs were classified as such. Health posts in Kogi were cleaner than those in Lagos: 70% of the former but only 56% of the latter were reported by interviewers’ own assessment to be “clean” or “very clean”. The differences between the two states were much smaller for the other types of facilities.

Table II.1.2
Number of Facilities by State and Type of Facility

	Kogi	Lagos
All Facilities	152	100
Type 1 Facilities	122	9
Type 2 Facilities	23	47
Type 3 Facilities	6	39
Type 4 Facilities	0	1
Type Unspecified	1	4

Substantial proportions of all types of facilities were in poor repair. Around half of facilities, of each type, had a leaking roof. Again, health posts in Kogi were in better shape than those in Lagos: 44% of the former but 56% of the latter were reported by interviewers’ own assessment to have leaking roofs. There were no differences between the two states for the other types of facilities: about half of all these facilities had leaking roofs.

Around half of health posts and PHCs had broken doors/windows, while nearly 70% of CHCs had this—probably because the majority of them were in Lagos, where facility maintenance appears to be poorer. Around 40% of PHCs and CHCs had cracked floors, this was 50% for health posts. Broken doors/windows were far more prevalent in all types of facility in Lagos, as compared with Kogi. Cracked floors presented a more complex picture: their prevalence was slightly higher among health posts in Kogi (52%) than in Lagos (33%). PHCs were fairly similar, but CHCs in Lagos were in much poorer repair than in Kogi: 46% had broken doors/windows, compared to only 17% in Kogi, and 74% had broken doors/windows, compared to only 33% in Kogi. The overall impression is that facilities are better maintained in Kogi than in Lagos.

Having a working toilet for patients was predictably low (23%) for health posts, rising to half of PHCs to three-quarters of CHCs. On this dimension, Lagos has a better record than Kogi: 44% of health posts in Lagos as compared with 21% in Kogi had working toilets. PHCs were fairly similar, but amongst CHCs, 77% had working toilets in Lagos as compared with 33% in Kogi. This may be partly because of far higher availability of piped water in Lagos (see below).

Most facilities have been working in the past 3 months (Table II.1.5), health posts perhaps a little less than others. Of those which had not been working in past 3 months, only a few health posts provided reasons. The reasons were all related to issues with health

Table II.1.3
Condition of facilities, by type of facility (%)

	Health post/ dispensary (n=131)	PHC (n=70)	CHC (n=45)	Tertiary (n=1)	Unspecified n=5	All n=252
Dirty / very dirty	29	10	10	–	40	20
Clean / very clean	70	87	88	100	40	78
Cleanliness unspecified	1	3	2	–	20	2
Total	100	100	100	100	100	100
Leaking roof	45	49	51	100	40	47
Broken doors/windows	46	50	69	100	40	51
Cracked floor	50	37	42	–	40	45
Working toilet for patients	23	53	71	100	60	41

Kogi	Health post/ dispensary	PHC	CHC	Tertiary	Unspecified	All
Dirty / very dirty	29	4	17	–	0	24
Clean / very clean	70	96	83	–	100	75
Cleanliness unspecified	1	0	0	–	0	1
Total	100	100	100	100	100	100
Leaking roof	44	48	50	–	0	45
Broken doors/windows	43	22	33	–	0	39
Cracked floor	52	43	17	–	0	49
Working toilet for patients	21	52	33	–	100	27

Lagos	Health post/ dispensary	PHC	CHC	Tertiary	Unspecified	All
Dirty / very dirty	33	13	10	0	0	50
Clean / very clean	56	83	87	100	0	25
Cleanliness unspecified	11	4	3	0	–	25
Total	100	100	100	100	100	100
Leaking roof	56	49	51	100	50	51
Broken doors/windows	78	64	74	100	50	69
Cracked floor	33	34	46	0	50	39
Working toilet for patients	44	53	77	100	50	62

personnel—non-payment of salary by the local government, strike organized by staff, departure of staff in-charge, either voluntarily or due to a dispute.

Facility Amenities (Tables II.1.4 and II.1.5)

Three-quarters of PHCs and CHCs have “protected” sources of water, compared with only a quarter of health posts. Two-thirds of health posts rely on rivers/streams/open sources for their water supply. There is a very large gap between the states in availability of “protected” water sources, with Kogi far less privileged than Lagos not only in terms of total availability of protected water, but also the sources thereof. Between 82-88% of facilities of all types had protected water sources in Lagos—in fact, the higher figure of 88% pertains to the Lagos health posts, as compared with only 18% for Kogi health posts. For PHCs the figures were 65% and 83% respectively for Kogi and Lagos, and for CHCs they were 50% and 82%. Moreover, most of the protected water in Lagos came from piped water and boreholes, which are sources preferable to the covered wells which account for a substantial proportion of Kogi’s protected water supplies.

The gap is even wider between categories of facilities for working electricity connections: while most PHCs and CHCs (70% and 89% respectively) do have this, only 15% of health posts do. Once again, Kogi is far less well-served. Only 11% of Kogi health posts have working electricity connections, while 67% of those in Lagos have them. For PHCs the figures were 43% and 83% respectively for Kogi and Lagos, and for CHCs they were 33% and 97%.

There is a real shortage of working laboratories: upto the PHC level, almost no facilities have working laboratories, and only 11% of CHCs do. So all treatment of malaria, for example, must be on purely symptomatic grounds. Interestingly, Kogi seems to have the edge here:

especially among CHCs, 50% of those in Kogi had working laboratories, while only 5% of those in Lagos had them.

Access to transport vehicle for emergencies is reportedly available to around a quarter of health posts, a third of PHCs and half of CHCs. While there are little inter-state differences between health posts and CHCs in access to vehicles for emergencies, a far higher percentage of PHCs in Kogi had such transport available than in Lagos (61% and 23% respectively).

Even more sharply than the data on the condition of the facilities, the data on amenities suggests that Kogi has more active maintenance of health facility infrastructure under difficult circumstances, while Lagos is far better served in terms of public infrastructure such as water and electricity—presumably because it is the commercial center of the country.

Communication with the outside world is limited to direct contact in both states, as almost no facility has working radios or telephones. Most (91-97%) of PHCs and CHCs in both states had been working in the past 3 months. Amongst health posts, the percentage was lower, especially in Lagos, where only 67% of facilities had been working in the past 3 months as compared with 87% in Kogi.

There is an average of two beds per health post and PHC, and 8 beds per CHC. The states differ little on this score.

Two-thirds of CHCs have functioning fridges/freezers, compared with one-third of PHCs and few health posts. Consistent with the differences in the availability of functioning electricity connections, a far higher proportion of Lagos facilities had functioning refrigerators than Kogi. A third of Lagos health posts had these, as compared with only 1% of those in Kogi. Among PHCs the figures were 40% in Lagos and 22% in Kogi, while among CHCs the figures were 74% in Lagos and only 17% in Kogi.

For storing vaccines (Table II.1.6), 40-50% of each type of facilities said they used cold boxes / vaccine carriers. For health posts and

PHCs, this was the main method of storage. Nearly half of CHCs (44%) also used electric fridges and freezers for storing vaccines. Non-electric refrigerators are virtually non-existent.

Oddly, the proportions of CHCs and PHCs reporting using fridges/freezers for storing vaccines is around 20% lower than the proportions reporting having functional fridges/freezers (Table

Table II.1.5
% of each type of facility, with various amenities

	Health post/ dispensary (n=131)	PHC (n=70)	CHC (n=45)	Tertiary (n=1)	Unspecified n=5	All n=252
Working electricity connection (%)	15	70	89	100	80	45
Working laboratory (%)	2	3	11	100	–	4
Access to vehicle in emergency (%)	27	36	49	100	20	34
Working telephone/radio (%)	2	3	4	–	–	2
% of facilities working in past 3 mths	85	92	98	100	80	90
Average no of beds	2	2	8	140	2	–
Functional fridge/freezer	3	34	67	100	20	24

Kogi	Health post/ dispensary	PHC	CHC	Tertiary	Unspecified	All
Working electricity connection (%)	11	43	33	–	100	18
Working laboratory (%)	2	4	50	–	0	4
Access to vehicle in emergency (%)	27	61	50	–	100	34
Working telephone/radio (%)	2	0	0	–	0	1
% of facilities working in past 3 mths	87	91	100	–	100	88
Average no of beds	2	3	9	–	–	2
Functional fridge/freezer	1	22	17	–	0	5

Lagos	Health post/ dispensary	PHC	CHC	Tertiary	Unspecified	All
Working electricity connection (%)	67	83	97	100	75	87
Working laboratory (%)	0	2	5	100	0	4
Access to vehicle in emergency (%)	33	23	49	100	0	34
Working telephone/radio (%)	0	4	5	0	0	4
% of facilities working in past 3 mths	67	94	97	100	75	92
Average no of beds	0	2	7	140	2	5
Functional fridge/freezer	33	40	74	100	25	53

II.1.5). Also oddly, over a third of health posts and PHCs said the question of storing vaccines was “not applicable”—hopefully by this they meant that they didn’t store them for any length of time because they used cold boxes and dispensed the vaccines as soon as they received them. The differences between the various types of facilities was statistically significant at the 1% level.

Very few of the Kogi facilities, of any type, used fridges/freezers for storing vaccines—they reported either using cold boxes/vaccine carriers, or that this question was “not applicable”. By contrast in Lagos, fridges/ freezers were used for storing vaccines by 22% of health posts, 17% of PHCs and 49% of CHCs.

For sterilizing equipment (Table II.1.6), all types of facilities rely heavily (67–87%) on boiling. 11% of health posts use chemicals for sterilizing equipment. Although fairly similar percentages of facilities of different types reported “boiling” as the primary method of sterilization, the results for CHCs were statistically significantly higher: at the 10% level compared with health posts and dispensaries, and at the 5% level compared with PHCs. 17% of PHCs (and even 2% of CHCs) said this question was “not applicable”, which is not reassuring. Interestingly, this response was concentrated in Lagos, where as much as 23% of PHCs reported sterilizing equipment to be “not applicable” to their situation. The tertiary facility uses

Table II.1.6
How vaccines are stored (%)

	Health post/ dispensary (n=131)	PHC (n=70)	CHC (n=45)	Tertiary (n=1)	Unspecified n=5	All n=252
Electric fridge/freezer	2	13	44	100	20	13
Non-electric fr/fr	–	1	–	–	–	–
Cold box/vaccine carrier	48	46	38	–	–	44
Non-refrigerated storage	3	1	2	–	–	2
Not applicable	38	36	13	–	60	33
Unspecified	9	3	2	–	20	6
Total	100	100	100	100	100	100

Kogi	Health post/ dispensary	PHC	CHC	Tertiary	Unspecified	All
Electric fridge/freezer	0	4	17	–	0	1
Non-electric fr/fr	0	4	0	–	0	1
Cold box/vaccine carrier	50	57	67	–	0	51
Non-refrigerated storage	3	0	0	–	0	3
Not applicable	38	35	0	–	100	36
Unspecified	9	0	17	–	0	8
Total	100	100	100	–	100	100

(continued on next page)

Table II.1.6
How vaccines are stored (%) (continued)

Lagos	Health post/ dispensary	PHC	CHC	Tertiary	Unspecified	All
Electric fridge/freezer	22	17	49	100	25	31
Non-electric fr/fr	–	–	–	–	–	–
Cold box/vaccine carrier	22	40	33	0	0	34
Non-refrigerated storage	0	2	3	0	0	2
Not applicable	44	36	15	0	50	29
Unspecified	11	4	0	0	25	4
Total	100	100	100	100	100	100

Table II.1.7
How usually sterilize equipment (%)

	Health post/ dispensary (n=131)	PHC (n=70)	CHC (n=45)	Tertiary (n=1)	Unspecified n=5	All n=252
Autoclave	1	1	2	–	–	1
Steam	3	6	7	100	–	5
Boiling	74	67	87	–	80	74
Chemicals	11	3	2	–	–	7
Not applicable	7	17	2	–	–	9
Other	–	4	–	–	–	1
Unspecified	5	1	–	–	20	–
Total	100	100	100	100	100	100

Kogi	Health post/ dispensary	PHC	CHC	Tertiary	Unspecified	All
Autoclave	1	0	0	0	–	1
Steam	3	4	33	0	–	5
Boiling	74	87	67	100	–	76
Chemicals	11	4	0	0	–	10
Not applicable	7	4	0	0	–	6
Other	–	–	–	–	–	–
Unspecified	4	0	0	0	–	3
Total	100	100	100	100	–	100

(continued on next page)

Table II.1.7
How usually sterilize equipment (%)

Lagos	Health post/ dispensary	PHC	CHC	Tertiary	Unspecified	All
Autoclave	0	2	3	0	0	2
Steam	0	6	3	100	0	5
Boiling	78	57	90	0	75	72
Chemicals	0	2	3	0	0	2
Not applicable	11	23	3	0	0	13
Other	0	6	0	0	0	3
Unspecified	11	2	0	0	25	3
Total	100	100	100	100	100	100

the more advanced technology of steam sterilization.

Availability of other facilities nearby (Table II.1.8)

Health posts are considerably further on average from LGA HQ, and from the nearest referral center, than PHCs and CHCs. Most facilities have other health facilities available within a 2-hour walking radius. But compared with PHCs and CHCs, health posts have half (or less) as many of these available on average, — largely because PHCs and CHCs have a plethora of small private clinics available (8-10 on average). In addition, the CHCs have an average of 3 private secondary or tertiary facilities available within a 2-hour walking radius.

Kogi health posts are especially remote, with an average walking time of 9 hours to reach the LGA HQ — as compared to just over half an hour in Lagos. Similarly, they have an average walking time of nearly 4 hours to the nearest referral center, compared with only 1.6 hours in Lagos. Lagos also has a far higher density of private facilities available near public facilities of all types, especially near PHCs and CHCs.

(Note that the ratio of distance to walking time is quite different for different questions. We

should keep only one of these measures (whichever measure is likely to be the more accurate), to reduce confusion.

II. 2. Governance Environment

This section studies the governance environment in Nigeria within which primary health care (PHC) services are provided, focusing on two striking characteristics: (i) the decentralization of responsibility for PHC service delivery to local governments, and (ii) the institutionalization of community participation in PHC service delivery through community-based health development committees.

Decentralization to Local Governments

Nigeria has been organized as a federal country since 1954 with the responsibility for providing most public goods being concurrently shared between the federal and state governments. In 1976, local government authorities (LGAs) were established and recognized as the third tier of government, responsible for participating in the delivery of most local public services along with state governments, and entitled to statutory revenue allocations from both the federal and state governments for the discharge of their responsibilities.

In the late 1980s there was a national initiative to overhaul the primary health care system through the adoption of a new national health policy, in the context of which the federal and state governments issued directives in giving LGAs full jurisdiction over the delivery of PHC services (Adeniyi and Oladepo, 2003).

The current national health policy document, revised in 1996, indicates that local governments are expected to be the main implementers of PHC policies and programs, with the federal government responsible for formulating overall policy and for monitoring and evaluation, and state governments for providing logistical support to the LGAs such as personnel training, financial assistance, planning and operations. To quote:

“With the general guidance, support and technical supervision of State Health Ministries, under the aegis of Ministries of

Local Government, Local Government Councils shall design and implement strategies to discharge the responsibilities assigned to them under the Constitution, and to meet the health needs of the local community.” (page 26, National Health Policy)

Yet, the current Constitution (1999) of Nigeria is ambiguous with regard to the authority and autonomy of local governments in providing basic services, such as primary health, for which they have been assigned responsibility through sectoral directives. The Fourth Schedule of the Constitutions lists the functions of LGAs as follows:

“The functions of a local government council shall include participation of such council in the Government of a State as respects the following matters: (a) the provision and

Table II.1.8
Average distance from LGA and other health facilities, by type of facility

	Health post/ dispensary (n=131)	PHC (n=70)	CHC (n=45)	Tertiary (n=1)	Unspecified n=5	All n=252
Distance to LGA HQ (km)	24	9	6	5	5	–
Walking time to LGA HQ (hours)	8	2	2	1	1	–
Distance to referral center (km)	15	10	12	–	4	–
Walking time to referral center (hours)	4	3	3	24	1	–
Driving time to referral center (hours)	1	<1	<1	5	<1	–
% with other health facilities within 2-hr walk /10km radius	87	97	96	100	80	91
Average # of (within 2-hr):						
Total	7	14	18	9	13	–
Public PHCs	4	3	3	–	2	–
Public sec/tertiary	1	1	1	–	1	–
Small Private clinics	2	8	10	5	9	–
Private sec/tertiary	1	1	3	4	1	–

(continued on next page)

Table II.1.8
Average distance from LGA and other health facilities, by type of facility (*continued*)

Kogi	Health post/ dispensary				PHC	N	CHC	N	Tertiary	N	Unspec- ified		All
	N		N	N							N	N	
Distance to LGA HQ (km)	121	25.2	23	8.9	6	1.8	–	–	1	10.0	151	22	
Walking time to LGA HQ (hours)	114	8.9	23	2.0	6	0.4	–	–	1	1.3	144	7	
Distance to referral center (km)	121	15.8	23	9.4	6	3.7	–	–	1	10.0	151	14	
Walking time to referral center (hours)	113	3.9	23	2.3	6	1.1	–	–	1	1.3	143	3	
Driving time to referral center (hours)	120	0.6	23	0.4	6	0.1	–	–	1	0.2	150	1	
% with other health facilities within 2-hr walk /10km radius	107	87.7	23	100.0	6	100.0	–	–	1	100.0	137	90	
Average # of (within 2-hr):													
Total	122	7.0	23	7.3	6	9.3	–	–	1	9.0	152	7	
Public PHCs	122	3.7	23	3.2	6	5.3	–	–	1	4.0	152	4	
Public sec/ tertiary	122	0.6	23	1.0	6	1.2	–	–	1	1.0	152	1	
Small Private clinics	122	2.2	23	2.7	6	2.5	–	–	1	4.0	152	2	
Private sec/ tertiary	122	0.5	23	0.5	6	0.3	–	–	1	0.0	152	0	
Distance to LGA HQ (km)	8	2.8	46	8.4	39	6.2	1	5.0	3	3.3	97	7	
Walking time to LGA HQ (hours)	8	0.6	45	2.7	39	2.2	1	1.0	3	0.8	96	2	
Distance to referral center (km)	8	7.3	46	11.0	39	13.8	1	0.0	3	2.0	97	11	

(continued on next page)

Table II.1.8
Average distance from LGA and other health facilities, by type of facility (*continued*)

Kogi	Health post/ dispensary				PHC	N	CHC	N	Tertiary	N	Unspec- ified		All
	N		N	N							N	N	
Walking time to referral center (hours)	8	1.6	45	3.6	39	3.7	1	24.0	3	1.4	96	4	
Driving time to referral center (hours)	8	0.5	46	0.4	39	0.4	1	5.0	3	0.2	97	0	
% with other health facilities within 2-hr walk /10km radius	7	77.8	45	95.7	37	94.9	1	100.0	3	75.0	93	93	
Average # of (within 2-hr):													
Total	8	9.8	46	17.2	39	19.5	1	9.0	3	14.7	97	17	
Public PHCs	8	3.0	46	3.0	39	2.4	1	0.0	3	1.7	97	3	
Public sec/ tertiary	8	1.3	46	1.7	39	1.3	1	0.0	3	0.7	97	1	
Small Private clinics	8	3.9	46	10.7	39	11.9	1	5.0	3	10.7	97	11	
Private sec/ tertiary	8	1.6	46	1.8	39	3.9	1	4.0	3	1.7	97	3	

maintenance of primary, adult and vocational education; (b) the development of agriculture and natural resources, other than the exploitation of minerals; (c) the provision and maintenance of health services; and (d) such other functions as may be conferred on a local government council by the House of Assembly of the State."

This implies that according to the Constitution, it is the state governments that have principal responsibility for basic services such as primary health and primary education, with the extent of participation of LGAs in the execution of these responsibilities determined at the discretion of individual state governments. The constitutional existence of state-level discretion may lead to disparities across local governments

or across states in the extent to which responsibility for PHC services is effectively decentralized. In the face of such constitutional ambiguity, the survey of LGAs and health facilities attempted to assess the extent of decentralization of PHC services to local governments.

The survey asked respondents at both the LGA and facility level which agency, choosing one amongst the federal government, the state government, the LGA, community-based organizations, and facility head or staff, was the principal decision-maker for each of the following areas of PHC service provision in health facilities:

- Undertaking new construction, such as facility expansion
- Acquiring new equipment

- Making drugs and medical supplies available
- Setting charges for drugs and treatment
- Use of facility revenues from treatment and consultation
- Disciplining staff
- Transferring staff between facilities

The overwhelming majority of LGA respondents indicated the LGA as the principal decision-maker for most of the areas of facility-level provision of PHC services. Of the 29 LGAs that responded to these questions, 21 listed the LGA as the principal decision-maker for all of the areas listed above. Of the remaining LGAs, 7 listed the LGA as the principal decision-maker for most service delivery activities, except one or two areas that were non-systematically assigned to other agencies—for example, the state government was cited by 2 LGAs as the principal decision-maker for undertaking new construction, by 1 LGA for setting charges of drugs and treatment, and by 1 for decisions of transferring staff between facilities, with all other decisions being principally determined by the LGA. Only one LGA, Ibaji LGA in Kogi state, listed an agency other than the LGA, namely, community based organizations, as the principal authority for majority of the decisions of day-to-day running of facilities. This LGA had been pointed out during field-work for the survey as particularly remarkable for the extent of community participation in PHC service delivery.

The facility-level respondents similarly indicated the LGA as the principal decision-maker for most service provision decisions at the facility level, as compared to the other two tiers of government—the state and the federal government. Out of 249 facility-level respondents that answered most of the questions related to facility decision-making, 61% indicated the LGA as the principal decision-maker for all or most activities listed earlier. The state and federal governments were indicated very infrequently as principal decision-makers for any area, and even then for only one or two areas of decision-mak-

ing in any individual facility. Table II.2.1 lists the frequency of responses for each agency by each type of service delivery decision area. There is, therefore, no evidence from the survey of state governments being actively engaged in the provision of PHC services, as appears to be indicated in the Constitution. Amongst government agencies, the LGA is overwhelmingly indicated as primarily responsible for PHC, with no significant variation in responses across the LGAs or between the two states surveyed.

In addition to the LGA, it was the community development committees and the facility head and staff that were indicated as principal decision-makers in some specific facility decisions. For making drugs, supplies, and equipment available, and/or setting charges of drugs, and/or determining use of facility revenues, the community development committees and/or facility head or staff was indicated for about 35% of the facilities surveyed.³ For decisions to undertake new construction or expansion, community development committees were indicated as principal decision-makers for 26% of all facilities surveyed. However, decisions related to staff discipline were overwhelmingly cited as the responsibility of the LGA.

There are striking differences in the sharing of responsibilities between the LGA and community development committees in the two states of Lagos and Kogi studied here. Of the 97

³ About 53 facilities reported community organizations as principal decision-makers and about 62 reported facility head/staff as principal decision-makers in one or more of the following areas—making drugs and medical supplies available, acquiring new equipment, setting charges for drugs, and deciding what to do with facility user revenues. About 28 of these 115 facilities reported both communities and facility head/staff as principal decision-makers for different activities in this list. Hence, 87 facilities reported either communities or facility head/staff as principal decision-makers in one or more of these areas.

Table II 2.1
Principal Decision-Makers for Facility Functioning

Undertaking New Construction/Repairs		
Principal Decision-Maker	Frequency	Percentage
Federal Government	1	0.4
State Government	1	0.4
Local Government	177	70.24
Community	65	25.79
Facility Head/Staff	2	0.79
Missing Response	6	2.38
Acquiring New Equipment		
Principal Decision-Maker	Frequency	Percentage
Federal Government	0	0
State Government	0	0
Local Government	203	80.56
Community	28	11.11
Facility Head/Staff	17	6.75
Missing Response	3	1.19
Making Drugs Available		
Principal Decision-Maker	Frequency	Percentage
Federal Government	1	0.4
State Government	0	0
Local Government	182	72.22
Community	27	10.71
Facility Head/Staff	37	14.68
Missing Response	5	1.99
Making Medical Supplies Available		
Principal Decision-Maker	Frequency	Percentage
Federal Government	1	0.4
State Government	0	0
Local Government	199	78.97
Community	20	7.94
Facility Head/Staff	28	11.11
Missing Response	4	1.19

(continued on next page)

Table II 2.1
Principal Decision-Makers for Facility Functioning *(continued)*

Setting Drug Charges

Principal Decision-Maker	Frequency	Percentage
Federal Government	2	0.79
State Government	2	0.79
Local Government	173	68.65
Community	14	5.56
Facility Head/Staff	48	19.05
Missing Response	13	5.15

Setting Treatment Charges

Principal Decision-Maker	Frequency	Percentage
Federal Government	1	0.4
State Government	3	1.19
Local Government	173	68.65
Community	13	5.16
Facility Head/Staff	47	18.65
Missing Response	15	6.96

Use of Facility Revenues from Treatment and Consultations

Principal Decision-Maker	Frequency	Percentage
Federal Government	1	0.4
State Government	1	0.4
Local Government	176	69.84
Community	32	12.70
Facility Head/Staff	23	9.13
Missing Response	19	7.54

Staff Discipline

Principal Decision-Maker	Frequency	Percentage
Federal Government	1	0.4
State Government	5	1.98
Local Government	210	83.33
Community	9	3.57
Facility Head/Staff	21	8.33
Missing Response	6	2.38

(continued on next page)

Table II 2.1
Principal Decision-Makers for Facility Functioning (*continued*)

Staff Transfers		
Principal Decision-Maker	Frequency	Percentage
Federal Government	1	0.4
State Government	8	3.17
Local Government	233	92.46
Community	3	1.19
Facility Head/Staff	2	0.79
Missing Response	5	1.98

Source: Survey Data

facilities in Lagos that responded to most of these responsibility questions, 74% indicated the LGA as principal decision-maker, while of the 152 respondents in Kogi, only 52% indicated the LGA as principal decision-maker. The remaining facilities in Kogi listed either the community development committees or the facility head or both as the principal decision-makers. Of the 53 facilities in the sample that listed community development committees as principal decision-makers for one or more of the following areas—making drugs, supplies and/or medical equipment available, setting charges of drugs, determining use of facility revenues—48 belonged to Kogi, and only 5 to Lagos. Of the 65 facilities where communities were reported as principal decision-makers for undertaking new construction, 61 belonged to Kogi and only 4 to Lagos. Hence, while the LGA has predominant responsibility for PHC service delivery in both states, as compared to the state and federal governments, in Kogi PHC service delivery appears to be characterized by active participation of communities and facility staff.

In its implementation guidelines for primary health care services the National Health Policy requires all local governments to establish committees that will manage, monitor, and evaluate health care programs and provide technical advice to the local government council. These are the Primary Health Care Management

Committee (PHCMC) and its technical arm, the Primary Health Care Technical Committee (PHCTC). In order to get a picture of the extent of monitoring of health facilities by the PHCMC, the survey asked several questions related to the activities of this committee which is shown in Table II.2.2. PHCMCs appear to be quite active in Kogi, with over 80 percent of the sample reporting that the committee visits the facility regularly, monitors patient registers, drug stocks, and equipment, and discusses medical protocol and administrative issues. In Lagos, PHCMCs appear less active, with more than 40 percent of the sample either not responding to the questions or reporting that the committee visits rarely or never. In both states it is surprising to note the low frequency of responses for checking of user receipts in the facility by the PHCMC—as we will discuss in the section on financing, most facilities responded that revenues from user charges are supposed to be handed-over to the local government and not retained for general facility purposes.

Community Participation

The national health policy in Nigeria emphasizes active community engagement in the provision of PHC services in the spirit of the Bamako Initiative of 1987, when Health Ministers from various African nations adopted resolutions for

promoting sustainable primary health care through community participation in financing, maintenance, and monitoring of services. Community participation was institutionalized in Nigeria through the creation of development committees at the level of the district—district development committee (DDC)—and the village—village development committees (VDC), with explicit guidelines for their respective duties and responsibilities.

District or village development committees are indicated as existing and engaging in various aspects of service provision at the facility level for 87% of the facilities surveyed. Of these, 84% are indicated as active in the sense of meeting regularly to discuss facility operations either once a month or a few times a year, and 80% indicate that the committee members visit the facility either once a month or a few times a year. Table II.2.3 shows the typical list of activi-

ties that committee members engage in during a facility visit—discussion of medical protocol and administrative and staff issues leads the list for both states.

Table II.2.3 also provides a picture of the extent of active community participation in different areas of service provision. Development committees in Kogi are particularly active in supporting service provision in the areas of carrying out repairs on facility structures (with 54% of the facilities reporting action in this area in the past year), providing drugs to the facility (27%), and resolving administrative and personnel management issues (25%). Development committees in Lagos are significantly less active, with less than 15% of the facilities reporting any action undertaken by the committees in the past year. However, even in Kogi, there is very little community engagement in setting charges of drugs which would be critical for maintain-

Table II.2.2
Activities of Primary Health Care Management Committee

	KOGI	LAGOS
Frequency of Visits to Facilities:		
Once a month or a few times a year	85%	60%
Once or twice a year	7%	6%
Very rarely or never	8%	34%
Activities of development committee during a facility visit:		
Checking patient register	90%	67%
Checking stock cards	82%	44%
Checking user charge receipts	69%	13%
Discuss medical protocol	89%	71%
Discuss administrative issues	89%	83%
Hold an official staff meeting	76%	64%
Checking equipment	83%	66%

Values in the columns indicate the percentage of facility respondents that responded “yes” to the questions for community participation; the respondents are 144 facilities in Kogi and 79 facilities in Lagos for the first question on frequency of visits; thereafter total number of respondents is between 135-140 for Kogi and 60-65 for Lagos

Source: Survey Data

Table II.2.3
Community Participation in Kogi and Lagos

	Kogi	Lagos
Existence of Village/District Development Committee	96%	74%
Activities of development committee during a facility visit:		
Checking patient register	31%	29%
Checking stock cards	24%	18%
Checking user charge receipts	19%	4%
Discuss medical protocol	47%	35%
Discuss administrative issues	43%	39%
Hold an official staff meeting	58%	25%
Checking equipment	34%	18%
Actions undertaken by committee in past year:		
Committee made disciplinary recommendations on staff	14%	3%
Committee provided drugs to the facility	27%	4%
Committee fixed the price of drugs in the facility	13%	7%
Committee fixed user charges and fees	6%	3%
Committee requested more vaccines	37%	9%
Committee carried out structural repairs	54%	13%
Committee provided fuel or other resources	13%	10%
Committee repaired equipment	20%	12%
Committee made new investments	17%	3%
Committee resolved administrative issues	24%	12%
Committee resolved staff personnel issues	25%	3%

Values in the columns indicate the percentage of facility respondents that responded “yes” to the questions for community participation; the respondents are the entire sample of 152 facilities in Kogi and 94 facilities in Lagos for the first question on the existence of a development committee, but thereafter total number of respondents is an average of 140 for Kogi and between 50 and 70 for Lagos

ing a drug revolving fund, which is a particular aspect of community participation emphasized in Nigerian health policy.

Respondents at the LGA level do not appear to be well informed about the extent of community participation within their jurisdiction, as evidenced by their responses on the existence of development committees being in stark contrast to what is reported at the facility level. Kogi LGAs report on average that only 60% of villages have village development committees,

while Lagos LGAs report a higher average of 74%. Yet, the picture at the facility level suggests that if the sample is representative of an average facility in each of the states, then the chances of a Kogi facility having a village development committee is 83%, while the chances of a Lagos facility having a village development committee is only 56%.

Community participation in Kogi is concentrated in the running of health posts/dispensaries (Type 1 facilities). Table II.2.4 shows the

Table II.2.4
Community Participation in Kogi across Facility Types

	Type 1	Type 2	Type 3
No. of facilities reporting communities as principal decision-makers in making essential supplies available, and/or setting charges for drugs, and/or determining use of facility revenues	45	3	0
No. of facilities reporting communities as principal decision-makers for undertaking new construction	56	4	1
Total number of facilities in the sample	122	23	6

distribution of facilities in Kogi that reported community development committees as principal decision-makers in undertaking construction and in one or more of the following areas—making drugs and medical supplies available, acquiring equipment, setting charges for drugs, and deciding what to do with facility revenues—across the three types of health facilities in the sample. Amongst the Type 1 facilities sampled in the state, 37% indicated communities as principal decision-makers in the latter category, and 46% indicated communities as principal decision-makers for undertaking new construction. In contrast, only 15–17% of type 2 facilities sampled in the state indicated communities as principal decision-makers for making essential supplies available, or for undertaking new construction. This may indicate that given few choices for primary health care services in rural areas of the state, communities decide to invest efforts in improving the quality of services available in the public facilities in their neighborhood.

II.3. Financing Arrangements

The survey evidence presented in Table II.3.1. shows that amongst government agencies the LGA is the main source of financing of PHC service delivery at the facility level. Staff salaries, facility building construction and maintenance, supply of drugs, equipment and other

medical commodities, are all predominantly provided by local governments in Lagos state. However, in Kogi, community-based organizations and facility staff are frequently indicated by facilities as the main source of drugs (for 28% of facility respondents) and medical supplies (31%). With regard to building maintenance, 57% of respondents indicated that community-based organizations were the main suppliers in the last twelve months, as compared to only 24% of respondents that indicated the LGA as the main supplier. It is surprising to note that as many as 15% of facilities in Kogi indicate staff personal funds as the main source of facility resources, which if accurate probably implies that staff compensate themselves from facility revenues. In Lagos, for the majority of facilities (over 85%) resources were either provided by the LGA or indicated as not provided at all in the last twelve months. Staff salaries are almost exclusively provided by local governments in both states.

Hence, financing of day-to-day facility functioning is largely provided by local governments. However, the National Health Policy provides general guidelines to all three tiers of government to prioritize resource allocation in favor of preventive health services and primary health care, which is the cornerstone of the national program. In this spirit of prioritization, the federal and state governments are expected to provide logistical and financial assistance to the LGAs, primarily for programs of national

Table II.3.1
Main Supplier of Facility Resources

	Kogi	Lagos
Who has been the main supplier of drugs to the facility in the last year?		
Federal Government	2.7%	1.1%
State Government	4.7%	6.4%
Local Government	53.7%	69.2%
Community Development Committee	12.1%	2.1%
Facility Funds	4.7%	1.1%
Staff Personal Funds	15.4%	2.1%
NGO/Donor/Individuals	5.4%	1.1%
Not supplied in the last year	1.3%	17%
Who has been the main supplier of other medical commodities to the facility?		
Federal Government	2%	0%
State Government	4.7%	7.3%
Local Government	50.3%	69.8%
Community Development Committee	16.1%	0%
Facility Funds	2%	0%
Staff Personal Funds	14.8%	0%
NGO/Donor/Individuals	6%	6.6%
Not supplied in the last year	4%	16.7%
<i>Values in the columns indicate the percentage of facility respondents that responded "yes" for the agency listed to the left; the total respondents are an average of 140 respondents for Kogi and 94 respondents for Lagos</i>		
Who has been the main supplier of new equipment to the facility in the last year?		
Federal Government	0.7%	0%
State Government	1.5%	4.1%
Local Government	55.8%	61.9%
Community Development Committee	14.5%	0%
Facility Funds	0.7%	0%
Staff Personal Funds	8.7%	0%
NGO/Donor/Individuals	3.6%	1%
Not supplied in the last year	14.5%	33%

(continued on next page)

Table II.3.1
Main Supplier of Facility Resources (*continued*)

	Kogi	Lagos
Who has been the main supplier of equipment maintenance in the facility?		
Federal Government	0.7%	0%
State Government	1.4%	2.1%
Local Government	38.6%	61.5%
Community Development Committee	15%	0%
Facility Funds	2.1%	1%
Staff Personal Funds	22.9%	2.1%
NGO/Donor/Individuals	5%	2
Not supplied in the last year	14.3%	31.3

Values in the columns indicate the percentage of facility respondents that responded "yes" for the agency listed to the left; the total respondents are an average of 140 respondents for Kogi and 94 respondents for Lagos

Who has been the main supplier of facility building maintenance in the last year?		
Federal Government	0.7%	0%
State Government	0.7%	4.1%
Local Government	23.8%	60.8%
Community Development Committee	57.3%	1%
Facility Funds	1.4%	0%
Staff Personal Funds	3.5%	1%
NGO/Donor/Individuals	1.4%	1%
Not supplied in the last year	11.2%	32%

Who pays staff salary?

Federal Government	2.5%	0.9%
State Government	0.4%	1.9%
Local Government	94.58%	96.2%
Community Development Committee	0%	1.1%
NGO/Donor/Individuals/Other	2.5%	0%

Values in the columns indicate the percentage of facility respondents that responded "yes" for the agency listed to the left; the total respondents are an average of 140 respondents for Kogi and 94 respondents for Lagos; Values in the columns for staff salary indicates the percentage of staff respondents that responded "yes" for the agency listed to the left; the total respondents are 240 staff for Kogi and 472 staff for Lagos

importance such as the National Program of Immunization, or controlling the spread of HIV/AIDS. The federal budget in recent years has included programs of construction of PHC facilities in local governments. However, there are no established rules or policies for the provision of financial assistance from the higher tiers of government, and it is not clear how well any assistance that is forthcoming is coordinated with LGA budgets and plans for PHC services. Although this survey has not provided any evidence with regard to coordination between the three tiers, more qualitative studies on the extent of coordination between different agencies have indicated that there is often lack of clarity, wastage of resources, and lack of ownership of local governments in efforts that require coordination between all three tiers of government (IMF, 2001).

There is also some evidence from qualitative work in Lagos state that local governments are not able to assume full responsibility for non-facility services such as water and sanitation, which are an integral part of primary health care services, leading to situations where the state government has to actively intervene and solve critical problems (IMF, 2001). This survey does not provide evidence on the functioning of local governments in this regard.

LGA Finances

Local government expenditure responsibilities are financed largely through statutory allocations from the Federation Account, with LGAs regularly receiving about 20 percent of total federal resources in the divisible pool. Since oil revenues are part of the Federation Account, LGAs receive substantial revenues on account of this statutory allocation. LGAs are also entitled to a share of federally collected VAT revenues (outside of the Federation Account). In addition, LGAs are supposed to receive statutory allocations from state government revenues, but the rules related to this are less strict and not always enforced. Total LGA revenues in the country amounted on average to over 5 percent of GDP between 1990 and 1999, and over 10 percent of GDP after the oil price increase in 1999. LGAs also have recourse to significant own tax bases, although studies have shown that these have not been explored to full potential, and that internally generated revenues are a small proportion of total LGA revenues (IMF, 2001).

The survey collected data on LGA revenues and health expenditures for 1999 and 2000 from available budget documents. Table II.3.2 show summary statistics on per capita revenues in the two states. Average per capita revenues in both

Table II.3.2
Per Capita LGA Revenues

	Mean	Std. Dev.	Minimum	Maximum
Kogi				
1999 Per capita revenues	1018.6	599.6	443.4	2391.8
2000 Per capita revenues	2191.2	1218.2	1190.6	5634.8
Lagos				
1999 Per capita revenues	1266.4	1623.1	465.1	6753.7
2000 Per capita revenues	2352.3	3428.1	582.8	14412.1

Source: Survey Data. 2000 data is for 15 LGAs in each state; 1999 data is for 13 LGAs in Kogi (missing values for Kogi and Lokoja LGAs) and 14 LGAs in Lagos (missing values for Ojoo).

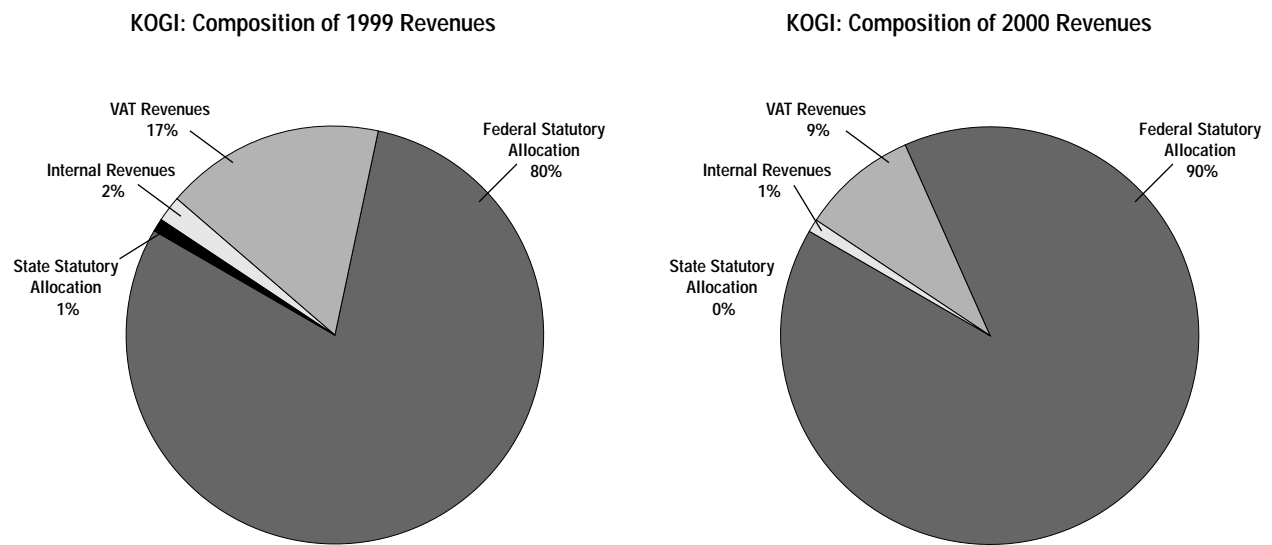
states more than doubled in 2000, owing to the country-wide increase in oil revenues which led to greater allocations to LGAs from the Federation Account. The facility survey has therefore been undertaken at a time when LGA revenues have been substantial and rising. Although the levels of per capita revenues are not significantly different across the two states, there is greater variation across LGAs in Lagos state, with the richest LGA (Ibeju-Lekki) having more than 10 times the per capita revenues of the poorer LGAs.

Figures II.3.1 and II.3.2 show the composition of LGA revenues on average for each of the two states. Local governments in Kogi are overwhelmingly dependent on statutory allocations from the Federation Account for their revenues, and receive almost nothing from the state government. Revenue sources of local governments in Lagos are more diversified—bulk of their revenues comes from two sources, the Federation Account and the VAT, but a significant amount

is also internally generated from local tax bases. This is as one would expect given that Lagos state is the urban center of Nigeria, while Kogi is a largely rural state. The consequences for basic health service delivery between the two states is also clear—services in Kogi are much more vulnerable to external shocks that affect oil prices, which is why, perhaps, communities in Kogi take a more active role in maintaining basic health services.

The survey attempted to collect budgetary data on health expenditures of local governments, which was a difficult exercise because budget documents and categories across local governments, both within and across states, are not uniform. During the field testing of the survey instruments it was observed that numbers on total health expenditures were either not easy to find or simply not available in LGA budget documents. However, three categories of expenditures that appeared to show-up more consistently across LGAs were expenditures on health

Figure II.3.1
Composition of Kogi State Revenues



Source: Survey Data. Missing data for two LGAs (Kogi and Lokoja) in 1999

personnel, overheads, and capital projects. These also appeared to be exhaustive categories for the budgeting of health expenditures. Hence, data was collected on these three categories of health expenditure, which we add-up here to estimate total health expenditures by local governments. There are several missing values for this estimate of total health expenditures, arising whenever any one of the three categories—personnel, overheads, and capital—are missing. In total, we have missing values for total health expenditures for 7 LGAs in Kogi and 1 LGA in Lagos for the 1999 budget, and for 4 LGAs in Kogi and 3 in Lagos for the 2000 budget.

Table II.3.3 shows summary statistics for per capita total health expenditures in the two states, and the proportion of total local government revenues spent on health. For the sample for which data is available, Kogi LGAs spend more per capita and as a proportion of total revenues on health than do Lagos LGAs. However, this comparison is to be interpreted with caution

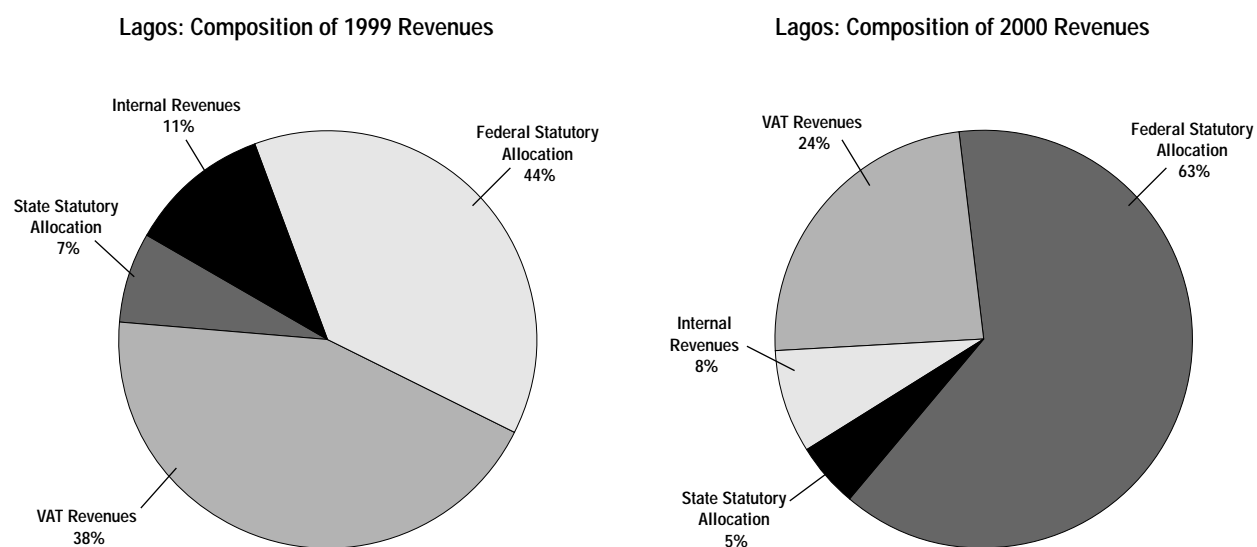
because of potential bias introduced by several missing observations. Lower public expenditures on health in Lagos LGAs may be because of greater availability of private health care in the substantially more urban state.

Figures II.3.3 and II.3.4 shows the average composition of health expenditures in terms of capital, overheads, and personnel expenditure in 2000 for each of the states. Bulk of LGA health expenditures are allocated to staff salaries—in Kogi in 2000, LGAs on average spent 78% of health expenditures on salaries, while in Lagos, LGAs spent 65% on average on staff salaries.

Facility-level finances

Although the survey asked several questions related to fees charged at facilities for their services, the responses were often inconsistent across questions and the data are therefore hard to interpret. About 43% of the facilities surveyed

Figure II.3.2
Composition of Lagos State Revenues



Source: Survey Data. Missing data for one LGA (Ojoo) in 1999

Figure II.3.3
Kogi – Composition of Health Expenditures, 2000

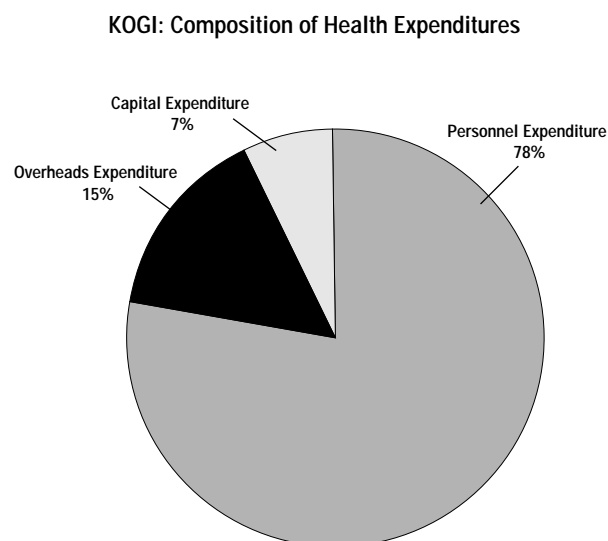


Figure II.3.4
Lagos – Composition of Health Expenditures, 2000

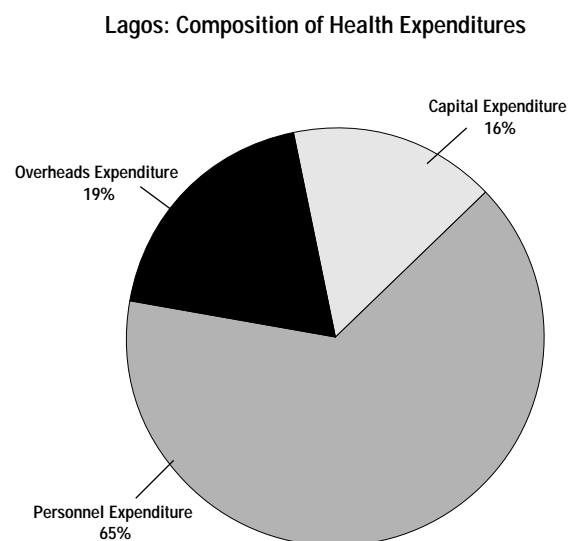


Table II.3.3
Local Government Health Expenditure

	Mean	Std. Dev.	Minimum	Maximum
Kogi				
Tot. Health Exp. Per Capita, 1999	240.7	235.5	92.4	800.2
Tot. Health Exp. Per Capita, 2000	379.5	261.6	191.8	1121
Proportion spent on health, 1999	26%	16%	13%	62%
Proportion spent on health, 2000	22%	15%	6%	61%
Lagos				
Tot. Health Exp. Per Capita, 1999	154.2	152.1	48.5	624.8
Tot. Health Exp. Per Capita, 2000	251.2	304	60.2	1162.7
Proportion spent on health, 1999	14%	7%	8%	37%
Proportion spent on health, 2000	12%	9%	5%	41%

Source: Survey Data. 2000 data is for 11 LGAs in Kogi and 12 in Lagos; 1999 data is for 8 LGAs in Kogi and 14 in Lagos.

claim to be non-fee charging facilities. Yet, some of these facilities that claimed not to charge fees for their services respond with non-zero values for average charges for services, and “yes” to the question of whether they charge standard

prices for treatment. Hardly any facilities (less than 5%) were observed to have permanent displays of user charges. 60% of respondents indicate that the facilities do not charge standard prices for treatment. Only 24% of respondents

claim that the facility has an exemption policy. Almost all surveyed facilities in Kogi reported positive fees for two services about which the question was asked: outpatient treatment (96%) and inpatient deliveries (69%). Average fees in Kogi for in-patient deliveries is Naira 330, ranging from a minimum of Naira 20 to a maximum of Naira 1500. Average fees for outpatient treatment is Naira 116, ranging from a minimum of Naira 10 to a maximum of Naira 300. Far fewer facilities in Lagos responded to the question about fees for service (a little over 20%). Average fees for inpatient deliveries in Lagos is Naira 572, ranging from a minimum of Naira 50 to a maximum of Naira 5000, while for outpatient treatment the average fee is Naira 107, ranging from a minimum of Naira 50 to a maximum of Naira 160.

Data on fee revenues collected by facilities is available for few facilities, with only 61% of Kogi facilities responding with positive revenues, and as few as 14% of Lagos facilities responding with positive revenues. The Lagos facilities reporting revenues are all Type 2 or Type 3 facilities, that is larger, more comprehensive health care centers, but the Kogi facilities reporting revenues are largely Type 1 facilities, that is, simple health posts or small clinics. For the responding facilities in Kogi, the average facility monthly revenue is Naira 1694, ranging from a minimum of Naira 70 to a maximum of Naira 13,333. For the few facilities responding in Lagos, the average facility monthly revenue is Naira 11,493, ranging from a minimum of Naira 217 to a maximum of Naira 72,360. Fees collected from users of facilities are not reported as a systematic nor significant source of financing facility resources. Only about 45% of facilities report that revenues generated from sale of drugs and treatment provided at the facility may be used for general facility purposes.

Overall, the survey questions related to user fees and facility-level financial management did not yield useful answers—the response rate was low, raising the risk of bias in interpreting sample averages, and

the responses were often inconsistent across questions. This provides some lessons for better designing these questions in future surveys, and underscores the value of supplementing the survey with exit interviews of patients, particularly on their experience with user charges. However, conflicting responses at the facility level, and lack of visible posting of user fees does suggest that fee policies are non-transparent and therefore leave room for staff discretion and corruption.

II.4. PHC Staff, Incentives, and Equipment

Introduction

A complete account of public service delivery in primary health care includes at least three causally related elements: financing and overall governance, the resulting incentive environment in which staff deliver pharmaceuticals, diagnoses, treatment, and the other services that patients seek, and the net impact of those services on health care quality, efficiency, and health outcomes. The sections above characterized financing and governance, and the succeeding section will assess outcomes. This section analyzes the crucial middle part of the causal chain—the work of staff and the availability of health equipment. The first part below describes staff in Nigerian primary health care, the second analyzes the incentive environment, and the third examines the availability of crucial non-personnel inputs.

Staff Characteristics

Primary health care facilities in Nigeria continue to be staffed by a variety of health care workers organized in a civil service hierarchy. At the top are medical officers, or physicians. Below them are community health officers (CHOs), nurses, midwives, senior and junior community health education workers (SCHEWs and JCHEWs), and environmental health officers. A number of health care staff in other categories also work

Table II.4.1
Number of health workers by facility type

Designation	All Facilities N=252		Type 1 N=131		Type 2 N=70		Type 3 N=45		Type 4 N=1	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
All	7.85	9.25	2.32	1.67	8.09	5.82	22.76	9.51	31.00	–
Medical										
Officers	0.06	0.24	0.00	0.00	0.06	0.23	0.27	0.45	0.00	–
CHOs	0.82	1.75	0.05	0.23	1.19	1.00	2.38	3.34	2.00	–
Nurses	0.17	0.91	0.02	0.17	0.20	0.60	0.56	1.94	0.00	–
Midwives	1.21	2.59	0.04	0.19	0.76	0.89	5.22	3.89	7.00	–
SCHEWs	1.06	1.13	0.87	0.56	1.09	1.44	1.60	1.62	0.00	–
JCHEWs	0.38	0.70	0.27	0.48	0.41	0.69	0.67	1.11	1.00	–
Environmental										
Health										
Officer	0.71	1.56	0.01	0.09	0.83	1.57	2.42	2.21	5.00	–
Other	3.43	4.28	1.07	1.37	3.56	3.13	9.64	4.59	16.00	–

in the health facilities, including lab technicians, pharmacy technicians, medical records officers, dental assistants, health attendants, and security guards. Those staff are grouped as “other” in the tables below.

Table II.4.1 shows the number of health care workers by designation and facility type. In the sample, the average number of staff in a facility was 7.85, with about half of these in the category of environmental health officers and others. The typical facility in the sample had about one midwife, one SCHEW, about one nurse, and no doctors. These averages, however, conceal a wide variation in staffing levels across types of facilities. The median number of staff in a facility, for instance, was three health care workers. Type 1 facilities, which are like health posts, composed slightly more than half the sample, and on average had 2.3 workers, usually one SCHEW and one in the category of “other.” Medical officers rarely worked in public facilities – only one in four type 3 facilities had a physician on staff, and the sole type 4 facility in the sample did not have any.

It is important to note that health facility types are also unevenly located across the two states in the sample: 93% of health posts in the sample are located in Kogi state while 75% of the remaining higher level facilities are located in Lagos. As a result, while 61% of all facilities in the sample were in Kogi, 66% of the staff were from Lagos. Kogi had a mean of 4.0 staff per facility; in Lagos there was a mean of 13.7 primary health care staff per facility. As Table II.4.2 shows, staff in Lagos have more clinical training. For example, while nurses make up about 10% of total staff in Kogi, nurses constitute 20% of all staff in Lagos. Similarly, 7% of Kogi staff are midwives, compared to 26% in Lagos.

Table II.4.3 below describes the personal characteristics of health workers in the sample. The average age of staff is 41 years, but doctors are younger than the rest of the cadre, with an average age of 30 years. A large majority of health staff are women, with exceptions again being doctors (50%) and environmental health officers (21%). The large majority of staff in almost all categories have some amount of post-

Table II.4.2:
Designation of health staff in the sample, by state

Designation	Kogi		Lagos	
	N	percent	N	percent
Medical Officers	2	0.8	8	1.7
CHOs	24	9.9	95	20.0
Nurses	8	3.3	20	4.2
Midwives	16	6.6	125	26.3
SCHEWs	125	51.7	69	14.5
JCHEWs	36	14.9	20	4.2
Environmental Health Officer	2	0.8	75	15.8
Other	29	12.9	63	13.3
Total	242	100	475	100

Table II.4.3
Personal characteristics of staff

Designation	Age			Female	Education	Indigene	Years in PHC		LGA
	N	Mean	S.D.	(%)	(%)	(%)	Mean	S.D.	(%)
All Employees	717	40.5	7.8	70.4	86.5	27.9	14.2	7.1	95.6
Medical Officers	10	29.5	4.2	50.0	100	0.0	2.6	7.4	50.0
CHOs	119	43.9	5.7	78.2	98.3	21.9	16.8	5.3	95.7
Nurses	28	42.1	7.4	78.6	89.3	40.7	12.4	7.0	100
Midwives	141	43.8	6.5	99.3	99.3	16.4	15.6	6.9	96.5
SCHEWs	193	38.8	7.5	66.0	86.6	36.1	14.1	7.0	96.9
JCHEWs	56	35.9	9.4	83.9	67.9	39.3	11.6	7.2	90.9
Environmental Health Officers	77	38.6	7.4	20.8	96.1	14.3	12.8	7.5	97.4
Others	91	39.7	8.5	58.7	52.2	37.8	13.6	7.3	96.7

Education: Completed at least OND/HND degree. LGA: Percentage of staff employed by the LGA

secondary education. Only about 28% of staff are indigenous to the communities in which they are working, with percent indigene ranging from 0% for doctors to 41% for nurses. Staff have on average 14 years of experience in primary health care, but doctors have relatively less experience, with an average of 2.6 years of work in the field. Almost all staff (96%) are employed by the LGA, though half of the 10

medical officers in the sample were employed by the federal government and half by the LGA.

Tables II.4.4 and II.4.5 below report staff living conditions. About 45% of staff supplement their income in some way. The most common sources of supplemental income were agricultural work and commerce. About 17% of staff reported supplementing their work with some form of health-related activities, including

Table II.4.4
Percent of staff that supplement salary

Designation	Agricultural Work %	Comm/Petty Trade %	Clinical Work %	Home Health Serv. %	Sale of Medicines %	Other Activities %
All 14.0	13.3	2.4	8.3	5.8	1.7	
Medical Officers	–	–	30.0	10.0	–	–
CHOs	8.4	12.6	2.5	6.7	5.0	1.7
Nurses	14.3	17.9	–	10.7	3.6	–
Midwives	5.0	17.7	–	4.3	3.6	2.1
SCHEWs	23.7	12.4	3.1	11.9	7.7	1.0
JCHEWs	25.0	19.6	1.8	21.4	14.3	5.4
Environmental Health Officer	5.2	10.4	2.6	1.3	1.3	2.6
Other	16.3	8.7	2.2	5.4	6.5	–

Table II.4.5
Household Condition of Staff

Designation	Own a Bicycle %	Own a Car %	Has Flush Toilet %	Number of Rooms	
				Mean	S.D.
All	14.2	43.1	61.1	3.5	1.9
Medical Officers	–	50.0	100.0	3.5	1.6
CHOs	14.3	62.2	82.4	3.9	1.9
Nurses	10.7	64.3	75.0	3.8	2.2
Midwives	12.9	68.6	87.9	4.2	1.7
SCHEWs	16.6	24.7	30.4	3.3	1.9
JCHEWs	18.2	23.2	33.9	3.0	1.7
Environmental Health Officer	13.3	39.5	80.5	2.8	1.2
Other	10.9	26.4	50.0	3.1	1.9

clinical work, home health care, or the sale of medicines. (Staff might have been reluctant to reveal the extent of their health-related moonlighting). Some 43% of health staff reported ownership of a car in their household, and 61% had flush toilets in their homes.

Salaries and Incentives

The monthly salaries of health staff were, on average, 26306 Naira (about US\$220), in 2001. The

highest paid staff were midwives, CHOs, and nurses. Doctors, surprisingly, were the lowest paid. The reason for the low pay of doctors is likely related to the fact that doctors were on average more than ten years younger than their colleagues in other designations. Staff in type 1 facilities earned less than their counterparts in higher level facilities, but no systematic differences in staff salary levels were apparent among type 2, type 3, and type 4 facilities.

In-kind benefits typically did not constitute a large element of an average staff member's

Table II.4.6
Monthly salary by designation and facility type (naira)

Designation	All Facilities			Type 1 Facilities			Type 2 Facilities			Type 3 Facilities			Type 4 Facilities		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
All	715	26306	12583	158	18914	9901	226	27055	11449	296	29733	12975	10	26666	12288
Medical															
Officers	10	18090	8124	–	–	–	1	21000	–	8	18113	9071	–	–	–
CHOs	119	33456	11464	5	28494	10986	58	33297	9314	49	34962	13730	2	25724	2438
Nurses	28	31435	12383	1	22600	–	12	30432	13554	15	32826	11952	–	–	–
Midwives	141	35521	10485	2	19775	12410	36	34342	11861	94	36400	9738	3	36507	10007
SCHEWs	191	20334	7258	100	20112	7298	48	20896	7357	40	20617	7297	–	–	–
JCHEWs	56	13694	10651	28	14072	14871	14	13009	3699	13	13594	2578	–	–	–
Environmental															
Health															
Officers	77	28085	9506	–	–	–	31	26739	8557	39	29630	10304	3	28865	11403
Other	91	21021	13351	21	16981	10367	26	21025	10600	38	22949	14549	2	9550	71

reimbursement package: 63% of health staff did not receive any in-kind benefits at all. For those who did receive in-kind benefits, the most common benefit was free health care, which 21% of staff received. Free medicines were available to 15% of staff, and free housing to 18%. Free schooling or food items were rare. An analysis by state (not shown) found no significant difference between Kogi and Lagos in receipt of in-kind benefits.

Given that salaries were the strongest extrinsic motivation for health staff performance (apart from under-the-table payments, which were probably under-reported), how were salaries determined? The question is crucial for characterizing the incentive environment that staff face. Personnel systems can reward staff based on years of experience and civil service grade, or they can be more flexible, with localities or facility managers using their own discretion to reward or punish staff. The advantage of the latter system is that local managers use all information about staff performance in determining rewards, not just centrally determined criteria for promotion. The disadvantage is that arbitrary

decisions can undermine teamwork and overall morale. Health and education systems in developing countries usually employ civil service staff, but reform in agendas in several countries are attempting to incorporate more flexibility, including market-like mechanisms, in the incentive systems for public sector workers. The decentralization agenda in Nigeria is consistent with the reform program. An analysis of the earnings of primary health care staff sheds light on how decentralization has affected the incentives that frontline staff face, and whether, therefore, it is likely to have any impact on health care delivery and the health status of the population.

A simple Mincerian earnings function was used to explore the sources of variation in staff salaries. The results are presented in Table II.4.9 below. In the first estimation, in column (1), experience, experience squared, and education variables were all significant determinants of monthly wages and display the expected signs. Gender, being indigenous to the community, and state of work were not significant. Staff in type 2 and type 3 facilities had significantly higher wages than staff in type 1 facilities. (The omitted

Table II.4.8
Percent of Staff Receiving In Kind Benefits by designation

Designation	Health Care %	Medicines %	Schooling %	Housing %	Food Items %
All	20.7	14.6	0.6	18.1	5.2
Medical Officers	40.0	30.0	–	20.0	11.1
CHOs	15.1	10.9	–	20.2	5.1
Nurses	21.4	21.4	–	14.3	7.1
Midwives	18.4	12.8	–	14.9	5.0
SCHEWs	19.8	13.1	1.6	26.4	5.2
JCHEWs	20.0	7.3	–	17.9	7.3
Environmental Health Officers	23.4	18.2	–	9.2	2.6
Other	29.4	22.8	1.1	10.9	5.6

Table II.4.9
Determinants of Monthly Wages, Robust OLS

	(1)	(2) LGA dummies	(3)	(4) LGA dummies	(5) LGA dummies
Grade level			3,008.62 (19.89)**	3,037.37 (18.74)**	3,077.28 (17.81)**
Experience	1,422.65 (7.05)**	1,659.81 (8.33)**			146.518 –1.06
Experience squared	–26.356 (3.77)**	–34.439 (5.10)**			–1.846 –0.42
Secondary school	5,335.81 (2.05)*	4,932.59 –1.91			1,500.39 –1.15
OND	10,140.29 (4.82)**	10,035.91 (4.50)**			–493.993 –0.47
University	12,449.66 (3.70)**	12,102.01 (3.58)**			–5,526.66 (2.07)*
Postgrad	18,026.20 (3.60)**	18,434.12 (4.74)**			3,362.24 (2.35)*
Male	–623.515 –0.77	–887.099 –1.12			–590.876 –1.24
Indigene	–2,232.12 (2.57)*	–2,108.78 (2.35)*			–485.832 –0.84
Kogi	2,432.94 (2.02)*	2,004.94 –0.53			–269.947 –0.16
T2: Primary	7,148.74 (6.16)**	6,565.03 (5.40)**			–42.38 –0.05

(continued on next page)

Table II.4.9
Determinants of Monthly Wages, Robust OLS (continued)

	(1)	(2)	(3)	(4)	(5)
		LGA dummies		LGA dummies	LGA dummies
T3: Comprehensive	9,538.94 (7.09)**	8,324.39 (5.80)**			1,870.61 -1.61
T4: Tertiary	6,542.09 (2.33)*	7,470.24 (2.28)*			3,905.71 (2.27)*
Constant	-3,232.56 -1.15	-5,645.56 -1.54	-2,263.96 -1.41	-2,095.70 -1.27	-3,651.84 -1.88
Observations	687	687	700	700	676
R-squared	0.31	0.37	0.6	0.65	0.7

Robust t statistics in parentheses

* significant at 5%; ** significant at 1%

category is T1: health posts). Adding categorical variables for LGA, in the estimation in column (2), did not affect the magnitude or significance level of the explanatory variables and increased the variance explained by about 19%, to an R^2 of 0.37. The estimation in column (3) used current civil service grade level to estimate monthly salaries. The estimate of the coefficient on civil service grade was significant at 1%, and the variable by itself explained 60% of the variance in monthly wages. Adding LGA dummies, in column (4), hardly affected the significance level of its coefficient. This suggests that despite the decentralization that Nigeria has undergone, LGAs were not exercising discretion to establish local pay rates for health staff, nor were they using it to prioritize health care. (Of the 29 LGA dummies used in the column (4) estimation, only three were significant). The estimation in column (5) shows that when civil service grade is added to the estimation of column (2), the experience and education variables lose significance. When a variable for local competition is included in the estimations, the number of other health facilities within a 2 hour walk, the coefficient on the variable is not significant, and the results remain unchanged (not shown). Overall, these estimations establish that traditional civil service

pay scales, rather than locally determined rewards for performance, remain the dominant element in the incentive environment for primary health care staff.

Ideally, the incentives associated with uniform civil service pay scales establish a career path for staff. Opportunities for career advancement and learning combined with job stability motivate staff to remain in their positions for long periods. The availability of promotions, the fact that colleagues remain in place for long periods, and the absence of short-term, competitive rewards minimizes adversarial relations among staff and promotes the conditions for teamwork. For example, high-powered incentives based on number of patients a staff member sees might, while encouraging productivity, create incentives for staff to steal patients from each other or hesitate to refer patients to one another. Low-powered incentives, though they do not reward productivity to the same extent, avoid such problems.

Is the civil service payment system creating conditions for teamwork in Nigeria? Table II.4.10 below shows the average length of time that health staff have been working in their current facility. In general, average length of tenure in the current facility is short, about 2.7 years. Medical officers have been working in the current facility for three

months (given their age, most are probably just out of medical school), and nurses and midwives have an average tenure in the current facility of less than two years. Senior and junior health education workers have longer tenures (most are in Kogi, where staff typically have a longer average time in the current facility than Lagos). The average length of time is similar for health posts, primary centers, and comprehensive centers, but the one tertiary facility in the sample exhibited an exceptionally high rate of turnover. These data indicate that there is a lot of staff churning in the health facilities in the two sampled states, and that the civil service system does not appear to be achieving one of its principal objectives – facilitating teamwork and stability in health service delivery.

Another important element of career-based professional incentives are opportunities for learning and professional growth, including

Table II.4.10
Average Number of Years Working
in Current Health Facility

	Years
Individual staff	
Medical Officers	0.25
CHOs	1.9
Nurses	2.4
Midwives	1.7
SCHEWs	3.3
JCHEWs	2.9
Environmental Health Officers	1.9
Others	5.0
All staff	2.7
Facility averages	
Kogi	3.4
Lagos	1.6
Health posts	2.9
Primary centers	2.7
Comprehensive centers	2.4
Tertiary facilities	1.0

training. Table II.4.11 below shows that staff spent an average of 7 days in training during the past 12 months. Midwives received more training on average than workers in the other cadres, and doctors received the least. There were no significant differences in time spent training across facility types, and no difference between the states (not shown). The most common form of training was for immunization and vaccines (not shown).

Finally, teamwork and collaboration are exhibited in staff behavior and professionalism. The questionnaire asked staff a number of questions regarding views of the health system and health management. Table II.4.12 below reports individual and facility averages for three of those questions: the number of times in the last month another health care worker watched the staff member diagnose and treat a patient for training purposes, the number of patient cases discussed with another health staff member during the last month, and whether, if a staff member witnessed egregious behavior on the part of another staff, he or she would bring it up in a staff meeting. Less than half of health professionals would bring up egregious behavior on the part of another staff member in staff meeting. Of all health professionals, medical officers discuss patient cases most frequently (perhaps with each other), but they are least likely to bring up issues in staff meetings (possibly because they do not participate in or value the meetings). Staff in Kogi facilities engage in fewer professional interactions than staff in Lagos facilities, but this is related to the fact that there are fewer patients and therefore fewer opportunities to do so. Kogi facilities also are less inclined to raise issues in staff meetings, perhaps because staff sizes are smaller and formal meetings less frequent.

Availability of drugs, equipment, and surveillance records

Many health facilities reported shortages of basic health equipment. For instance, 95% did not have

Table II.4.11
Total days spent in training in last year by designation and facility type

Designation	All Facilities		Type 1 Facilities		Type 2 Facilities		Type 3 Facilities		Type 4 Facilities	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
All	7.0	10.6	6.3	10.5	6.6	9.9	7.4	10.9	13.5	17.7
Medical Officers	2.1	6.6	–	–	0.0	–	2.6	7.4	–	–
CHOs	9.4	12.3	6.6	4.	9.3	13.4	9.9	12.2	12.0	12.7
Nurses	6.0	8.3	17.0	–	3.5	4.1	7.2	10.1	–	–
Midwives	11.1	14.0	4.5	2.1	10.3	12.6	10.5	13.8	29.0	26.2
SCHEWs	5.7	8.9	6.1	10.3	5.1	6.8	5.5	7.3	–	–
JCHEWs	6.2	11.1	7.2	14.4	6.7	7.5	3.8	5.6	–	–
Environmental Health Officer	4.0	6.5	–	–	2.7	4.2	5.8	7.9	0.0	0.0
Other	4.0	6.0	6.0	6.9	4.5	5.7	2.6	5.3	12.0	4.2

Table II.4.12
Professional Attitudes

	Been observed (Times)	Discussed a case (Times)	Bring up in staff Meeting (%)
Individual staff			
Medical Officers	4.2	4.6	10.0
CHOs	5.8	2.6	50.0
Nurses	6.3	3.7	23.1
Midwives	5.6	3.1	51.9
SCHEWs	3.5	1.6	35.9
JCHEWs	3.0	1.5	40.0
Environmental Health Officers	2.1	1.3	18.5
Others	1.4	1.2	29.6
All staff	4.1	2.2	40.0
Facility averages			
Kogi	1.9	1.4	29.2
Lagos	4.0	1.9	38.7
Health posts	1.6	1.0	27.6
Primary centers	3.1	1.7	41.2
Comprehensive centers	5.0	2.8	34.9
Tertiary facilities	3.5	2.2	20.0

Table II.4.13
Availability of Drugs, Equipment, and Surveillance Records

Equipment and Drugs	Facility Owned	Privately Owned	Either	Kogi (Either)	Lagos (Either)	Public-Private Correlation Kogi	Public-Private Correlation Lagos
Generator	12.8	1.9	12.3	4.6	24.0	0.39	–
Blood pressure gauge	59.4	52.8	85.3	83.6	88.0	–0.64	–0.13
Child weighing scale	67.9	7.4	67.1	61.2	76.0	–0.10	–
Microscope	4.2	2.6	5.2	6.6	3.0	–0.03	–
Antiseptic	27.2	34.3	46.8	52.6	38.0	–0.33	–
Sterile gloves	22.3	31.2	40.9	49.3	28.0	–0.33	–0.19
Malaria smear	1.8	0.0	1.6	2.0	1.0	–	–
Urine test strip	5.4	0.6	5.2	5.9	4.0	–0.02	–
Chloroquine	48.9	37.9	67.9	90.8	33.0	–0.82	–0.26
Paracetamol	49.6	39.3	67.1	88.8	34.0	–0.79	–0.24
Antibiotics	41.2	33.5	58.7	77.0	31.0	–0.57	–0.20
ORS sachets	22.5	17.2	31.0	40.1	17.0	–0.21	–0.15
Multivitamins	43.1	32.0	59.9	76.3	35.0	–0.59	–0.23
BCG vaccine	40.6	0.7	36.9	17.8	66.0	0.25	–
Measles vaccine	42.4	0.7	38.5	17.8	70.0	0.25	–
Condoms	29.3	9.7	31.4	32.2	30.0	–0.07	–0.09
Surveillance records			Kogi 37.8	Lagos 94.2			

microscopes, 59% did not have sterile gloves, 98% did not have a malaria smear, and 95% did not have a urine test strip. As noted earlier, the absence of laboratory equipment and expertise means that health staff must rely on syndromic treatment, which can be ineffective for treating malaria and preventing congenital syphilis. Some 69% of facilities did not have condoms available. The most common items types of privately owned equipment available were blood pressure gauges, antiseptic, sterile gloves, chloroquine, antibiotics, and multivitamins. Additional data (not shown) demonstrated that when equipment was available, it was usually in good working order, and that about 40-50% of facilities experienced during the

last three months a stock-out of one week or longer for each of the medicines and vaccines listed below, as well as for condoms.

Columns three to seven in the table below compare the availability of key inputs in Kogi and Lagos. Lagos facilities were six times more likely to have a generator, but Kogi facilities were much more likely to have pharmaceutical products, such as chloroquine, paracetamol, antibiotics, ORS sachets, and multivitamins. A likely explanation for this is that whereas in Lagos alternative suppliers are available, such as pharmacies, in Kogi the public clinics effectively function as pharmacies in which health staff sell privately acquired products. Further evidence for this is found in

columns six and seven, which report correlations between the availability of facility owned and privately owned equipment and drugs at the facility level. In Kogi, privately owned, curative pharmaceutical products for which there is substantial private demand, such as chloroquine and paracetamol, are available whenever they are not provided by the facilities. (Correlations approach negative one). It is not clear whether this health staff are responding to shortages in public supply, or whether facility owned products are being expropriated. In Lagos, the public-private ownership correlations for these products are also negative but much smaller. A similar but less pronounced pattern occurs for antiseptic and sterile gloves, which also exhibit private good characteristics and a negative correlation between public and private ownership in Kogi, and less so in Lagos. Vaccines were far more likely to be available in Lagos facilities. That might suggest better public provision in Lagos but might also be an artifact of differing delivery schedules in the two states. Finally, the last row shows that whereas 94% of Lagos facilities produced last month's report on tracer and notifiable diseases, only 38% of Kogi facilities did so. That suggests that the critical activity of public health surveillance is much stronger in Lagos than in Kogi.

Summary

The dominant element in the incentive environment for primary health care staff continues to be promotions based on standard civil service grades. LGAs, despite having assumed responsibility for hiring and paying staff, are not using their powers to raise or lower the average pay of their staff based on their experience or educational attainment, in response to competition from other health providers, or for any other reason. At the same time, the average number of years that staff have worked in their current facility is low, which means that there is a lot churning of staff in the system, and that one of the objectives of civil service incentive schemes – collaboration and stability

– is not being achieved. On the day of the survey, most facilities were missing essential equipment, medications, vaccines, and supplies, and stock outs of a week or longer were relatively common.

II.5 Outputs and Outcomes

Services provided and average output of different types of facility (Table II.5.1 and Table II. 5.2):

As discussed in Section II.1, facilities in Kogi and Lagos operate under quite different conditions. Few facilities in Kogi had access to convenient supplies of water and electricity, while those in Lagos were served by much better public infrastructure. The great majority of facilities surveyed in Kogi were health posts/dispensaries, while Lagos had substantial proportions of higher-level facilities. Moreover, the facilities in Lagos were geographically proximate to referral centers, as well as to a range of private facilities, while these were much fewer in Kogi. Thus there are very substantial differences in the context in which facility staff function in the two states. In Kogi, health posts and dispensaries have to meet a wider range of health care needs for the population, regardless of the resources available to them. By contrast, people in Lagos have a variety of private facilities available to them, and need to depend less on public facilities.

The data suggest that health posts/dispensaries play a very important role in making health services available to people—and that they seek to provide whatever services there is a demand for, despite their lack of amenities. In both the states, they provide a very wide range of services, not much less than larger and better-equipped facilities. They are fairly similar to PHCs in terms of the percentage of facilities providing different types of services. The average number of health education sessions provided is similar across health posts, PHCs and CHCs.

Table II.5.1
% of facilities providing specific services, by type of facility

	Health post/ dispensary (n=131)	PHC (n=70)	CHC (n=45)	Tertiary (n=1)	Unspecified (n=5)	All (n=252)
Under-5 consultations	99	97	98	100	80	98
Adult consultations	99	93	98	100	80	97
Antenatal consultations	79	70	98	100	80	80
Postnatal consultations	76	50	87	100	80	71
Family planning services	40	61	93	100	80	56
STI/STD services	45	49	51	100	60	48
Dentistry	10	3	2	–	20	7
BCG Immunization	81	80	96	100	80	83
Measles immunization	88	86	98	100	80	89
TT for pregnant women	86	87	98	100	80	88
Inpatient deliveries	64	30	91	100	40	59
Inpatient malaria treatment	72	36	60	100	40	59
Malaria lab tests	1	3	4	100	–	2
Anemia blood lab test	1	9	9	100	–	5

Kogi	Health post/ dispensary (n=131)	PHC (n=70)	CHC (n=45)	Tertiary (n=1)	Unspecified (n=5)	All (n=252)
Under-5 consultations	100.0	100.0	100.0		100.0	100.0
Adult consultations	100.0	100.0	100.0		100.0	100.0
Antenatal consultations	85.3	91.3	100.0		100.0	86.8
Postnatal consultations	81.2	78.3	100.0		100.0	81.6
Family planning services	41.8	73.9	100.0		100.0	49.3
STI/STD services	48.4	47.8	83.3		100.0	50.0
Dentistry	10.7	4.4	0.0		100.0	9.9
BCG Immunization	84.4	87.0	100.0		100.0	85.5
Measles immunization	88.5	87.0	100.0		100.0	88.8
TT for pregnant women	86.1	95.7	100.0		100.0	88.2
Inpatient deliveries	68.9	73.9	100.0		100.0	71.1
Inpatient malaria treatment	75.4	69.6	83.3		100.0	75.0
Malaria lab tests	0.8	0.0	33.3		0.0	2.0
Anemia blood lab test	0.8	17.4	50.0		0.0	5.3

(continued on next page)

Table II.5.1
% of facilities providing specific services, by type of facility (continued)

Lagos	Health post/					
	dispensary (n=131)	PHC (n=70)	CHC (n=45)	Tertiary (n=1)	Unspecified (n=5)	All (n=252)
Under-5 consultations	88.9	95.7	97.4	100.0	75.0	95.0
Adult consultations	88.9	89.4	97.4	100.0	75.0	92.0
Antenatal consultations	0.0	59.6	97.4	100.0	75.0	70.0
Postnatal consultations	0.0	36.2	84.6	100.0	75.0	54.0
Family planning services	11.1	55.3	92.3	100.0	75.0	67.0
STI/STD services	0.0	48.9	46.2	100.0	50.0	44.0
Dentistry	0.0	2.1	2.6	0.0	0.0	2.0
BCG Immunization	33.3	76.6	94.9	100.0	75.0	80.0
Measles immunization	77.8	85.1	97.4	100.0	75.0	89.0
TT for pregnant women	77.8	83.0	97.4	100.0	75.0	88.0
Inpatient deliveries	0.0	8.5	89.7	100.0	25.0	41.0
Inpatient malaria treatment	22.2	19.2	56.4	100.0	25.0	35.0
Malaria lab tests	0.0	4.3	0.0	100.0	0.0	3.0
Anemia blood lab test	0.0	4.3	2.6	100.0	0.0	4.0

The data seem to suggest that health posts/dispensaries are viewed by their clients as serious sources of care, and that their proximity outweighs the possible advantages of PHCs. Compared with PHCs, a higher percentage of health posts provide in-patient care for malaria and deliveries, and postnatal consultations. They also do more “home visits”—that is, seeing patients in their homes. This is consistent with the fact that health post staff are physically located closer to their patients than the staff of PHCs. However, health posts provide fewer antenatal consultations per staff member than PHCs, fewer out-patient consultations, and fewer family planning consultations. The last point suggests that family planning is not a top priority of the government, insofar as no staff family planning targets seem to have been issued to local health personnel.

In Kogi, health posts/dispensaries appear to try especially hard to meet a wide range of local health care needs. This may be partly because

fewer alternative facilities are available in Kogi, but it could also indicate that Kogi facilities seek to provide good services within the constraints they face. For example, Kogi health posts provide a full range of services including antenatal and postnatal care, deliveries, and in-patient malaria treatment, while those in Lagos concentrate mostly on outpatient consultations (for children and adults) and immunizations. It is especially surprising that Lagos PHCs provide little by way of antenatal consultations, family planning, and in-patient deliveries. A substantially higher proportion of Kogi health posts and PHCs do home visits than those in Lagos. The interstate differences between PHCs are less extreme, but along the same lines.

In Kogi, 10% of health posts provide dentistry services, which is more than PHCs and CHCs. This too suggests that they try to provide whatever there is a demand for, and one wonders what the quality of their dentistry is. In Lagos no health posts provide dentistry services, presumably

Table II.5.2
Average number of outputs (between March-May), by type of facility

	Health post/ dispensary (n=)	PHC (n=)	CHC (n=)	Tertiary (n=1)	Unspecified
Antenatal consultations	11	105	219	214	134
Family planning visits	5	52	65	143	20
In-patient deliveries	4	4	26	45	32
BCG immunizations	38	160	257	56	150
Outpatient consultations	56	283	371	326	443
Health educ. group sessions	17	71	214	57	117
Homes visited	32	46	53	63	0

Kogi	Health post/ dispensary (n=122)	PHC (n=23)	CHC (n=6)	Tertiary (n=0)	Unspecified (n=1)	All (n=152)
Antenatal consultations	12	188	74		11	46
Family planning visits	6	16	28		15	9
In-patient deliveries	4	8	16			6
BCG immunizations	40	83	121		40	52
Outpatient consultations	46	109	252			65
Health educ. group sessions	14	10	15			13
Homes visited	33	64	25			38

Lagos	Health post/ dispensary (n=9)	PHC (n=47)	CHC (n=39)	Tertiary (n=1)	Unspecified (n=4)	All (n=100)
Antenatal consultations	0	38	242	214	176	157
Family planning visits	0	68	71	143	22	65
In-patient deliveries	0	0	28	45	32	18
BCG immunizations	15	197	279	56	186	218
Outpatient consultations	203	368	390	326	443	365
Health educ. group sessions	74	115	243	57	117	170
Homes visited	21	32	58	63	0	43

Table II.5.3
Facility-Level Average Output per Staff in Categories 1–7 (March–May 2002)

Diagnostic/Procedure	All Facilities	Type 1 Facilities	Type 2 Facilities	Type 3 Facilities	Type 4 Facilities	Type Unspecified
Ante-Natal Consultations	15.7	10.5	22.2	18.8	14.3	21.5
Family Planning Visits	6.4	4.5	10.7	4.7	9.5	6.0
In-Patient Deliveries	2.8	3.7	2.1	1.9	3.0	4.6
BCG Immunizations	33.0	33.3	39.0	26.0	3.7	28.3
Out-Patient Consultations	51.5	46.4	69.4	38.8	21.7	62.9
Health Education (Group Sessions)	15.1	15.0	15.8	14.8	3.8	16.6
Home Visits	20.1	28.8	11.5	7.1	4.2	0.0

Kogi Diagnostic/Procedure	All Facilities Mean	Type 1 Facilities Mean	Type 2 Facilities Mean	Type 3 Facilities Mean	Type 4 Facilities Mean	Type Unspecified Mean
Ante-Natal Consultations	15.7	11.0	33.7	22.6		11.0
Family Planning Visits	5.0	4.8	3.8	8.6		15.0
In-Patient Deliveries	3.7	3.9	4.0	1.7		
BCG Immunizations	36.9	35.2	37.6	54.6		40.0
Out-Patient Consultations	42.7	40.3	38.9	95.8		
Health Education (Group Sessions)	10.7	12.8	4.1	3.9		
Home Visits	26.0	29.7	13.3	7.5		

Lagos Diagnostic/Procedure	All Facilities Mean	Type 1 Facilities Mean	Type 2 Facilities Mean	Type 3 Facilities Mean	Type 4 Facilities Mean	Type Unspecified Mean
Ante-Natal Consultations	15.6	0.0	12.7	18.2	14.3	25.1
Family Planning Visits	7.8	0.0	13.7	4.2	9.5	3.0
In-Patient Deliveries	1.4	0.0	0.3	2.0	3.0	4.6
BCG Immunizations	28.4	5.3	39.6	21.4	3.7	24.3
Out-Patient Consultations	64.2	135.5	84.3	29.6	21.7	62.9
Health Education (Group Sessions)	22.4	63.4	24.3	16.5	3.8	16.6
Home Visits (Houses)	8.6	12.5	10.0	7.0	4.2	0.0

Table II.5.4
Tracer and Immediately Notifiable Diseases, percentage of facilities by facility type

	All Facilities (N=252)	Type 1 Facilities (N=131)	Type 2 Facilities (N=70)	Type 3 Facilities (N=45)	Type 4 Facilities (N=1)	Type Unspecified (N=5)
Keep Monthly Records	78.6	71.8	84.3	91.1	100.0	60.0
Forward Monthly Records to LGA	76.6	68.7	82.9	91.1	100.0	60.0
Showed to Interviewer	48.8	28.2	61.4	86.7	100.0	60.0

Kogi	All Facilities (N=152)	Type 1 Facilities (N=122)	Type 2 Facilities (N=23)	Type 3 Facilities (N=6)	Type 4 Facilities (N=0)	Type Unspecified (N=1)
Keep Monthly Records	73	70	87	83		0
Forward Monthly Records to LGA	70	67	87	83		0
Showed to Interviewer	28	25	35	67		0

Lagos	All Facilities (N=100)	Type 1 Facilities (N=9)	Type 2 Facilities (N=47)	Type 3 Facilities (N=39)	Type 4 Facilities (N=1)	Type Unspecified (N=4)
Keep Monthly Records	87	89	83	92	100	75
Forward Monthly Records to LGA	86	89	81	92	100	75
Showed to Interviewer	81	78	74	90	100	75

because people can obtain these services elsewhere in Lagos. On the whole, dentistry services are little provided by the facilities surveyed.

The services provided in different types of facilities show a pattern consistent with the relative advantages of lower-level facilities in terms of proximity to their patients. For example, the average number of home visits per staff declines, the higher the type of facility. Only 30% of PHCs compared with 64% of health posts/dispensaries conduct in-patient deliveries, and similar figures prevail for in-patient malaria treatment. One possible reason for this might be that staff do not stay overnight in these facilities, unlike

health posts where staff reside on the premises or very nearby.

Almost all CHCs provide immunization, and the majority (80–87%) of PHCs and health posts do this as well. However, output per staff is lower in tertiary facilities for immunizations, as well as for outpatient consultations, health education sessions, and home visits. PHCs provide more outpatient consultations and family planning per staff person, than other types of facilities. The average number of antenatal consultations per staff person rises with type of facility.

The proportion of facilities keeping monthly records and forwarding them to the LGA rises

with type of facility, from around 70% of health posts to 90% of CHCs (Table II.5.4). A very low proportion of health posts actually showed the records to the interviewer, so it is difficult to assess the validity of their statement that they keep and forward the records regularly. It is notable that high proportions of Lagos facilities of all types (74–81%) showed the records to the interviewer. The performance of Kogi facilities is far poorer on this score, with only 25–35% of facilities showing the records. Apparently disease surveillance works more effectively in Lagos than in Kogi—this could be another indication of good public infrastructure as opposed to interest in providing good public clinical services.

As mentioned in chapter II.1 a major concern is that laboratory testing is virtually non-existent in the facilities surveyed. This is of especial concern for the effectively responding to the high burden of morbidity from endemic malaria in Nigeria. While 70-83% of facilities of different types treated malaria cases, only 1-4% of them

conducted laboratory tests for malaria. Another major concern, especially in the context of the AIDS epidemic as well as overall reproductive health, is that only half of facilities (of any given type) provide STI/STD care.

Work done by the different categories of staff (Table II.5.5 to II.5.8):

Most tasks are done by all the grades of staff. Nurse-midwives are the work-horses, a much higher percent of them than other staff do deliveries, immunizations, antenatal care, and family planning. High percentages also do outpatient care and health education.

Everyone, and especially nurses, do non-health duties. A higher proportion of Community Health Officers report doing administrative work than others, except in Kogi where a similar percent of nurse-midwives do administrative tasks. Lower grade staff do most things (including administration), but with an emphasis on outpatient care

Table II.5.5

Percent of staff performing various duties during the past week, by category of staff

	MO	CHO	Nurse	Nurse/ midwife	SCHEW	JCHEW	EnvHlth Officer	Lower grades	Unknown n=2
Outpatient care	100	95	86	84	91	80	–	53	100
Deliveries	10	12	18	35	10	13	–	7	50
In-patient care	30	28	39	45	33	25	–	15	–
Immunizations	40	75	43	78	43	54	1	25	–
Ante-natal care	30	50	46	63	43	39	–	15	50
Family planning	20	38	25	57	17	21	1	14	100
Health education	70	90	93	92	74	61	86	51	50
San. inspections/ home visits	–	48	50	42	54	52	94	15	50
Laboratory exams	10	1	4	1	1	0	–	11	–
Administration	20	61	43	45	38	21	36	23	100
Assigned non- health duties	10	9	25	9	9	7	13	11	–

(continued on next page)

Table II.5.5
Percent of staff performing various duties during the past week, by category of staff (*continued*)

Kogi	MO	CHO	Nurse	Nurse/ midwife	SCHEW	JCHEW	EnvHlth Officer	Lower grades	Unknown n=2
Outpatient care	100.0	91.7	75.0	87.5	86.4	75.0		58.6	100.0
Deliveries	50.0	16.7	100.0	50.0	14.4	19.4	100.0	13.8	50.0
In-patient care	100.0	54.2	37.5	31.3	35.2	36.1		27.6	
Immunizations	50.0	50.0	25.0	68.8	26.4	36.1		31.0	
Ante-natal care	50.0	58.3	50.0	68.8	52.0	47.2		24.1	50.0
Family planning	50.0	25.0	25.0	68.8	15.2	25.0		17.2	100.0
Health education	50.0	66.7	75.0	81.3	68.0	52.8	100.0	41.4	50.0
San. inspections/ home visits		41.7	37.5	37.5	55.2	50.0	100.0	24.1	50.0
Laboratory exams	50.0		12.5		0.8			17.2	
Administration		62.5	25.0	62.5	48.0	22.2		37.9	100.0
Assigned non- health duties	16.7		6.3	11.2	5.6			3.5	

Lagos	MO	CHO	Nurse	Nurse/ midwife	SCHEW	JCHEW	EnvHlth Officer	Lower grades	Unknown n=2
Outpatient care	100.0	95.8	90.0	84.0	98.6	90.0	94.7	50.8	
Deliveries		10.5	25.0	32.8	1.5			3.2	
In-patient care	12.5	21.1	40.0	46.4	29.0	5.0		9.5	
Immunizations	37.5	81.1	50.0	79.2	72.5	85.0	1.3	22.2	
Ante-natal care	25.0	48.4	45.0	62.4	27.5	25.0	97.3	11.1	
Family planning	12.5	41.1	25.0	56.0	20.3	15.0	1.3	12.7	
Health education	75.0	95.8	100.0	93.6	84.1	75.0	85.3	55.6	
San. inspections/ home visits		49.5	55.0	42.4	50.7	55.0	93.3	11.1	
Laboratory exams		1.1		0.8	1.5			7.9	
Administration	25.0	60.0	50.0	43.2	18.8	20.0	37.3	15.9	
Assigned non- health duties	12.5	7.4	35.0	9.6	5.8	10.0	13.3	14.3	

and health education. JCHEWs and SCHEWs show a similar pattern of tasks.

The only exception is the Environmental Health Officers, who tend to specialize in sanitary inspections and health education (and also

do some administration). Some interstate differences are apparent: it is in Kogi that Environmental Health Officers apply themselves to their assigned tasks of inspections and health education sessions, although they also report

Table II.5.6
Number of Days Worked Last Week, by category of staff

Designation	<i>N</i>	Mean	S.D.
All	716	5.03	0.91
Medical Officers	10	4.00	1.56
CHOs	119	4.97	1.04
Nurses	28	4.79	1.17
Midwives	141	4.95	0.72
SCHEWs	194	5.18	1.02
JCHEWs	55	5.27	0.73
Environmental Health Officer	77	4.94	0.30
Other	90	5.08	0.86

Table II.5.7
Patients Seen Outside Facility per Week, by category of staff

Designation	ALL	KOGI	LAGOS
All	1.73	1.69	1.75
Medical Officers	7.83	2.00	9.00
CHOs	1.78	1.89	1.75
Nurses	1.67	2.40	1.44
Midwives	2.48	2.80	2.44
SCHEWs	1.66	1.41	2.16
JCHEWs	1.76	2.25	0.69
Environmental Health Officer	0.10	1.00	0.05
Other	0.82	1.13	0.67

doing deliveries. In Lagos, Environmental Officers seem to dabble in many kinds of task, and not all of them report working on their scheduled tasks.

Sanitary inspections are in fact conducted not only by the designated Environmental Health Officers, but also by around half the staff from the other categories. Doctors are the only category of higher staff who don't do this, and this could be because of the relative paucity of doctors with consequent high patient demand for their services.

Most categories of staff reportedly worked around 5 days a week during the recall period, except doctors who reported working on

average 4 days a week. Doctors do the most "moonlighting": 90% of doctors compared with 50-60% of other categories of staff report seeing patients outside the facility. It is noteworthy that even lower grades of staff (grades 8 and below) see patients outside the facility. Only Environmental Health Officers report doing little of this. Doctors report seeing an average of 8 patients a week outside the facility, while other categories of staff report seeing around 2 or less per week. Of course, it is extremely probably that these figures are heavily under-reported. All categories of staff report having very little of the equipment they need.

Table II.5. 8
Percent of staff with various attributes, by category of staff

	MO	CHO	Nurse	Nurse/ midwife	SCHEW	JCHEW	EnvHlth Officer	Lower grades	Unknown n=2
Adequate equipment	10	11	4	6	5	14	1	4	0
Seen patients outside	50	31.93	28.57	27.66	28.87	32.14	2.6	10.87	50
<hr/>									
Kogi	MO	CHO	Nurse	Nurse/ midwife	SCHEW	JCHEW	EnvHlth Officer	Lower grades	Unknown n=2
Adequate equipment	50	4	0	6	6	14	0	3	0
Seen patients outside	50	45.83	25	62.5	32.8	41.67	50	13.79	50
<hr/>									
Lagos	MO	CHO	Nurse	Nurse/ midwife	SCHEW	JCHEW	EnvHlth Officer	Lower grades	Unknown n=2
Adequate equipment	0	13	5	6	3	15	1	5	
Seen patients outside	50	28.42	30	23.2	21.74	15	1.33	9.52	

**Sanitary Inspections and Immunizations:
 Outputs reported at the LGA level by the
 PHCoordinator (Tables II.5.9 to II.5.11):**

There is an impressive range of sanitary inspections conducted in Nigeria. 70% of LGAs were reported to have undertaken food vendor certification in the past year, and all conducted most of the prescribed forms of sanitary inspection: of public water sources, of markets, house-to-house inspections for public health nuisances, and inspection of food sellers.

The data seem to indicate a fairly high level of participation in the sanitary inspection program, as indicated also by the reports of staff activity discussed above. All LGAs had conducted inspections of private homes and individual traders (food sellers) during the three months preceding the survey, with the exception of one in Kogi which had not done food seller inspections. All but one LGA in Kogi had conducted inspections of public water sources. In Lagos, nearly half of LGAs had not done public

water-source inspections. This may be partly due to the greater availability of piped water in Lagos, but as Table II.1. 4 shows, only 33-44% of health facilities are served by piped water—implying that the majority of households are dependent on non-piped water. This implies that Lagos LGAs may be considerably less conscientious than those in Kogi in assuring the public's health.

An obvious issue with sanitary inspections is that of corruption. It may be expected that the individual contacts involved in house and food seller inspections lend themselves to corruption, unless there are effective measures in place to protect citizens from inspector's demands. On the other hand, there may be fewer opportunities for graft when inspecting public facilities such as water sources, or when inspecting markets where attempts at extortion would be witnessed by many.

It is difficult to interpret the data without knowing the denominators involved, in terms of how many public water sources, markets, houses, and food sellers there are to be inspected

in each LGA. To provide some crude standardization for the denominators and tease out some indication of whether graft exists in the system, we take the ratio of private (houses and food sellers) to public inspections (public water sources and markets). These ratios are suggestive of some graft in some LGAs in Lagos, which seem to conduct an unusually high number of private inspections relative to their public ones. Of course, this could be simply that these LGAs genuinely have few public facilities to inspect relative to the number of households or food sellers in the LGA, but this could also be further indication that Lagos LGAs are less assiduous than they could be in assuring the public health.

However, there is no such indication of graft in Kogi—where on the contrary, the ratios of private to public inspections are low. This suggests that LGAs give considerably greater attention to public inspections, than to private inspections (particularly of homes). The reasons for this should be investigated.

Data on immunization were also collected at LGA level, for the three months preceding the survey. Two types of data were collected: one on special immunization drives, represented by the intensive campaign for polio immunization during the National Immunization Drive; and the other on routine immunization, represented by the administration of BCG vaccine.

It appears that, despite the high-profile pressure of the National Immunization Drive, that the routine immunization effort may be more effective in some ways—which in turn suggests

that the health care system in Nigeria is organized more in the “regular functioning” mode than in the “campaign mode” of programs such as the National Immunization Drive. For example, 37% of the LGAs sampled did not carry out polio (NID) immunization during the preceding three months, and an additional 7% put in a token effort with less than 1000 immunizations conducted. Given that at least three doses of polio vaccine need to be administered per child, this amounts to a fairly paltry figure of around 300 children covered in the entire LGA. By contrast, only 3% of LGAs failed to participate in the routine program of administering BCG during the recall period, and another 17% of LGAs put in what is clearly just a token effort of vaccinating less than 250 children during the period. The remainder participated quite actively in the immunization program.

There are clear interstate differences in the implementation of the immunization programs, with Kogi performing much less effectively than Lagos in this regard. As much as 60% of the LGAs in Kogi failed to participate in the polio NID during the recall period, and 13% put in a token effort with less than 1000 immunizations conducted. By contrast, only 13% of LGAs in Lagos failed to participate in the NID, and all the rest put in more than a token effort. In the routine BCG immunization, only 7% of LGAs in Kogi failed altogether to participate, but another 27% put in just a token effort. In Lagos, all LGAs participated, and all but 7% put in more than a token effort.

Table II.5.9

Number and types of Sanitary Inspections conducted in the LGA, March-May 2002

Public Water			Market			House-to-house visits for health nuisances			Food Sellers			Inspection Ratio (Private/Public)		
Source	N	%	Value	N	%	Value	N	%	Value	N	%	Ratio	N	%
0	8	26.7	0	0	0.0	0	0	0.0	0	1	3.3	<10	18	60
<10	6	20	<10	2	6.7	<20	4	13.3	<20	10	33.3	10-49	6	20
10-19	3	10	10-19	15	50.0	20-49	3	10.0	23.3	3	10.0	50-99	1	3.3
20-29	2	6.6	20-29	3	10.0	50-99	10	33.3	56.7	4	13.3	100-199	2	6.7
30-49	2	6.7	30-49	2	6.7	100-499	1	3.3	60.0	4	13.3	200-299	3	10
50-99	6	20	50-99	3	10.0	500-999	0	0.0	60.0	4	13.3			
100-149	1	3.3	100-149	4	13.3	1000-2499	3	10.0	70.0	3	10.0			
150+	2	6.7	150+	1	3.3	2500-4999	6	20.0	90.0	0	0.0			
						5000+	3	10.0	100.0	1	3.3			

Kogi

Public Water			Market			House-to-house visits for health nuisances			Food Sellers			Inspection Ratio (Private/Public)		
Source	N	%	Value	N	%	Value	N	%	Value	N	%	Ratio	N	%
0	1	6.7	0	0	0.0	0	0	0.0	0	1	6.7	<10	14	93.4
<10	6	40.0	<10	1	3.3	<20	3	20.0	20.0	10	66.7	10-49	1	6.7
10-19	3	20.0	10-19	11	36.7	20-49	2	13.3	33.3	2	13.3	50-99	-	-
20-29	1	6.7	20-29	1	3.3	50-99	9	60.0	93.4	2	13.3	100-199	-	-
30-49	1	6.7	30-49	1	3.3	100-499	1	6.7	100.0	500	-	200-299	-	-
50-99	3	20.0	50-99	1	3.3	500-999	-	-	1000	-	-			
100-149	-	-	100-149	0	0.0	1000-2499	-	-	2500	-	-			
150+	-	-	150+	0	0.0	2500-4999	-	-	5000	-	-			
						5000+	-	-	5000+	-	-			

(continued on next page)

Table II.5.9
Number and types of Sanitary Inspections conducted in the LGA, March-May 2002 (continued)

Value	Public Water Source Inspections			Market Inspections			House-to-house visits for health nuisances			Food Sellers Inspections			Inspection Ratio (Private/Public)						
	N	%	% Cum.	Value	N	%	% Cum.	Value	N	%	% Cum.	Value	N	%	% Cum.	Ratio	N	%	% Cum.
0	7	46.7	46.7	0	0	0.0	0.0	0	0	0.0	0.0	0	0	0.0	0.0	<10	4	26.7	26.7
<10	0	0.0	46.7	<10	1	6.7	6.7	<20	1	6.7	6.7	<20	0	0.0	0.0	10-49	5	33.3	60.0
10-19	0	0.0	46.7	10-19	4	26.7	33.3	20-49	1	6.7	13.3	20-49	1	6.7	6.7	50-99	1	6.7	66.7
20-29	1	6.7	53.3	20-29	2	13.3	46.7	50-99	1	6.7	20.0	50-99	2	13.3	20.0	100-199	2	13.3	80.0
30-49	1	6.7	60.0	30-49	1	6.7	53.3	100-499	0	0.0	20.0	100-499	4	26.7	46.7	200-299	3	20.0	100.0
50-99	3	20.0	80.0	50-99	2	13.3	66.7	500-999	0	0.0	20.0	500-999	4	26.7	73.3				
100-149	1	6.7	86.7	100-149	4	26.7	93.4	1000-2499	3	20.0	40.0	1000-2499	3	20.0	93.3				
150+	2	13.3	100.0	150+	1	6.7	100.0	2500-4999	6	40.0	80.0	2500-4999	0	0.0	93.3				
								5000+	3	20.0	100.0	5000+	1	6.7	100.0				

Table II.5.10
Immunization during special drives and on routine basis

Polio Immunization during NID				BCG Imm. (Children) under Routine Imm. (April-May)			
Value	N	%	% Cum.	Value	N	%	% Cum.
0	11	36.7	36.7	0	1	3.3	3.3
<1000	2	6.7	43.3	<250	5	16.7	20.0
20000	3	10.0	53.3	500	5	16.7	36.7
50000	4	13.3	66.7	1000	3	10.0	46.7
100000	1	3.3	70.0	1500	4	13.3	60.0
200000	6	20.0	90.0	2000	4	13.3	73.3
300000	1	3.3	93.3	4000	5	16.7	90.0
300000+	2	6.7	100.0	4000+	3	10.0	100.0
	30				30		

Kogi

Polio Immunization during NID				BCG Imm. (Children) under Routine Imm. (April-May)			
Value	N	%	% Cum.	Value	N	%	% Cum.
0	9	60.0	60.0	0	1	6.7	6.7
<1000	2	13.3	73.3	<250	4	26.7	33.3
20000	2	13.3	86.7	500	5	33.3	66.7
50000	2	13.3	100.0	1000	2	13.3	80.0
100000	0	0.0	100.0	1500	1	6.7	86.7
200000	0	0.0	100.0	2000	1	6.7	93.3
300000	0	0.0	100.0	4000	0	0.0	93.3
300000+	0	0.0	100.0	4000+	1	6.7	100.0
	15				15		

Lagos

Polio Immunization during NID				BCG Imm. (Children) under Routine Imm. (April-May)			
Value	N	%	% Cum.	Value	N	%	% Cum.
0	2	13.3	13.3	0	0	0.0	0.0
<1000	0	0.0	13.3	<250	1	6.7	6.7
20000	1	6.7	20.0	500	0	0.0	6.7
50000	2	13.3	33.3	1000	1	6.7	13.3
100000	1	6.7	40.0	1500	3	20.0	33.3
200000	6	40.0	80.0	2000	3	20.0	53.3
300000	1	6.7	86.7	4000	5	33.3	86.7
300000+	2	13.3	100.0	4000+	2	13.3	100.0

Emerging Issues

The survey evidence confirms what one may have expected about the contrasting environments for service delivery in the two states under study, Lagos and Kogi. In the largely urban and densely populated environment of Lagos there is a significant private market even for primary health services, whereas in mostly rural Kogi, with dispersed settlements, health services appear to be largely provided in public facilities.⁴ In Lagos, the majority of all health facilities is privately owned (61%) whereas in Kogi only 7% belong to the private sector. Furthermore, of all the health facilities in Kogi recorded by the local governments, 48% are recorded as health posts or dispensaries (Type 1 facilities) providing the most basic of health services. In contrast, the majority of health facilities in Lagos (69%) are recorded as primary health centers (Type 2 facilities). These differences in the market for primary health services in the two states are reflected in differences in staffing patterns and services provided, as discussed in previous sections.

The survey finds two additional striking features of service delivery in Kogi that are distinct from Lagos and could potentially have substantial impact on the quality of health services provided—1) extensive participation by community development committees in the functioning of

health facilities, and 2) pervasive non-payment of salaries of staff providing services in the health facilities. Hence, while the incentive environment for public delivery of primary health services in Lagos is influenced by the availability of private facilities and proximity to referral centers in the state, the incentive environment in Kogi is characterized by local government monopoly over health service provision, and community participation through local institutions. In this section we provide some preliminary analysis of the impact of community participation on the performance of health facilities in Kogi, and the issue of non-payment of staff salaries and its potential impact on service delivery.⁵

⁴ This analysis only refers to services provided through health facilities, and is deduced from the data obtained on the population of registered health facilities, by ownership, from the local government authorities.

⁵ Future studies that include private facilities in the surveyed sample can fruitfully address the issue of ownership and performance in health service delivery which appears to be particularly important in the context of service delivery in Lagos.

III.1. Impact of community participation on facility performance in Kogi

There is a large and growing body of evidence that certain types of service delivery are enhanced with the active participation of the communities they serve. As end-users of the services, communities have a stake in ensuring that services are well-provided, and also are well-positioned to monitor the quality of services. With the benefit of local information, they can assess the specific obstacles facing facilities in providing services. And they can seek to ensure that facilities have the necessary infrastructure, supplies and staff motivation to provide the services they are supposed to provide. Some of this can be done through volunteer efforts, such as donations for buying supplies, but most of the benefits of community participation can only be harnessed if there are specific mechanisms in place to enable them to do so. For example, whether or not they are allowed to raise local resources will affect their ability to ensure a smooth flow of supplies. Similarly, whether or not they have a say in the evaluation and rewards/sanctioning of facility staff will affect the extent to which they are able to translate their observation of staff behavior into improved staff responsiveness to local needs.

In Section II.2 we described how community participation in primary health care service delivery has been institutionalized in Nigeria through the creation of Village Development Committees and District Development Committees. These community organizations are particularly active in Kogi in the areas of building maintenance and acquiring drugs, medical supplies, and equipment in the facilities. There is comparatively little community engagement in setting charges for drugs, as was envisioned by the Bamako Initiative and almost negligible in disciplining staff, which is overwhelmingly indicated as the responsibility of local governments. It may therefore be that despite the institutionalization of community participation in Nigeria, and active engagement in some areas

of service delivery by communities in Kogi, participation is in fact lacking in the key areas that would be critical for improving performance of facilities. With this caveat in mind, we undertook some analysis of the impact of community participation in Kogi on various performance indicators at the facility level—productivity of staff (as measured by numbers of patients seen for various conditions per staff in the facility), record-keeping for public health surveillance, cleanliness and general maintenance of the facility, and availability of essential drugs and equipment.

We construct an indicator variable for the extent of community participation in the functioning of a facility which equals 1 if the facility head responds that the community is the principal decision-maker in one or more of the following areas—making drugs, medical supplies available, acquiring and maintaining equipment, setting charges for drugs, and determining the use of facility revenues—and equals 0 otherwise. About 145 facilities in Kogi, out of a total sample of 152, systematically responded to these questions about principal decision-making over various areas of facility functioning. Of these 145 facilities, communities were indicated as principal decision-makers in one or more areas by 48 facilities, that is by 33% of the respondents. The remaining facilities in Kogi indicated the local government as the principal decision-maker, with some decisions determined by the facility head or staff.

Table III.1.1 presents multivariate regression estimates of the impact of community participation, as defined above, on productivity as measured by the number of patients seen in the last three months before the survey per staff—for antenatal care (Column 1), in-patient deliveries (Column 2), BCG immunizations (Column 3), out-patient consultations (Column 4), and home visits (Column 5). The point estimates suggest that facilities with greater community participation provide greater services of each type, although the effect is statistically significant at conventional

Table III.1.1
Impact of Community Participation on Facility Productivity

	(1) Antenatal Care	(2) In-Patient Deliveries	(3) BCG Immunizations	(4) Outpatient Consultations	(5) Home Visits
Community Participation Indicator Variable	6.24 (5.26)	3.20** (1.52)	31.79* (20.15)	18.63* (12.15)	1.94 (9.44)
Facility Type Indicator Variable	13.71 (9.28)	0.89 (1.84)	13.51 (18.98)	9.00 (12.29)	-13.60* (7.67)
Distance from LGA Headquarters	-0.004 (0.13)	0.001 (0.02)	0.20 (0.27)	0.32 (0.20)	0.03 (0.16)
Number of facilities in the neighborhood	-0.35 (0.24)	-0.09* (0.05)	-1.68* (0.91)	-0.69 (0.44)	-0.16 (0.58)
LGA population, 1999	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
LGA Internally Generated Revenues Per Capita, 2000	1.02 (0.82)	0.05* (0.03)	-0.24 (0.37)	-0.12 (0.21)	-0.12 (0.21)
Constant	-16.91 (22.27)	-2.23 (2.46)	31.69 (38.03)	11.40 (22.15)	18.97 (25.47)
No. of Observations	98	82	91	120	112
R-sq	0.25	0.20	0.08	0.12	0.05

OLS regressions with robust standard errors (in parentheses).

* Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level

levels only for inpatient deliveries, at the 1% level, and for immunizations and out-patient consultation at the 10% level. The estimated effects are large—facilities with greater community participation have 3 additional deliveries per staff in the last three months, which is about the average number of deliveries in the sample; they have 32 more vaccinations per staff, which is about the average number of vaccinations in the sample; they have 19 more outpatient consultations, which is about half the average number of outpatient consultations in the sample.

Table III.1.2 presents the estimated impact of community participation on general facility cleanliness (Column 1), public health surveillance through the keeping of records (Column

2), availability of equipment and supplies such as blood pressure gauge (Column 3), antiseptic (Column 4) and sterile gloves (Column 5). Although the point estimate suggests that the facility is less likely to be clean if there is greater community participation, it is not statistically significant. Record keeping for public health surveillance is significantly less likely in facilities with greater community participation. Point estimates suggest that essential equipment are less likely to be not-available, but none are statistically significant.

Table III.1.3 presents the estimated impact on availability of essential drugs—chloroquine (Column 1), paracetamol (Column 2), and antibiotics (Column 3). Again, the point estimates suggest that these drugs are less likely to

Table III.1.2
Impact of Community Participation on General Facility Characteristics

	(1) 1=Facility is Clean	(2) 1=Facility Keeps Health Records	(3) 1=Blood Pressure Gauge Not Available	(4) 1=Skin Antiseptic Not Available	(5) 1=Sterile Gloves Not Available
Community Participation Indicator Variable	-0.04 (0.09)	-0.21*** (0.07)	-0.06 (0.07)	-0.09 (0.09)	-0.07 (0.09)
Facility Type Indicator Variable	0.20*** (0.07)	0.06 (0.11)	-0.17** (0.07)	-0.16 (0.12)	0.12 (0.12)
Distance from LGA Headquarters	-0.001 (0.001)	-0.003*** (0.001)	0.000 (0.001)	-0.001 (0.002)	0.000 (0.002)
Number of facilities in the neighborhood	0.000 (0.006)	0.000 (0.005)	-0.005 (0.004)	-0.004 (0.006)	0.004 (0.006)
LGA population, 1999	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)
LGA Internally Generated Revenues Per Capita, 2000	0.004** (0.002)	0.004** (0.002)	-0.001 (0.002)	0.000 (0.003)	-0.002 (0.003)
Constant	0.69*** (0.16)	0.24* (0.13)	0.33*** (0.12)	0.58*** (0.16)	0.63*** (0.16)
No. of Observations	144	144	144	144	144
R-sq	0.08	0.16	0.04	0.02	0.03

OLS regressions with robust standard errors (in parentheses).

* Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level

be not-available with greater community participation, but the results are not statistically significant.

In estimating the effect of community participation, we control for the type of facility (whether health post/dispensary or a primary health center), the distance of the facility from local government headquarters (as a proxy for the degree of urbanization, connectivity, or population density), the total number of facilities within a 10km walking radius (to control for the availability of other health care choices, and as a proxy for population density), and population and internally generated revenues of the local government within whose jurisdiction the facility resides. This last control variable is the best available proxy

for income levels in the neighborhood of a facility. The estimated impact of community participation on the outcomes is robust to the exclusion of these control variables.

In summary, the most striking result is that community participation is significantly associated with greater productivity per staff in providing inpatient deliveries, immunizations, and outpatient consultation. While an appealing interpretation of this association may be that greater community participation makes facility staff more responsive to the health needs of the community they serve, there are alternative interpretations, and the analysis undertaken here is too limited to draw strong conclusions about the causal impact of community participation on service delivery. For example, we are unable to properly control

Table III.1.3
Impact of Community Participation on Availability of Essential Drugs

	(1) 1=Chloroquine Not Available	(2) 1=Paracetamol Not Available	(3) 1=Antibiotics Not Available
Community Participation Indicator Variable	-0.02 (0.05)	-0.06 (0.06)	-0.07 (0.08)
Facility Type Indicator Variable	0.19** (0.09)	0.13 (0.09)	0.19* (0.12)
Distance from LGA Headquarters	0.002** (0.001)	0.001 (0.001)	0.000 (0.002)
Number of facilities in the neighborhood	-0.01*** (0.003)	-0.01*** (0.003)	0.001 (0.006)
LGA population, 1999	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)
LGA Internally Generated Revenues Per Capita, 2000	-0.001 (0.001)	-0.001 (0.001)	-0.003* (0.002)
Constant	0.11 (0.08)	0.21** (0.09)	0.24* (0.13)
No. of Observations	144	144	144
R-sq	0.11	0.07	0.05

OLS regressions with robust standard errors (in parentheses).

* Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level

for community-level income and education, nor for community-level demand for health services, that would affect both the extent of community participation and outcomes measured at the level of the health facility. Richer or more educated communities, for instance, are both more likely to participate in the management of public health facilities and have greater demand for health services, leading to higher productivity of health staff as measured in our regression analysis. Hence, the analysis does not inform us about the impact of specific policy interventions that promote community participation. An alternate and tailor-made research design is needed for such an impact evaluation.

The other significant association, namely the negative correlation with record-keeping at the facility level for public health surveillance is

worrisome, and a causal interpretation (despite the caveats indicated above) would suggest that with more decentralized management and monitoring of facilities by the immediate communities they service, some facility activities with beneficial spillovers outside the community are likely to be under-provided. This is a classic “public-goods” problem for which greater control and supervision needs to be exercised by a higher tier of authority, such as the local governments.

III.2. Non-payment of staff salaries

Despite substantial budgetary allocations to staff salaries in Kogi, the survey of health facility staff revealed that non-payment of salaries is a

serious concern in the state—42% of staff respondents in Kogi report not receiving any salary for 6 months or more in the past year at the time of the survey. Figure III.2.1 shows the distribution of staff against the months in the past year for which their salary has not been paid for each state—the distribution of Kogi staff, in contrast to that of Lagos, clearly shows that non-payment of salaries is a pervasive problem in Kogi state.

Rough calculations were performed to estimate whether this problem of non-payment of staff salaries in Kogi could be due to inadequate budgetary allocations towards salaries in the LGA health budget. We use the sample average of staff monthly salary from the salary reported by staff in each LGA as an estimate of average monthly salary per staff in an LGA, and the sample average of total number of staff in a facility (as reported by the facility head in the facilities surveyed in each LGA) as an estimate of average number of staff per facility in an LGA. The product of these two sample averages multiplied by 12 thus gives an estimate of the average annual salary cost per facility in each LGA. The average across the 15 LGAs in Kogi of this estimated salary cost per facility is 1.4 million Naira, ranging from a minimum of 0.3 million Naira to a maximum of 7.5 million Naira.

We then estimate each LGA's average annual budget allocation towards staff salaries per facility. From the LGA respondents data, we divided actual budgetary allocation to staff salaries for the year 2000 by the number of facilities that the LGA reported as owning within its jurisdiction, to get an estimate of the average LGA budget allocation to staff salaries for a typical health facility in the LGA. Data on budgetary allocation towards salaries of health personnel was missing for one LGA in Kogi—Mopa Muro. The average across the 14 LGAs, for which data is available, of the estimated budgetary allocation for salaries per facility is 1.2 million Naira, ranging from a minimum of 0.2 million Naira to a maximum of 8.1 million Naira.

On average across Kogi LGAs, the estimated actual annual salary cost per facility is 1.6 times

the estimated annual budget allocation for salaries per facility. This statistic by itself may suggest that the problem of non-payment of salaries arises due to inadequate budgetary allocations.⁶ Yet, a comparison, LGA by LGA, of the number of months staff on average reported salaries not being paid, and the ratio of estimated actual costs to budgeted allocations reveals that there are several LGAs where salaries were not paid even when estimated budget allocations are sufficient to cover estimated actual costs. Conversely, there are LGAs where the estimated actual costs are more than twice the estimated budgeted allocations, and yet staff report only a couple of months of non-payment, which could be due to administrative delays alone.

Table III.2.1 reports the average number of months in each Kogi LGA that staff reported not having salaries paid in the past year before the survey, against the ratio of our estimate of the average salary cost per facility in the LGA to our estimate of the average budgeted allocation towards salary cost per facility in the LGA. If the problem underlying non-payment of staff salaries is inadequate LGA budget allocations

⁶ Although, even this interpretation begs the question of why LGAs do not allocate more resources towards committed expenditures such as staff salaries, or alternately restructure personnel hires in line with available resources. Budget allocations towards health staff salaries in 2000 constituted 20% on average of total LGA revenues, and 78% of total health expenditures.

It may also be reasonable to expect that the estimate for average actual salary cost per facility is an overestimate of actual costs since the average monthly salary is reported by staff of higher grades that were selected for the interview, and then applied to all the staff in the facility. In fact, similar calculations for Lagos state, with no significant problem of non-payment of salaries, show the estimate of actual salary costs to be 1.3 times, on average, the estimate of budget allocations per facility.

Figure III.2.1

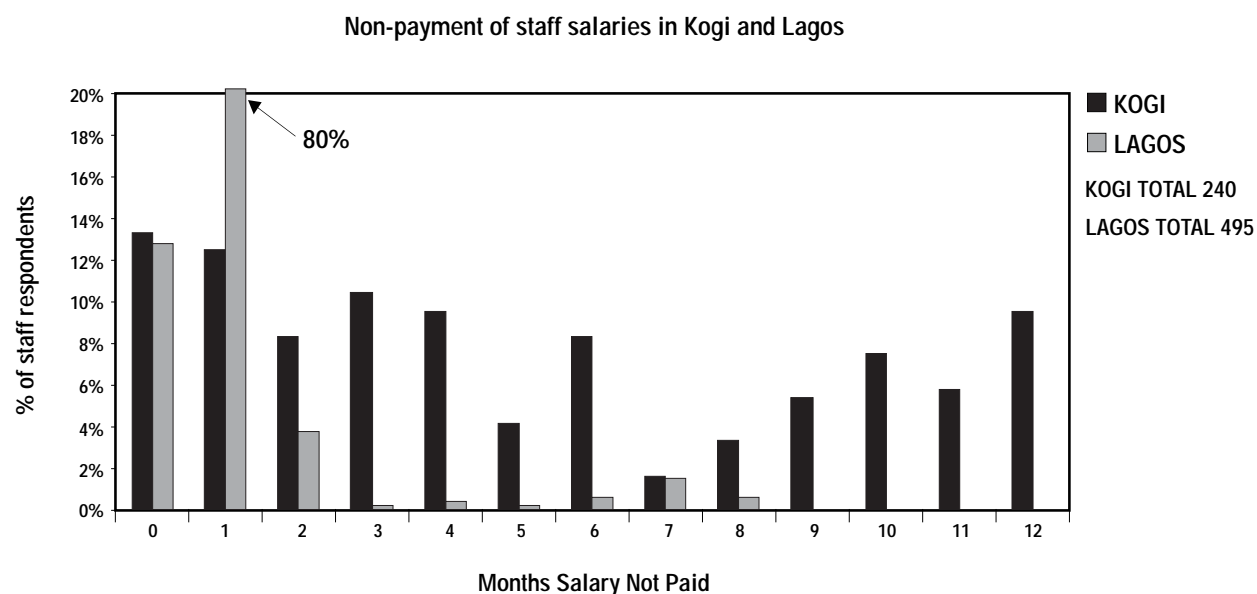


Table III.2.1

Non-payment of staff salaries in selected LGAs in Kogi

	(1) Months in the year before the survey that salary has not been paid (2001-02)	(2) Ratio of Estimated Average Salary Cost per facility (2002) to Estimated Average Budget Allocation per facility (2000)
Adavi LGA	3	1.9
Bassa LGA	9	0.8
Dekina LGA	10	2.0
Ibaji LGA	2	2.8
Igalamela/Odolu LGA	3	1.9
Idah LGA	5	0.7
Ijumu LGA	6	1.6
Kabba Bunu LGA	6	2.2
Kogi LGA	6	3.1
Lokoja LGA	6	0.5
Mopa Muro LGA	3	N/A
Ogori Magongo LGA	1	0.9
Olamaboro LGA	8	1.2
Omala LGA	4	3.3
Yagaba West	4	1.1
Correlation between columns (1) and (2):	-0.15	

for this purpose, then we should see a strong positive correlation between these variables—the higher is the estimate of actual salary costs as compared to budgeted allocation the greater should be the number of months of non-payment. In fact, the correlation between these two series is negative. Regression analysis of average months of non-payment of salary in an LGA on the reported budget allocation for salaries of health workers (or on total LGA revenues) also reveals no significant correlation.⁷

Furthermore, there are striking examples of LGAs such as Bassa, Idah, Lokoja, and Olamaboro where salaries were not paid for more than 5 months in the year before the survey, yet estimates of salary costs in a typical facility are below or almost equal to what the LGA reports as budgetary allocations towards staff salaries in a typical facility. These estimates suggest that the problem of non-payment of staff salaries in Kogi may not be lack of budgetary allocations for this purpose but rather leakage in resource flows at the LGA level.

Table III.2.2 reports regressions of the impact of average number of months of salary non-payment in a facility. The greater the average number of months for which staff salaries are not paid in a facility, the greater are the number of home visits by facility staff, the lower the likelihood of the facility being clean, and the greater the probability that essential drugs (chloroquine, paracetamol, and antibiotics) are privately provided by facility staff rather than being facility owned. These results suggest that non-payment of staff salaries may lead staff to provide private health services, in exchange for remuneration from their patients. The available data and evidence does not allow us to distinguish whether the essential drugs are provided by staff out of their personal funds or if they are expropriated from facility stocks for private sale.

It should be indicated here that this impact of non-payment of staff salaries is being estimated for facilities that are still functioning and therefore responding to the survey questions, and does not capture whatever impact non-pay-

ment may have in terms of closing-down of health facilities. Field-work for the survey in fact revealed that several facilities in Kogi had been closed down for months due to non-payment of staff salaries (Adeniyi, Oladepo, and Soyibo, 2003).

This problem of non-payment of salaries of health staff by local governments is reminiscent of a similar problem of non-payment of teacher salaries in primary schools in the 1990s, when primary education was decentralized to local governments. Following nation-wide agitations by teacher unions a policy of deducting primary school teacher salaries from the revenue share of local governments in the Federation Account was adopted, with the salaries being directly passed-on to the teachers. However, this issue of “deductions-at-source” has substantially undermined accountability for the delivery of primary education by local governments (see discussion in IMF, 2001), and may not be a solution to pursue for staff salaries in the health sector.

The evidence presented here, correlating the non-payment of salaries with budgeted allocations for salaries, suggests that the problem is one of general accountability of local governments in managing substantial resource transfers from taxpayers outside their jurisdiction. And therefore larger solutions that tackle this fundamental problem of accountability should be explored rather than “top-down” initiatives such as specific purpose transfers, especially through deductions at source. One idea would be to widely publicize information about the resource envelopes of local governments and their constitutional responsibilities in order to

⁷ The point estimates on budget allocations in these regressions in fact have a positive sign, that is, suggesting that greater budget allocations are associated with more months of non-payment of salaries.

make the local electorate more aware of the capacities and duties of their local representatives. A similar information-dissemination strategy, through public radio and other media, was adopted in Uganda after survey evidence revealed that district governments were not

transferring budgeted resources to schools. A follow-up survey in Uganda showed that this information dissemination had a substantial impact in preventing leakage of public funds away from purposes intended in public budgets (Reinikka and Svensson, 2001).

Table III.2.2
Impact of Non-Payment of Staff Salaries on Facility Performance

	(1) Home Visits	(2) 1=Facility is Clean	(3) 1=Chloroquine is Privately Owned	(4) 1=Paracetamol is Privately Owned	(5) 1=Antibiotics is Privately Owned
No. of months in past year salary not paid	2.27* (1.31)	-0.02** (0.01)	0.02** (0.01)	0.03*** (0.01)	0.03*** (0.01)
Facility Type Indicator Variable	-11.24* (6.58)	0.19*** (0.06)*	-0.25** (0.09)	-0.17* (0.10)	-0.11 (0.10)
Distance from LGA Headquarters	0.04 (0.13)	0.000 (0.001)	0.000 (0.002)	0.000 (0.002)	0.001 (0.002)
Number of facilities in the neighborhood	-0.14 (0.59)	0.000 (0.006)	-0.001 (0.005)	0.003 (0.005)	-0.001 (0.005)
LGA population, 1999	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
LGA Internally Generated Revenues Per Capita, 2000	-0.10 (0.18)	0.003 (0.002)	-0.001 (0.002)	-0.002 (0.002)	-0.002 (0.002)
Constant	15.50 (21.69)	0.74*** (0.15)	0.27* (0.16)	0.24 (0.15)	0.24 (0.16)
No. of Observations	109	141	141	141	141
R-sq	0.08	0.11	0.10	0.12	0.11

OLS regressions with robust standard errors (in parentheses).

* Significant at 10% level; ** Significant at 5% level; *** Significant at 1% level

Main Conclusions and Policy Lessons

As discussed in the introduction of this report, the motivation for this study was primarily to explore broad issues of governance and public expenditure management that underpin the translation of budgeted allocations to actual services for citizens. Hence, the main conclusions and policy lessons emerging from this study are cross-cutting and inform our understanding of general institutions of accountability that determine the extent to which public expenditures are effective in actually delivering services.

In addition to the general lessons, the survey methodology employed here specifically for the primary health sector has resulted in the generation of rich evidence on public health service delivery at the front-line, in terms of facility infrastructure, staffing patterns, availability of essential supplies and equipment, and services provided. Below we summarize the main conclusions of the study, and policy lessons, in turn for each of these areas—the general area of governance and public expenditure management, and the sector-specific area of primary health services.

Governance and Accountability—role of local governments and communities

A striking feature of public delivery of primary health services in Nigeria was revealed through

the survey—public resources, in fact, do not appear to be reaching their intended destinations. There is evidence of large scale leakage in public resources in Kogi, away from original budget allocations. Although staff salaries account for 78% of health expenditures and 20% of total LGA revenues, on average, the survey of facility staff in Kogi revealed that 42% of them had not been paid their salaries for more than 6 months in the past year. Using the survey data, we estimated and compared actual staff costs per facility in each LGA with what the LGA reported as budget allocations towards staff salaries per facility within its jurisdiction, and found that even when budget allocations were sufficient to cover estimated actual costs, the staff survey showed non-payment of salaries for several months in the year before the survey. There is, in fact, no significant correlation between local government revenues and resources budgeted towards staff salaries with the non-payment of salaries. Hence, the non-payment of salaries cannot be explained by lack of resources available to local governments.

The analysis also showed that the greater is the extent of non-payment of salaries, the higher is the likelihood that facility staff in fact behave as private providers—with more services provided outside the facility through home visits,

and with essential drugs being privately provided, either funded by staff own resources or expropriated from facility stocks.

This evidence suggests that there is a general problem of accountability at the local government level in the use of public resources that are transferred from higher tiers of government and about which, therefore, local citizens may not be well informed since they are not the tax-payers. A similar problem of non-payment of primary school teacher salaries by local governments in the 1990s was solved by the federal government by deducting the total salary costs from the local government share in Federation Account revenues and transferring these directly to the teachers through state government authorities. However, this “solution” may have undermined overall local government responsibility for primary education, without addressing the fundamental problem of accountability in the use of all public resources (see discussion in IMF, 2001), and may not be a solution to pursue for staff salaries in the health sector. It may therefore be better to address this emerging problem in the health sector as an overall problem of local government accountability, and larger solutions that tackle this fundamental problem of accountability should be explored rather than “top-down” initiatives such as specific purpose transfers, especially through “deductions at source”.

Nigeria is one of the few countries in the developing world that has constitutionally decentralized revenue allocation and expenditure responsibilities to locally elected governments. In many developing countries, even when locally elected governments exist there are no regular nor systematic channels of resource transfer, and no well-defined responsibilities for service delivery.⁸ In comparison, local governments in Nigeria receive large and substantial funds to perform their functions, given their share in the federation’s oil revenues, and are generally identified as the responsible government agency for primary social services. This might lead to an expectation that public delivery of services in

Nigeria would benefit from the institutional arrangement of decentralization to local governments.⁹ Yet, the survey evidence provided here reveals enormous problems of accountability of local governments. In and of itself, this analysis does not suggest that the counterfactual would be true—that is, more centralized delivery in the hands of the state or federal government would be better. The analysis undertaken here cannot address this question because we cannot compare outcomes across more or less decentralized systems.

But the overall policy lesson that the analysis does suggest is that of strengthening local government accountability, and we propose one major channel for this purpose—providing citizens with greater information about the resources and responsibilities of their local representatives, so they are empowered to hold them accountable for the delivery of basic services. There is very little systematic research evidence on whether information dissemination truly has an impact, or what forms of dissemination are likely to have greater impact; yet, theoretically, it seems to be a reasonable way to proceed. The conditions under which local governments, or any elected government for that matter, will have the right incentives to improve the delivery of basic services have been explored in a large political economy literature, and one of the “solutions” to these political constraints suggested by the literature is greater information dissemination about the roles and responsibilities of government, and the outcomes of public resource allocation (see Keefer and Khemani, 2003, for a review of the literature and suggested solutions). Designing a rigorous impact evaluation component to policy experiments with information dissemination would therefore be valuable to enhance our understanding of what works and what doesn’t, and how best to design institutional interventions to improve public accountability.

Another channel of strengthening LGA incentives that may be explored is that of providing direct incentives to local governments to improve performance through additional resource

transfers (additional to their constitutionally determined share in the Federation Account) *conditional* on actual improvements in service delivery. However, the impact of such conditional grants will also depend upon overall accountability, as it may not be feasible to provide financial incentives that are large enough for local governments to change the fundamental way in which they work, unless there is direct pressure from an empowered citizenry. The literature on conditional or matching grants from other parts of the world usually takes as given that local governments are accountable to local citizens, and the incentive component of the grants is largely intended to make local communities internalize potential spillover effects of local investments for the national good.

We found some evidence that active community participation in health service delivery may make staff more responsive to community health needs and increase overall productivity of facilities. Communities were particularly active in participating in health service delivery in the state of Kogi, whose population largely lives in rural areas, and depends heavily on public institutions of service delivery. The most striking result is that community participation in Kogi facilities is significantly associated with greater productivity per staff in providing inpatient deliveries, immunizations, and outpatient consultation.

While an appealing interpretation of this association may be that greater community participation makes facility staff more responsive to the health needs of the community they serve, there are alternative interpretations, and the analysis undertaken here is too limited to draw strong conclusions about the causal impact of community participation on service delivery. For example, we are unable to properly control for community-level income and education, nor for community-level demand for health services, that would affect both the extent of community participation and outcomes measured at the level of the health facility. Richer or more educated communities, for instance, may be both more likely to participate in the management of public health facilities

and have greater demand for health services, leading to higher productivity of health staff as measured in our regression analysis. Hence, the analysis does not inform us about the impact of specific policy interventions that promote community participation. An alternate and tailor-made research design is needed for such an impact evaluation, particularly controlling for community-level income and education.

There is also a significant negative correlation of community participation in facilities with record-keeping at the facility level for public health surveillance. A causal interpretation of this would suggest that with more decentralized management and monitoring of facilities by the immediate communities they service, some facility activities with beneficial spillovers outside the community are likely to be under-provided. This underscores the importance of local government responsibility for public health management, and proper coordination and sharing of responsibilities with community based organizations.

Issues in Primary Health Service Delivery

Although the majority of public health facilities were observed to be clean and functioning and providing a range of health services, there is some suggestion of poor quality of services for some of the conditions that are reported as the main causes of mortality and morbidity among children, namely diarrhea, and vaccine preventable diseases. Simple treatments for easy to diagnose conditions such as childhood diarrhea, that is ORS sachets, were not available in 70% of the facilities surveyed. The analysis reported here therefore suggests greater attention and emphasis on policies for preventive health services and simple treatments, than just for drugs-based curative care. Strengthening of policies on preventive health care is also urgent in light of evidence that public health surveillance may be particularly poor in rural states—in Kogi, only 28% of facilities were able to show records of tracer and

immediately notifiable diseases to the survey interviewer, compared to 80% of facilities in Lagos that produced these records.

Lack of cold storage equipment meant that vaccines were not available in a majority of facilities (80%) in Kogi, and in more than 30% of facilities in Lagos, despite facilities in that state having greater access to cold storage. The efficacy of national immunization campaigns on selected days, as a solution to the infrastructure constraints for storing vaccines, is suspect given the low numbers of immunizations provided by LGAs in the last three months before the survey, which included one of these campaigns. A more detailed study on the delivery of immunization through the national campaigns, and its interaction with routine programs, therefore seems to be warranted.

The survey evidence showed that the incentives of frontline service providers, that is the health staff, are typically blunt, in that there is no discernable local discretion to reward good performance. Most of the variation in salaries across staff is explained by civil service grade

level, and civil service grades are primarily determined by seniority. The average number of years that staff have worked in their current facility is low, which means that there is a lot churning of staff in the system, and that one of the objectives of civil service incentive schemes – collaboration and stability – is not being achieved. Facility staff appear to have a lot of discretion in charging fees from patients, as user fee policies are not established nor transparent, thus exposing communities to the risk of overcharging by staff for a supposedly subsidized public service.

These findings suggest that national, state, or local government policies with regard to user fees should be made more transparent, with perhaps facilities being required to visibly post the information in their buildings. Strengthening of existing institutions of community participation, particularly in the management of health staff with a view to providing greater incentives for quality service provision, is a potential policy instrument to improve service delivery outcomes for any level of resource allocation.

Bibliography

- Adeniyi, J., O. Oladepo, and A. Soyibo. 2003. "Survey of Primary Health Care Service Delivery in Lagos and Kogi: A Field Report." Mimeo, African Regional Health Education Center, University of Ibadan.
- Filmer, D., J. Hammer, and L. Pritchett. 2000. "Weak Links in the Chain: A Diagnosis of Health Policy in Poor Countries." *World Bank Research Observer*, 15:2, pp. 199.
- Filmer, D. and L. Pritchett. 1999. "Child Mortality and Public Spending on Health: How much Does Money Matter?" *Social Science and Medicine*, 49.
- International Monetary Fund (IMF). 2001. *Nigeria: Options for Reforming Intergovernmental Fiscal Relations*, Washington, D.C.
- Federal Republic of Nigeria, Federal Ministry of Health. 1996. National Health Policy. Abuja, Nigeria
- Keefer, P. and S. Khemani. 2003. "The Political Economy of Public Expenditures." Background paper for the *World Development Report 2004: Making Services Work for Poor People*, Development Research Group, World Bank, Washington, D.C. Processed.
- Lindelov, M. and A. Wagstaff. 2002. "Health Facility Surveys: An Introduction." Development Research Group, World Bank, Washington, D.C. Processed.
- Musgrove, P. 1996. "Public and Private Roles in Health: Theory and Financing Patterns." *World Bank Discussion Paper 339*.
- Rajkumar, A. and V. Swaroop. 2002. "Public Spending and Outcomes: Does Governance Matter?" Policy Research Working Paper No. 2840, World Bank, Washington, D.C.
- Reinikka, R. and J. Svensson. 2001. "Information and Voice in Public Spending." Mimeo, Development Research Group, The World Bank. http://econ.worldbank.org/files/15157_PSPproject.informationandvoice.reinikka.may1.pdf
- World Bank. 2001. *Nigeria: Public Expenditure Review*

