A Rapid Assessment of Ebola-related Implications for RMNCH Service Delivery and Utilization in Guinea

May 2015

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Acronyms

Acute respiratory infection	ARI
Community Medical Centers	CMC
Ebola virus disease	EVD
Guinea Ministry of Health and Public Hygiene	MOHPH
Health District Officers	HDO
Institutional Review Board	IRB
Ministry of Health	MOH
Oral Rehydration Salts	ORS
Reproductive, maternal, newborn and child health	RMNCH
United States Agency for International Development	USAID
University of North Carolina at Chapel Hill	UNC

Executive Summary

Background

Guinea was ground zero for the recent outbreak of Ebola Virus Disease ("Ebola" hereafter) and those infected suffered a mortality rate of 66% – higher than that of the other two West African countries also severely affected: Sierra Leone (32% mortality) and Liberia (45%). Guinea also experienced a more sustained epidemic than Liberia or Sierra Leone, where the disease rose rapidly, peaked (in October and December 2014, respectively) and then subsided.

In Guinea, however, from March 2014, when the first case was recorded, to the present, new cases continue to arise. Health experts have been concerned that other critical health issues such as malaria, pneumonia, and typhoid, as well as routine care for maternal and child health, might go unattended due to closures of clinics, patients avoiding facilities for fear of contracting Ebola, or patients with Ebola-like symptoms being turned away.

For instance, two prefectures in Guinea reported an 87% drop in the number of women giving birth in a facility with a skilled birth attendant from the latter part of 2013 compared to nine months later during the epidemic. The rate of new and returning contraceptive users fell by nearly 70% over the same period. With such reports, it was assumed that levels of service delivery for routine reproductive, maternal, newborn and child health (RMNCH) care had fallen precipitously during the Ebola epidemic, but there were no data on service utilization available to measure the extent to which this was true or to inform planning and resource allocation in response. To address this need, USAID/Guinea requested that MEASURE Evaluation conduct the rapid assessment described in this report.

Objectives, Site Assessment, Ethics, and Methodology

The study goal was to better understand the effects of Ebola on delivery and utilization of routine RMNCH services, rather than to make recommendations going forward. Its methodology lends itself to further comparable assessments to monitor changes and the pace of recovery. Its design purposefully accommodated a need to expediently provide essential information to guide health sector decision making among government and donor stakeholders. Working rapidly and with helpful cooperation from the Guinea Ministry of Health and Public Hygiene (MOHPH) and USAID/Guinea, the team designed the study protocol, developed tools, and then conducted training and fielded the research and data entry in one month (January 12 – February 18, 2015).

Site selection was deliberate, not random, and included prefectures from all four geographic zones (Upper, Lower, Middle, and Forest) and those where the Ebola case load was defined as "active," "calm," or "not affected." Twelve prefectures and three city districts of Conakry were covered, including 45 public facilities (16 hospitals or community medical centers and 29 health centers) and 19 private clinics.

Six field teams reviewed records in public clinics and hospitals and conducted structured interviews with Health District Officers, managers, and providers at public and private facilities as well as with traditional healers. Three quality assurance teams provided support to the data collection teams and MEASURE Evaluation performed two data entry quality checks. The local firm StatView International was engaged

to assist in data collection. The assessment was distinguished by its collection of both quantitative and qualitative data on routine health service delivery and uptake.

To safeguard the ethical integrity of the study, consent was obtained from all interview subjects and no individual identifiers were collected. The study team did not ask sensitive questions related to personal health status, nor were results from individual clinics included in the report. The activity was reviewed by, and received an exemption from, the University of North Carolina (UNC) Institutional Review Board (IRB).

Paper-based data were reviewed to gather information on key indicators of RMNCH services, as identified by the Ministry of Health and/or as requested by USAID/Guinea and USAID/Washington. The team focused on three time periods: before the Ebola crisis (October 2013 – March 2014), the early phase (April 2014 – June 2014), and the advanced phase (July 2014 – December 2014).

Analysis and Results

Data were compiled by month and aggregated into quarters, disaggregated by facility type and by Ebola status, defined as "active" (i.e., Ebola cases throughout the epidemic period); "inactive" (no diagnosed Ebola cases); and "changing" (periods of active, calm, and/or inactive status). Trends were analyzed for indicators with significant differences in Quarter 1 and Quarter 5 (October through December 2013 and 2014, respectively).

Analysis of child health services showed that outpatient visits to both hospitals and health centers declined significantly over the period. Ebola active areas showed a steady decline; whereas areas where Ebola was inactive or changing showed little initial decline, followed by a rapid decline in the final quarter of 2014.

In maternal health services, several indicators were examined, including antenatal visits from first to third trimester, mortality of pregnant women, and complications of pregnancy and births within hospitals or health centers. Only one indicator—HIV testing of pregnant women in hospitals—showed significant change (a decline of 51%) from Quarter 1 to Quarter 5. Upon closer review, the decline in Ebola active regions accounts for the appearance of a decline in HIV testing of pregnant women in all regions.

Child health services showed significant declines in vaccinations given at health centers (but not hospitals) in all Ebola zones. But these declines were not constant. Declines for Pentavalent 3 vaccinations at health centers began January through March 2014, especially in Ebola active zones. However, the median number of visits for Pentavalent 1 in health centers actually rose during Quarter 5 in Ebola active and inactive areas.

Malnutrition among children under five years of age showed a significant increase, especially in Ebola active regions, starting in early 2014. These regions also have had persistently more cases of malnutrition throughout the period than other regions. The number of children under five seen for diarrhea and acute respiratory infection (ARI) significantly decreased over the one-year period for both hospitals (-60% for diarrhea and -58% for ARI) and health centers (-25% and -23%, respectively) in all three Ebola status regions.

Findings suggest that stockouts did not increase for the majority of facilities due to the Ebola epidemic, but that inadequate stocks of common medicines is a chronic issue.

The team compiled data on service availability indicators, including closures and suspensions, absence of health care workers, workers infected with or deceased from Ebola, training in infection prevention and control, transfer of workers to Ebola Treatment Units, and consistency of facilities reporting data to MOHPH. Overall, closures, suspensions, and provider absences were not common in most districts, though these problems may have been localized to one district (N'Zèrèkorè). Information about trained staff was not available from the health districts in Conakry, as the district offices were not informed about training participants, suggesting a lack of coordination there. A positive finding was that reporting data through the routine health system was not negatively affected by the Ebola epidemic.

Among the health directors interviewed, 20% of them felt there had been an increase in complications due to delays in seeking care and 76% felt that community members had concerns about the safety of getting care. However, 68% reported having themselves received training on Ebola infection control and 85% reported that other providers at the clinic have received such training. The great majority (85%) reported that their facilities had implemented a screening/triage process for Ebola case identification, and 92% had implemented additional infection controls.

Among service providers, 70% reported having been trained in Ebola infection control and risk reduction. Nevertheless, 80% had concerns about the safety of services at their facility; even though 95% said new safeguards were in place. These safeguards included wearing gloves and other personal protective equipment, washing hands, taking patient temperatures, and disinfecting the facilities.

Thirty-six percent of providers and 46% of health directors/managers stated that there was social stigma associated with being a health care worker during the Ebola epidemic. Their examples include:

> "We are considered carriers of the Ebola."
> "Our children are no longer accepted by their friends."
> "My neighbors don't trust me."
> "There was talk of destroying my clinic."
> "(Health) personnel are accused of spreading Ebola for money."

Twenty traditional healers were interviewed, slightly more than half of whom reported having received training in risk reduction of Ebola. Almost all (85%) had put in place new measures for infection control and risk reduction, mainly hand washing and triage and infection controls, such as referring patients to hospitals. Use of gloves or other protective equipment was rare. They also expressed concern about the health-seeking practices of their community, with comments such as:

> "The (local) population does not accept being touched as before."
> "People prefer to treat themselves in consequence of false information that health care providers are responsible for the disease."

Conclusions

Though not representative of the entire country, this assessment yielded important information.

Significant negative findings:

- There was an overall decline in services, greater in hospitals than in other facilities.
- Child health services were most affected by Ebola, especially vaccinations that require multiple visits, and diarrhea and ARI cases, possibly indicating parents were reluctant to visit a health facility. A significant decline was reported in HIV testing for pregnant women in hospitals.
- Stockouts of common medicines was an ongoing issue of concern.
- One-third of health care providers received no training in Ebola infection control.
- Being a health care worker was associated with social stigma.

There also were a number of positive findings, including:

- Despite Ebola, the health information system (HIS) is still functioning.
- Ebola does not appear to have had a widespread negative impact on the availability of health services.
- Many improved infection control measures have been put in place, including routine hand washing by both health care workers and traditional healers.

Background

Guinea is in the midst of the largest, longest, and deadliest outbreak of Ebola Virus Disease ("Ebola" hereafter) ever recorded. As one of the three most affected countries in West Africa, which also include Liberia and Sierra Leone, Guinea has recorded more than 3,548 Ebola cases and 2,346 deaths (as of April 15, 2015) since the first case was diagnosed in March 2014 (WHO, 2015). This mortality rate (66%) is higher than that of either Sierra Leone (32%) or Liberia (45%). The weekly caseload of the disease in Guinea has showed slight fluctuations throughout the epidemic, peaking at 171 cases during the final week of 2014 (WHO, 2015). This is in contrast to the higher caseloads experienced by Sierra Leone, which peaked at 570 cases in early December 2014, and Liberia, which peaked at 442 cases in early October 2014 (http://apps.who.int/ebola/current-situation/ebola-situation-report-15-april-2015). Ebola in Guinea has disproportionally affected adults (persons aged 15–44 and 45+ are three and five times more likely to be infected, respectively, as those aged <14), and individuals living in certain regions of the country, such as Conakry, Guèckèdou, Macenta, and N'Zèrèkorè (WHO, 2015). Case incidence of the disease in Guinea has been increasing in the early weeks of April 2015 (WHO, 2015).

Notwithstanding the severity of the direct effects of Ebola on the health of the population, experts have also been concerned with the indirect effects of the disease on health care services and mortality from other health conditions. Labeled the "silent killer" by Eric Talbert, the executive director of Emergency U.S.A., diseases such as malaria, pneumonia, and typhoid may go untreated due to Ebola-related effects on health systems such as closures of clinics, patients who are afraid to visit facilities for fear of contracting Ebola, or because patients with Ebola-like symptoms are turned away from care (Paye-Laylah, 2014; Delamou, 2014). In some areas, certain services, such as vaccinations, have been suspended due to the lack of personal safety equipment, an inability to conduct real-time tests for Ebola, or insufficient staff to meet the additional health burdens caused by the disease. Projections of measles outbreaks six to 18 months after vaccination disruptions from Ebola are estimated to result in 2,000 to 16,000 additional deaths in the three most affected countries (Takahashi, 2015). As Joanne Liu, the international president of Médecins Sans Frontières/Doctors Without Borders, stated, weak health infrastructure has caused an "emergency within the emergency" (CBC News, 2014). The exacerbation of weaknesses in the health system has led to calls for more investment in general system strengthening and the development of "resilient" health systems (Barbiero, 2014; Menendez, 2015; Schlein, 2014).

Information on the "indirect" effects of Ebola at the health-facility level is spotty across the three most affected countries. One study using data on inpatient admissions rates and surgery in neighboring Sierra Leone found a 70% drop in the median number of admissions between May and October 2014 among 40 surveyed facilities (Bolkan, 2014). The authors also found a similar 50% drop in the median number of surgeries during the same time period and estimated that 35,000 sick Sierra Leoneans would be excluded from inpatient care from the onset of the Ebola epidemic through the end of 2014 if the low admissions rates continued (Bolkan, 2014).

In Guinea, the number of women giving birth in a facility with a skilled birth attendant in the prefectures of N'Zèrèkorè and Conakry fell by 87% from the period of October through December 2013 to the period July through September 2014 (Jhpeigo, 2015). The rate of new and returning contraceptive users who accessed services at a facility or through community distribution in the same prefectures fell by nearly

70% in the same time periods (Jhpeigo, 2015). It has also been reported that the hospital in Kissidougou was seeing only 12 to 15 patients a day at the end of September 2014, compared to a typical intake of 200 to 250 patients per day (Pay-Layleh, 2014).

Guinean women and children may be especially vulnerable to worsening health care conditions. Prior to the Ebola epidemic, a key indicator of maternal health, the maternal mortality ratio, was 650 per 100,000 live births (2012) (WHO, 2015). Facility-based deliveries were occurring for only 41% of births, the contraceptive prevalence rate was 6%, and indicators for child health showed that improvements in this area of health were needed as well: the under-five mortality rate was 101 per 1,000 live births, with malaria as the top cause of death, and full immunizations were received by only 36.5% of children (DHS Guinea, 2012; WHO, 2015). Anecdotes of women being turned away from delivery care have been highlighted in the media; one particularly touching story from Liberia described the road-side birth of twins to a woman who had been turned away from services (Hessou, 2014). Other accounts indicated that women were avoiding services due to stigma and fear: statistics from Matam maternity hospital in Conakry showed a drop in attendance during the advanced stage of the epidemic, with 123 patients for the July through September 2014 quarter, compared to 760 patients for the same quarter in 2013 (Delamou, 2014).

Based on such reports, it has been assumed that levels of service delivery for routine reproductive, maternal, newborn, and child health (RMNCH) care have fallen precipitously in some areas over the course of the Ebola outbreak in Guinea. However, no data are currently available to assess the extent to which this may be true across geographic zones and different prefectures, or to inform planning and resource allocation in response to the challenge created by the sudden and severe Ebola virus disease (EVD) outbreak.

As a first step towards addressing this information gap, USAID/Guinea provided funding for the rapid assessment described in this report.

Purpose and Objectives

A rapid assessment was conducted to better understand how the delivery and utilization of routine RMNCH services may have been affected by the extraordinary strain placed on the health system and its client population by the Ebola outbreak in Guinea. At the time the assessment was undertaken, no such information was systematically available to guide the response of local officials and donors concerned about RMNCH services. This rapid assessment was commissioned as a way to provide a quick yet systematic look at the status of RMNCH service delivery and utilization in selected facilities during the period immediately before recognition of the Ebola outbreak, compared to the conditions in Guinea approximately one year later. This was accomplished through record review for data abstraction, and brief provider interviews, at a selection of health facilities in 12 prefectures and three city districts.

Specific objectives of the assessment were: (1) to obtain information to better understand the implications of the Ebola crisis on the level of delivery and utilization of routine, non-Ebola-related RMNCH health care services in a sample of health facilities, and (2) to obtain preliminary information from health care providers on implications of the Ebola crisis on routine service delivery and practice.

The approach used in this first assessment could easily be repeated for later time periods to monitor changes in service statistics in the immediate aftermath of the crisis, and to monitor the pace of recovery of service provision to pre-Ebola levels.

Methodology

Overview

MEASURE Evaluation, in collaboration with a local research firm, Statview International, based in Conakry, designed and implemented a rapid assessment based on a health facility record review and short health staff interviews. The aim of the assessment was to gather information on how the Ebola crisis has affected the delivery and utilization of routine, non-Ebola-related RMNCH services. Data were collected at a total of 64 health care facilities and 15 Health District Offices in 12 prefectures and three city districts..

The facility record review was an important source of the data obtained to measure changes in the level of facility-based service delivery and utilization in public facilities. The record review focused on three service areas: family planning, maternal health, and child health. Indicator measurements were recorded for three points in time: before the Ebola crisis (October 1, 2013 – March 31, 2014), the early phase (April 1 – June 30, 2014), and the advanced phase of the epidemic (July 1 – December 31, 2014). The record review form was designed for use in public facilities. Private clinics were not included in the record review (due to the differences in public and private record keeping) but were visited to conduct provider interviews.

Brief, structured interviews were conducted with: (1) health facility directors or managers; (2) up to two providers of RMNCH services in each selected government facility; and (3) up to two providers in each private clinic. The private clinics were located within the same catchment areas as the government facilities. Traditional practitioners serving the same populations were interviewed when possible. These interviews helped to document provider shortages/absenteeism, changes to service delivery, infection control practices, and provider safety concerns, among others. Interviews were conducted with providers who were available at the time of the interview, and who had served at the facility for at least one year prior to the survey. At each site, special effort was made to interview one provider of maternal and/or reproductive health services, and one child health provider, in addition to the facility director/manager.

To obtain a broader view of service conditions at the health district level, separate interviews were conducted with Health District Officers in the selected prefectures and city districts. The Health District Officers (HDO) were asked a series of questions concerning how health staff and service provision had been affected by the Ebola crisis in their districts, over the same time period covered by the record review. The HDO interviews provided information on facility closures, service suspensions, changes in standards of practice, Ebola cases and Ebola deaths among their health staff, and consistency of routine data reporting during the crisis.

Ethics Considerations

Consent was obtained prior to initiating the interviews from all HDOs, facility directors or managers, and health care providers. No individual identifiers (e.g., name, address) were collected, and no sensitive questions related to personal health status were asked. Findings from individual clinics are not identified in the report. Permission to undertake the survey was granted by the Guinea Ministry of Health and Public Hygiene (MOHPH). The activity was reviewed and received an exemption from the Institutional Review Board (IRB) at the University of North Carolina (UNC) at Chapel Hill.

Selection of Prefectures and Facilities

Site selection for the assessment was deliberate, not random. Prefectures were selected from all four geographic zones (Upper, Lower, Middle, and Forest) and those selected included prefectures that were "active," "calm," and "not affected" in relation to confirmed Ebola cases, as of November 2, 2014. Public facilities visited for data collection within selected prefectures included the central hospital (regional or district) and two health centers serving the nearby communities (urban and/or rural).

Similarly, in Conakry, the medical centers of the city districts of Ratoma (Ratoma), Matam (Coléah), and Dixinn (Minière) were selected, along with two health centers located in the areas around each of these. Donka National Hospital was added in response to a recommendation from USAID/Guinea. Overall, 12 prefectures and three city districts within Conakry were chosen for data collection. A total of 45 public facilities were visited, including 16 hospitals/Community Medical Centers (CMCs), and 29 health centers.

Private clinics serving the same catchment populations as the surveyed public facilities (within and outside of Conakry) were visited for health worker interviews whenever they could be identified. Four highly specialized private facilities and three smaller clinics located in the three Conakry city districts were visited, and another 12 private clinics outside Conakry were identified and surveyed, for a total of 19 private clinics included in the study.

A number of factors were considered in selecting the sites to be visited, including the need to expedite the time required for data collection in the field. Site selection took into account region/geographic zone; classification of the prefecture in relation to the spread of the outbreak (active, calm, not affected); travel time and feasibility of travel to the site for the data collection teams; and input from advisors at USAID/Guinea and USAID/Washington. The selection of sites was not random, and the information obtained was not intended to be representative of all prefectures or all facilities in the country.

Table 1: Official Classification of Ebola Outbreak Status as of November 2014 in the 13 Prefectures Selected for the Rapid Assessment

REGION	Active	Calm	Not affected
Upper	Siguiri Faranah	Dabola	Mandiana
Lower	Conakry Coyah	Boffa	Fria
Middle		Dalaba	Mamou
Forrest	N'Zèrèkorè Guèckèdou	Kissidougou	

Data Collection

The data collection instruments used in this assessment were developed with guidance from individuals with direct knowledge of the health care system in Guinea, including Dr. Alimou Barry at MEASURE Evaluation, health system officials, and health office staff at USAID/Guinea and USAID/Washington. The data collection tools were developed in English and translated into French. The paper-based data collection process used four tools (see Appendix 1):

- a data abstraction form for record review at the health district, hospital, and health center level;
- a brief questionnaire for facility directors or managers (closed and open-ended questions);
- a brief questionnaire for providers of RMNCH services at the facility (closed and open-ended questions); and
- a brief questionnaire for traditional healers (closed and open-ended questions).

The data abstraction forms were designed to capture data on a set of indicators related to delivery of routine RMNCH services, service availability, and the health labor force (see indicator list below). The forms recorded data by month, covering a total period of 15 months (October 1, 2013 – December 31, 2014).

Indicators

The selection of 30 indicators to be measured was based on the following criteria:

1. Indicator for key RMNCH service, as identified by MOHPH
2. Indicator data available in facility or district health records
3. Indicator specifically requested by stakeholder (e.g., USAID/Guinea, USAID/Washington)

The indicators are listed below by service area, type, and level of facility.

Family Planning

1. Number of new acceptors to modern contraception
2. Number of continuing users of modern contraception
3. Number of facilities that experienced a stockout of a modern contraceptive method (disaggregated by type: injectables, pills, condoms)

Maternal Health

<u>Health Center Level</u>

1. Number of pregnant women tested for HIV
2. Number of pregnant women seen for first antenatal visit (ANC 1)
3. Number of pregnant women seen for scheduled visit during last trimester (ANC 3)
4. Number of deaths to pregnant women occurring in the facility
5. Number of births occurring in the facility

Hospital Level

1. Number of pregnant women tested for HIV
2. Number of cases of pregnancy related complications (eclampsia, uterine rupture, or complication of abortion)
3. Number of deaths to pregnant women occurring in the hospital
4. Number of births occurring in the hospital

Child Health

Health Center level

1. Number of Pentavalent 1 vaccinations given
2. Number of Pentavalent 3 vaccinations given
3. Number of cases of malnutrition in children under 5
4. Number of watery/bloody diarrhea cases in children under 5
5. Number of facilities that experienced stockouts of oral rehydration salts
6. Number of facilities that experienced stockouts of antibiotics for the treatment of acute respiratory infection (cotrimoxazole)
7. Number of cases presenting with acute respiratory disease in children under 5

Hospital Level

1. Number of hospitalized cases of acute respiratory disease in children under 5

Facility

1. Number of outpatient visits/facility (children and adults)

District Level

Service availability/Health labor force (all facilities in the health district)

1. Number of facilities with closures (during the survey period)
2. Number of facilities consistently reporting data to the MOHPH
3. Number of facilities in which services and/or standards of practice (such as patient conditions treated, clinical treatment protocols, patient referral system, service documentation, etc.) have changed due to the Ebola epidemic
4. Number of facilities in which services have been suspended due to the Ebola epidemic
5. Number of facilities that experienced an absence of health care workers (by type: doctors, nurses, midwives, others) (during the survey period)
6. Number of health care workers that have been infected with Ebola (during the survey period)
7. Number of health care workers who died from Ebola (during the survey period)
8. Number of health care workers trained in infection prevention and control
9. Number of health care workers transferred to an Ebola Treatment Unit

Field Work Training

A two-day training (January 21–22, 2015) for 27 individuals was held at the offices of Statview International (see Appendices 2 and 3). StatView International, a private research firm based in Conakry and experienced in field studies, provided logistical and administrative support for the training and field work. Participants were selected from Statview International staff, and from public sector physicians who were affiliated with StatView International and were available to participate in the training and field work. Training centered on familiarizing trainees with the data collection tools and their application. Each of the six instruments was reviewed in detail, and trainees were instructed in how to identify all possible sources of data at the pre-selected sites.

A separate training for data entry was held on January 24, 2015. Seven participants with previous experience in data entry in Epi Info attended a four-hour instructional workshop focusing on the specifics of data entry for this exercise. Copies of Epi Info 7 were downloaded onto their individual laptops.

A field test of the data collection instruments was conducted immediately following the training. Health facilities in three Conakry city districts agreed to serve as mock data collection sites. One District Office, five health facilities in the public sector, and two private clinics served as venues for the practice session.[1] The information in the field test was then used to practice the data entry procedures. Based on experience gained from the field test, the data collection instructions were adjusted and further guidance was provided.

The selection of individuals to serve as data collectors and supervisors was based on observations of participant performance during the training and practice sessions. Also taken into account were the recommendations of senior managers from Statview International who were familiar with the performance of particular members of their staff in previous surveys. Pre- and post-training tests were not administered, since most trainees had prior experience with the required tasks, and competence in random selection methodology was not required.

Field Work

From among the 27 training participants, 24 individuals were selected and organized into six field teams. Each team was comprised of four members, including a physician who served as the group leader. Physicians were assigned as the team leaders because, in addition to their clinical knowledge, they were already familiar with the procedures used at health facilities for documenting the relevant services in facility registers. In their role as team leaders, the physicians assisted with data abstraction and interviews, and were responsible for: communicating and coordinating with supervisors and health officials at the assigned sites; ensuring adherence to the protocols for data collection and provider interviews; and regular review of data quality and form completion.

[1] Special thanks is owed to the Health Services Administration for Matoto City District Office, Matoto City District Health Centers of Yimbaya and Gbessia Port, Ratoma City District Medical Center of Flamboyant, Dixinn City District Health Center of Macire, and two private clinics for accommodating the pre-test.

Three quality assurance teams were formed and each was assigned to work with two data collection teams. The quality assurance teams included two senior managers from Statview International, Dr. Alimou Barry and Jack Hazerjian from MEASURE Evaluation, and an official assigned to the activity from the MOHPH Department of Family Health, Dr. Bernadette Dramou. Given the need for the quality assurance teams to rotate between two data collection teams, MEASURE Evaluation prepared supplemental guidance documents for the data collection teams. These documents included a checklist of assessment activities and operational procedures, as well as references for identifying sources of data on particular routine health services within a hospital or health center (see Appendix 4).

EPI Info 7 was used for data entry. MEASURE Evaluation performed two data entry quality checks on each of the datasets before transferring the data into STATA v.13 for analysis.

Timeline

Approval of protocol and instruments	January 12, 2015
Conduct field training and obtain permissions	January 19-24, 2015
Translation of data collection instruments completed	January 25, 2015
Ethical review procedures completed at UNC	January 27, 2015
Data collection in Guinea; data entry	January 28 – February 17, 2015
Preliminary findings discussed with USAID/Guinea	February 18, 2015
Data cleaning and preliminary analysis	February 25 – March 10, 2015
Further data analysis and report writing	March 11 – April 22, 2015
Formatting draft for distribution	April 23 – 28, 2015
Draft report to USAID/Guinea for review	April 29, 2015
Receive feedback from stakeholders	May 13, 2015
Release final report (English and French)	May 20, 2015
In-country dissemination event (budget permitting)	May 30, 2015

Analysis

Record Review Data

Data on RMNCH service delivery and staffing were collected by month and aggregated into quarters. For each indicator, the percent change in the median number of services recorded between Quarter 1 (October 1 – December 31, 2013) and Quarter 5 (October 1 – December 31, 2014) was calculated and disaggregated by type of public facility, i.e., hospital/CMC ("hospitals" hereafter) and health centers.

The choice of the same annual quarters for comparison (i.e., the months of October through December one year apart) helped to account for seasonal variation in service provision. The Wilcoxon signed rank test was used to test for statistically significant differences between the indicator medians calculated for the two quarters (Q1 and Q5).

Trend Analysis

Trends over time were analyzed only for indicators that showed a statistically significant difference in the Quarter 1 and Quarter 5 median numbers. Graphs showing trends were disaggregated by type of facility (hospital, health center) and Ebola status classification for the prefecture over the period of the survey. As shown in Table 1, the official Ebola status classification (active, calm, not affected) as of a single point in time, November 2014, was used for choosing the prefectures to be included in the assessment. For the analysis, however, a different classification was used (Table 2). The Ebola status classification of the prefectures over the nine-month period from March through December 2014, was reviewed, and three new categories were constructed: "Active" (prefecture reported Ebola cases throughout the time period beginning in March 2014); "Inactive" (no diagnosed Ebola cases reported during the surveyed time period); and "Changing Status" (classification of prefecture varied—status classified as active, calm, and/or inactive during the surveyed period). These three categories were used to help with the interpretation of the trends detected in indicators that showed a significant change over the period surveyed.

Table 2: Prefecture/City District Classification Used for Trend Analysis: Ebola Status Categories Over Period October 2013 – December 2014

Active (throughout)	Changing	Inactive (throughout)
Guèckèdou **Conakry City Districts** Conakry-Dixinn Conakry-Ratoma Conakry-Matam	Boffa Coyah Dabola Dalaba Faranah Fria Kissidougou N'Zèrèkorè Siguiri	Mamou Mandiana
Number of Facilities visited for data collection		
13 facilities	26 facilities	6 facilities

District-Level Data

Information at the health district level was obtained from the Health District Office/District Health Officer, and referred to all public health care facilities in the health district (not solely those surveyed for the assessment). For purposes of analysis, the total number of facilities recorded for each district, and likewise the total number of health workers in the district, were aggregated across districts. Where appropriate, the district-aggregated responses were reported by type of facility and type of health worker. Where percentages were reported for district-level data, the numerator and denominator will differ from those used elsewhere in the report (i.e., for the surveyed facilities).

Health District data were analyzed for the period of April 1 – December 31, 2014 rather than for the entire 15-month period, because the indicators of interest were specific to the Ebola outbreak, and as expected, showed no occurrences during pre-Ebola time periods.

Provider Interviews

Information from the provider interviews was analyzed and reported as univariate distributions (frequencies). The bivariate distribution of responses between public and private providers was compared using a Chi-square test for equivalency, and only statistically significant results of the bivariate analysis were reported and discussed.[2] Responses to the open-ended questions were reviewed and categorized by content and frequency. Selected portions of this qualitative information were reported to add insight into interpretation of the quantitative results.

Results

Outpatient Visits

The number of outpatient visits (children and adults) was assessed by type of public facility. The median number of visits showed a statistically significant decline between Quarter 1 and Quarter 5 in hospitals (-31%) and in health centers (-6%). Hospitals located in the Ebola active prefectures showed an increase in outpatient visits between Quarter 1 (October through December 2013) and Quarter 2 (January through March 2014), followed by steady declines in outpatient visits throughout 2014. Hospitals in the inactive and changing Ebola status prefectures showed the largest declines in outpatient visits in the final Quarter of 2014 (Figure 1). A similar pattern was observed in health centers, with those health centers located in Ebola active regions recording a later start for the decline in April through June 2014 (Figure 2).

Table 3: Median Number of Outpatient Visits at 45 Public Facilities Between Quarter 1 (Oct. – Dec. 2013) and Quarter 5 (Oct. – Dec. 2014): Facility Record Data

	Median number of visits			
Facility type	**Quarter 1**	**Quarter 5**	**Percentage change**	**Missing**
Hospitals	1355	930	-31**	2
Health Centers	1223	1147	-6**	1

*p<0.05; **p<0.01

[2] The small number of facilities surveyed that were labeled as rural, and the correspondingly small number of providers interviewed in rural facilities, did not allow for meaningful analysis by rural/urban location.

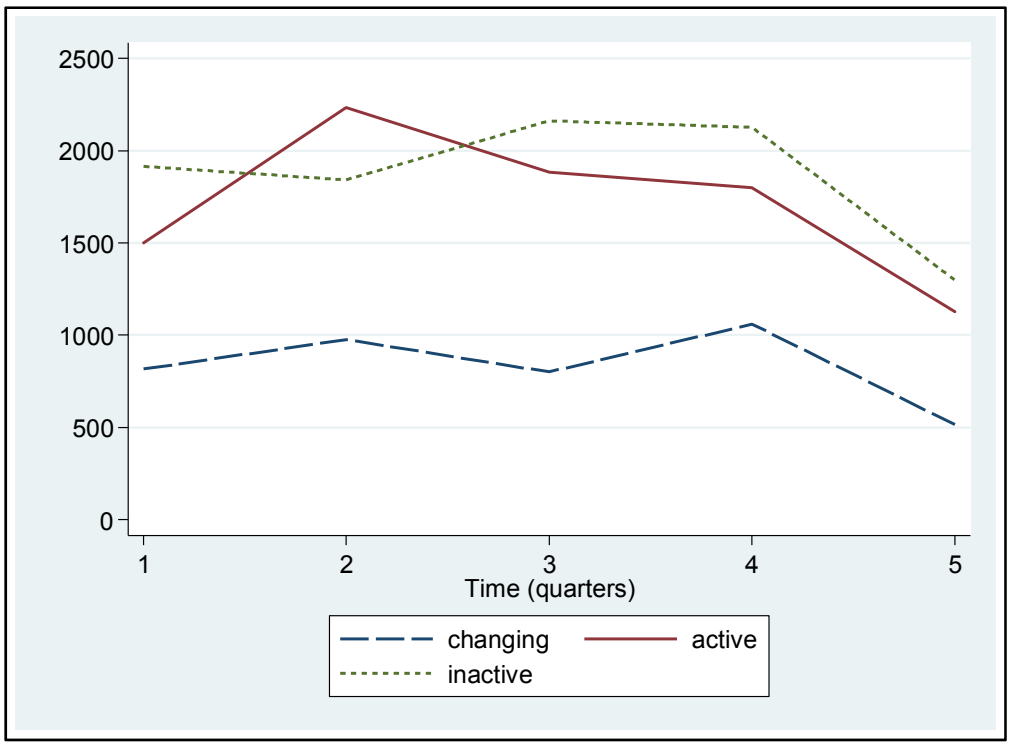

Figure 1: **Hospitals: Median number of hospital outpatient visits per hospital.**

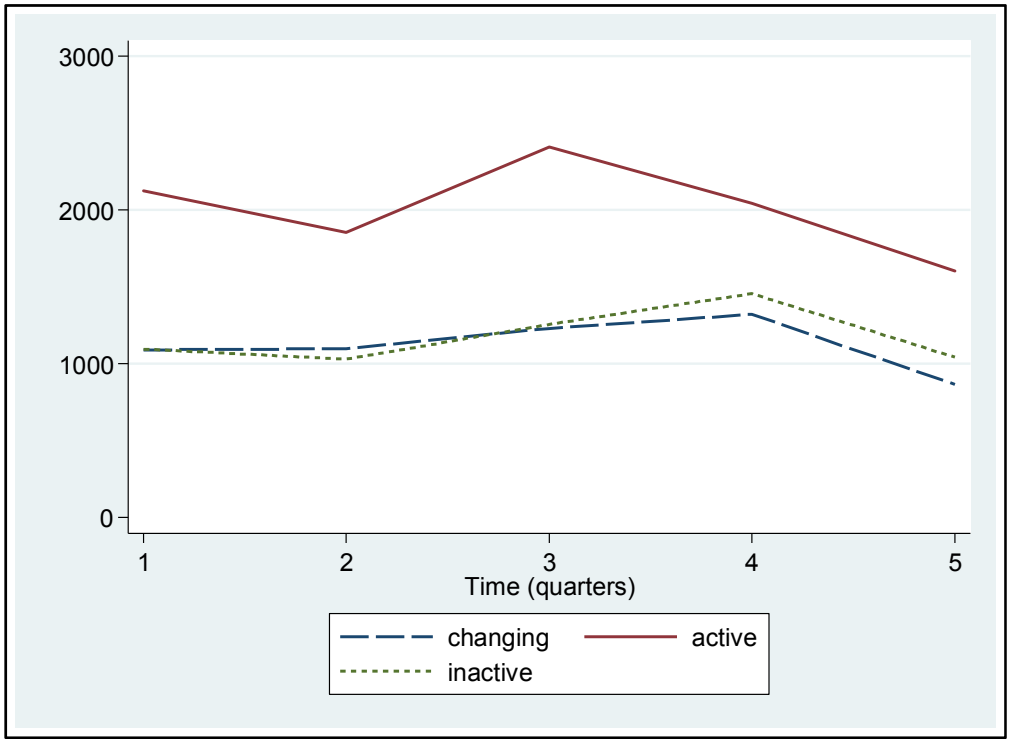

Figure 2: **Health Centers: Median number of outpatient visits per facility among health centers.**

Family Planning

Two indicators were assessed for family planning use during the Ebola outbreak:[3]

Number of new acceptors to modern contraception
Number of continuing users of modern contraception

Findings on these two family planning indicators are presented in Table 4. The results suggest that the median number of new and continuing users of modern contraceptives *increased at health centers*, and *decreased at hospitals*, between the quarters of October through December 2013, and October through December 2014. However, the total numbers recorded for acceptors and users were very small, and the differences were not statistically significant.

Table 4: Summary of Family Planning Indicators

Percent change in family planning indicators at 45 public facilities: Quarter 1 (Oct. – Dec. 2013) and Quarter 5 (Oct. – Dec. 2014): Facility Record Data				
	Median number per quarter			
Indicator	**Quarter 1**	**Quarter 5**	**Percent change**	**Missing**
Number of new acceptors to modern contraception:				
Hospitals	19	12	-37	1
Health Centers	25	34	+36	4
Number of continuing users of modern contraception:				
Hospitals	60	50	-17	3
Health Centers	26	28	+8	4

*p<0.05; **p<0.01

Maternal Health

The following maternal health indicators were assessed at surveyed public hospitals and health centers:

Number of pregnant women tested for HIV
Number of pregnant women seen for ANC 1
Number of pregnant women seen for ANC 3
Number of deaths to pregnant women occurring in the facility
Number of births occurring in the facility
Number of cases of pregnancy related complications

[3] A third indicator related to stockouts of modern contraceptive methods is included in the "Stockouts" section of the report.

Findings for these indicators are presented in Table 5. Testing for HIV among pregnant women in hospitals declined by 51% between the two quarters. A closer look at the trend throughout the time period (see Figure 3) shows that the large decrease was due to a decline in the median number of women tested for HIV in the surveyed hospitals in Ebola active areas. In contrast, little change was observed in the numbers for Ebola inactive areas, or areas with changing status throughout the year. HIV testing of pregnant women in health centers showed a slight and non-statistically significant decrease.

The median number of cases of pregnancy-related complications at hospitals (e.g., eclampsia, uterine rupture, or complication of abortion) declined by 20%, but the decline was not statistically significant. Pregnancy-related deaths in hospitals and health centers were rare events, and the median numbers recorded in the survey were reported, but were too small to interpret. The number of pregnant women seen at health centers for ANC 1 and ANC 3 showed a decline between Quarter 1 and Quarter 5, but the change was not statistically significant. Likewise, the recorded decline in the median number of births in hospitals and health centers from Quarter 1 in 2013 to Quarter 5 in 2014 was not statistically significant.

Table 5: Summary of Maternal Health Indicators Collected in Selected Facilities

Percent change in maternal health indicators in 45 public facilities Quarter 1 (Oct. – Dec. 2013) and Quarter 5 (Oct. – Dec 2014): Facility Record Data				
	Median number per quarter			
Indicator	**Quarter 1**	**Quarter 5**	**Percent change**	**Missing**
Pregnant women tested for HIV:				
Hospitals	112	55	-51*	7
Health Centers	255	246	-4	15
Pregnancy complications:				
Hospitals	10	8	-20	0
Pregnant women deaths:				
Hospitals	1	2	+100	1
Health Centers	0	0	--	NA
Pregnant women seen for ANC 1:				
Health Centers	337	295	-12	1
Pregnant women seen for ANC 3:				
Health Centers	245	205	-16	2
Births:				
Hospitals	303	281	-7	0
Health Centers	100	69	-31	4

*p<0.05; **p<0.01

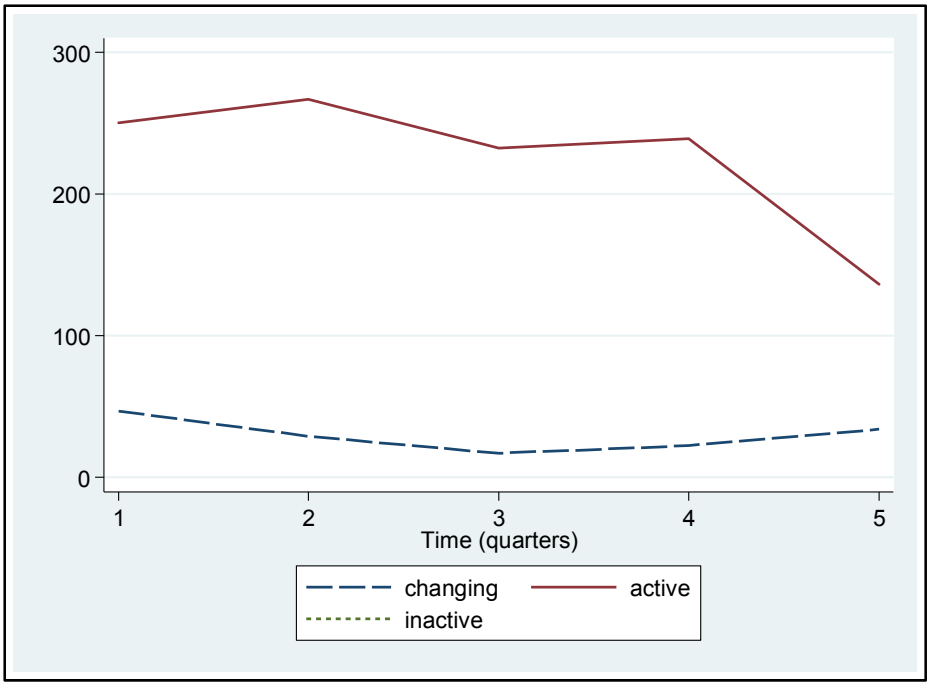

Figure 3: Hospitals: Median number of pregnant women tested for HIV.

Child Health

Indicators assessed for child health included:[4]

Number of Pentavalent 1 vaccinations given
Number of Pentavalent 3 vaccinations given
Number of cases of malnutrition in children under 5
Number of watery/bloody diarrhea cases in children under 5
Number of cases presenting acute respiratory disease in children under 5
Number of hospitalized cases of acute respiratory disease in children under 5

Findings for these indicators are presented in Table 6.

[4] Indicator related to stockouts of oral rehydration salts and antibiotics (cotrimoxazole) are included in the "Stockouts" section of the report.

Table 6: Percent Change in Child Health Indicators in 45 Public Facilities Quarter 1 (Oct. – Dec. 2013) and Quarter 5 (Oct. – Dec. 2014): Facility Record Data

	Median number per quarter			
Indicator	Quarter 1	Quarter 5	Percent change	Missing
Penta 1 vaccinations given:				
Hospitals	504	316	-37	13[5]
Health Centers	259	212	-18**	3
Penta 3 vaccinations given:				
Hospitals	353	320	-9	13
Health Centers	244	167	-32**	4
Cases of malnutrition in children under 5:				
Hospitals	2	1	-50	5
Health Centers	2	9	+500*	6
Watery/bloody diarrhea cases in children under 5:				
Hospitals	34	14	-59**	0
Health Centers	16	12	-25**	0
Cases presenting acute respiratory disease for children under 5:				
Hospitals	98	41	-58**	2
Health Centers	108	83	-23**	0
Hospitalized cases of acute respiratory disease in children under 5:				
Hospitals	18	16	-11	1

*p<0.05; **p<0.01

The median number of Pentavalent 1 and 3 vaccinations given at health centers showed a statistically significant decline (-18% and -32%, respectively). As detailed in the figures for these indicators, the declines were experienced across all Ebola zones, but were not constant throughout the period. In fact, the median number of visits for Pentavalent 1 increased in health centers in the Ebola active and inactive areas in the October through December 2014 quarter (Figure 4). The decline in the number of Pentavalent 3 vaccinations at health centers began during the January through March 2014 time period, and was especially evident in Ebola Active zones (Figure 5). The numbers recorded for Pentavalent 1 and 3 vaccinations at hospitals also showed declines, but these were not statistically significant.

[5] This indicator was not originally intended to be collected at the hospital level, but the information was found at three sites and is included here for illustrative purposes.

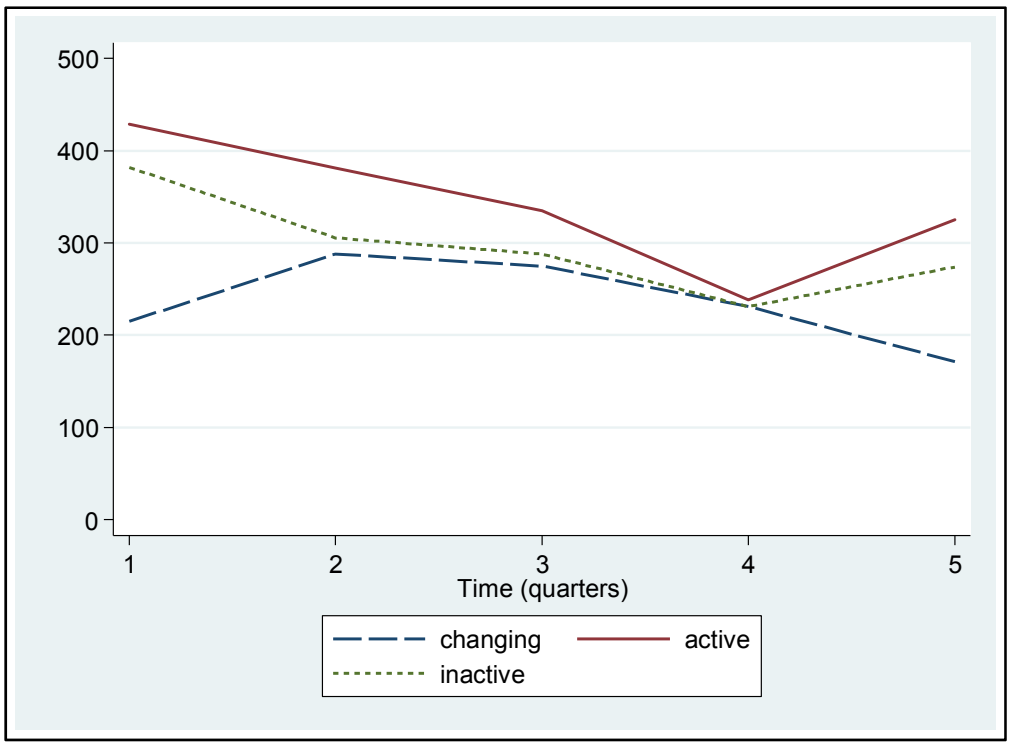

Figure 4: **Health Centers: Median number of Pentavalent 1 vaccinations.**

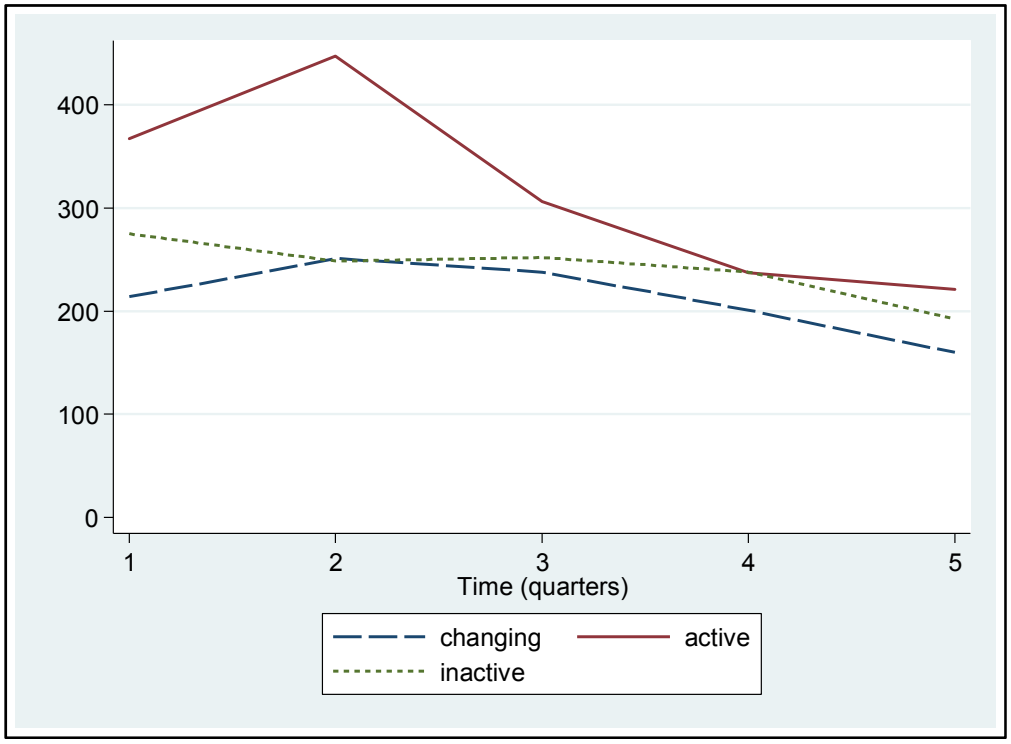

Figure 5: **Health Centers: Median number of Pentavalent 3 vaccinations.**

The median number of cases of malnutrition in children under five recorded in health centers increased from two in Quarter 1 to nine in Quarter 5, a statistically significant change. This increase appears to reflect increases recorded in facilities in the Ebola active regions, starting in early 2014. It is worth noting, however, that health centers in the Ebola active regions showed a much higher level of malnutrition throughout the surveyed period, compared to those in the other regions (Figure 6).

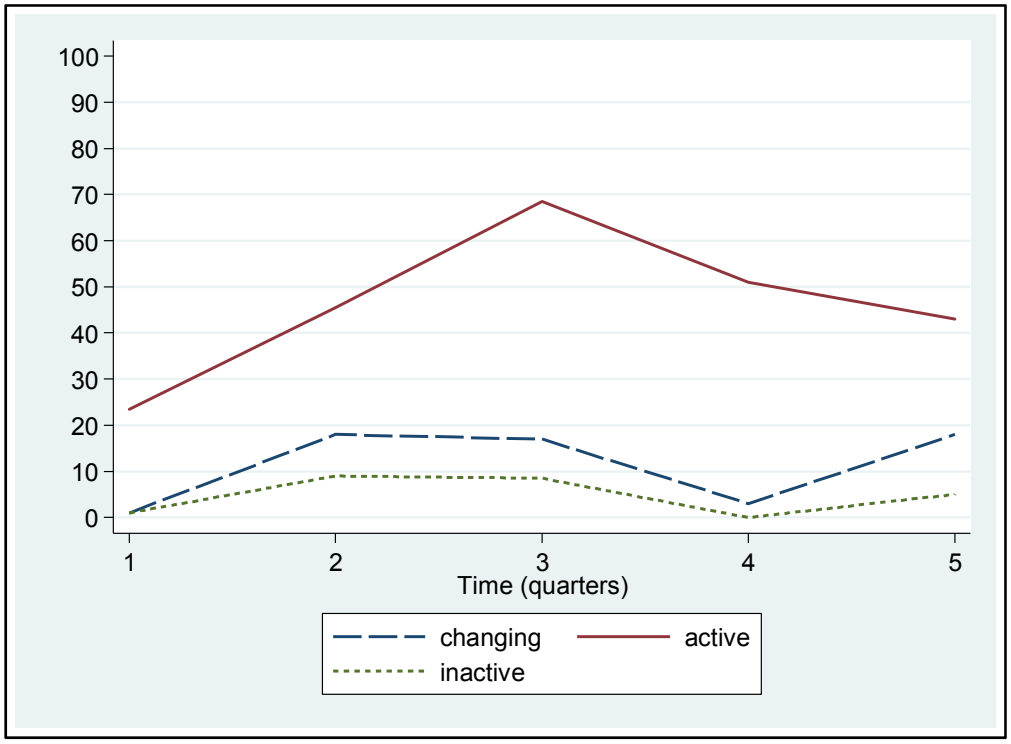

Figure 6: **Health Centers: Median number of cases of malnutrition in children under five recorded in health centers.**

The number of children under five seen for diarrhea and ARI showed a large decrease over the one-year period in both hospitals (-60% for diarrhea and -58% for ARI) and in health centers (-25% and -23%, respectively). Graphs showing the trends for these indicators indicate that the median number of children receiving care for diarrhea in hospitals and health centers declined in all three Ebola status regions. However, the smallest change was recorded in the Ebola changing status areas.

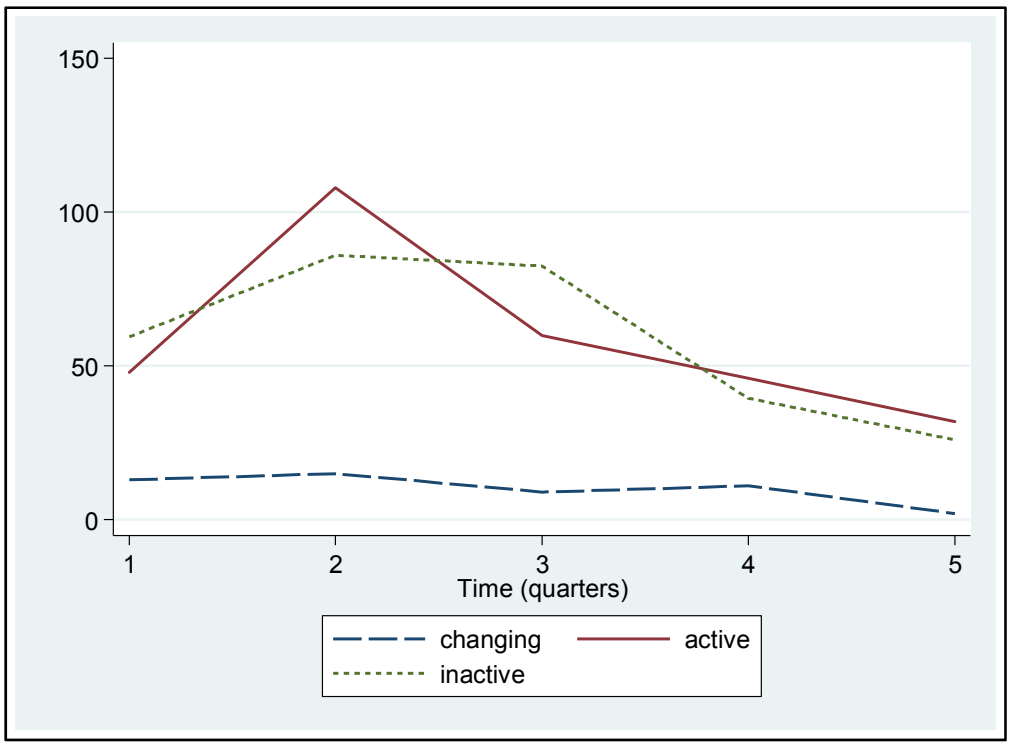

Figure 7: **Hospitals: Median number of cases of diarrhea in children under five in hospitals.**

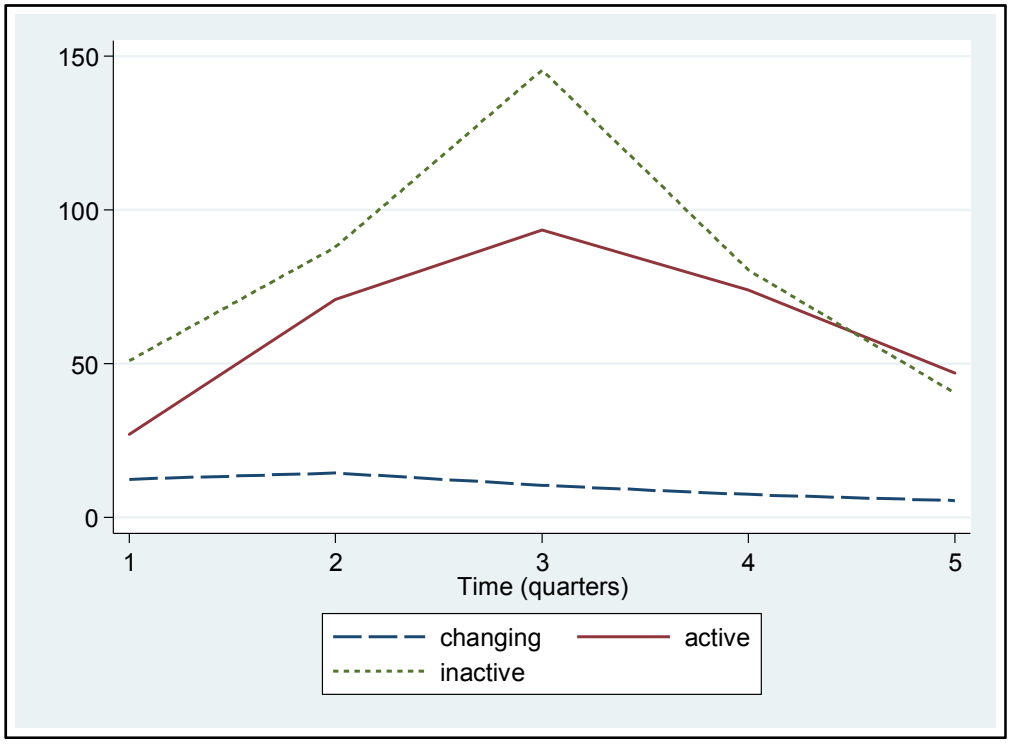

Figure 8: **Health Centers: Median number of cases of diarrhea in children under five in health centers**

The median number of cases of ARI in children under five recorded at hospitals declined in Quarter 5 (late 2014) in the Ebola inactive and changing status regions (Figure 9). In Ebola active regions, ARI among children seen in hospitals declined throughout the year, though a slight increase was recorded in Quarter 5 (late 2014). In health centers in Ebola active areas, the median number of children seen for ARI increased over the period of time surveyed.

The median number of children under five hospitalized for ARI declined throughout the surveyed period, but changes recorded between the baseline quarter and the final quarter were not statistically significant.

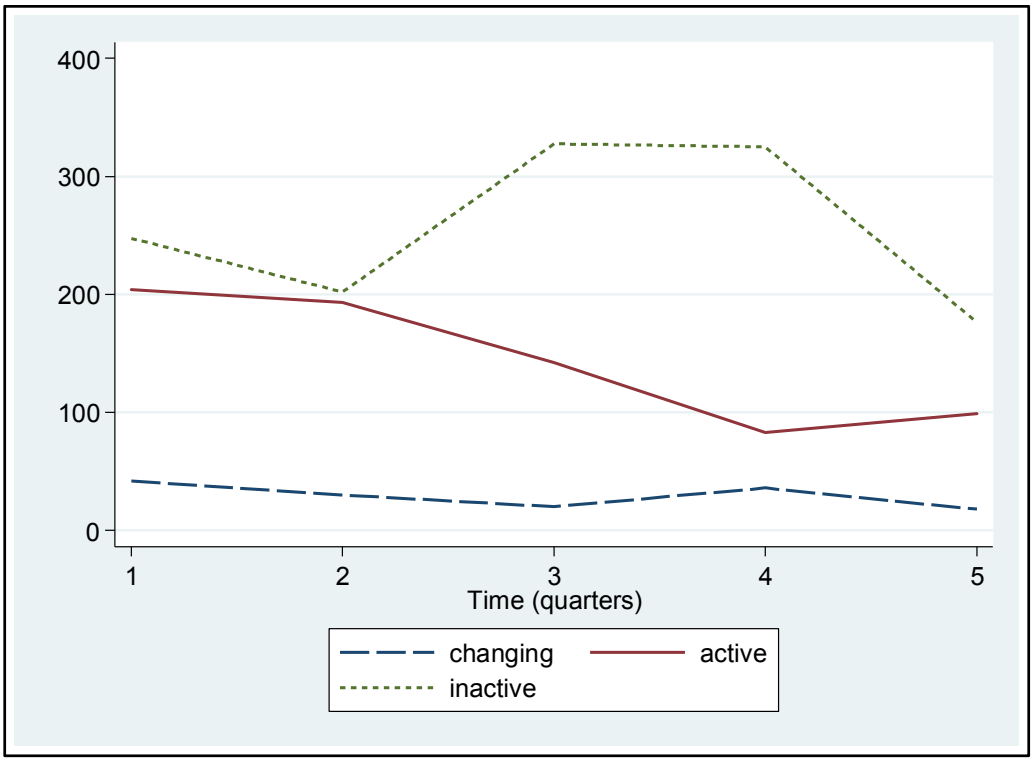

Figure 9: Hospitals: Median number of cases of ARI among children under five in hospitals.

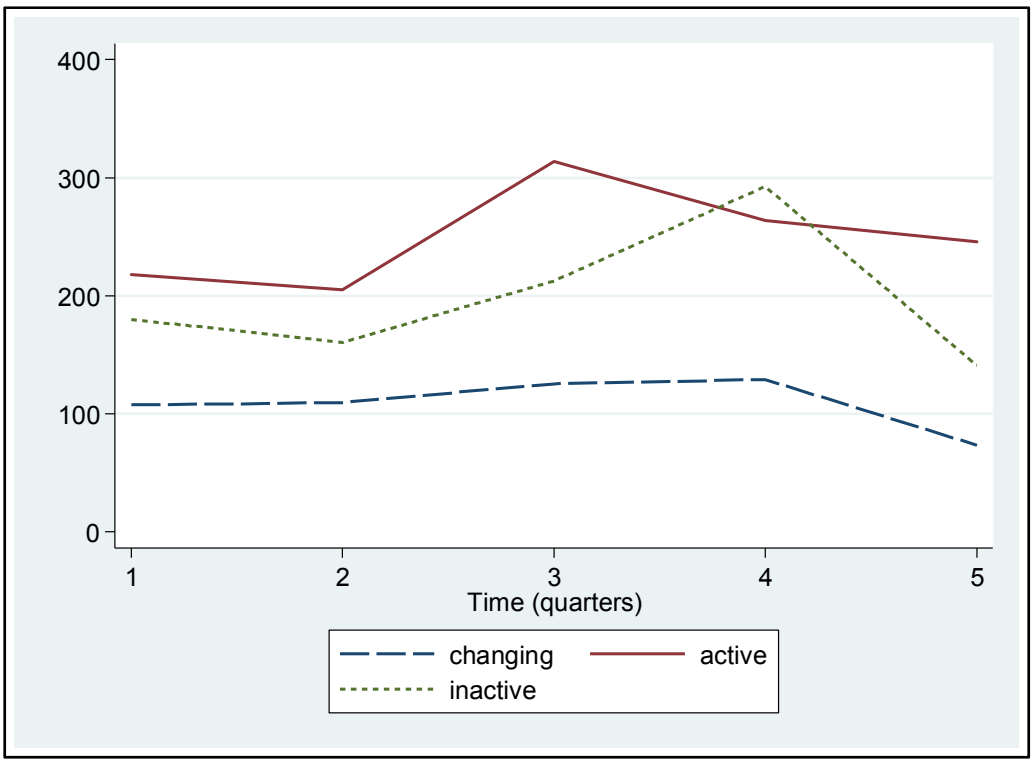

Figure 10: **Health Centers: Median number of cases of ARI among children under five in health centers.**

Stockouts

Only a small number of facilities reported stockouts of contraceptives and key medications. Therefore, this indicator was reported by number, rather than percent. Column 1 in Table 7 shows the total number of facilities recording a stockout of the contraceptives and medications at any time over the 15-month survey period (October 2013 – December 2014). Column 2 shows the number among these facilities that recorded a stockout only in the months following the start of the Ebola outbreak (April – December 2014), but not in the preceding time period (October 2013 – March 2014).

Table 7: Number of Facilities Reporting Stockouts of Modern Contraceptives and Two Key Medications in 45 Public Facilities for the Period October 1, 2013 through December 31, 2014: Facility Record Data

Indicator	Public facilities (45)		
	Number reporting a stockout over entire survey period	Number reporting stockout occurred only during time of Ebola outbreak	Missing
Stockout of contraceptives:			
Injectables	10	3	0
Oral Contraceptive Pills	7	2	0
Condoms	11	2	1
Stockout of key medications:			
Oral Rehydration Salts	22	8	0
Cotrimoxazole (Antibiotic)	18	9	0

A stockout of modern contraceptives (injectables, oral contraceptive pills, and condoms) was reported at 20% of facilities over the 15-month time period surveyed. However, only 5% of these facilities reported stockouts of one or more of the contraceptive methods that occurred only after the beginning of the Ebola outbreak (April 2014 – December 2014).

Stockouts were most commonly reported for Oral Rehydration Salts (ORS) and Cotrimoxazole. Almost half of all surveyed facilities reported a stockout of ORS for the treatment of diarrhea; for 17% the stockouts occurred only after the Ebola outbreak began, and not in the preceding months. Similarly, 40% of the surveyed facilities reported stockout of Cotrimoxazole for treating acute respiratory infections over the 15-month period, and for 20% the stockout occurred only after the Ebola outbreak began. Overall, these findings suggest that stockouts of these key medications did not increase in the majority of facilities in the wake of the Ebola crisis. Nevertheless, maintenance of a sufficient stock of commonly used medications appears to be an issue that requires attention.

District-Level Data on Service Availability and the Health Labor Force

Fifteen Health District Offices were visited to obtain information on changes in service delivery and staff characteristics across all facilities in the health district level. The total number of facilities and the total number of health workers was recorded for each district. District health records were reviewed, and Health District Officers were asked a series of questions regarding how facilities and health workers in their districts had been affected by the Ebola crisis. The aggregate number of facilities across all 15 districts was 177; the percentages reported in Table 8 used 177 as the denominator.

The following list of Indicators was measured at the Health District level: [6]

Number of facilities with closures (during the survey period)
Number of facilities in which services have been suspended (during the survey period)
Number of facilities that experienced an absence of health care workers (by type) (during the survey period)
Number of health care workers infected with Ebola (during the survey period)
Number of health care workers that died from Ebola (during the survey period)
Number of health care workers trained in infection prevention and control (during the survey period)
Number of health care workers transferred to an Ebola Treatment Unit (during the survey period)
Number of facilities consistently reporting their data to the MOHPH (during survey period)[7]

Findings for the district level indicators are presented in Table 8. As of April 2014, 11 of 177 facilities reported temporary closures (6%) and 15 (8%) reported temporary suspension of services. Fewer absences were reported for doctors and auxiliary nurses/midwives at the facilities compared to nurses. Over the period from April to December 2014, a total of 44 cases of Ebola were reported among health care workers in the 177 facilities, with 22 deaths. Facilities in N'Zèrèkorè health district reported the most deaths among health care workers. Health District Officer reports indicated that a large number of health care workers (1,293) were trained in Ebola infection prevention and control, and that 50 workers from across the districts were transferred from their home facility to an Ebola Treatment Unit.[8]

In general, reported closures, service suspensions, and provider absences were not common in the 15 health districts' aggregate data. However, some problems may have been localized, e.g., indicators for N'Zèrèkorè showed serious effects over the course of the epidemic in 2014. The individual health districts "most affected" by the Ebola-related service and staff issues, as measured by the district-level indicators, are indicated in the tables that follow.

[6] The proposed indicator on the number of facilities in which services and/or standards of practice have changed *due to the Ebola outbreak* was not reported, because District Health Officer reports included changes in the months prior to the first case of Ebola. This may have been due to a misunderstanding of the question.
[7] This indicator was reported separately from the others.
[8] Information on Ebola-trained staff was not available from the health districts in Conakry.

Table 8: Number of Facilities Recording a Service Interruption or Provider Absence during the Period from April – December 2014 among 177 Health Care Facilities in 15 Health Districts: Data from Health District Records[9]

Indicator (district aggregate)	Health Districts (N=15)	
	Number of Facilities across 15 health districts	Health District(s) most affected
Facilities recorded for:		
Closures	11	N'Zèrèkorè
Service suspension due to the Ebola epidemic	15	N'Zèrèkorè
Absence of health care workers:*		
Doctors	2	Guèckèdou
Nurses	13	N'Zèrèkorè
Auxiliary nurses/midwives	3	Guèckèdou

*Missing (n=1)

Table 9: Number of Health Care Workers Affected by the Ebola Crisis during the Period from April – December 2014 among 177 Health Care Facilities in 15 Health Districts: Data from Health District Records

Indicator (district aggregate)	Health Districts (N=15)	
	Number of Workers across 15 health districts	Health District(s) most affected
Number of health care workers:		
Infected with Ebola	44	N'Zèrèkorè, Coyah, Matam
Died from Ebola	22	N'Zèrèkorè
Trained in infection prevention and control*	1,293	--
Transferred to an Ebola Treatment Unit	50	Guèckèdou, Siguiri

*Missing (n=6)

Information collected at the Health District Offices indicated that facility-level reporting of data through the routine health information system was not negatively affected by the Ebola crisis (Figure 11). Over the period surveyed, more than 90% of the 177 facilities in the 15 selected Health Districts consistently reported their service data to the Health District Office throughout the survey period. This was true even in the Health Districts categorized as Ebola active, though the level of reporting in those districts was a few percentage points lower. This trend was in contrast to the situation in Liberia, where it was reported

[9] Continuous monthly reporting by facilities. Individual facilities and workers may have been counted more than once for the same indicator if included in separate monthly reports.

that only half of health facilities were reporting data to the Health Ministry in July 2014 (Paye-Layleh, 2014).

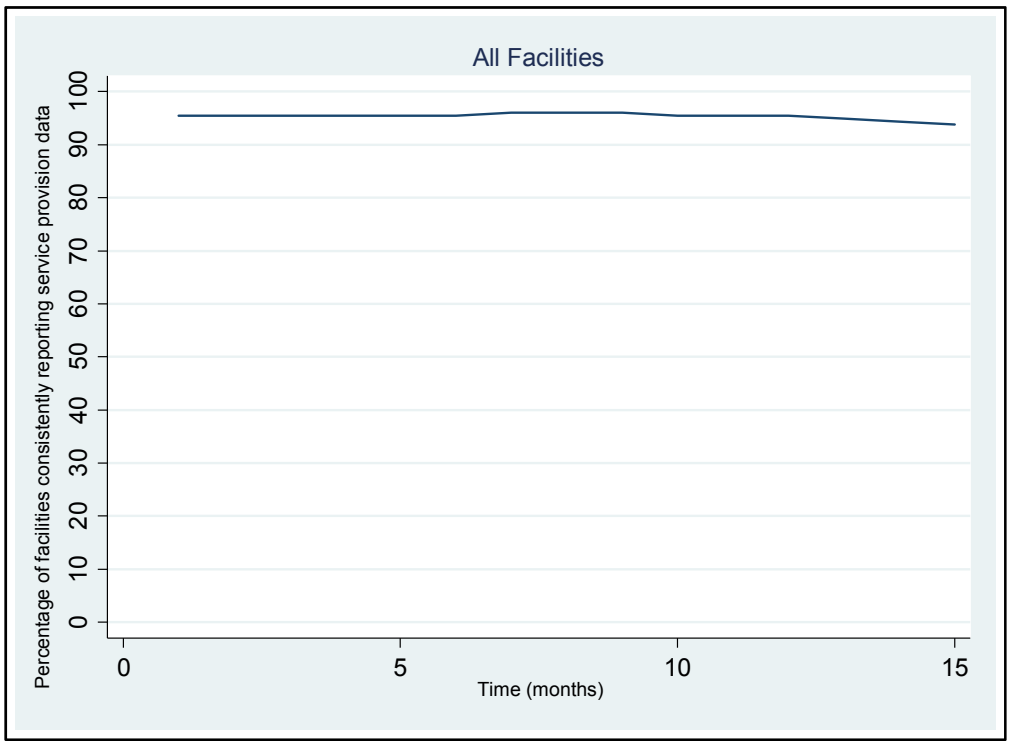

Figure 11: **Percent of 177 facilities consistently reporting service data to 15 selected Health District Offices, over the period from October 1, 2013 through December 31, 2014: District Health Record Data.**

Health Director/Manager Interviews

A total of 62 health facility administrators (i.e., Health Directors or Managers) were interviewed about the effects of the Ebola crisis on facility operations, including changes in services and staffing issues. The main findings from the health director/manager interviews are summarized in Table 10. The health director reports indicated that provider absences during the Ebola crisis varied from 8% to 21% at their respective facilities, depending on staff type. Only a small proportion reported that their facility had to reduce hours of operation (13%), close the facility (15%), or suspend services (13%). Just over one-quarter of health directors (26%) reported that stockouts of medications or supplies increased during the Ebola crisis. Overall, the health director responses suggest that perhaps the Ebola crisis has not seriously affected the availability of health care services across the surveyed facilities as a whole, but rather, that negative effects on access and service availability are likely to be regional and/or facility-specific. This is consistent with the data reported by facilities to the Health District Offices.

Almost 20% of health directors believed there had been an increase in complications due to delays in seeking care. While 76% reported the likelihood that community members had concerns about the safety of care at their facility, most also reported improved infection control practices at the facility: 68% of those interviewed reported having personally received training on Ebola infection control, and 85% reported that

other providers at the clinic received such training. Eighty-five percent of facilities reported having a screening/triage process for Ebola case identification, and 92% reported the implementation of additional infection control measures. Furthermore, most facility directors/managers reported access to the supplies needed to prevent infection transmission, such as gloves (87%) and disinfectant (82%). Access to personal protective equipment was reported by 69% of the individuals interviewed.

Consistent with findings at the Health District Offices, 90% of facility directors/managers stated that their facility had been able to maintain routine data collection and reporting throughout the Ebola crisis.

Although less than half of facility directors/managers reported awareness of negative reactions to their health staff among their families, friends, or the community, a number of strong negative reactions were recorded, and are included in the list on pages 39-40.

Table 10: Responses to Interviews with Directors/Managers on Service Availability and Health Labor Force Issues in the Surveyed Facilities, 2015, Guinea (N=62)

Facility Characteristics and Indicators	Percent of Surveyed Facilities (n=62)	Notes
Facility management:		
Public	69	
Private	31	
Facility type:*		
Community Medical Center	5	
Health Center	72	
Hospital	23	
Facility has had absence of:		*Among facilities reporting absence of health care workers:*
Doctors	15	*Absences due to Ebola death (26%);*
Nurses	8	*Reassignment to Ebola Treatment Center (25%);*
Auxiliary nurses/midwives	10	*Ebola infection of staff or family (3%).*
Other	21	
Facility was unable to provide RMNCH services due to staff absences	10	
Facility reduced hours due to Ebola crisis	13	
Facility had closures due to Ebola crisis	15	*67% of closures were for 31 days or less.*
Facility suspended services due to Ebola concerns	13	
Type of service suspended at facilities with a service suspension:		*Reasons for suspended services include:* *Fear of Ebola infection;* *Lack of personal protective equipment;* *Very low or no patient flow.*
Syphilis test	6	
Malaria rapid test	10	
HIV test	6	
TB test	3	
Vaccinations/immunizations	3	

Facility Characteristics and Indicators	Percent of Surveyed Facilities (n=62)	Notes
Delivery services	6	
Other	6	
Facility experienced stockouts of medicines or supplies needed for routine RMNCH care beyond what was usual prior to Ebola crisis	26	*The stockouts most commonly reported: Antibiotics, such as Cotrimoxazole and Amoxicillin.* *Other stockouts, less common, included family planning methods, infection control supplies, and miscellaneous medicines.*
Facility saw an increase in complications due to delays in seeking care	19	*Complications most commonly reported: Delivery, malaria, and anemia.*
Director feels community members have concerns about safety of services at the facility	76	
Director has personally received training on Ebola infection control	68	
Director reports other providers at the facility have received training on Ebola infection control	85	
Facility has implemented a screening/triage process for Ebola case identification	85	
Facility has implemented other infection control measures as a result of Ebola	92	*Measures most commonly reported: hand washing; taking patient's temperature; wearing gloves; and wearing personal protective equipment.*
Facility has access to supplies needed for infection control:		
Gloves	87	
PPE	69	
Disinfectant	82	
Hand sanitizer	73	
Other	26	
Facility has been able to maintain routine data collection and reporting	90	
Director is aware of negative reactions from family, friends, or community toward facility staff	45	

*Missing (n=2)

Comparison of Responses by Health Directors/Managers at Public Versus Private Facilities

Responses from directors/managers at both public and private facilities were compared and a Chi-square test of equivalency was performed. In most cases, no statistically significant difference in responses was observed by whether the director/manager worked in a public versus a private facility. There were, however, a few responses that showed statistically significant differences (see Table 11). These differences suggest that access to private clinics may have been somewhat more negatively affected by the Ebola crisis. Larger percentages of directors/managers from private compared to public clinics reported reduced hours (32% compared to 5%) or suspended services (26% compared to 7%). Fewer providers at private facilities reported having been trained in Ebola infection control. Interestingly, fewer directors/managers in private facilities felt that the community had safety concerns about the services provided at their facility (58%) compared to public facility directors/managers (84%). Data reporting systems differed widely between public and private facilities, and public sector facilities appear to have been better able to maintain their data systems during the Ebola crisis.

Table 11: Statistically Significant Differences in Responses of Interviewed Directors/Managers by Public or Private Management of Facility, 2015, Guinea (N=62)

	Public (n=43) %	Private (n=19) %	Chi-square test for equivalency
Facility reduced hours due to Ebola crisis	5	32	p<0.01
Facility suspended services due to Ebola concerns	7	26	p<0.05
Director noticed increase in complications among patients who delayed accessing RMNCH services during Ebola crisis	28	0	p<0.01
Director reports service providers at the facility have received training on Ebola infection control	93	68	p<0.05
Director feels community members have concerns about the safety of services at the facility	84	58	p<0.05
Facility has been able to maintain routine data collection and reporting as usual during Ebola crisis	98	74*	p<0.01

* Percent for data *collection* only; *reporting* of data not measured for private providers.

Interviews with Service Providers

In addition to the directors/managers of the health facilities, 117 providers of RMNCH services were asked about changes to service delivery, infection control practices, and provider safety concerns, among other things. A summary of their responses on these issues are presented in Table 12.

The providers interviewed at the facilities included doctors, nurses, midwives, and other health care professionals. Three-quarters of providers were interviewed in public facilities, with almost half working in health centers. The majority reported learning of Ebola early in the outbreak period; only 15% reported learning of the outbreak after June 30, 2014. Seventy percent of providers reported that they

had been trained in Ebola infection control and good practices for risk reduction. Nevertheless, the majority (80%) expressed concerns about the safety of service provision at their facility. Only a small percentage of surveyed providers reported that services had been suspended due to Ebola (services suspended included maternity care/delivery, small surgeries, nighttime consultations, and pediatric services). The vast majority of providers reported making changes to their service provision practices, including wearing gloves and other personal protective equipment; washing hands; taking patient temperatures; implementing safety protocols; and disinfecting the facilities. Just over one-quarter of the providers (28%) reported an increase in complications due to patient delays in obtaining services. Complications were especially noted in delivery/maternal care, severe anemia, and advanced malaria, especially among children.

Table 12: Information from 117 RMNCH Health Care Providers Interviewed at 62 Health Facilities: Provider Interview Data, 2015, Guinea;

	(%) N=117	**Notes**
Provider type:		
Doctor	27	
Nurse	30	
Midwife	22	
Other	21	
Provider interviewed at :*		
Public facility	74	
Private facility	26	
Facility type:*		
Community Medical Center	5	
Health Center	47	
Private clinic	26	
Hospital	22	
Provider learned of Ebola in Guinea:		
Before April 1, 2014	65	
April 1-June 30 2014	20	
After June 30, 2014	15	
Provider was trained in good practices for Ebola infection control and risk reduction	70	
Provider reports concerns about the safety of health service provision at the facility (multiple response)	80	*Areas of particular concern: maternity/delivery; general consulting; pediatrics; laboratory work; surgery and hospital-level case*

	(%) N=117	Notes
Provider reports that facility has had to suspend its provision of RMNCH services (multiple response)	7	*Suspended services include:* *maternity/delivery;* *small surgeries;* *nighttime consultations;* *pediatrics; and* *all services (facility closure)*
Provider wears surgical gloves at each medical consultation, to draw blood or give vaccinations	97	
Provider has changed own practices when delivering RMNCH services due to Ebola threat (multiple response)	96	*Changes commonly reported:* *wearing gloves;* *washing hands before each consultation;* *wearing personal protective gear;* *taking patient temperature;* *following protocols for triage and infection control;* *disinfecting facilities and using disposable sheets*
Provider noticed an increase in complications among those who have delayed accessing RMNCH services (multiple response)	28	*Common complications:* *delivery (such as uterine ruptures);* *severe anemia;* *advanced malaria, especially in children;* *pediatrics; and* *general medicine*
Provider noticed any other changes in service utilization during Ebola crisis (multiple response)	86	*Commonly reported:* *fewer people coming for services;* *increase in hand washing; and* *increase in taking temperatures*
Provider perceived/noticed change in number of pregnant women living with HIV who received ART during pregnancy or delivery: Increased Decreased Remained the same Don't know	 15 22 15 47	

	(%) N=117	Notes
Provider feels members of the community have and demonstrate concerns about the safety of service provision at the facility since Ebola crisis (multiple response)	63	*Concerns commonly reported: fear, misgivings, and distrust shown towards health care workers; concern made evident by: fewer and less frequent patient visits; patients more willing to wash hands with chlorinated water and soap; patients more willing to have temperature taken.*

* Missing (n=32)

Comparison of Interview Responses by Health Service Providers at Public vs. Private Facilities

Responses from providers interviewed in public versus private facilities were compared, and Chi-square tests of equivalency were performed. Most responses showed no statistically significant difference by public versus private facilities. Timing of reported awareness of the Ebola outbreak was about the same among providers in public and private health facilities, and reported levels of training in Ebola infection control and risk reduction were also similar.

The three service provider interview responses that did show a statistically significant difference are presented in Table 13. Providers in private clinics were more likely to a report suspension of services at their facility (23% compared to 1%). Consistent with reports from the public facility directors, providers interviewed in public facilities were more likely to report noticing an increase in complications among patients who delayed seeking services (32% compared to 13%). Finally, providers interviewed in public facilities were more likely than their private sector counterparts to report perceiving changes (increases or decreases) in the number of HIV-positive women accessing ART during pregnancy or delivery during the Ebola crisis.

Table 13: Percent of Public and Private RMNCH Service Providers Reporting Service Suspension, Increase in Complications, or Change in Number of HIV-positive Pregnant Women Receiving ART: Health Provider Interview Data

	Public Provider (n=86) %	Private Provider (n=31) %	Chi-square test of equivalency
Provider reports that facility has had to suspend its provision of RMNCH services**	1	23	p<0.01
Provider noticed an increase in complications among those who have delayed accessing RMNCH services*	32	13	p<0.05
Provider perceived/noticed change in number of pregnant women living with HIV who received ART during pregnancy or delivery:*+			p<0.05
Increased	18	8	
Decreased	30	4	
Stayed the same	11	25	
Don't know	41	63	

*p<0.05; **p<0.01

+ Fisher's exact test for small cell sizes.

Qualitative Data

Health directors/managers and service providers were asked a number of open-ended questions about negative reactions they experienced from family members, friends, or within their communities, in their role as health professionals during the Ebola crisis. Thirty-six percent of the RMNCH service providers interviewed, and 46% of the health directors/managers interviewed, reported experiencing negative reactions, and provided the following examples of how those reactions were expressed or experienced:

"We are considered carriers of the Ebola."

"People keep their distance from health workers; they mistrust us."

"My daughter keeps away from me. My mother is suspicious."

"The (local) vendor forbids me to enter his shop."

"Our children are no longer accepted by their friends."

"My neighbors don't trust me."

"I feel excluded."

"Rocks have been thrown into the hospital's courtyard."

"Dr. Wamey was killed (by stoning, along with two others)."

Directors and service providers were also asked open-ended questions about what they perceived to be the most pressing problems they faced as health care professionals in the context of the Ebola crisis, and what was needed to address those problems. The following list extracts and summarizes the needed steps most commonly suggested, in order from highest to lowest frequency:

1. *Maintenance of Ebola infection control measures*
2. *Stronger public health education messages*
3. *More secure supply of Personal Protective Equipment*
4. *Response to fear, misgivings, and distrust shown towards health workers*
5. *More/improved Ebola training for health workers*
6. *Hardship pay for health workers in Ebola-stricken areas*

"My family told me to leave Guèckèdou and not step foot in the hospital there."

"My children have asked me to stop working."

"I have been threatened to be burned by those in my community."

"There was talk of destroying my clinic."

"(Health) personnel are accused of spreading Ebola for money."

Interviews with Traditional Healers

A total of 20 traditional healers were interviewed in the prefectures and city districts of Boffa, Faranah, Kissidougou, Siguiri, and Ratoma. The traditional healers interviewed were located in the catchement areas surrounding the surveyed health facilities, and were eligible for interview if they had been working as a healer for at least one year. When asked when they first heard about the Ebola outbreak, 25% said they had heard by the end of March 2014, and another 30% by the end of June 2014; the remaining 45% learned of Ebola in July 2014 or later. These findings suggest a longer delay in knowledge of the outbreak among traditional healers as compared to the facility-based health workers. Just over half (55%) of traditional practitioners reported receiving training in good practices for Ebola infection control and risk reduction. Most (80%) reported concerns about the safety of providing healer services due to the Ebola outbreak. Seven of the traditional practitioners (44%) cited 'general health cases' as posing the most risk to them, followed by maternal/child delivery services (25%). The pattern of these answers was similar to that recorded for health care providers in the formal sector. Most of the traditional healers interviewed (85%) reported having implemented new measures for infection control and risk reduction (primarily hand washing and triage and infection control protocols, such as referring patients to hospitals). Among traditional healers, the reported use of gloves or other safety/protective equipment was rare. Among the 20 individuals interviewed, four stated that they suspended delivery/maternal care during the Ebola outbreak, and six reported an increase in the number of clients seeking their care for general consultations, and for maternal and child health issues. Perceived changes in the health seeking behaviors of their clientele were expressed in comments such as, "The (local) population does not accept being touched (during traditional treatments) as before" and "People prefer to treat themselves because of false information that health care providers are responsible for the disease."

Conclusions

Data collection for this rapid assessment of RMNCH service delivery and utilization was carried out in Guinea in January –February 2015. The survey collected data on outpatient visits, family planning, maternal health, child health, and a number of service availability and health labor force issues. The assessment was based on record review and data abstraction at Health District Offices and a selection of health care facilities in the 12 designated prefectures and three city districts. Brief interviews were conducted with facility directors/managers and service providers at public and private facilities, and with a small number of traditional healers. Quality control measures implemented during data collection helped to ensure that the information collected was as complete and accurate as was feasible within the time and resource constraints. The assessment was not based on a random sample of facilities or providers, but the availability of data from the different sources and different levels of the health care system was nevertheless a strength of the assessment.

Though not necessarily representative of the country as a whole, the assessment in Guinea revealed a number of useful findings:

- There was an **overall decline in services**, as seen in the median numbers of outpatient visits in facilities participating in the assessment. The decline was especially notable in hospitals (which saw a 31% reduction in the median number of outpatient clients from October – December 2013 to October – December 2014). Though not always statistically significant, service declines for specific RMNCH services were also **greater in hospitals** than in health facilities. This finding suggests that hospitals in the survey suffered more from Ebola-related stigma than did health centers.
- Private clinics seemed to have had their services curtailed due to Ebola infection or fears of infection more frequently than those at health facilities in the public sector. Moreover, Ebola training was reported to have been offered less often to private clinic staff than to staff at public facilities.
- **Child health services were most affected by the Ebola epidemic**. Areas of concern include **immunization**, especially for vaccinations that require a series of injections to complete. Significant declines in the number of cases of **diarrhea and ARI** were also recorded. These findings suggest the possibility of reluctance among parents to bring children to the health facilities out of fear of contracting Ebola. However, it is also possible that declines in diarrheal diseases over time could be due to improved access to clean water and systematic hand washing by care givers. It was noted, however, that the number of cases of ARI in health centers in Ebola active zones increased during the Ebola outbreak. The rise in cases of child **malnutrition**, though not common, is a concern; and median numbers were especially high for facilities in Ebola active zones. Related to this, provider interviews also suggest childhood **anemia** may be on the rise.
- In contrast to child health indicators, only one indicator of maternal health, **testing for HIV in pregnant women at hospitals**, showed a significant decline in service delivery between the two time periods; though all maternal health indicators showed declines in service numbers.
- Regardless of the Ebola outbreak, **stockouts** of common medications are an issue of concern.

- Despite the Ebola outbreak, the health.information system is still functioning **with regard to data collection and data transmission between health facility and district levels** relative to pre-Ebola epidemic levels. While no assessment of the quality or accuracy of the health system information was conducted, data were consistently collected and reported up to the health districts. This finding suggests that district level information is available for analysis and use, and that future monitoring of the health system effects of the Ebola outbreak and recovery can be accomplished by using this routine information.
- It appears that the Ebola epidemic has **not had a widespread negative affect on the availability** of health care services. It seems that the negative effects on service availability (such as reduced hours, closures, and service suspensions) are likely to be regional and/or facility-specific. Additionally, declines in service availability appeared to be **more common in private facilities** than in public facilities.
- Providers reported a number of **improved infection control behaviors** as a result of the Ebola outbreak, including more frequent hand-washing and the use of disinfectants. These behaviors must be encouraged to ensure they continue throughout and beyond the current Ebola crisis.
- Despite the efforts to provide training in Ebola infection control to key staff, **30% of interviewed staff had not received any training**. This gap could undermine government efforts to control the epidemic, and could further expose the health staff to Ebola disease.
- There are a number of **negative social consequences to being a health care worker** during the Ebola epidemic. These consequences represent a serious concern for safety, epidemic control, and the maintenance of family and social networks.

A limitation to this assessment was that the prefectures and city districts were chosen on the basis of particular criteria, rather than by random selection, and findings were therefore not representative of the entire country. The impact of Ebola on RMNCH services in the prefectures and city districts not included in the survey may be different than what is reported here. Likewise, data collection for the assessment was carried out at a deliberate selection of facilities within the prefectures; important differences may exist in RMNCH service delivery in non-selected facilities. It is important to keep in mind that, because not all Health Districts in Guinea were covered by the survey, the Health District level numbers reported here are incongruent to the numbers reported nationally (e.g., for the total number of health workers infected with Ebola).

Despite these limitations, the assessment has certain strengths, including the list of indicators assessed and the collection of both quantitative and qualitative data for studying effects of the Ebola crisis on routine health service delivery and uptake in Guinea. Routine RMNCH services were assessed over a period of 15 months, using data obtained from primary source documentation, and every attempt was made to ensure completeness of the data and accuracy of patient counts. District-level information on facility and staff characteristics as well as service delivery was obtained from the 15 Health District Offices in the survey areas. Finally, interviews conducted with nearly 200 individuals asked specifically about changes in their delivery of health services, and how they as health providers were perceived within their communities, in the wake of Ebola. The individual interviews included health care professionals working in the public and private sectors, as well traditional medicine practitioners. The breadth and depth of this information is an important and timely contribution to on-going efforts to

understand and plan for a response to how the health care system in Guinea has been affected by the Ebola crisis.

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Appendix 1. Data Collection Tools

1. Data Collection Form for Use at Communal / Prefectoral Levels Concerning Availability of Medical Services at Health Facilities in the Commune / Prefecture

Name of the Prefecture _____

Within the Prefecture, how many Health Centers are there? ☐

Within the Prefecture, how many Hospitals are there? ☐

Availability of Medical Services Health Sector Personnel Data Elements	4th Quarter 2013			1st Quarter 2014			2nd Quarter 2014			3rd Quarter 2014			4th Quarter 2014		
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1A. Number of Health Centers that had suspension of medical services															
1B. Number of **Hospitals** that had suspension of medical services															
2A. Number of Health Centers that regularly reported on Health Service statistics															
2B. Number of **Hospitals** that regularly reported on Health Service statistics															

1. Data Collection Form for Use at Communal / Prefectoral Levels
Concerning Availability of Medical Services at Health Facilities in the Commune / Prefecture (continued)

Availability of Medical Services Health Sector Personnel Data Elements	4th Quarter 2013			1st Quarter 2014			2nd Quarter 2014			3rd Quarter 2014			4th Quarter 2014		
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
3A. According to Communal / Prefectoral Director :→ Number of Health Centers whose medical services and / or Standards of Practice have changed due to Ebola Epidemic, e.g.: Conditions of patients treated Clinical treatment protocols Patient referral system Service documentation															
3B. According to Communal / Prefectoral Director :→ Number of **Hospitals** whose Medical Services and / or Standards of Practice have changed due to Ebola Epidemic (same examples as above)															
4A. Number of Health Centers that had been closed due to Ebola Epidemic															
4B. Number of **Hospitals** that had been closed due to Ebola Epidemic															

Please add herein below pertinent comments / information for Questions 3A / 3B

1. **Data Collection Form for Use at Communal / Prefectoral Levels**
Concerning Availability of Medical Services at Health Facilities in the Commune / Prefecture (continued)

Availability of Medical Services Health Sector Personnel Data Elements	4th Quarter 2013			1st Quarter 2014			2nd Quarter 2014			3rd Quarter 2014			4th Quarter 2014		
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
5A. Number of Health Centers for which there were noted personnel absences, by type of health agent															
• Doctors															
• Nurses and Health Agents															
• Midwives															
• Others															
5A. Number of **Hospitals** for which there were noted personnel absences, by type of health agent															
• Doctors															
• Nurses and Health Agents															
• Midwives															
• Others															

1. **Data Collection Form for Use at Communal / Prefectoral Levels**
Concerning Availability of Medical Services at Health Facilities in the Commune / Prefecture (continued)

Availability of Medical Services Health Sector Personnel Data Elements	4th Quarter 2013			1st Quarter 2014			2nd Quarter 2014			3rd Quarter 2014			4th Quarter 2014		
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
6. Number of health personnel who have been infected by Ebola															
7 Number of health personnel who have died from Ebola															
8. Number of health personnel who have been trained on control and risk reduction of Ebola infection															
9. Number of Health Personnel who have been re-assigned to other Health Facilities in order to treat Ebola cases															

2. **Data Collection Form for Use at Health Facilities**
(Data Provided by Case Load Registers, Summary Tally Sheets, or Patient Records)

Non-Hospital Health Facility: ☐ **Name** _____

Non-Hospital Health Facility:

- **Total Number of Pregnant Women Seen Monthly**

Data Elements Maternal Health	4th Quarter 2013			1st Quarter 2014			2nd Quarter 2014			3rd Quarter 2014			4th Quarter 2014		
	Oct	Nov	Dec	Jan	Feb	Oct	Nov	Dec	Jan	Feb	Oct	Nov	Dec	Jan	Feb
1. Number of pregnant women who were tested for HIV															
2. Number of pregnant women who came for their first prenatal visit (CPN 1)															
3. Number of pregnant women who came for their third prenatal visit (CPN 3)															
4. Number of pregnant women who died [during childbirth] at the health facility															
5. Number of pregnant women who gave birth at the health facility															
6. Number of outpatient visits at the health facility (adults and children)															

2. **Data Collection Form for Use at Health Facilities (continued)**

Non-Hospital Health Facility:

- **Total Number of Children Seen Monthly for Different Conditions and Occurrence of Stock Outs of Items for Treating Children**

Data Elements Child Health (less than 5 years of age)	4th Quarter 2013			1st Quarter 2014			2nd Quarter 2014			3rd Quarter 2014			4th Quarter 2014		
	Oct	Nov	Dec	Jan	Feb	Oct	Nov	Dec	Jan	Feb	Oct	Nov	Dec	Jan	Feb
1. Number of administered doses of Penta 1 vaccine															
2. Number of administered doses of Penta 3 vaccine															
3. Number of moderate cases of malnutrition in children under 5 years of age															
4. Number of diarrheal cases (bloody and/or watery) in children under 5 years of age															
5. Number of acute respiratory cases (ARI) in children under 5 years of age															
6. Rupture in health facility's stock of rehydration salts (SRO)															
7. Rupture in health facility's stock of antibiotic for treatment of ARI cases (cotrimoxazole)															

2. Data Collection Form for Use at Health Facilities (continued)

Non-Hospital Health Facility:

- Total Number of Acceptors of Modern Methods of Contraception (New and *Continuing*)
- Occurrence of Stock Outs of Selected, Modern Methods of Contraception

Data Elements Family Planning	4th Quarter 2013			1st Quarter 2014			2nd Quarter 2014			3rd Quarter 2014			4th Quarter 2014		
	Oct	Nov	Dec	Jan	Feb	Oct	Nov	Dec	Jan	Feb	Oct	Nov	Dec	Jan	Feb
1. Number of new acceptors of modern methods of contraception															
2. Number of *continuing* acceptors of modern methods of contraception															
3. Rupture in health facility's stock of injectable contraceptives															
4. Rupture in health facility's stock of contraceptive pills															
5. Rupture in health facility's stock of condoms															

3. **Data Collection Form for Use at Communal Medical Centers and Hospitals (Data Provided by Case Load Registers, Summary Tally Sheets, or Patient Records)**

Health Facility is: ☐ National Hospital _____ ☐ Regional Hospital _____

☐ Prefectoral Hospital _____

II. **Hospital (National, Regional, Prefectoral) and Communal Medical Center (CMC)**

- Total Number of Women Admitted Monthly at Hospital / Communal Medical Center
- Total Number of Women and Children Seen as Outpatients

Data Elements Maternal Health	4th Quarter 2013			1st Quarter 2014			2nd Quarter 2014			3rd Quarter 2014			4th Quarter 2014		
	Oct	Nov	Dec	Jan	Feb	Oct	Nov	Dec	Jan	Feb	Oct	Nov	Dec	Jan	Feb
1. Number of pregnant women who were tested for HIV															
2. Number of cases of complications related to pregnancy and childbirth (eclampsia, uterine rupture, bleeding during third trimester)															
3. Number of pregnant women who died [during childbirth] at the hospital/ CMC															
4. Number of births at the hospital/CMC (live births and stillbirths)															
5. Number of outpatient visits at the hospital (adults and children)															

3. Hospital (National, Regional, Prefectoral) and Communal Medical Center (CMC) (continued)

- Total Number of Children Seen Monthly for Different Conditions
- Occurrence of Stock Outs of Items for Treating Children

Data Elements Child Health (less than 5 years of age)	4th Quarter 2013			1st Quarter 2014			2nd Quarter 2014			3rd Quarter 2014			4th Quarter 2014		
	Oct	Nov	Dec	Jan	Feb	Oct	Nov	Dec	Jan	Feb	Oct	Nov	Dec	Jan	Feb
1. Number children under 5 years of age admitted at hospital / CMC due to acute respiratory illness (ARI)															

Data Elements Child Health	4th Quarter 2013			1st Quarter 2014			2nd Quarter 2014			3rd Quarter 2014			4th Quarter 2014		
	Oct	Nov	Dec	Jan	Feb	Oct	Nov	Dec	Jan	Feb	Oct	Nov	Dec	Jan	Feb
1. Number of administered doses of Penta 1 vaccine															
2. Number of administered doses of Penta 3 vaccine															
3. Number of moderate cases of malnutrition in children under 5 years of age															
4. Number of diarrheal cases (bloody and/or watery) in children under 5 years of age															
5. Number of acute respiratory cases (ARI) in children under 5 years of age															
6. Rupture in hospital's / CMC's stock of rehydration salts (SRO)															
7. Rupture in hospital's / CMC's stock of anti-biotic treatment of ARI cases (cotrimoxazole)															

3. Hospital (National, Regional, Prefectoral) and Communal Medical Center (CMC) (continued)

- Total Number of Acceptors of Modern Methods of Contraception (New and *Continuing*)
- Occurrence of Stock Outs of Selected, Modern Methods of Contraception

Data Elements Family Planning	4th Quarter 2013			1st Quarter 2014			2nd Quarter 2014			3rd Quarter 2014			4th Quarter 2014		
	Oct	Nov	Dec	Jan	Feb	Oct	Nov	Dec	Jan	Feb	Oct	Nov	Dec	Jan	Feb
1. Number of new acceptors of modern methods of contraception															
2. Number of *continuing* acceptors of modern methods of contraception															
3. Rupture in hospital's / CMC's stock of injectable contraceptives															
4. Rupture in hospital's / CMC's stock of contraceptive pills															
5. Rupture in hospital's / CMC's stock of condoms															

4. Director[1] or Manager at a Health Facility

How long have you been a health care provider at this post? ☐ **Less than 1 year** ☐ **One year or more**

Note for the Interviewer:

- **If the interviewee has been working at this health post for at least one year, then one can continue with the interview.**
- ***If not, then find the Assistant to the Director or Manager who has been at this health facility for one year or longer***

1. Interview Date _____ ____ / ____ / ____ / **2015**
day / month month / year

2. Interviewer Code ____ ____ ____ ____ ____

3. Supervisor Code ____ ____ ____ ____ ____

Information Concerning the Site:

4. Name of the Health Facility _____

5. Code of the Health Facility ____ ____ ____ ____ ____

6. Health Facility is in which sector? ☐ **Public** ☐ **Private**

6A. If the response is "Public," check its operational health services function:
☐ **National Hospital** ☐ **Regional Hospital**
☐ **Prefectoral Hospital** ☐ **Health Center**

1 **The Director or Manager working at a health facility could also be serving as a health care provider within this same institution, especially in the case of health posts at the sub-prefecture level; one could interview the same person serving both roles, if the need or situation arises where another person is not available to be interviewed.**

7. Name of Prefecture/City District _____

8. Name of Sub-Prefecture/Neighborhood _____

9. Health Facility area is: ☐ **Urban** ☐ **Rural**

Information on the Interviewee:

10. Work Position ☐ **Director** ☐ **Other**

I have several questions on service provision at this health facility during the course of the Ebola epidemic, since March 2014.

---

11. Since March 2014, have there been members of your staff at this facility who have been absent, such as:

Doctors?	☐ **Yes**	☐ **No**
Nurses and Health Agents?	☐ **Yes**	☐ **No**
Midwives?	☐ **Yes**	☐ **No**
Other Staff Members?	☐ **Yes**	☐ **No**

11A. If the response is "**Yes**" for at least one of the above questions, indicate all the causes of absence among staff members:
(check **all** responses that apply)

Illness due to Ebola of staff member or a Member of her/his Family	☐ **Yes**	☐ **No**
Death due to Ebola of the staff member	☐ **Yes**	☐ **No**
Re-assignment to another Health Facility, including Ebola Treratment Center	☐ **Yes**	☐ **No**
Abandonment of work post due to fear of Ebola	☐ **Yes**	☐ **No**
Abandonment of work post due to lack of work salary	☐ **Yes**	☐ **No**
Abandonment of work post due to lack of hazardous risk pay	☐ **Yes**	☐ **No**
Other Reason (specify "Other Reason") _____ _____	☐ **Yes**	☐ **No**
I Do Not Know	☐	

12. Since March 2014, has there been a time period when the health facility was not able to provide delivery of services in reproductive, maternal, neo-natal, and/or child health care? ☐ **Yes** ☐ **No**

12A. If the response is "**Yes**" for the question above, indicate the frequency by which the delivery of these services was not available. (check only one response)

- Rarely during this Period ☐
- Occasionally during this Period ☐
- Often during this Period ☐
- All the time during this Period ☐

13. Since March 2014, has it been necessary for this health facility to **reduce** its hours of service due to the Ebola epidemic? ☐ **Yes** ☐ **No**

14. Since March 2014, has it been necessary for this health facility to **suspend** its hours of service due to the Ebola epidemic? ☐ **Yes** ☐ **No**

14A. If the response is "**Yes**" for the question above, indicate the total time **in number of days** during which health services delivery has/had been suspended: ☐ **Number of Days**

15. Has the health facility established the practice of new measures due to the Ebola epidemic? ☐ **Yes** ☐ **No** ☐ **I do not know**

15A. If the response is "**Yes**" for the question above, indicate the types of new measures that have been put into practice. (check **all** the responses that apply)

- Re-hiring former/retired health agents into the work force ☐ **Yes** ☐ **No**
- Hiring of medical students into the work force ☐ **Yes** ☐ **No**
- Other measures (please explain below) ☐ **Yes** ☐ **No**

_____

_____

16. Since March 2014, have there been periods when this health facility has had **unusual** occurrence of stock outs of medicines or supplies needed for services/care in reproductive, maternal, neo-natale, and/or child health?

☐ **Yes** ☐ **No** ☐ **I do not know**

16A. If the response is "**Yes**" for the question above, specify **up to three medicines/supplies** that were out of stock and the total length of time **in number of weeks** that each product was not available at the health facility:

1. _____ **Total Number of** ☐ **Weeks**

2. _____ **Total Number of** ☐ **Weeks**

3. _____ **Total Number of** ☐ **Weeks**

17. Since March 2014, has this health facility been able to carry out collection of routine health information and reporting of health services data at the same level of frequency and quality as always, that is, before March 2014?

☐ **Yes** ☐ **No**

17A. If the response is "**No**" for the question above, please explain why not. _____

_____

_____

_____

18. Since March 2014, has there been at this health facility an increase in case complications among those who have delayed accessing reproductive, maternal, neo-natal and child health services?

☐ **Yes** ☐ **No**

18A. If the response is "**Yes**" for the question above, please specify those complications most frequently observed
(for example: reproductive tract infections, pregnancy complications)

_____

_____

_____

_____

19. Have you received training in good practice for the control and risk reduction of Ebola infection?

☐ **Yes** ☐ **No**

20. For those others who also work at this health facility, have they received training in good practice for the control and risk reduction of Ebola infection?

☐ **Yes** ☐ **No**
☐ **I do not know**

21. Has this health facility established a procedure for screening suspected cases of Ebola and/or a procedure for triage in order to manage suspected cases?

☐ **Yes** ☐ **No**
☐ **I do not know**

22. Has this health facility introduced other measures for the control and risk reduction of Ebola infection?

☐ **Yes** ☐ **No**
☐ **I do not know**

22A. If the response is "**Yes**" for the question above, please indicate the other measurs that have been introduced

_____

_____

_____

23. Is this health facility supplied **regularly** with necessary supplies for risk reduction of Ebola, such as:
(give a response to each of these supplies)

Surgical Gloves	☐ **Yes**	☐ **No**
Individual Protective Equipment	☐ **Yes**	☐ **No**
Surgical Mask	☐ **Yes**	☐ **No**
Disinfectant (for example, bleach)	☐ **Yes**	☐ **No**
Hand Disinfectant	☐ **Yes**	☐ **No**
Other	☐ **Yes**	☐ **No**

24. Since March 2014, has it been necessary for this health facility to **suspend** its offer of services related to reproductive, maternal, neo-natale, and/or child health care due to the Ebola epidemic? ☐ **Yes** ☐ **No**

24A. If the response is "**Yes**" for the question above, indicate those services that have been suspended that relate reproductive, maternal, neo-natale, and/or child health care.
(give a response to each of these services)

Syphilis Test	☐ **Yes**	☐ **No**
Rapid Malaria Test	☐ **Yes**	☐ **No**
HIV Test	☐ **Yes**	☐ **No**
Tuberculosis Test	☐ **Yes**	☐ **No**
Vaccinations / Immunizations	☐ **Yes**	☐ **No**
Child Birth Deliveries	☐ **Yes**	☐ **No**
Other (please specify below)	☐ **Yes**	☐ **No**

_____

24B. If the response is "**Yes**" for question above, please indicate why these services had been / have been suspended.

_____

_____

_____

25. In your opinion, are there any concerns on the safety of health care service delivery due to Ebola that are held by those in the community served by this health facility? ☐ **Yes** ☐ **No** ☐ **I do not know**

25A. If the response is "**Yes**" for the question above, please indicate such concerns of the community _____

_____

_____

_____

_____

26. For yourself serving as a professional health provider, have you experienced any negative reactions due to Ebola coming from your family members, friends, or community members?

☐ **Yes** ☐ **No**

☐ **I cannot say**

26A. If the response is "**Yes**" for the question above, please indicate those negative reactions that you have observed.

27. For yourself as a director or manager at this health facility, what is the most pressing problem for you?

27A. How should this problem be addressed?

28. As a last question, would you like to discuss other aspects concerning the delivery of health care services since the rise of the Ebola epidemic?

☐ **Yes** ☐ **No**

28A. If the response is "**Yes,**" please discuss below.

THANK YOU VERY MUCH!

5. Health Care Service Provider[2] at a Health Care Facility

How long have you been a health care service provider at this post? ☒ **Less than 1 year** ☐ **One year or more**

What health services do you provide
(check **all** applicable responses)

Maternal Health / Reproductive Health?	☐ **Yes**	☒ **No**
Neo-natal Health / Child Health?	☐ **Yes**	☒ **No**
General Medicine?	☐ **Yes**	☒ **No**

Note for the Interviewer:

- **If the interviewee has been working at this health post for at least one year and provides at least one type of health services as specified above, then one can continue with the interview.**

If the interviewee has not worked at this health post for at least one year or does not provide any of the type of health services specified above, then find another person at this health facility to interview who would satify these preconditions.

1. **Interview Date** _____ _____ / _____ _____ / 2015
   day day / month month / year
2. **Interviewer Code** _____ _____ _____ _____ _____
3. **Supervisor Code** _____ _____ _____ _____ _____

Information Concerning the Site:

4. **Name of the Health Facility** _____
5. **Code of the Health Facility** _____ _____ _____ _____ _____

2 **The health care service provider working at a health facility could also be serving as the Director or Manager of this same institution, especially in the case of health posts at the sub-prefecture level; one could interview the same person serving both roles, if the need or situation arises where another person is not available to be interviewed.**

6. **Health Facility is in which sector?** ☐ **Public** ☐ **Private**

6A. **If the response is "Public," check its operational health services function:** ☐ **National Hospital** ☐ **Regional Hospital** ☐ **Prefectoral Hospital** ☐ **Health Center**

7. **Name of Prefecture/City District** _____

8. **Name of Sub-Prefecture/Neighborhood** _____

9. **Health Facility area is:** ☐ **Urban** ☐ **Rural**

Information on the Interviewee:

10. **Work Position** ☐ **Doctor** ☐ **Nurse/Health Agent** ☐ **Midwife** ☐ **Other** (specify below)

_____

I have several questions on service provision at this health facility during the course of the Ebola epidemic, since March 2014.

11. When did you first learn of the Ebola epidemic? (please specify the month witha 2-digit reference) _____ **month** _____ **month** **/ 201___** **Year**

12. Have you been trained in good practices for the control and risk reduction of Ebola infection? ☐ **Yes** ☐ **No**

13. Do you have any concerns on the safety of health service provision at this health facility due to Ebola? ☐ **Yes** ☐ **No** ☐ **I cannot say**

13A. If the response is "**Yes**" for the above question, please indicate for which services you have such concerns.

_____

_____

_____

14. Since March 2014, has this health facility had to **suspend** its provision of reproductive, maternal, neo-natal or child health care services? ☐ **Yes** ☐ **No** ☐ **I cannot say**

14A. If the response is "**Yes**" for the question above, please indicate all the services that are/have been suspended.

_____

_____

_____

14B. If the response is "**Yes**" for the question above, please indicate *why* these services are/were suspended.

_____

_____

_____

15. In carrying out your responsabilities as a health professional, do you wear surgical gloves each time when you provide medical consultations or draw blood or give vaccinations? ☐ **Yes** ☐ **No**

15A. If the response is "**No**" for the question above, please indicate the reason why you do not always wear surgical gloves in delivering these medical services. (check only one response)

☐ **I wear surgical gloves when they are available; if they are not available, I do without since I must continue providing medical services**

☐ **I do not wear surgical gloves, even if they are available**

☐ **I do not believe it is necessary to wear surgical gloves when providing medical services**

☐ **I cannot say**

16. Since March 2014, have you changed any of your practices when delivering reproductive, maternal, neo-natal and child health care services? ☐ **Yes** ☐ **No** ☐ **I cannot say**

16A. If the response is "**Yes**" for the question above, please indicate all those practices that have been changed.

_____

_____

17. Since March 2014, has there been at this health facility an increase in case complications among those who have delayed accessing reproductive, maternal, neo-natal and child health services? ☐ **Yes** ☐ **No**

17A. If the response is "**Yes**" for the question above, please specify which types of services have had more frequent complications. (indicate below **all those** specific services)

_____

_____

_____

18. Since March 2014, have you noticed at this health facility any signs of change within the catchment population regarding access to medical services? ☐ **Yes** ☐ **No**

18A. If the response is "**Yes**" for the question above, please specify any changes that you have noticed.

_____

_____

_____

19. What can you say about the number of women living with HIV who are being treated with anti-retroviral therapy during their pregnancy or delivery? (check **only one** response)

Number of such women has increased since March 2014 ☐

Number of such women has decreased since March 2014 ☐

Number of such women has neither increased nor decreased since March 2014 ☐

I do not know ☐

20. In your opinion, are there any concerns on the safety of health care service delivery due to Ebola that are held by those in the community served by this health facility? ☐ **Yes** ☐ **No** ☐ **I do not know**

20A. If the response is "**Yes**" for the question above, please indicate such concerns of the community _____

_____

21. For yourself serving as a professional health provider, have you experienced any negative reactions due to Ebola coming from your family members, friends, or community members?

☐ **Yes** ☐ **No**

☐ **I cannot say**

21A. If the response is "**Yes**" for the question above, please indicate those negative reactions that you have observed.

22. For yourself as a health care service provider at this health facility, what is the most pressing problem for you?

22A. How should this problem be addressed?

23. As a last question, would you like to discuss other aspects concerning the delivery of health care services since the rise of the Ebola epidemic?

☐ **Yes** ☐ **No**

23A. If the response is "**Yes,**" please discuss below.

THANK YOU VERY MUCH!

6. Traditional Practitioner of Health Services in the Community

1. **Interview Date** _____ / _____ / _____ / 2015
   day day / month month / year
2. **Interviewer Code** _____ _____ _____ _____ _____
3. **Supervisor Code** _____ _____ _____ _____ _____

Information Concerning the Site:

4. **Name of the Community** _____
5. **Name of the Prefecture** _____
6. **Name of the Sub-Prefecture** _____
7. **Community Characteristic** ☐ **Urban** ☐ **Rural**

Information on the Interviewee:

8. **Position held by Traditional Practitioner**
   ☐ **Traditional Healer** ☐ **Traditional Midwife**
   ☐ **Other Position** (specify below)

_____

9. **How long have you been working as a traditional practitioner?** ☐ **Less than one year** ☐ **One year or more**
10. **Do you provide health services to pregnant women, women and children?** ☐ **Oui** ☐ **Non**

Note for the Interviewer:

One can continue with the interview if the interviewee satisfies both of these 2 conditions:
- ***Interviewee has worked at her/his position for one year or more***
- ***Interviewee provides health services to pregnant women, mothers, and/or children***

If not, find someone else in the community to interview who offers this type of health service for one year or more

11. When did you first learn of the Ebola epidemic?
(please specify the month witha 2-digit reference) _____ / _____ / 201___
month month year

12. Have you been trained in good practices for the control and risk reduction of Ebola infection? ☐ **Yes** ☐ **No**

13. Have you put into practice new measures for the control and risk reduction of Ebola infection since the rise of the rise of the Ebola epidemic? ☐ **Yes** ☐ **No** ☐ **I do not know**

13A. If the response is "**Yes**" for the question above, please indicate those new measures that have been put into practice.

_____

_____

13B. If the response is "**Yes**" for the question above, please explain the consequences you have had after putting into practice these new measures.

_____

_____

The following questions specifically concern those services that you provide to pregnant women, mothers and children

14. Do you have any concerns on the safety of providing health services due to Ebola? ☐ **Yes** ☐ **No** ☐ **I cannot say**

14A. If the response is "**Yes**" for the question above, please indicate for which health services you have concerns in providing.

_____

_____

15. Since the rise of the Ebola epidemic, have you stopped providing health services in the community? ☐ **Yes** ☐ **No** ☐ **I cannot say**

15A. If the response is "**Yes**" for the question above, please indicate all those health services that you have stopped providing.

_____

_____

16. Since the rise of the Ebola epidemic, have you changed your practice in delivering services in reproductive, maternal, neo-natal, and/or child health?

☐ **Yes** ☐ **No**

☐ **I cannot say**

16A. If the response is "**Yes**" for the question above, please indicate all the changes in your practice.

_____

_____

_____

17. Since the rise of the Ebola epidemic, have you noticed an increase in the number of persons who have come to you for services in reproductive, maternal, neo-natal, and/or child health?

☐ **Yes** ☐ **No**

17A. If the response is "**Yes**" for the question above, please specify which of these services have increased for you. (please indicate below all these services)

_____

_____

_____

18. Since the rise of the Ebola epidemic, have you noticed any signs of change within the catchment population regarding accessing health services that you provide?

☐ **Yes** ☐ **No**

18A. If the response is "**Yes**" for the question above, please specify the changes that you have observed.

_____

_____

_____

19. In your opinion, are there any concerns held by those in the community regarding the safety of your delivery of health care services due to Ebola?

☐ **Yes** ☐ **No**

☐ **I do not know**

19A. If the response is "**Yes**" for the question above, please indicate these concerns. _____

_____

_____

19B. If the response is "**Yes**" for the question above, explain how the members of the community have changed their behavior in seeking health care services due to their concerns.

20. For yourself as a health care services provider in the community, what is the most pressing problem for you?

20A. How should this problem be addressed?

21. As a last question, would you like to discuss other aspects concerning the delivery of health care services since the rise of the Ebola epidemic? ☐ **Yes** ☐ **No**

21A. If the response is "**Yes**" for the question above, please discuss below.

THANK YOU VERY MUCH!

Appendix 2. Agenda for Training of Field Workers

21 – 24 January 2015

Conakry, GUINEA

DATE	TIME PERIOS	TOPICS	FACILITATORS
Wednesday 21 Jan 2015	09:00 – 09:30	Objectives / Methodology	MEASURE Evaluation
	09:30 – 10:00	Coffee Break	--
	10:00 – 12:00	General Discussion on the Survey Methodology	MEASURE Evaluation
	12:00 – 13:30	Review of Questionnaires and Interviews	"
	13:30 – 14:30	Lunch Break	--
	14:30 – 16:30	Review of Questionnaires and Interviews Preliminary Discussion on Survey Tools for Data Collection	MEASURE Evaluation
Thursday 22 Jan 2015	09:00 – 11:00	Continued Discussion on Survey Tools for Data Collection	MEASURE Evaluation
	11:00 – 11:15	Coffee Break	--
	11:15 – 13:15	Training on Data Entry with Use of Epi Info 7 Software	MEASURE Evaluation
	13:15 – 14:15	Lunch Break	--
	14:15 – 16:15	General Discussion on the Survey's Logistics	MEASURE Evaluation
Friday 23 Jan 2015	09:00 – 17:00	FieldTest and Practice in Data Entry using Epi Info 7 with Field Test Data	Trained Field Workers and MEASURE
Saturday 24 Jan 2015	09:00 – 17:00	Discussions on the Field Test Experience	Trained Field Workers and MEASURE

Appendix 3. List of Field Workers

First and Last Names	SEX	
Mamadou Dabola DIALLO		M
Djiba KABA		M
Alpha Oumar DIALLO		M
Mamadou Billo BAH		M
Dr Kesso BAH	F	
Dr Hadja Kadiatou DIALLO	F	
Dr Cé Kevin Kawa BEIMYS		M
Dr Bangaly CAMARA		M
Dr Aïssatou Bella KEITA	F	
Aboubacar Mamy CONTE		M
Mohamed SYLLA		M
Siré Cathérine CAMARA	F	
Marie Madeleine TOLNO	F	
Aboubacar GROVOGUI		M
Aïssatou Cherif SOUARE	F	
Djènè KEITA	F	
Falilou BARRY		M
Dr Fatoumata Binta DIALLO	F	
Fatoumata Yarie DIAWARA	F	
Mariama Baïlo DIALLO	F	
Mamadou Aliou DIALLO		M
Yumba Inabanza		M
Abdourahime DIALLO		M
Mamadou Saïdou BARRY		M
Nènè Oumou TALL	F	
Thierno Malick DIALLO		M
Fodé Naby SANKHON		M
	11	16
	F	M

Local Training Director
Mamdou Dabola DIALLO

DRH
Bangaly CAMARA

STATVIEW Director General
Aliou BARRY

CHECK LIST AND REFERENCE GUIDE FOR DATA COLLECTION

Section II	NATIONAL / REGIONAL / PREFECTORAL HOSPITAL (page 1 of 3)			
√	Data on Maternal Health Services	*Instructions on How to Find Data*		
1	Number of Pregnant Women Tested for HIV	Maternity Services PMTE[1] Registry	→ *if this data source is not found or if the data therein is found to be incomplete or insufficient* →	Maternity Services Laboratory Registry
2	Number of Cases of Complications related to Pregnancy or Child Delivery	Maternity Services Registry of Ob-Gyn Services	→ *if this data source is not found or if the data therein is found to be incomplete or insufficient* →	Hospital Admissions Department Registry of Hospital Admissions
3	Number of Maternal Deaths at the Hospital	Maternity Services Registry of Ob-Gyn Services; Registry of Child Deliveries; Registry of Hospitalizations	→ *if this data source is not found or if the data therein is found to be incomplete or insufficient* →	Internal Medical Case Review Dept. Hospital Deaths Registry and/or Autopsy Reports
4	Number of Women who Gave Birth at the Hospital	Maternity Services Child Births Registry		*Make sure that you have the opportunity to review ALL the Child Births Registries*
5	Number of Outpatient Consultations at the Health Center (adults and children)	Hospital Registration Adult Outpatient Services Registry		*Take into consideration the registries from ALL departments where adult outpatient services are provided*
		Pediatric Services Child Outpatient Services Registry		*Take into consideration the registries from ALL departments where child outpatient services are provided*

1 PMTE (Prévention de la Transmission Mère-Enfant) = *PMTCT (Prevention of Maternal to Child Transmission)*

CHECK LIST AND REFERENCE GUIDE FOR DATA COLLECTION

Section II	NATIONAL / REGIONAL / PREFECTORAL HOSPITAL (page 2 of 3)

√		Data on Child Health Services	*Instructions on How to Find Data*		
	1	Number of Children under Five Years of Age Admitted into the Hospital for Acute Respiratory Illness (ARI)	Pediatric Services Pediatric Services Registry	*→ if this data source is not found or if the data therein is found to be incomplete or insufficient →*	Hospital Admissions Department Hospital Admissions Registry
	2	Number of Administered Doses of Penta 1	Pediatric Services Individual Vaccination Records	*→ if this data source is not found or if the data therein is found to be incomplete or insufficient →*	Pediatric Services Vaccinations Monthly Tally Report
	3	Number of Administered Doses of Penta 3	Pediatric Services Individual Vaccination Records	*→ if this data source is not found or if the data therein is found to be incomplete or insufficient →*	Pediatric Services Vaccinations Monthly Tally Report
	4	Number of Severe Cases of Malnutrition Treated	Pediatric Services Child Patients Registry	*→ if this data source is not found or if the data therein is found to be incomplete or insufficient →*	Pediatric Services CRENA[2] Nutrition Services Registry
	5	Number of Cases of Bloody/Watery Diarrhea Treated	Pediatric Services Child Outpatient Patients Registry	*→ if this data source is not found or if the data therein is found to be incomplete or insufficient →*	Pediatric Services
	6	Number of Cases of Acute Respiratory Illness	Pediatric Services Child Outpatient Patients Registry		
	7	Stock Outs of Oral Rehydration Salts (ORS)	Pharmacy RUMEUR[3] Registry + Inventory Stock Card on ORS		
	8	Stock Outs of Antibiotic (Cotrimoxazole) for Treating Acute Respiratory Illness	Pharmacy RUMEUR Registry + Inventory Stock Card on Cotrimoxazole		

2 CRENA = Centre de Récupération Nutritionnelle Ambulante (Outpatient Center for Nutritional Rehabilitation

3 RUMEUR = Registre de l'Utilisation des Médicaments Essentiels et des Recettes = Essential Medicines Use and Sales Registry

CHECK LIST AND REFERENCE GUIDE FOR DATA COLLECTION

Section II	NATIONAL / REGIONAL / PREFECTORAL HOSPITAL (page 3 of 3)			
√	Data on Family Planning Services	*Instructions on How to Find Data*		
	1 Number of New Acceptors of Modern Methods of Contraception	Family Planning Services Family Planning Services Registry of New Users	*→ if this data source is not found or if the data therein is found to be incomplete or insufficient →*	Family Planning Services Family Planning Services Monthly Tally Report
	2 Number of Continuing Users of Modern Methods of Contraception	Family Planning Services Family Planning Services Registry of Continuing Users	*→ if this data source is not found or if the data therein is found to be incomplete or insufficient →*	Family Planning Services Family Planning Services Monthly Tally Report
	3 Stock Outs of Injectable Contraceptives	Pharmacy RUMEUR Registry + Stock Card of Injectable Contraceptives		*Ask personnel for the stock cards AND the RUMEUR Registry*
	4 Stock Outs of Contraceptive Pills	Pharmacy RUMEUR Registry + Stock Card of Contraceptive Pills		*Ask personnel for the stock cards AND the RUMEUR Registry*
	5 Stock Outs of Condoms	Pharmacy RUMEUR Registry + Stock Card of Condoms		*Ask personnel for the stock card AND the RUMEUR Registry*

CHECK LIST AND REFERENCE GUIDE FOR DATA COLLECTION

Section II	NATIONAL / REGIONAL / PREFECTORAL HOSPITAL (page 1 of 3)			
√	Data on Maternal Health Services	*Instructions on How to Find Data*		
	1 Number of Pregnant Women Tested for HIV	Maternity Services PMTE[1] Registry	→ *if this data source is not found or if the data therein is found to be incomplete or insufficient* →	Maternity Services Laboratory Registry
	2 Number of Cases of Complications related to Pregnancy or Child Delivery	Maternity Services Registry of Ob-Gyn Services	→ *if this data source is not found or if the data therein is found to be incomplete or insufficient* →	Hospital Admissions Department Registry of Hospital Admissions
	3 Number of Maternal Deaths at the Hospital	Maternity Services Registry of Ob-Gyn Services; Registry of Child Deliveries; Registry of Hospitalizations	→ *if this data source is not found or if the data therein is found to be incomplete or insufficient* →	Internal Medical Case Review Dept. Hospital Deaths Registry and/or Autopsy Reports
	4 Number of Women who Gave Birth at the Hospital	Maternity Services Child Births Registry		*Make sure that you have the opportunity to review ALL the Child Births Registries*
	5 Number of Outpatient Consultations at the Health Center (adults and children)	Hospital Registration Adult Outpatient Services Registry		*Take into consideration the registries from ALL departments where adult outpatient services are provided*
		Pediatric Services Child Outpatient Services Registry		*Take into consideration the registries from ALL departments where child outpatient services are provided*

1 PMTE (Prévention de la Transmission Mère-Enfant) = *PMTCT (Prevention of Maternal to Child Transmission)*

CHECK LIST AND REFERENCE GUIDE FOR DATA COLLECTION

Section II	NATIONAL / REGIONAL / PREFECTORAL HOSPITAL (page 2 of 3)			
√		Data on Child Health Services	*Instructions on How to Find Data*	
	1	Number of Children under Five Years of Age Admitted into the Hospital for Acute Respiratory Illness (ARI)	**Pediatric Services** Pediatric Services Registry	*→ if this data source is not found or if the data therein is found to be incomplete or insufficient →* **Hospital Admissions Department** Hospital Admissions Registry
	2	Number of Administered Doses of Penta 1	**Pediatric Services** Individual Vaccination Records	*→ if this data source is not found or if the data therein is found to be incomplete or insufficient →* **Pediatric Services** Vaccinations Monthly Tally Report
	3	Number of Administered Doses of Penta 3	**Pediatric Services** Individual Vaccination Records	*→ if this data source is not found or if the data therein is found to be incomplete or insufficient →* **Pediatric Services** Vaccinations Monthly Tally Report
	4	Number of Severe Cases of Malnutrition Treated	**Pediatric Services** Child Patients Registry	*→ if this data source is not found or if the data therein is found to be incomplete or insufficient →* **Pediatric Services** CRENA[2] Nutrition Services Registry
	5	Number of Cases of Bloody/Watery Diarrhea Treated	**Pediatric Services** Child Outpatient Patients Registry	*→ if this data source is not found or if the data therein is found to be incomplete or insufficient →* **Pediatric Services**
	6	Number of Cases of Acute Respiratory Illness	**Pediatric Services** Child Outpatient Patients Registry	
	7	Stock Outs of Oral Rehydration Salts (ORS)	**Pharmacy** RUMEUR[3] Registry + Inventory Stock Card on ORS	
	8	Stock Outs of Antibiotic (Cotrimoxazole) for Treating Acute Respiratory Illness	**Pharmacy** RUMEUR Registry + Inventory Stock Card on Cotrimoxazole	

2 CRENA = Centre de Récupération Nutritionnelle Ambulante (Outpatient Center for Nutritional Rehabilitation)

3 RUMEUR = Registre de l'Utilisation des Médicaments Essentiels et des Recettes = Essential Medicines Use and Sales Registry

CHECK LIST AND REFERENCE GUIDE FOR DATA COLLECTION

Section II	NATIONAL / REGIONAL / PREFECTORAL HOSPITAL (page 3 of 3)			
√		Data on Family Planning Services	*Instructions on How to Find Data*	
	1	Number of New Acceptors of Modern Methods of Contraception	Family Planning Services Family Planning Services Registry of New Users	*→ if this data source is not found or if the data therein is found to be incomplete or insufficient →*	Family Planning Services Family Planning Services Monthly Tally Report
	2	Number of Continuing Users of Modern Methods of Contraception	Family Planning Services Family Planning Services Registry of Continuing Users	*→ if this data source is not found or if the data therein is found to be incomplete or insufficient →*	Family Planning Services Family Planning Services Monthly Tally Report
	3	Stock Outs of Injectable Contraceptives	Pharmacy RUMEUR Registry + Stock Card of Injectable Contraceptives		*Ask personnel for the stock cards AND the RUMEUR Registry*
	4	Stock Outs of Contraceptive Pills	Pharmacy RUMEUR Registry + Stock Card of Contraceptive Pills		*Ask personnel for the stock cards AND the RUMEUR Registry*
	5	Stock Outs of Condoms	Pharmacy RUMEUR Registry + Stock Card of Condoms		*Ask personnel for the stock card AND the RUMEUR Registry*

FIELD STUDY INSTRUCTIONS

Supervisors must take the lead with their teams to see that the following steps are taken:

- **Introduce the survey team to the director and staff of the health facility, using the template form that was developed for the survey teams** **YES** _____ **NO** _____
- **Explain the scope of the survey team** **YES** _____ **NO** _____
  - **Collection of data on health services provided over 15-month period**
  - **Interviews with director of the health facility, public and private**
  - **Interviews with one service provider of women's health and one provider of children's health at each health facility, public and private**
  - **Interviews with local traditional practitioners at each health facility, up to 5 in number**
  - **Interview with Director of Health for the Prefecture/Conakry city district**
- **Ask about private clinics operating near the health facility; visit these clinics and, at each site, interview one service provider of women's health and one provider of children's health** **YES** _____ **NO** _____
- **Ask about traditional practitioners offering treatment near the health facility, interview each one, up to 5 in number** **YES** _____ **NO** _____
- **Ask about all the different, primary sources used to document women's and children's health services** **YES** _____ **NO** _____
  - **Registries on outpatient services to adults and children**
  - **Registries on health facility-based child births**
  - **Registries and tickler reports on prenatal consultations**
  - **Registries and tickler reports on child vaccinations**
  - **RUMEUR Drug Registries + Drug Inventory Stock Reports**
  - **Registries on health facility-based deaths and/or Partograms**
- **Divide the survey team into two groups** **YES** _____ **NO** _____
  - **Two survey teams members to collect data on women's health services**
  - **Two survey teams members to collect data on children's health services**
  - **Survey team members to split responsibilities for the interviews:**
    - **Interview with director of the health facility**
    - **Interview with service provider of women's and of children's health (one each)**
    - **Interview with local traditional practitioners at each health facility, up to 5 in number**
- **Once interviews are completed, any remaining data collection and data quality review duties should be addressed by the survey team members** **YES** _____ **NO** _____
- **Contact the director of each of the two other health facilities in the prefecture to be seen and inform them of your plans to conduct an on-site study at these facilities** **YES** _____ **NO** _____
- **Follow the same procedures as outlined above for conducting the study at a health facility** **YES** _____ **NO** _____

- **Communicate with your team members for any problem before taking a decision** **YES** _____ **NO** _____
- **Consult with the Quality Assurance Team members for any remaining problem** **YES** _____ **NO** _____
- **Explain your problems clearly and completely so that an appropriate recommendation is provided** **YES** _____ **NO** _____
- **Refer to the «Check List and Reference Guide» when collecting data on women's and choldren's health services** **YES** _____ **NO** _____
- **Carefully manage the data collection and interview forms and ensure a complete set is in hand before leaving each health facility** **YES** _____ **NO** _____
- **Extend thanks to all those at the health facility site** **YES** _____ **NO** _____

Additional Information

Vaccinations: If the vaccination records are not well maintained nor up-to-date, ask for the monthly tally reports for each month between October 2013 through December 2014, and take a count from each of them the number of vaccinations that had been administered during that month (DTC 1/Penta 1; DTC 3/Penta 3)

Prenatal Consultations: If the prenatal consultation records are not well maintained nor up-to-date, ask for the monthly tally reports for each month between October 2013 through December 2014, and take a count from each of them the number of first and third prenatal consultations provided during that month

Facility-Based Child Births: Consult the child birth registry and look for the table column describing the type of delivery (Normal, GATPA, Home). Make sure that the order of enuneration is correct for this documentation of all recorded births and subtract from the bottom number count of all births that number of births that you see had taken place at home; finally, record your result for that month in the appropriate cell of the data collection form.

Maternal Deaths: Consult the child birth registry and look for the table column describing mother's health status. Also, ask to see the hospital admission registry, if you are collecting data at a hospital.

Family Planning: At health facility sites, there may or may not be family planning patient records. New acceptors of modern contraception methods may be recorded in a family planning registry, and a patient record created as well, with the date of the first visit documented therein. On the other hand, first and susequent visits might all be documented in the registry, without separate patient records established.

Moderate Malnutrition: Ask for the CRENA Registry (Outpatient Center for Nutritional Rehabilitation) and count out those children who had been diagnosed with moderate malnutrition, ensuring correct enumeration of all malnutrition cases documented therein.

Acute Respiratory Illness, Diarrhea: Ask for the child outpatient registries and count out, for each of these two diagnosed conditions, all those who are documented as being under the age of five years. Create two columns on a separate sheet of paper in order to keep a separate tally of each child health condition as you review the registries.

Outpatient Visits:
While at a health center, ask for all the outpatient registries (children's helth services, adult health services) from all departments/wards; verify the dates and enumeration of listed patients seen on each page of the registries in order to have an accurate monthly count.

While at a city district medical center or hospital, ask for all the registries from all the departments/wards, including outpatient services, pediatric, and obstetric-gynecology.

Stock Outs: Begin by checking the monthly availability of those drugs/family planning supplies of interest in the study in the «RUMEUR» (Essential Medicines Use and Sales Registry). Each time you note what looks to be a shortfall in supply, verify this by referring to the medical inventory cards.

Family Planning: The possible options for documenting family planning services provided at a health facility:

- Review the family planning registry, which documents both new and continuing users of family planning methods, and disaggregate accordingly for each month -- OR
- Review the family planning registry, which documents only new family planning patients, and make a count of them – AND --
- Ask for all the individual patient records for family planning and count (on the back side of the form) all the return visits, skipping the visit noted on the first line, which corresponds to the first visit; make a cumulative monthly tally of return visits from all these records.