BENIN PRIVATE HEALTH SECTOR CENSUS

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This document was produced for review by the United States Agency for International Development. It was prepared by Andrew Carmona, Sean Callahan, and Kathryn Banke for the Strengthening Health Outcomes through the Private Sector (SHOPS) project.

Strengthening Health Outcomes *through* the Private Sector

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BENIN PRIVATE HEALTH SECTOR CENSUS

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ACRONYMS

ABPF	Association Béninoise pour la Promotion de la Famille
ACT	Artemisinin-based Combination Therapy
AIDS	Acquired Immune Deficiency Syndrome
AMCES	Association des Oeuvres Médicales Privées Confessionnelles et Sociales au Bénin
ART	Antiretroviral Therapy
FEDAS	La Fédérale des Assurances
FP	Family Planning
GIS	Geographic Information Systems
GPS	Global Positioning System
HIV	Human Immunodeficiency Virus
MCH	Maternal and Child Health
MOH	Ministry of Health
NGO	Nongovernmental Organization
NSIA	Nouvelle Société Interafricaine d'Assurance
ORS	Oral Rehydration Solution
PMTCT	Prevention of Mother to Child Transmission
RAMU	Régime d'Assurance Maladie Universelle
RH	Reproductive Health
RH/FP	Reproductive Health/Family Planning
SHOPS	Strengthening Health Outcomes through the Private Sector
USAID	United States Agency for International Development

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CENSUS AT A GLANCE

All 77 communes canvassed

3,174 private facilities mapped

6,217 private providers interviewed

55% of facilities are rural

52% of facilities are in the South: Ouémé, Littoral, Atlantique, and Mono departments

77% of facilities offer at least one maternal/child health service

22% of facilities offer voluntary testing and counseling for HIV and AIDS

66% of facilities have access to electricity

16% of facilities are affiliated with an NGO or other organization

33% of registered facilities received an accreditation visit in the past 6 months

8% of facilities accept medical insurance

4% of facilities stock antiretroviral drugs

27% of facilities offer oral contraceptives

66% of facilities cite a shortage of medical equipment/supplies as a barrier to growth

54% of providers are registered to practice health care in Benin

7 clients, on average, are seen per facility each day

8.7 years is the average time a provider has worked in the private sector

49% of providers are medical aides

8% of providers work both in the private and public sector

20% of providers have been trained in diarrhea treatment with ORS protocols

53% of providers choose malaria treatment updates as a top priority for clinical training

48% of providers choose quality assurance systems as a priority for supportive training

EXECUTIVE SUMMARY

Until now, an understanding of the full size and scope of the private health sector in Benin has been relatively incomplete, particularly with regard to the number and type of staff at private health facilities. To address this gap, the Strengthening Health Outcomes through the Private Sector (SHOPS) project conducted a private health sector census in 2014 to describe the size, scope, and geographic distribution of private health care facilities and providers in the country. For the purposes of this census, SHOPS defined the private health sector as for-profit private, faith-based, and nongovernmental organizations, as well as the pharmaceutical sector. Private for-profit facilities included individual medical *cabinets* or clinics, midwife-led *maternités*, nurse-run *cabinets de soins,* and other general and specialized medical practices, while the faith-based and nongovernmental sector consisted primarily of hospitals. As part of the census, SHOPS collected data on private health facilities and pharmacies, services offered, and provider characteristics. Private providers and pharmacists were also asked to identify any obstacles to expanding their practice.

SHOPS collected existing information and worked with national health regulatory bodies and private provider associations to develop a comprehensive and current list of all private health care facilities in Benin that was supplemented with snowball sampling during data collection. The goal of the census was to survey as many facility owners, private providers, and private pharmacists as possible in all 12 departments of the country. Over a seven week period, SHOPS visited a total of 2,850 non-pharmacy private health facilities and completed interviews with 2,462 facility managers and 6,217 private providers in those facilities about their staff, certifications, onsite medical supplies, and training and financing needs. The SHOPS census identified a greater number of non-pharmacy private health facilities than the Ministry of Health census conducted in 2012, which identified 2,197 non-pharmacy private health facilities nationwide. In addition, the SHOPS census identified a total of 324 private pharmacies and completed interviews with 281 of them.

Facility findings: In the census conducted by SHOPS, just over half of Benin's private health facilities were found in rural areas, but private pharmacies were more likely to be located in urban areas. Nearly half (48 percent) of all facilities were located in the southern departments of Atlantique, Ouémé, and Littoral, with the smallest number (4 percent of facilities each) located in Mono and Alibori departments. The number of private facilities per 10,000 people was highest in Littoral (6.0), Ouémé (4.1), and Atlantique (3.7) departments, and lowest in Alibori (1.2), Donga (1.2), and Atacora (1.0) departments. Nurses' offices were the most common type of private facility (43 percent). Only 20 percent of rural facilities had access to running water and 45 percent had access to electricity. This census found a reported total of 10,801 beds in private facilities in Benin.

Private facilities identified in the census offered a range of services: 77 percent offered maternal and child health (MCH) services; 48 percent offered reproductive health (RH) or family planning (FP) services; and 27 percent offered human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) services. Among facilities offering FP, injectables were by far the most common method offered (84 percent), followed by oral contraceptives (61 percent) and male condoms (60 percent). While voluntary counseling and testing was the most common HIV and AIDS service, found in 84 percent of facilities that offered such services, only 87 private facilities in the country offer antiretroviral therapy (ART). Sixty-three percent of private facilities

offered malaria testing. Malaria treatment and prevention was the most common service provided in outreach, with 58 percent of facilities providing this service.

Eighty-four percent of private facilities were for-profit; ABMS/ProFam was the largest network with 155 facilities. Forty-seven percent of private health facilities and 83 percent of private pharmacies were registered with the relevant agency. Almost a quarter of those registered private health facilities had not received a supervisory visit from their respective directorate at the Ministry of Health in over a year and 16 percent had never received such a visit. Only 8 percent of private facilities and 27 percent of pharmacies accepted health insurance.

The most commonly cited barrier to expanding private health facilities' businesses was a shortage of medical equipment (66 percent of facilities), followed by lack of transport (41 percent), and lack of space (36 percent).

With regards to stocking drugs, treatments, and diagnostic tests, cotrimoxazole and amoxicillin were stocked in nearly 75 percent of private facilities. Artemisinin-based combination therapy (ACT) for malaria was stocked in about half of the facilities and almost two-thirds of the pharmacies, but rapid tests kits for malaria were not widely available in these facilities. In addition, the first-line treatments for uncomplicated pediatric diarrhea, oral rehydration solution (ORS), zinc, and the Orasel-Zinc diarrhea treatment kit, were not widely available at private facilities and pharmacies and were frequently out of stock in those facilities that did report carrying them regularly.

Provider findings: During the facility survey, facility managers reported a total of 10,729 providers working in private facilities. The SHOPS team surveyed the 6,217 providers who were present at the time that data collectors visited the 2,462 facilities where facility interviews were completed and who gave their consent to participate. The most common cadres of private providers interviewed in this census were medical aides (49 percent), followed by registered nurses (12 percent). Fifty-two percent of the surveyed providers were concentrated in the southern districts of Atlantique, Littoral, and Ouémé, with Atacora (3.5 percent), and Donga (2.9) having the lowest number of providers of all surveyed. Ninety-two percent worked exclusively in the private sector and 6.5 percent worked at more than one facility.

In terms of training, 20 percent of providers reported that they had been trained on diarrhea treatment with ORS and zinc protocols, 29 percent had been trained on malaria treatment with ACT protocols, and 12 percent had been trained on HIV treatment with ART. Malaria treatment updates (53 percent) and child health updates (39 percent) were providers' most commonly desired clinical trainings. For supportive trainings, providers were most interested in training on quality assurance systems (48 percent) and communications and counseling (42 percent).

As noted earlier, just under half of the health facilities, but 83 percent of pharmacies, were registered with the relevant agency. Similarly, only half of private providers, including doctors, nurses, dentists, and pharmacists, reported being registered to practice.

The SHOPS private sector census was the first attempt to comprehensively capture the size and geographic distribution of the private health sector in the entire country. The maps created by this exercise and the information obtained from private facility owners and providers can be used by key stakeholders, including the Ministry of Health, USAID, and private provider associations, to inform key policy and programmatic decisions. The resulting maps showing geographic distribution of private facilities enable stakeholders to see where private facilities are located in relation to the population, and identify potential gaps in coverage. Additional district-level maps and analyses can further pinpoint service delivery gaps and identify areas where increased efforts to engage the private sector may be warranted.

1. INTRODUCTION

Benin is a West African country with a population of 9.6 million people, 58 percent of whom live in rural areas. With a per capita gross national income of $780, Benin ranks 167 out of 187 on the United Nation's Human Development Index (UNDP 2012) with forty-four percent of Beninese below 15 years of age, and 37.4 percent currently living below the poverty line. According to the most recent Demographic and Health Survey 2011-2012 report, the average Beninese woman has 5 children. Among married women, the rate of use of a modern contraception method is 8 percent, with male condoms and injectables being the most popular methods (INSAE and ICF International 2013). The maternal mortality ratio is 350 per 100,000 live births, and 74 percent of live births have a skilled attendant at delivery (Countdown to 2015, 2012).

The private health sector in Benin consists primarily of a for-profit private and pharmaceutical sector based mainly in the south and faith-based and nongovernmental organizations (NGOs) found mostly in the interior of the country. Private for-profit facilities include individual medical *cabinets or clinics*, midwife-led *maternités*, nurse-run *cabinets de soins,* and other general and specialized medical practices, while the faith-based and nongovernmental sector consists primarily of hospitals. The private sector has the potential to play a larger role in improving the health indicators of Benin. Private expenditures on health currently make up 51 percent of total health expenditures, the vast majority of which are through out-of-pocket payments (93 percent). The private health sector is a significant source of treatment for illnesses among children under five years of age, including diarrhea (approximately 46 percent of cases that sought treatment) and fever (38 percent of cases that sought treatment) (INSAE and ICF International 2013). The private medical and non-medical sector is also an important source for male condoms and oral contraceptives, with 75 percent of women buying condoms and 54 percent buying oral contraceptives from for-profit pharmacies and informal shops (INSAE and ICF International 2013).

The true magnitude and distribution of the private health sector has been largely unknown, with a common perception among stakeholders surveyed from the SHOPS Private Health Sector Assessment in 2012 that unregistered private facilities and providers are vastly underrepresented in official figures. In October 2012, the United States Agency for International Development Benin Mission (USAID/Benin) commissioned the global Strengthening Health Outcomes through the Private Sector (SHOPS) project to conduct a Private Health Sector Assessment that would identify opportunities for increased involvement of this sector. Building on the assessment findings, USAID/Benin requested that SHOPS conduct a census of all private provider facilities in the country to document the size, scope, and characteristics of Benin's private health sector. This information will give the government of Benin, other health sector stakeholders, and development partners a clearer understanding of the private sector's ability to contribute effectively to efforts to improve health outcomes in Benin.

1.1 OBJECTIVES

The primary objectives of the private health sector census were to:

- Provide stakeholders with an accurate picture of the size, scope, and geographic distribution of the private health sector

- Identify gaps in infrastructure, services, and locations of private facilities
- Identify gaps in capacity, training, and perceived barriers of private providers

This information is needed to develop effective programmatic interventions to improve the performance of the private sector.

1.2 QUESTIONS

The private provider census sought to answer the following questions:

1. What is the geographic location and distribution of private facilities and private providers throughout Benin? Where are they concentrated (e.g. rural or urban, and by department)?
2. How many private providers are there and what are their characteristics (e.g., years worked, specializations, affiliations, etc.)?
3. What types of services do private facilities offer (e.g., maternal and child health (MCH), family planning (FP), human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS), etc.)?
4. What is the reported volume of services delivered by private providers?
5. What trainings would help private providers improve the quality and extent of their services?
6. What are the major barriers to expanding private health practices?

1.3 STAKEHOLDERS

The data collected from this exercise may be used in a number of ways by a variety of stakeholders, including USAID/Benin, especially the Family Health Team; Benin Ministry of Health (MOH) and other government ministries; professional provider associations; networked private clinics and hospitals, such as those of ProFam, Association Béninoise pour la Promotion de la Famille (ABPF), and Association des Oeuvres Médicales Privées Confessionnelles et Sociales au Bénin (AMCES); bilateral USAID projects in Benin; and other multilateral, foreign government, and NGO-funded health sector projects in Benin.

2. METHODOLOGY

A census methodology was used to collect data from health facilities, health providers and pharmacies. SHOPS subcontracted the data collection and entry work to a local research firm, selected through a competitive process, associated with a university in Cotonou.

2.1 INSTRUMENTS AND TARGET POPULATIONS

The SHOPS project team developed three separate questionnaires: a private health facility questionnaire, a private provider questionnaire, and a pharmacy/drug store questionnaire.

- The facility questionnaire included 64 questions and was administered to the facility owner or most knowledgeable provider present at the time the survey team visited. It collected data related to the services provided, affiliations and registration status, staffing, and stocks of certain drugs as well as rapid tests for HIV and malaria.
- The provider questionnaire included 28 questions and was administered to all providers who were present at the facility at the time the surveyors arrived and were willing to be interviewed. Eligible providers included doctors, midwives, nurses, pharmacists, pharmacist assistants, pharmacy technicians, and specialist practitioners. The provider questionnaire collected data on individual characteristics, provider training, experience and professional affiliation.
- The pharmacy questionnaire included 40 questions and was administered to the pharmacy owner or employee most knowledgeable about that pharmacy's operations at the time of the visit. It collected data on staffing, affiliations, registration status, client volume, and stocks of the same drugs and rapid tests examined in the facility survey.

2.2 OBTAINING LISTS OF FACILITIES

The Benin MOH shared with SHOPS a list of 2,197 private health facilities based on a census conducted in 2012. SHOPS used this list as a starting point to develop a comprehensive list of all private facilities/providers. The local data collection firm contracted by SHOPS augmented this list with information received from departmental and national government offices, donors and other organizations working with private health providers, and professional provider associations.

2.3 TRAINING OF DATA COLLECTORS

Prior to data collection, a SHOPS survey specialist traveled to Cotonou to oversee the training of data collectors, field supervisors, and coordinators. Key elements of the four-day training program included detailed discussions regarding informed consent and ethics, in-depth review of the survey instruments and procedures, and one day for pre-testing the survey. All supervisors and data collectors participated in the pre-testing to gain experience administering the instruments in field conditions. The SHOPS specialist then worked with the local data collection firm to finalize the instruments and field procedures based on the pre-test results.

2.4 DATA COLLECTION

Data collection took place from March through May 2014, facilitated by an introductory letter from the Ministry of Health. The local research firm deployed 39 teams of two interviewers each across six geographic zones: Atacora-Donga; Alibori-Borgou; Atlantique-Littoral; Mono-Couffo; Zou-Collines; and Ouémé-Plateau. In each commune, the data collection teams worked with local officials (such as the village leader) to supplement the existing lists of facilities, pharmacies, and providers. They systematically identified all private facilities in each locality and then proceeded to visit each one to collect global positioning system (GPS) coordinates and conduct the interviews. If the private facility was closed or if the main proprietor was not available at the first visit, enumerators made up to three re-visits to complete the interviews. The data collection teams also employed "snowball" sampling, in which they asked interviewees about additional private health providers/facilities close by to identify facilities which may not have been included in original lists.

A total of 19 field supervisors accompanied the data collection teams and seven coordinators oversaw the supervisors to ensure data quality control. The field supervisors oversaw the identification of facilities, attended interviews, did daily verification of all completed questionnaires, and conducted verification back-check visits on five percent of the completed interviews. They sent completed and verified questionnaires to the coordinators who also reviewed completed questionnaires and conducted random back-checks during field visits to assure that visits had been done and that information was collected accurately.

2.5 DATA ANALYSIS

The research firm entered the data into three separate CSPro (U.S. Census Bureau and ICF Macro) databases, one each for private facilities, pharmacies, and providers, and submitted them to the SHOPS team in June 2014. The SHOPS team cleaned and analyzed the data from all three questionnaires in Stata v. 12 (StataCorp 2011). SHOPS analysts and geographic information systems (GIS) specialists used ArcGIS ® software by Esri to create maps for selected key analyses.

3. RESULTS

3.1 FACILITY RESULTS

The first part of the results section concerns the facility questionnaire. Section 3.1 is divided into eight parts: geography, infrastructure, providers and staff, affiliation and registration, services, clientele, barriers to expanding business, and drugs/stock. For purposes of this report, the use of the world "facility" denotes the 2,850 non-pharmacy facilities only, unless otherwise specified. Pharmacy findings are presented separately in section 3.3.

3.1.1 INFRASTRUCTURE

In total, SHOPS identified and visited 2,850 private health facilities and completed 2,462 surveys with facility managers, which is significantly higher than the 750 facilities found in the MOH's official registries and somewhat higher than the 2,197 private facilities found in the 2012 census.[1] Just 117 (4.1 percent) of the identified private facilities refused to participate in the census. Other reasons for non-completion were inability to locate a respondent despite three re-visits (6.5 percent) and finding the facility closed (2.5 percent). The largest category of private facilities surveyed (43.3 percent) was nurse-led offices (Table 1). The remaining facilities were largely medical offices (18.5 percent), maternity clinics (11.2 percent), or clinics (11.0 percent).

TABLE 1. FREQUENCY AND PERCENTAGE OF PRIVATE FACILITIES

Type of structure	Number	Percent
Nurse's office	1,066	43.3
Medical office	456	18.5
Maternity clinic	275	11.2
Clinic	271	11.0
NGO clinic	198	8.0
Hospital	40	1.6
Medical specialist's office	33	1.3
Specialist clinic	31	1.3
Group medical office	22	0.9
Dental office	22	0.9
Biomedical laboratory	16	0.6
Radiology or other imaging office	9	0.4
Physical therapy office	3	0.1
Other	20	0.8
Total	**2,462**	**100.0**

Nationwide, 40 percent of facilities had access to running water and 66 percent had access to electricity, but there were differences based on setting. For example, most (65 percent) urban facilities reported having access to running water compared with just 20 percent of rural facilities

[1] There are no updated, comprehensive, readily available statistics on the number of public sector facilities at the commune level for comparison purposes. In general, the public sector is organized into 34 health zones, each with an average of 2.25 communes. The arrondissement health center should be staffed by a nurse, midwife, and auxiliary staff. The commune health center is to be staffed by a doctor, several nurses, and midwives and offers a wider range of health care services. The zonal hospital is the first referral level of specialist care, and should be staffed by a pediatrician, surgeon, and obstetrician-gynecologist. At the top are two layers of referral care—the departmental and the central hospitals. (Adeya et al., 2007).

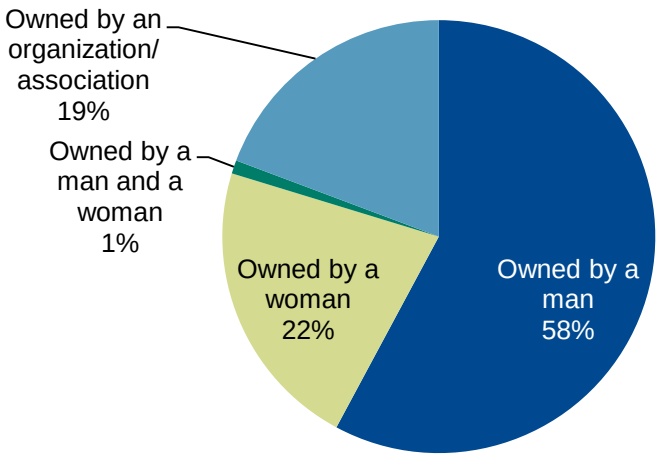
(Table 2). Similarly, 91 percent of urban facilities had access to electricity compared with 45 percent of rural facilities. Regarding hours of operation, 85 percent of urban facilities and 91 percent of rural facilities reported that they were open 24 hours per day.

TABLE 2. KEY INFRASTRUCTURE INDICATORS OF PRIVATE FACILITIES

Type Of Structure	Access To Running Water (%)				Access To Electricity (%)				Open 24 Hours (%)			
	Urban (n=1,111)		Rural (n=1,351)		Urban (n=1,111)		Rural (n=1,351)		Urban (n=1,111)		Rural (n=1,351)	
	%	n	%	n	%	n	%	n	%	n	%	n
Nurse's office	53.5	201	15.8	109	86.4	325	42.9	296	87.0	327	91.0	628
Dental office	95.5	21	NA	0	100.0	22	NA	0	18.2	4	NA	0
Medical office	71.5	138	22.1	58	90.7	175	48.3	127	82.9	160	93.9	247
Group medical office	71.4	10	12.5	1	85.7	12	75.0	6	85.7	12	87.5	7
Medical specialist's office	93.6	29	0.0	2	100.0	31	100.0	2	51.6	16	50.0	1
Radiology or other imaging office	100.0	4	20.0	1	100.0	4	100.0	5	25.0	1	0.0	0
Physical therapy office	100.0	2	0.0	0	100.0	2	100.0	1	50.0	1	0.0	0
NGO clinic	70.2	66	32.7	34	94.7	89	54.8	57	86.2	81	96.2	100
Specialist clinic	96.6	28	0.0	0	96.6	28	50.0	1	65.5	19	50.0	1
Clinic	72.4	113	23.5	27	93.6	146	39.1	45	96.2	150	87.0	100
Maternity clinic	48.5	66	18.7	26	94.1	128	41.7	58	99.3	135	95.7	133
Biomedical laboratory	84.6	11	66.7	2	100.0	13	66.6	2	30.8	4	66.6	2
Hospital	90.6	29	37.5	3	100.0	32	87.5	7	100.0	32	100.0	8
Other	100.0	9	36.4	4	100	9	27.3	3	55.6	5	72.7	8
Total (average of all facility types)	**65.4**	**727**	**19.6**	**265**	**91.4**	**1,016**	**45.2**	**610**	**85.2**	**947**	**91.4**	**1,235**

Just over half (58 percent) of private facilities were male-owned (Figure 1). The remaining share was almost evenly split between women (22 percent) and professional organizations and associations (19 percent), with 1 percent jointly owned by both a man and a woman.

FIGURE 1. FACILITY OWNERSHIP BY GENDER



3.1.2 GEOGRAPHIC DISTRIBUTION

As shown in Table 3, close to half of the facilities were concentrated in the southern tip of the country in just three departments (Atlantique, Ouémé, and Littoral). These three departments

together comprised almost one-third of the national population. Comparatively, the three departments with the fewest private facilities (Alibori, Atacora, Donga), located in the north and west of the country, only accounted for an 8.8 percent share of all private facilities.

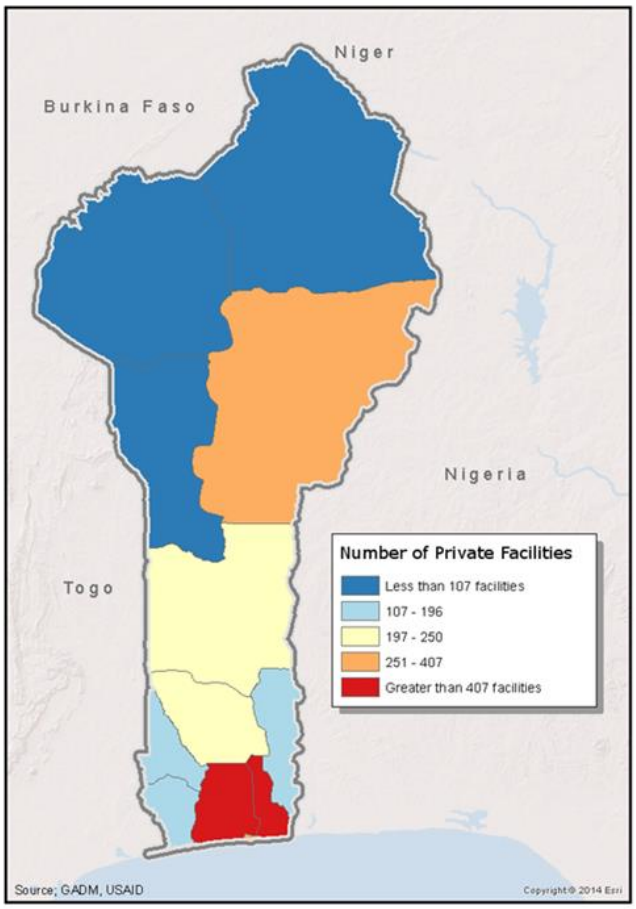
TABLE 3. GEOGRAPHIC DISTRIBUTION OF FACILITIES BY DEPARTMENT

Department	Population (2013)*	Number of private facilities	Percent of all private facilities
Atlantique	1,396,548	521	18.3
Ouémé	1,096,850	450	15.8
Littoral	678,874	407	14.3
Borgou	1,202,095	278	9.8
Zou	851,623	250	8.8
Collines	716,558	198	7.0
Plateau	624,146	196	6.9
Couffo	741,895	185	6.5
Mono	495,307	115	4.0
Alibori	868,046	106	3.7
Atacora	769,337	79	2.8
Donga	542,605	65	2.3
Total	**9,983,884**	**2,850**	**100**

*Source: L'Institut National de la Statistique et de l'Analyse Economique du Benin, 2013

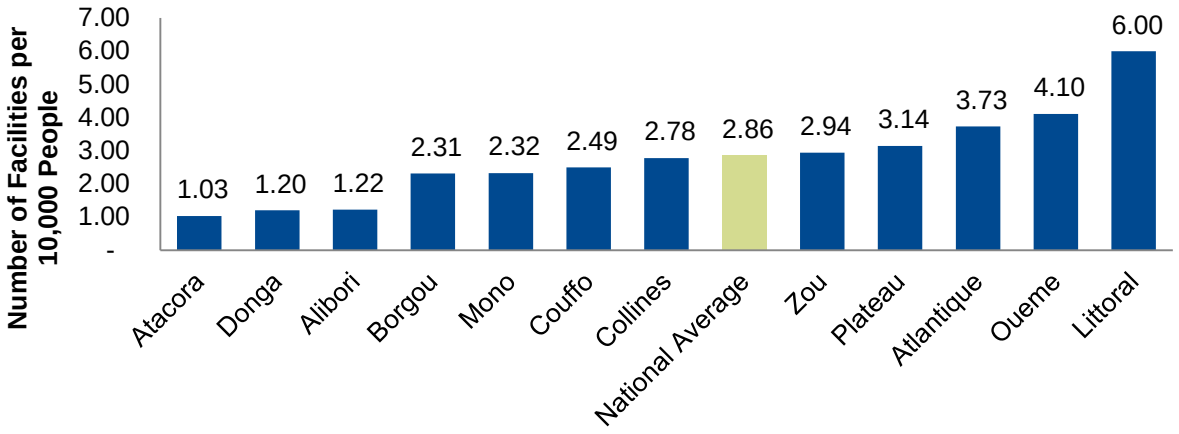
The overall number of private facilities by department is presented in Figure 2. The five categories (represented by different colors) indicate the five quintiles of the distribution.

FIGURE 2. NUMBER OF PRIVATE FACILITIES BY DEPARTMENT



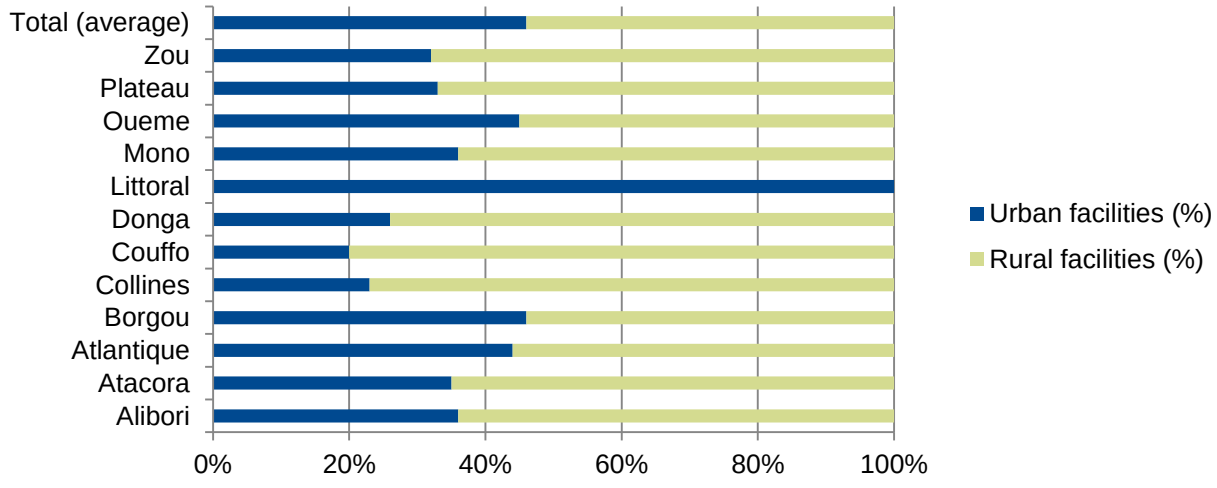
Looking at the raw numbers of facilities per department only tells a part of the story. Comparing facility numbers with the population in a specific geographic area can highlight differences in access to the private health sector. Using population estimates from the 2013 population census, a calculated ratio of private facilities per 10,000 people in each department demonstrates this differential access. Nationwide, there were approximately 2.9 private health facilities per 10,000 people. The lower facility to population ratios in Atacora, Donga, and Alibori (1.03-1.22 private facilities per 10,000 people) may be indicative of poor access to private facilities in these departments. Comparatively, people living in southern departments have much higher access, with Littoral (6 private facilities per 10,000 people) possessing twice the national average of facilities per 10,000 people (Figure 3). The SHOPS census did not include public facilities and it is uncertain how these ratios compare to those for public sector health facilities in each department.

FIGURE 3. NUMBER OF PRIVATE FACILITIES PER 10,000 PEOPLE BY DEPARTMENT (N=2,850)



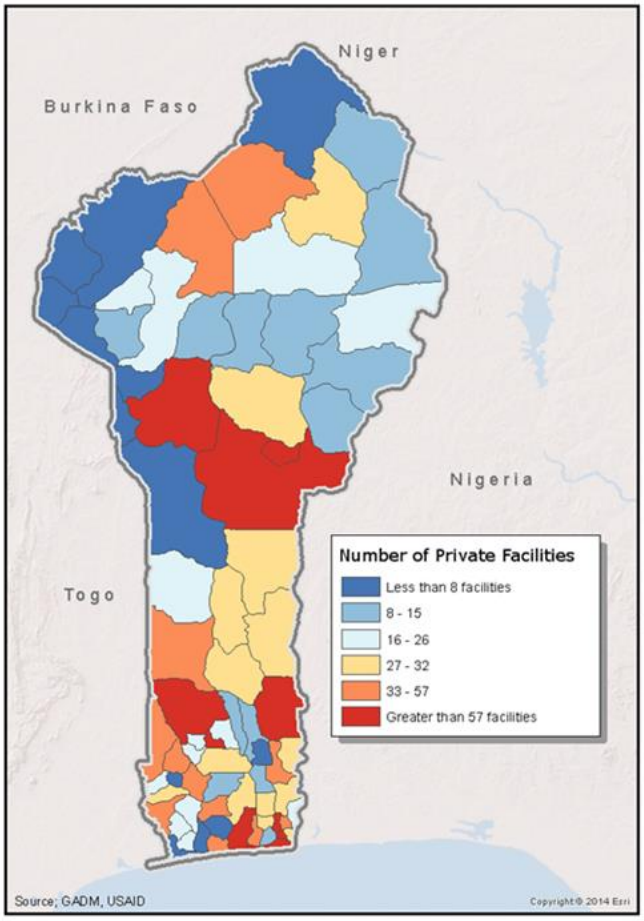
Within these departments, there was great variation in how facilities were geographically concentrated. Nationwide, 53.7 percent of private health facilities were located in rural areas, although this was skewed by the urban Littoral department. Excluding Littoral, the rural share ranged from a minimum of 55 percent in Ouémé department to a maximum of 80 percent of facilities in Couffo department (Figure 4).

FIGURE 4. GEOGRAPHIC DISTRIBUTION OF FACILITIES BY DEPARTMENT AND BY URBAN/RURAL



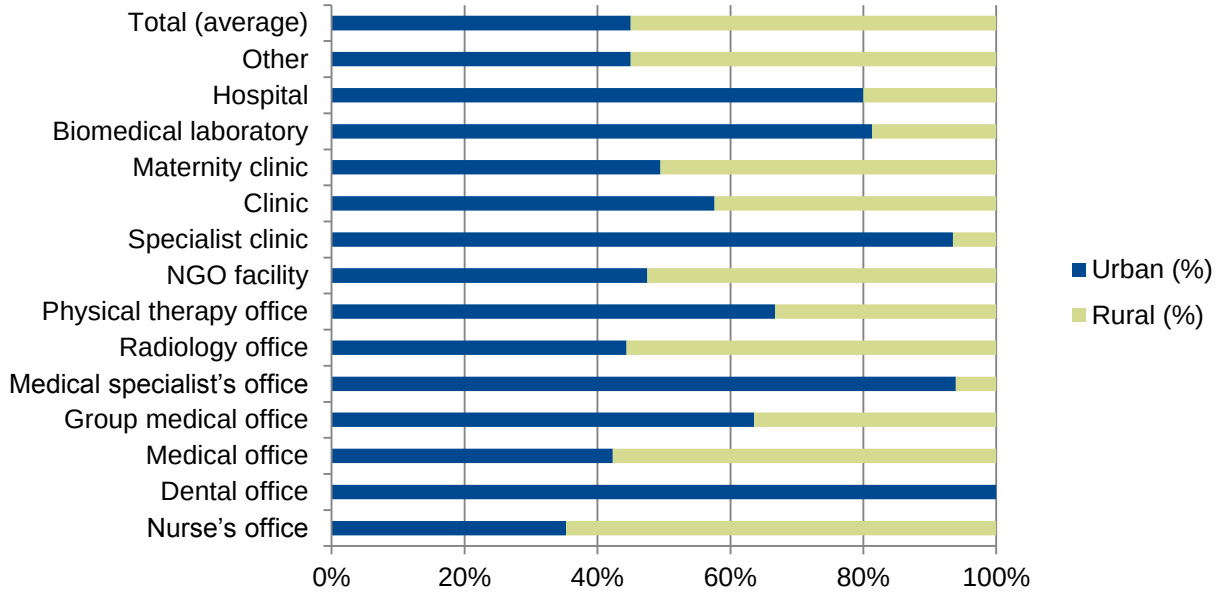
The number of private health facilities also varied based on zone sanitaire and commune. As shown in Figure 5, within departments there was significant variation in the number of facilities. This distribution is represented on the color coded map below. The three most populated communes were all in the south: Abomey-Calavi (312 facilities), Seme-Kpodji (129 facilities), and Cotonou (119 facilities). While most of the facilities were located in the south, there were some pockets in the center and northern departments with large numbers of private providers. For example, Barikora in Alibori department (33 facilities), Kerou in Atacora department (33 facilities), Parakou (98 facilities) and Tachourou (97 facilities) in Borgou department, and Djougou in Donga department (58 facilities) all had numbers similar to what is seen in the southern communes, as expected because these departments have larger cities. See Tables A1 and A2 in the Annex for a detailed summary of the geographic distribution of facilities by zone sanitaire and commune.

FIGURE 5. NUMBER OF PRIVATE FACILITIES BY COMMUNE



As previously mentioned, just over half of all private facilities were in rural areas of the country. However, this distribution varied based on facility type. Most (65 percent) nurse-led offices were found in rural areas (Figure 6). Medical offices (58 percent), radiology offices (56 percent), and maternity clinics (51 percent) were all also more likely to be found in rural than in urban settings. Dental offices (100 percent), specialists' clinics (94 percent) and medical specialists' offices (94 percent) were almost exclusively located in urban areas.

FIGURE 6. FREQUENCY AND PERCENTAGE OF PRIVATE FACILITIES BY URBAN/RURAL



3.1.3 AFFILIATION AND REGULATION

Eighty-four percent of facilities were not affiliated with a network or franchise in Benin. Of the 461 private facilities that had an affiliation, most (53.1 percent) reported affiliations with "Other" associations/networks, largely meaning local and international NGOs, faith-based organizations, and academic institutions (Table 4). ABMS/PSI/ProFam (33.6 percent) and ABPF (24.3 percent) were the next two largest associations and networks.

TABLE 4. MEMBERSHIP OF PRIVATE FACILITIES IN ASSOCIATIONS/NETWORKS

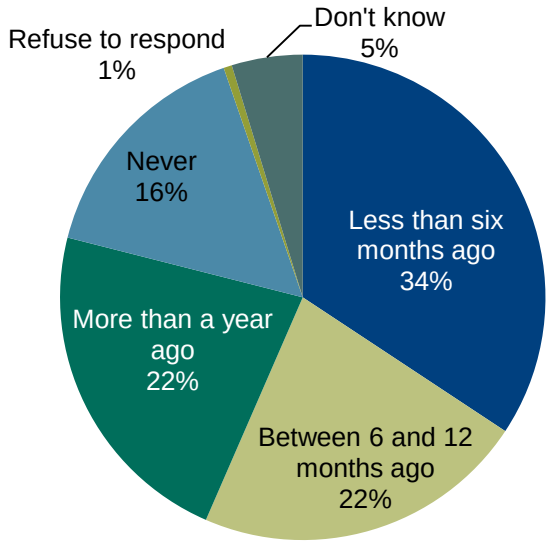
Association/network	Number (n=461)	Percentage
Other	245	53.1
ABMS/PSI/ProFam	155	33.6
ABPF	112	24.3
AMCES	39	8.5
ROBS	25	5.4
REBA-Plus	11	2.4
ROAFEM	9	2.0

*Note: Percentages add up to more than 100 since facilities could report registrations with more than one organization

A total of 1,146 private facilities (47 percent) reported that they are registered with a relevant agency or association. However, of registered facilities established before 2014 (n=1,079 facilities), 22 percent had not received any sort of supervisory or accreditation visit from the MOH within the past year and 16 percent had never received an accreditation visit (Figure 7).[2]

[2] Most facilities that were established in 2014 had not had time to complete their registration at the time of the census, so the SHOPS team excluded them from this analysis.

FIGURE 7. TIMING OF ACCREDITATION VISITS TO PRIVATE FACILITIES REGISTERED BEFORE 2014 (N=1,079)



A total of 941 (38 percent) of the private facilities reported that they at least occasionally send monthly reports to district health authorities. Of these, 13 percent said that they send the reports monthly, but a full 77 percent reported that they do not submit reports with any regular frequency (Table 5).

TABLE 5. FREQUENCY OF SUBMISSION OF MONTHLY REPORTS TO AUTHORITIES

Frequency of monthly data submissions	Frequency	Percentage
No specific frequency	727	77.3
Each month	125	13.3
Less than one time per month	44	4.7
Once every 2-6 months	19	2.0
Once every 7-12 months	26	2.8
Total	**941**	**100**

3.1.4 TRAINING

The survey also collected information on three specific health topics in which staff at private facilities was trained in the past two years: ORS and zinc for diarrhea treatment, ACT protocols for malaria treatment and ART for HIV treatment. Most private facilities did not have employees who had been trained in these priority health problems in the past two years. Just 27.7 percent of facilities had someone who has been trained in ORS and zinc for diarrhea treatment, 37.1 percent for ACT protocols for malaria treatment, and 12.2 percent for ART for HIV treatment (Table 6). The average number of trained providers in each facility for ORS, ACT, and ART were 4.5, 6.1, and 1.8 respectively, but the median number of trained providers was 1 for all three treatments. The census did not collect information on the entities that conducted the trainings.

TABLE 6. CLINICAL TRAINING FOR PRIVATE FACILITIES AND PROVIDERS

Training	Facilities (N)	Facility (%)	Providers (N)	Providers (%)	Trained providers per facility (mean)	Trained providers per facility (median)
Diarrhea treatment with ORS and zinc protocols	683	27.7	1,258	20.2	4.5	1
Malaria treatment with ACT protocols	914	37.1	1,804	29.0	6.1	1
HIV treatment with ART	300	12.2	749	12.1	1.8	1

3.1.5 SERVICES

As part of the census, SHOPS asked facilities about their services offered in three main health areas: maternal and child health, reproductive health and family planning, and HIV and AIDS. Of these health areas, private facilities were most likely to provide maternal and child health services, followed by reproductive health and family planning, and finally HIV and AIDS.

Most (76.8 percent) private facilities offered at least some MCH services. Of these services, sick child services (93.9 percent), prenatal care (74.5 percent), and birth delivery (74.1 percent) were offered most commonly (Table 7). Emergency obstetrical care (24.5 percent), prevention of mother-to-child transmission of HIV (18.8 percent) and vaccinations (17.8 percent) were the least common. “Other” responses primarily included surgery and caesarean sections.

TABLE 7. MCH SERVICES PROVIDED BY PRIVATE FACILITIES THAT OFFER MCH SERVICES

MCH service	Frequency (n=1,891)	Percentage
Sick child services	1,776	93.9
Prenatal care	1,409	74.5
Birth delivery	1,401	74.1
Neonatal and post-natal care	1,271	67.2
Growth monitoring	987	52.2
Nutrition monitoring	900	47.6
Emergency obstetrical care	463	24.5
Prevention of Mother to Child Transmission (PMTCT)	356	18.8
Vaccination	337	17.8
Other	83	4.4

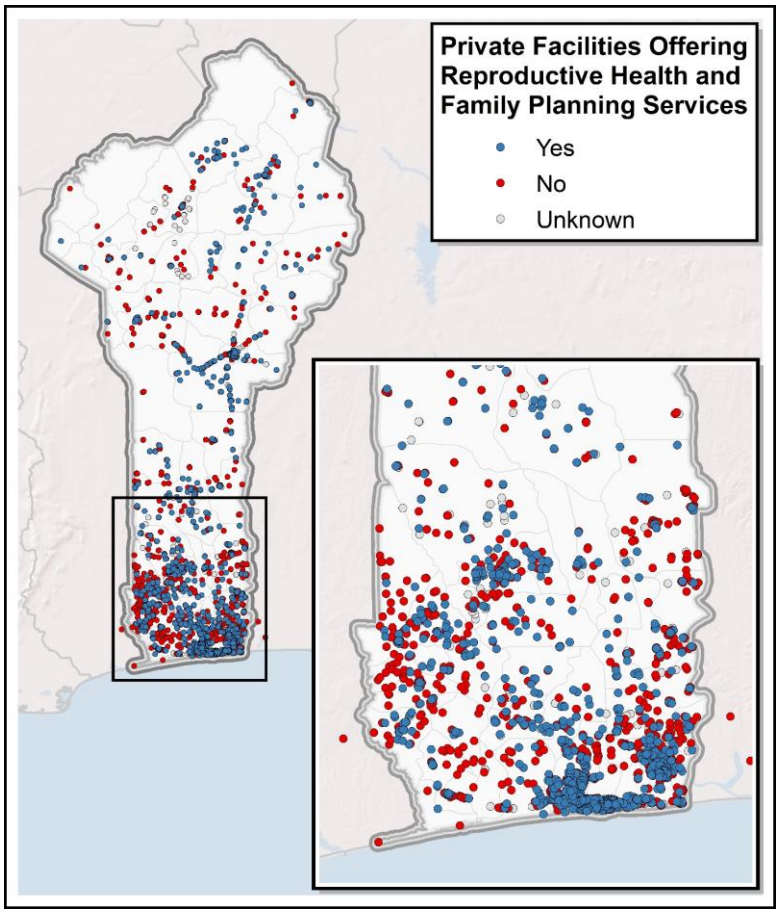
Almost half (48.2 percent) of private facilities interviewed provided some sort of reproductive health and family planning (RH/FP) service. The most common type of RH/FP service was general family planning, which was available at virtually all (92.3 percent) of these facilities (Table 8). HIV testing was available at 39 percent of these facilities and 13.7 percent provided pap smears.

TABLE 8. RH/FP SERVICES PROVIDED BY PRIVATE FACILITIES THAT OFFER RH/FP SERVICES

RH/FP service	Frequency (n=1,187)	Percentage
Family planning	1,095	92.3
STI management	668	56.3
Breast examination	645	54.3
HIV testing	465	39.2
Pap smear	162	13.7
Other	28	2.4

Figure 8 shows the location of private facilities offering RH and FP services in Benin. Facilities offering these services generally appear to be concentrated in the southeast of the country, though they were also found in urban areas throughout the country.

FIGURE 8. MAP OF PRIVATE FACILITIES OFFERING RH AND FP SERVICES



The most popular family planning products or services available in the private facilities that offer FP services (n=1,095) were injectables (83.6 percent), oral contraceptive pills (61.4 percent), and male condoms (59.6 percent) (Table 9). The least common were male and female sterilization (3.6 and 5.8 percent, respectively). Noristerat injections accounted for 66 percent of the answers in the "Other" category.

TABLE 9. FP PRODUCTS OFFERED AT PRIVATE FACILITIES THAT OFFER FP PRODUCTS

FP Product	Frequency (n=1,095)	Percentage
Injectables	915	83.6
Oral contraceptive pill	672	61.4
Male condoms	653	59.6
IUD	350	32.0
Implants (Jadelle)	348	31.8
Cycle beads	288	26.3
Emergency contraception	225	20.6
Female sterilization (tubal ligation)	64	5.8
Other	48	4.8
Male sterilization (vasectomy)	39	3.6

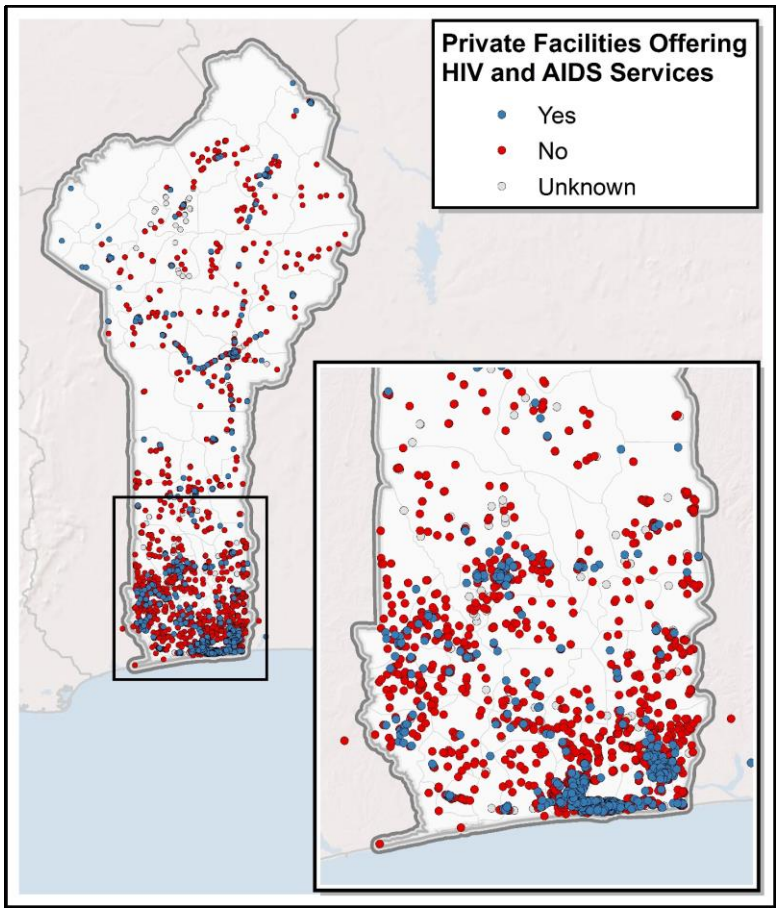
Only 652 private facilities (26.5 percent) offered HIV and AIDS services. The most common HIV services were prevention efforts like HIV counseling and testing (84.1 percent) and safe medical male circumcision (63.5 percent) (Table 10). Only 87 private facilities offered antiretroviral therapy (ART) for HIV positive individuals. Of the 548 facilities offering voluntary counseling and testing for HIV and AIDS services, 268 (or 48.9 percent) report having private counseling rooms. Of those facilities with private counseling rooms, 76.1 percent (204 facilities) have 1 room, 15.7 percent (42 facilities) have 2 rooms, and 6.3 percent (17) have 3 or more rooms.

TABLE 10. HIV SERVICES OFFERED AT PRIVATE FACILITIES THAT OFFER HIV SERVICES

HIV and AIDS service	Frequency (n=652)	Percentage
Voluntary counseling and testing	548	84.1
Male circumcision	414	63.5
PMTCT	249	38.2
ART	87	13.3
Other	26	4.0

Figure 9 shows the location of private facilities offering HIV and AIDS services in Benin. Those offering HIV and AIDS services appear to be concentrated in the southeast, with other clinics interspersed in urban areas throughout the country.

FIGURE 9. MAP OF PRIVATE FACILITIES OFFERING HIV AND AIDS SERVICES



Outside of these three health areas, private facilities offered a number of other services. For example, 62.8 percent offered testing for malaria (Table 11). Just over one-quarter (26.6 percent) reported offering “other” services including birth delivery services, ultrasound,

ophthalmology, minor surgery, nursing care, and malaria treatment. Fewer than one in five private facilities provided laboratory, dental, radiography, or tuberculosis (TB) testing services.

TABLE 11. OTHER SERVICES OFFERED AT PRIVATE FACILITIES

Service offered	Frequency (n=2,462)	Percentage
Malaria testing	1,547	62.8
Other	654	26.6
Laboratory	431	17.5
Dental care	273	11.1
Radiography	94	3.8
TB testing	69	2.8

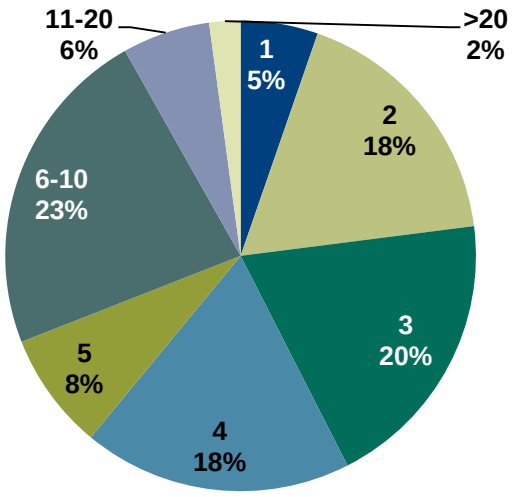
Of the 2,462 facilities surveyed, 98.5 percent reported having counseling rooms. Most (71.4 percent) had one counseling room, 20 percent had 2 rooms, 6.9 percent had 3-10 rooms, and 0.2 percent had more than 10 rooms (Table 12).

TABLE 12. NUMBER OF COUNSELING ROOMS AT PRIVATE FACILITIES

Number of counseling rooms	Frequency	Percentage
0	36	1.5
1	1,757	71.2
2	493	20.0
3-10	170	6.9
10+	5	0.2
Total	**2,461**	**100**

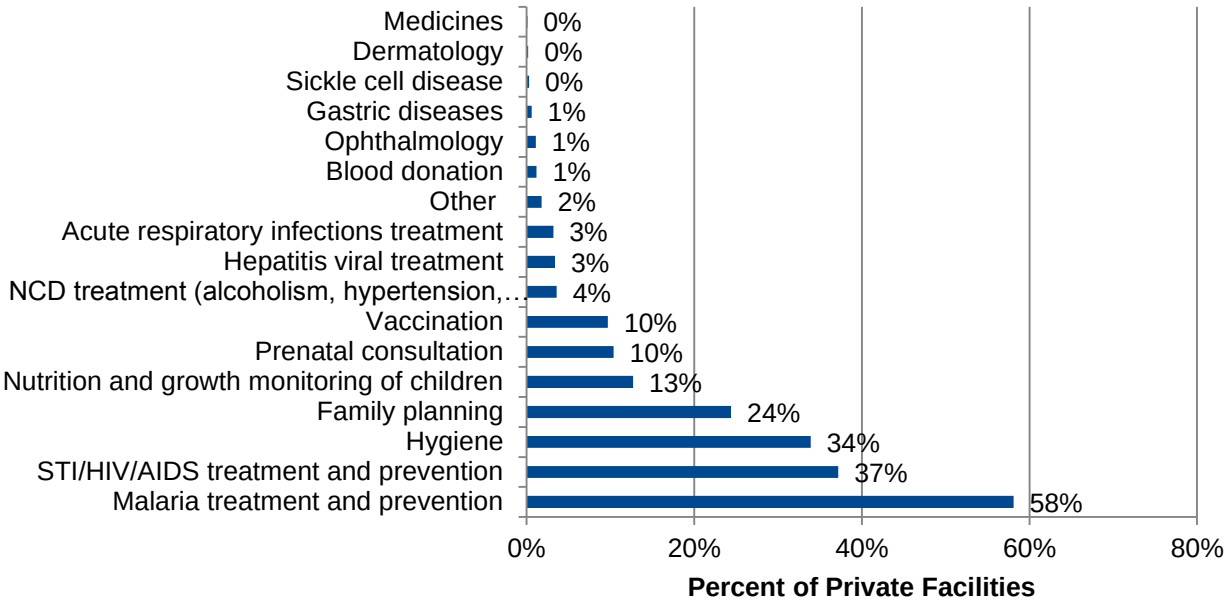
Inpatient services were available at 62.4 percent (n=1,536) of the private facilities. Of those with inpatient services, the average number of beds in a facility was 7, with a median of 4. This census found a reported total of 10,801 beds in private facilities in Benin. Two percent of the facilities with inpatient services had more than twenty beds, and 6 percent had from 11 to 20 beds (Figure 10).

FIGURE 10. NUMBER OF BEDS IN PRIVATE FACILITIES WITH INPATIENT SERVICES (N=1,536)



Just over half (51.2 percent) of facilities did some type of outreach sensitization activities. The most common services mentioned as outreach were malaria treatment and prevention (58.1 percent), STI/HIV/AIDS treatment and prevention (37.2 percent), and hygiene (33.9 percent) (Figure 11).

FIGURE 11. OUTREACH SERVICES CONDUCTED BY PRIVATE FACILITIES (N=1,261)



3.1.6 CLIENTELE

On average, private facilities reported seeing 7 clients per day, with a median of 4 clients. Most (65 percent) clients were female. Polyclinics saw the most daily patients (mean of 43), while nurse's clinics saw on average 5 patients per day. Only 16 percent of private facilities provided this information based on official registers that track daily patients, while the remaining 84 percent estimated these numbers. On average, private providers reported that about 63 percent of their clients pay full price for services, while 26 percent pay reduced prices, and 11 percent do not pay for services. The proportion paying full price for services ranged from 41.7 percent at physical therapy offices to about 90 percent at dental offices. The proportion paying nothing for services was highest at physical therapy offices (25 percent), group medical offices (14 percent), and NGO clinics (12 percent) (Table 13).

TABLE 13: PERCENTAGE OF CLIENTS PAYING IN FULL OR PAYING NOTHING AT PRIVATE FACILITIES, BY FACILITY TYPE

Type Of Facility	Frequency (n=2462)	Average percentage of clients who pay in full	Average percentage of clients who pay nothing
Nurse's office	1,051	60.7	11.6
Dental office	21	89.8	1.2
Medical office	445	63.9	11.0
Group medical office	22	62.1	14.4
Medical specialist's office	29	81.2	8.6
Radiology or other imaging office*	5	80.0	0
Physical therapy office*	3	41.7	25.0
NGO clinic	197	62.4	12.3
Specialist clinic	24	78.8	6.0
Clinic	268	69.0	10.0
Maternity clinic	259	56.6	9.7
Biomedical laboratory*	14	68.2	10.9
Hospital	39	65.2	9.9
Total (n)	**2344**	**62.9**	**10.9**

Eight percent of private facilities (n=197) in Benin accepted health insurance. This proportion was highest among clinics (31.5 percent, or 62 facilities), medical offices (13.2 percent, or 26 facilities), and polyclinics and hospitals (11.7 percent, or 23 facilities). The most commonly accepted insurance plans were Africaine des Assurances (57.4 percent), la Fédérale d'Assurances (FEDAS) (44.7 percent), and Nouvelle Société Interafricaine d'Assurances (NSIA) (40.6 percent) (Table 14). The most common "other" choice was a *mutuelle de santé* with 16 facilities accepting this form of insurance.

TABLE 14: HEALTH INSURANCE PLANS ACCEPTED AT PRIVATE FACILITIES

Insurance plan	Frequency (n=197)	Percentage
Africaine des Assurances (AA)	113	57.4
La Fédérale d'Assurances (FEDAS)	88	44.7
Nouvelle Société Interafricaine d'Assurances (NSIA)	80	40.6
Gras Savoye	73	37.1
Ascoma	73	37.1
Générale des Assurances du Benin (GAB)	61	31.0
Colina Vie/Assurances	61	31.0
Other	57	28.9
Assurances et Réassurances du Golfe de Guinée (ARGG)	30	15.2
Régime d'Assurance Maladie Universelle (RAMU)/MUSA	18	9.1

3.1.7 BARRIERS TO EXPANDING BUSINESS

Most private facilities (96 percent) reported at least one barrier to expanding their practice. Almost two-thirds reported a shortage of medical equipment as a significant barrier (Table 15). Other widely cited obstacles included a lack of transport (40.7 percent) and a lack of sufficient clinical space (35.8 percent). Less than 10 percent reported poor linkages with other service providers (9.9 percent), poor system of record keeping (6.5 percent), or no reimbursement from the government (5.4 percent) as significant barriers. The most common "other" responses included lack of money or financing, and a lack of electricity.

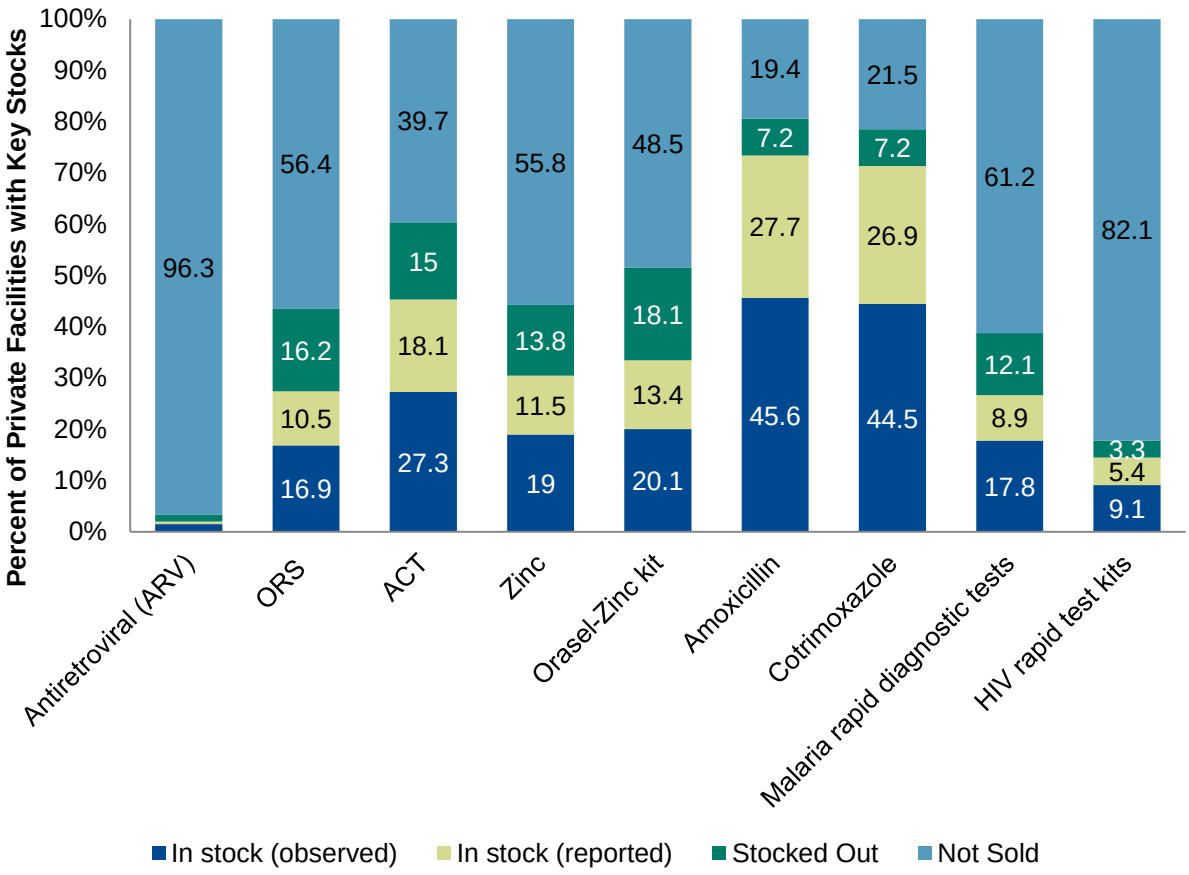
TABLE 15. BARRIERS TO EXPANDING PRIVATE FACILITIES' BUSINESS

Barriers to expanding business	Frequency (n=2,462)	Percent
Shortage of medical equipment	1,613	65.5
Lack of transport	1,001	40.7
Lack of sufficient clinical space	881	35.8
Other	694	28.2
Shortage of personnel	674	27.4
Decreased support of donor funds	435	17.7
Skills of providers	424	17.2
Policies and accreditation process	351	14.3
Poor linkages with other service providers	244	9.9
Poor system of record keeping	159	6.5
No reimbursement from the government	134	5.4

3.1.8 DRUGS AND STOCK

A total of 1,915 private facilities (77.8 percent) reported selling drugs. Availability of key pharmaceutical goods varied (Figure 12). The most commonly in-stock drugs were basic antibiotics like amoxicillin and cotrimoxazole. A majority of facilities did not carry HIV or malaria rapid test kits, or diarrhea treatments such as ORS, zinc, and the Orasel-Zinc kit, or ACT for malaria treatment. These products were also the most likely to be out of stock.

FIGURE 12. STOCK OF KEY DRUGS/TREATMENTS/TESTS IN PRIVATE FACILITIES (N=2,462)



3.2 PROVIDER FINDINGS

The second part of the results section focuses on findings from the private provider questionnaire. Section 3.2 is divided into three parts: geographic distribution of surveyed providers, descriptive statistics, training, and registration and affiliation. During the facility survey, facility managers reported a total of 10,729 providers working in private facilities. However, the SHOPS team only surveyed the 6,217 providers who were present at the time that data collectors visited the 2,462 facilities where facility interviews were completed and gave their consent to participate. Eligible cadres included doctors, midwives, nurses, pharmacists, pharmacist assistants, pharmacy technicians, and specialist practitioners. This section also incorporates findings related to private providers from the facility surveys.

3.2.1 GEOGRAPHIC DISTRIBUTION

The geographic distribution of providers surveyed mirrored the distribution of private facilities. Most of the surveyed providers were located in Atlantique (n=1,233), Littoral (n=1,147), and Ouémé (n=885) departments (Table 16).

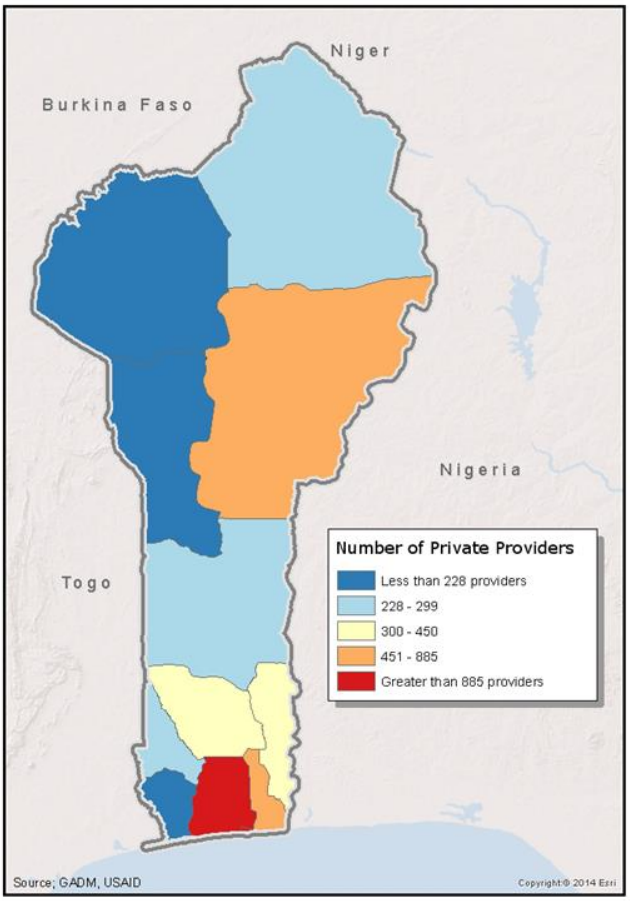
TABLE 16: GEOGRAPHIC DISTRIBUTION OF SURVEYED PROVIDERS BY DEPARTMENT

Department	Population (2013)*	Number of private providers surveyed	Percentage of all private providers surveyed (%)
Atlantique	1,396,548	1,233	19.8
Littoral	1,096,850	1,147	18.5
Ouémé	678,874	885	14.2
Borgou	1,202,095	685	11.0
Zou	851,623	450	7.2
Plateau	716,558	364	5.9
Collines	624,146	298	4.8
Couffo	741,895	271	4.4
Alibori	495,307	257	4.1
Mono	868,046	227	3.7
Atacora	769,337	219	3.5
Donga	542,605	181	2.9
Total	**9,983,884**	**6,217**	**100**

*Source: L'Institut National de la Statistique et de l'Analyse Economique du Benin

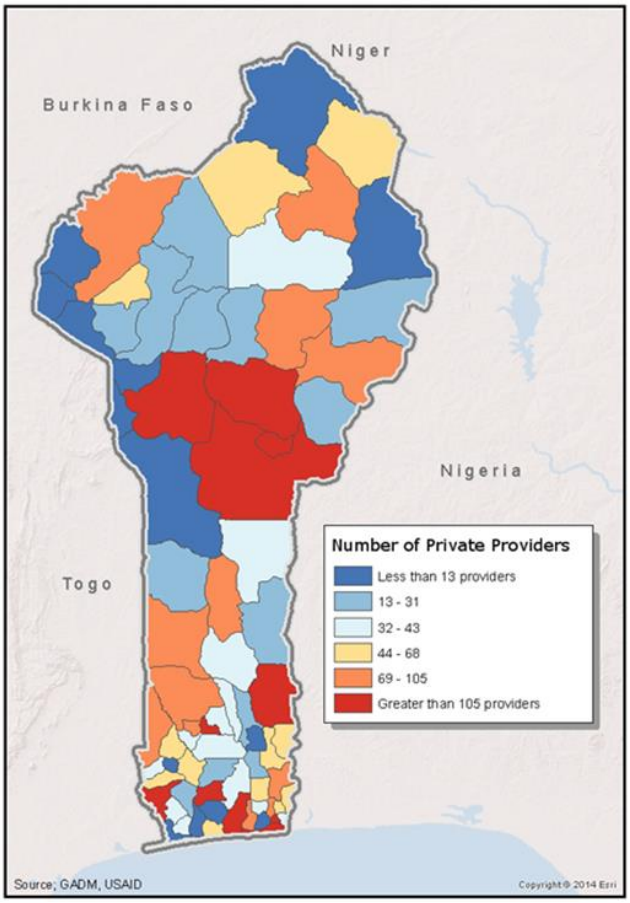
Figure 13 illustrates the number of surveyed private providers by department. The five categories (represented on the map by different colors) indicate the five quintiles of the distribution. The number of private providers surveyed was greatest in Atlantique, while the fewest were recorded in Mono and Atacora.

FIGURE 13. NUMBER OF SURVEYED PRIVATE PROVIDERS BY DEPARTMENT



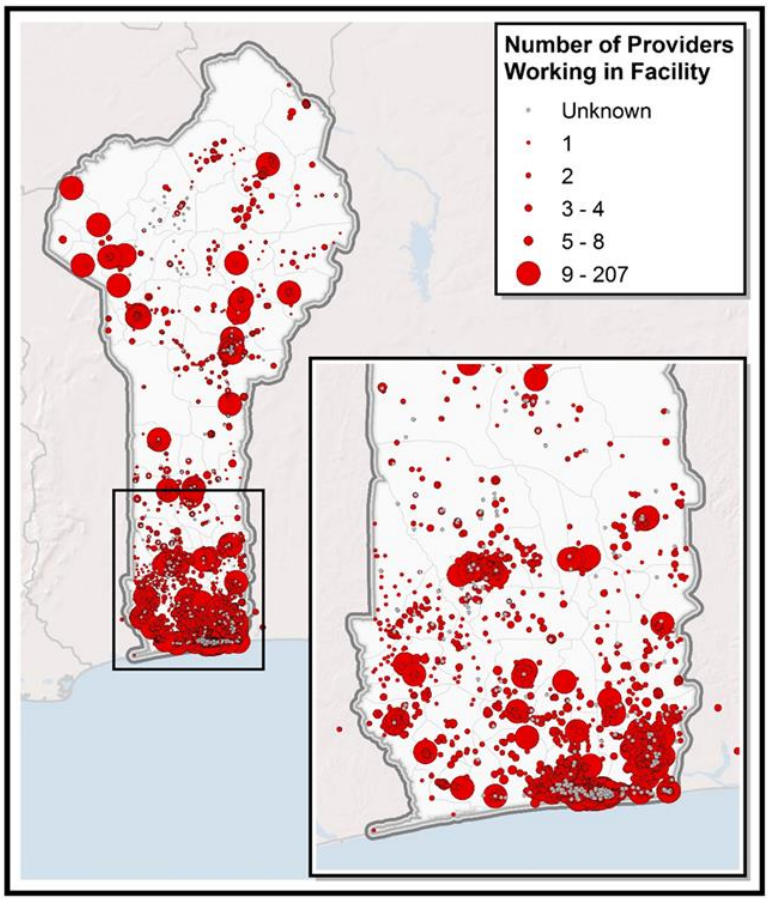
The census also looked at the distribution of private providers at the commune level. Although the largest numbers of surveyed providers were in the south (Abomey-Calavi, Cotonou, and Porto-Novo), there were also significant numbers of private providers in Tchaorou in Borgou department (n=176), Djougou in Donga department (n=167), and Parakou in Borgou department (n=160). Figure 14 illustrates the number of private providers in each commune. The five categories (represented on the map by different colors) indicate the five quintiles of the distribution. For a detailed breakdown of the surveyed private providers by *zone sanitaire* and commune, see Tables A3 and A4 in the Annex.

FIGURE 14. NUMBER OF SURVEYED PRIVATE PROVIDERS BY COMMUNE



Within these communes, the number of staff per facility varied considerably. The facility survey found that most facilities had fewer than five staff members (Figure 15). While there were some facilities with a large number of staff in the north, most of the largest facilities in terms of staff size were concentrated in the southern and coastal areas.

FIGURE 15. DENSITY OF PROVIDERS PER FACILITY



3.2.2 PROVIDER CHARACTERISTICS

The largest cadre of medical professionals surveyed was medical aides (49.4 percent) (Table 17). Nurses and midwives combined accounted for 29 percent of the survey sample. All other cadres made up less than 5 percent of the sample. Nearly 50 percent of the “Other” category consisted of pharmacy-related positions. All pharmacists and pharmacy-related positions included in the provider survey worked at facility-based pharmacies. Providers at standalone private pharmacies are included in Section 3.3.

TABLE 17. FREQUENCY AND PERCENTAGE OF PRIVATE PROVIDERS SURVEYED

Type of provider	Frequency	Percentage of surveyed private providers (%)
Aide	3,071	49.4
Registered nurse	748	12.0
Nurse	711	11.4
Other	420	6.8
Midwife	342	5.5
General doctor	262	4.2
Specialist doctor	221	3.6
Laboratory technician	205	3.3
Pharmacy assistant	73	1.2
Pharmacist	64	1.0
Matrone (traditional birth attendant)	36	0.6
Radiology technician	28	0.5
Dental surgeon	14	0.2
Army nurse[3]	13	0.2
First aid responder	5	0.1
Dentist	2	0.0
Health logistician	2	0.0
Total	**6,217**	**100**

Only 6.5 percent of the surveyed providers worked at more than one private facility. Eight percent worked both in the private and public sectors. Of those who worked in both sectors, 63 percent spent the majority of their time in the public sector, 28 percent spent it in the private sector, and 8 percent spent it equally in both sectors.[4]

On average, private providers had 10.4 years of professional experience, of which 8.7 years were spent in the private sector (Table 18). Dentists, traditional birth attendants *(matrones)*, and army nurses all reported the highest average number of years of experience, though the total number of respondents in each of these cadres was small. Every cadre reported that at least two-thirds of their professional career had been spent in the private health sector (data not shown). Midwives and dental surgeons had spent the smallest portion of their career in the private sector (averaging 67 percent and 68 percent, respectively). Pharmacy assistants, medical aides, and matrons all spent an average greater than 90 percent of their career in a private facility.

[3] Army nurses surveyed in this census were public sector providers who offered additional private sector services outside of their normal office hours.
[4] Numbers do not add up to 100 percent due to rounding.

TABLE 18. AVERAGE YEARS OF WORK EXPERIENCE OF SURVEYED PRIVATE PROVIDERS

Type of provider	Frequency	Average years of professional experience	Average years of private sector experience
Dentist	2	24.0	21.0
Matrone (traditional birth attendant)	36	20.3	18.8
Pharmacist	64	19.2	16.5
Specialist doctor	221	18.3	14.1
Dental surgeon	14	19.8	13.4
Army nurse	13	28.9	12.5
Midwife	342	16.9	11.3
Registered nurse	748	15.8	11.0
General doctor	262	12.7	10.0
First aid responder	5	13.6	10.0
Nurse	711	12.1	9.9
Other	420	10.4	9.2
Radiology technician	28	9.0	8.4
Laboratory technician	205	9.0	8.2
Aide	3,071	7.0	6.7
Pharmacy assistant	73	5.9	6.6
Health logistician	2	5.0	4.5
Total	**6,217**	**10.4**	**8.7**

3.2.3 TRAINING

As previously noted, most private health facilities lacked someone trained in many key clinical areas in the past two years. The private provider survey also revealed low levels of training: just 20.2 percent reported having received training in ORS and zinc, 29 percent in ACT, and 12.1 percent in ART in the past two years.[5] In the private provider survey, SHOPS surveyed private providers on their top training priorities. About half (52.6 percent) of providers listed malaria treatment as one of their top two preferred trainings (Table 19). The other two most popular options were child health updates (38.9 percent) and new FP technologies (31.5 percent).

TABLE 19. TOP TWO CLINICAL TRAININGS DESIRED BY PROVIDERS

Clinical trainings	Frequency (n=6,217)	Percent
Malaria treatment updates	3,272	52.6
Child health updates	2,421	38.9
New family planning technologies	1,961	31.5
PMTCT	1,413	22.7
Maternal and neonatal health updates	1,115	17.9
ART	1,057	17.0
TB treatment	754	12.1
Other	173	2.8

In addition to clinical trainings, SHOPS asked about which supportive trainings would be useful. Just under half (47.5 percent) of private providers said that trainings on quality assurance systems would be preferred (Table 20). Communications and counseling (42.1 percent) and time management/patient tracking (40.1 percent) were the other two most popular choices.

[5] Provider questions regarding training were limited to whether they had attended the trainings in the past two years to determine whether they were up to date on the latest protocols.

TABLE 20. TOP TWO SUPPORTIVE TRAININGS DESIRED BY PROVIDERS

Supportive trainings	Frequency (n=6,217)	Percent
Quality assurance systems	2,953	47.5
Communications and counseling	2,619	42.1
Time management/patient tracking	2,495	40.1
Business management	2,253	36.2
Monitoring	1,714	27.6
Other	53	0.9

3.2.4 AFFILIATION AND REGISTRATION

Excluding medical aides, laboratory technicians, radiology technicians, health logisticians, first aid responders, and "other" providers, who would not be expected to be registered, there were a total of 2,486 remaining health providers surveyed. Of those, 1,262 (50.8 percent) reported that they were registered to practice in Benin. Table 21 summarizes the proportion of each type of surveyed provider who reported that they were registered. This proportion ranged from 13.9 percent of *matrones* to 100 percent of dental surgeons.

TABLE 21. REGISTRATION STATUS BY PROVIDER TYPE*

Type of provider	Frequency	Percent registered to practice in Benin
Registered nurse	748	46.0
Nurse	711	27.7
Midwife	342	54.7
General doctor	262	82.1
Specialist doctor	221	88.2
Pharmacy assistant	73	50.7
Pharmacist	64	92.2
Matrone (traditional birth attendant)	36	13.9
Dental surgeon	14	100.0
Army nurse	13	61.5
Dentist	2	50.0
Total	**2,486**	**50.8**

*Excludes medical aides (n=3,071), laboratory technicians (n=205), radiology technicians (n=28), health logisticians (n=2), first aid responders (n=5), and "other" providers (n=420).

Overall, 28.3 percent of all nurses surveyed were registered with the Association of Nurses, 51.5 percent of all midwives were registered with the Order of Midwives, 78.1 percent of all doctors were registered with the Order of Doctors, and 90.6 percent of all surveyed pharmacists were registered with the Order of Pharmacists.

Of the 410 general and specialist doctors who reported that they were registered to practice, 92 percent were registered with the Order of Doctors. Of the 549 nurses interviewed who are registered to practice, 75.8 percent were registered with the Order of Nurses; 94.1 percent of the registered midwives surveyed were registered with the Order of Midwives. Finally, 98.3 percent of the registered pharmacists were registered with the Order of Pharmacists.

3.3 PHARMACIES

The third part of the results section summarizes findings from the private pharmacies identified in this census. Section 3.3 is presented in seven parts: geographic distribution, pharmacy staff, insurance, affiliation and registration, clientele, barriers to expanding business, and drugs/stock.

3.3.1 GEOGRAPHIC DISTRIBUTION

The SHOPS census identified 324 private pharmacies across Benin and completed surveys with 281 of them. Of these, 71 percent were pharmacies, 28 percent were pharmacy depots, and 1 percent was "other." GPS coordinates were taken from all private pharmacies, regardless of whether an interview was completed. The oldest pharmacy opened in 1967, and the most recent opened in 2014. Over half of all pharmacies had been open ten years or less, with the median founding year being 2005. There was great variation in their distribution across the country. The majority of pharmacies were located in southern departments, with almost half in the Littoral (95 pharmacies) and Ouémé (47 pharmacies) departments alone (Table 22). Donga (2 pharmacies) and Plateau (8 pharmacies) had the fewest pharmacies. Similarly, the concentration of pharmacies based on population size varied, from a low of 0.04 pharmacies per 10,000 people in Donga to 1.4 pharmacies per 10,000 people in Littoral.

TABLE 22. NUMBER OF PHARMACIES BY DEPARTMENT

Department	Frequency	Percent (%)	Number of pharmacies per 10,000 people
Littoral	95	29.3	1.40
Ouémé	47	14.5	0.43
Atlantique	40	12.4	0.29
Borgou	37	11.4	0.31
Zou	19	5.9	0.22
Collines	18	5.6	0.25
Mono	17	5.3	0.34
Alibori	15	4.6	0.17
Atacora	15	4.6	0.19
Couffo	11	3.4	0.15
Plateau	8	2.5	0.13
Donga	2	0.6	0.04
Total	**324**	**100**	**0.32**

Within each department, there was further variation based on the zone sanitaire and the commune (see Tables A5 and A6 in the Annex for detailed tables). In some departments, private pharmacies were relatively evenly distributed across communes (Alibori, Couffo, Donga), and in others, pharmacies were geographically concentrated (Ouémé, Atlantique). For example, 53 percent of Ouémé's 47 pharmacies were found in Porto-Novo, with the remaining 47 percent spread out across the department's other seven communes.

Across Benin, the majority of private pharmacies were owned by men (54.4 percent). However, women still owned a significant portion (39.9 percent) (Table 23). The remaining pharmacies were largely owned by a professional association or organization.

TABLE 23. PHARMACY OWNERSHIP BY GENDER

	Frequency (n=281)	Percentage (%)
Men	153	54.4
Women	112	39.9
Both	2	0.7
Association/Organization/Faith-Based Organization	14	5.0

3.3.2 PHARMACY STAFF

Across the country, the median number of employees at each pharmacy was four: one licensed pharmacist and three pharmacy helpers. Across all cadres for both full- and part-time

employees, approximately two-thirds of pharmacy employees were women. Full-time employees were 67 percent female, 33 percent male; part time employees were 65 percent female, and 35 percent male. Most (88 percent) of all pharmacy employees were full-time and the remaining twelve percent were part-time.

3.3.3 INSURANCE

Of the 281 pharmacies interviewed, 87 (31 percent) reported that they accept prescriptions from clients who are registered with a health insurance scheme, but the type of insurance accepted varied. Among these pharmacies, NSIA (59 percent), Africaine des Assurances (56 percent), and ASCOMA (47 percent) were the three most widely accepted plans (Table 24). RAMU/MUSA, Assurances et Réassurances du Golfe de Guinée, and Générale des Assurances du Bénin were the three least commonly accepted plans.

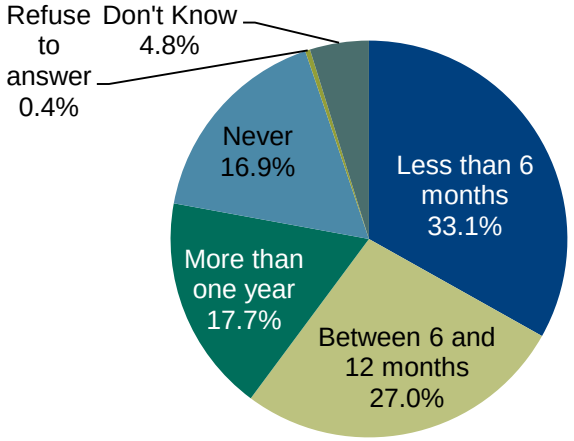
TABLE 24. INSURANCE PLANS ACCEPTED AT PHARMACIES

Insurance	Frequency (n=87)	Percent (%)
Nouvelle Société Interafricaine d'Assurance (NSIA)	51	58.6
Africaine des Assurances	49	56.3
ASCOMA	41	47.1
La Fédérale des Assurances (FEDAS)	37	42.5
Gras Savoye	34	39.1
Colina Vie/Assurances	28	32.2
Générale des Assurances du Bénin	15	17.2
Other	14	16.1
Assurances et Réassurances du Golfe de Guinée	4	4.6
RAMU/MUSA	3	3.5

3.3.4 AFFILIATION AND REGISTRATION

Most (83 percent) of the 281 pharmacies interviewed reported that they were registered with the *Direction de la Pharmacie et du Médicament*. Over half (60 percent) of all pharmacies open since 2013 or earlier reported that they had received a supervisory visit within the past year (Figure 16). However, 17 percent reported that they had never received an accreditation visit and 18 percent reported that their last accreditation visit occurred more than one year ago.

FIGURE 16. LAST ACCREDITATION VISIT BY REGULATORY BODY (N=248)



Note: All pharmacies opened after 2013 were removed to account for newly-opened pharmacies that had not had time to register at the time of the census.

The census revealed that 204 out of 281 (73%) of the pharmacies surveyed were affiliated with at least one professional association or wholesaler (Table 25). Most of these facilities were affiliated with more than one of the ten largest organizations and/or wholesalers. The three largest associations/wholesalers (GAPOB, UBEPHAR, and PROMOPHARMA) all had member populations that included at least three quarters of pharmacies affiliated with an association/ wholesaler. Most (65 percent) pharmacies indicated that they regularly participated in meetings of the Pharmacy Directorate within the Ministry of Health, and 67 percent reported that they were up to date on their member fees.

TABLE 25. PHARMACY AFFILIATION BY ASSOCIATION/WHOLESALER

	Affiliated (n=204)	Percent (%)
UBEPHAR	177	86.8
GAPOB	175	85.8
PROMOPHARMA	157	77
Other	49	24
Medipham	46	22.6
ProFam	39	19.1
Association Béninoise pour la Promotion de la Famille	23	11.3
AMCES	15	7.4
ROHAFEM	9	4.4
REBA-Plus	8	3.9
ROBS	7	3.4

3.3.5 CLIENTELE

Pharmacists were asked to estimate their client volume in two ways: 15 percent (n=43) of pharmacies had registers on site with detailed client information. The remaining 85 percent (n=228) of respondents provided general estimates based on their impressions. Pharmacies with updated registers showed an average of 142 clients per day. The remaining respondents averaged an estimated 78 clients per day. Regular pharmacies and depot pharmacies reported an average of 112 and 30 clients per day, respectively. On average, the reported client population was 52 percent male and 48 percent female.

3.3.6 BARRIERS TO EXPANDING BUSINESS

Many pharmacies reported barriers to expanding their businesses (Table 26). The most frequently cited obstacles included a shortage of equipment and pharmaceuticals (36 percent), a lack of space (25 percent), or some other reason (32 percent). Most respondents who answered “other” cited financial reasons – either too few sales to warrant an expansion or a lack of resources necessary to pay for more space. The least frequently cited reasons included a poor record keeping system (5 percent), lack of reimbursement payments from the government (6 percent), and burdensome accreditation policies and processes (8 percent).

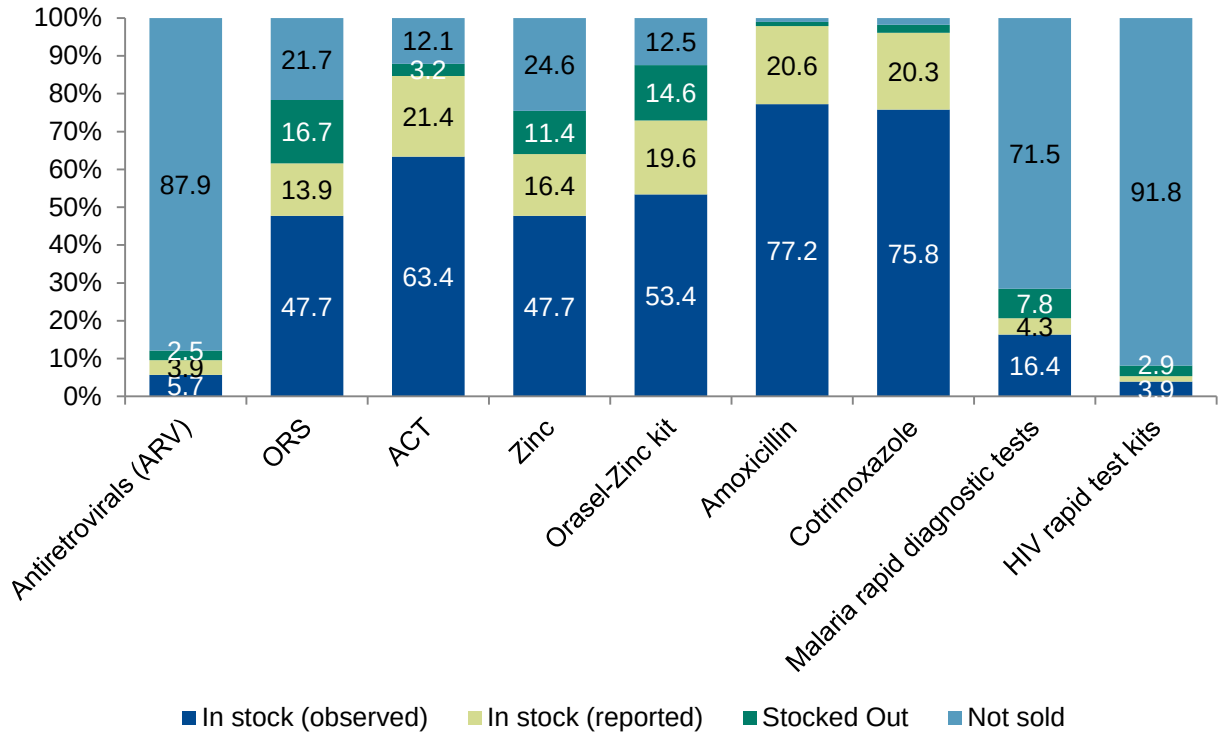
TABLE 26. BARRIERS TO EXPANDING BUSINESS

	Frequency (n=281)	Percent (%)
Shortage of equipment and other medical supplies	102	36.3
Other	89	31.6
Lack of space	71	25.3
Lack of transportation	70	24.9
Staff shortages	49	17.4
Decrease in donor funding	43	15.3
Competencies of providers	42	15.0
Poor relationships with other players of your networks	37	13.2
Accreditation policies and processes	22	7.8
No reimbursement from the government	18	6.4
Poor record-keeping system	15	5.3

3.3.7 STOCK OF DRUGS

Availability of key pharmaceutical goods varied (Figure 17). The majority of pharmacies were either observed or reported to have key antibiotics and ACT in stock. However, significant majorities reported that they did not carry HIV rapid test kits, or malaria rapid test kits. Diarrhea treatments, including ORS, zinc, and Orasel-Zinc kits, were carried by around half of all private pharmacies and were frequently out stock.

FIGURE 17. STOCK OF KEY DRUGS/TREATMENTS/TESTS IN PRIVATE PHARMACIES



4. DISCUSSION

Prior to this census, the size and scope of the private health sector in Benin was relatively unknown. The SHOPS private health sector census was the first attempt to comprehensively characterize the size and geographic distribution of the private health sector, including private pharmacies, in the entire country. The census identified more non-pharmacy facilities than had been reported in the 2012 MOH census, suggesting the possibility that current official figures do not capture all private facilities in Benin. The maps created by this exercise and the information obtained from private facility owners and providers are now available for use by several different stakeholders to inform key programmatic decisions.

The census revealed a comparably large private health sector in terms of both number of facilities and number of providers, but a major concentration is in the south of the country and around urban centers. Enumerators were required to make up to three attempts to complete interviews at each private facility that was identified. They were also instructed to use snowball sampling to identify additional facilities while conducting the census. Thus it is possible that some private facilities were missed, but this methodology increases confidence in the reported total number of private health facilities found in this census. Another limitation is that the surveys relied on self-reported information from facility managers and health care providers, who may have under- or over-reported certain items.

The large distribution of private health facilities in the southern parts of the country may suggest better access to health services in the south. However, without comparable data on the public sector health facility to population ratios in each department, it is not possible to fully assess access. Still, the census findings suggest that given the larger numbers of private providers in the south and in urban centers throughout the rest of the country, interventions to develop and strengthen public-private partnerships for health could potentially yield larger results in a shorter timeframe in these parts of the country.

As previously noted, even though SHOPS identified 6,217 private providers, facility managers reported a total of 10,729 during the facility survey. This number equates to approximately one private health care provider per 930 people in Benin. With 483 private doctors and 1,472 private nurses in the country, there is one private doctor per 20,000 people and one private nurse per 6,800 people. When considering public health sector providers as well, this number is comparable or better than neighboring countries in the region.[6]

While private facilities are spread almost evenly throughout the country in terms of urban and rural locales (largely due to the heavy concentration in the urban Littoral department), access to health care services may be unequal. For instance, the vast majority (over 90 percent) of specialist medical clinics were found in urban areas. Additionally, there were vast differences between urban and rural facilities when it comes to infrastructure, with urban facilities much more likely than rural facilities to have running water and electricity. If rural clinics are to be counted on to extend service provision, inadequate infrastructure issues must be addressed.

Private provider density similarly is concentrated in the urban centers and the south of the country. These regional disparities are also evident when viewing the ratios of private facilities and private providers to population at the department level. Additional research into the barriers

[6] http://gamapserver.who.int/gho/interactive_charts/health_workforce/PhysiciansDensity_Total/atlas.html

to operating private health businesses in rural areas may shed light on the reasons for lack of both private facilities and practitioners in certain areas of the country.

The finding that more than three-fourths of private facilities offer MCH services is encouraging. As only half of private facilities offer RH/FP services, there is room to expand access by scaling up provision in the private sector. The private health sector census identified injectables as the most commonly available FP method in clinics followed by oral contraceptives. This is consistent with the finding that, according to the most recent Demographic and Health Survey, injectables are the second most commonly used modern contraceptive among all women, after male condoms (INSAE and ICF International 2013). When it comes to HIV and AIDS services, only one quarter of facilities offer any type of service; among these, most offer VCT, and very few offer ART. Again, this statistic may point to opportunities to increase access to essential HIV care and treatment by training more private providers and including them in the national HIV response.

The fact that the majority of private facilities are for-profit means that organizations and provider associations play a limited role in private health sector service provision. Franchising and/or establishing networks of private facilities may represent a potential point of entry for organizing group practice and ensuring quality among private practices.

Registration of practice is a critical issue to address in Benin. Just under half of the health facilities are registered with the relevant agency, and many of those have not received an accreditation visit within the past year. Similarly, the proportion of private providers who reported being registered to practice in Benin was variable by cadre but overall only about half were registered. In order to ensure that facilities are meeting quality assurance standards and thus providing high quality services, supervisory and accreditation visits are needed at more regular intervals by the corresponding authorities. This census did not collect information about why facilities and providers are not registered, or what sorts of barriers may exist to registration; additional research on this topic would be useful to develop approaches to encourage and facilitate registration for private health providers who for various reasons are not currently registered.

Consistent with what is found in other countries, very few private facilities send regular monthly reports to the government health authorities. Without timely and complete data from the private health sector, the government does not have an accurate picture of disease trends, general health services and outcomes, or the role of the private health sector. In the case of priority infectious diseases, lack of routine reporting data from private facilities may be particularly troublesome as it could delay recognition of potential outbreaks of public health concern. Efforts to expand private sector reporting would be beneficial to the government's ability to detect and quickly respond to emerging health threats, but also to have an accurate and up-to-date picture of general health trends in the country.

One of the most important indicators of the private health sector's ability to thrive in a country is the enabling environment for business. Private facility managers reported several barriers for expanding their businesses, with the most frequently cited being a shortage of medical equipment, lack of transport, and lack of clinical space. These barriers may reflect a lack of capital on the part of providers, but additional exploration into possible reasons (such as low access to credit and other financial means to expand their businesses) may be warranted to inform effective strategies to address the problems.

The census found that very few private facilities accept any type of insurance. With Benin rolling out RAMU, its universal health insurance scheme, into the future, health financing processes and schemes will need to be well defined. Expansion of health insurance in Benin will require a

concerted, well-funded effort by local and international stakeholders to increase coverage and ensure a well-functioning system.

The census also explored the availability of certain products (drugs, treatments, and test kits) in the private health sector in Benin. Amoxicillin and cotrimoxazole, important antibiotics for fighting malarial and respiratory diseases, were commonly found in facilities and pharmacies. ACT for malaria was stocked in about half of the facilities and almost two-thirds of the pharmacies, but rapid tests kits for malaria were not widely available in these facilities. In addition, the first-line treatments for uncomplicated pediatric diarrhea, ORS, zinc, and the Orasel-Zinc diarrhea treatment kit, were not widely available at private facilities and pharmacies and were frequently out of stock in those facilities that did report carrying them regularly. The large number of private providers and pharmacies operating in the country could represent opportunities to expand availability and access to key drugs, treatments, and testing, but additional work will be required to determine how to ensure the supply and quality of these commodities.

Regarding training, the census found that facilities lack providers who have been recently trained on diarrhea management and malaria treatment protocols. At the same time, the providers surveyed stated that their top priorities for clinical training would be malaria treatment updates and child health updates, so it appears there is a demand for training in these areas as well as a need for it. In terms of supportive (non-clinical) training, they were most interested in training on quality assurance systems, communications, and counseling. The census data could be used to identify geographic areas with inadequate training coverage in these key areas and to organize additional trainings in regions that are currently inadequately covered.

Overall, the data from this census has the potential to be used in a variety of ways to help improve health outcomes in Benin. Additional geographic analyses could facilitate programmatic decisions, and could be used by decision-makers to identify areas where private sector providers can potentially play a larger and complementary role to public sector providers; this information could inform programs and activities aimed at enabling private sector facilities and providers to expand their roles while maintaining the quality of services and products. The data produced by this census is intended for use by a range of local stakeholders and development partners to inform strategies, policies and programs, ultimately benefitting the people of Benin.

ANNEX: FACILITIES AND PHARMACIES BY ZONE SANITAIRE AND COMMUNE

TABLE A1. GEOGRAPHIC DISTRIBUTION OF FACILITIES BY ZONE SANITAIRE

Department	Zone Sanitaire	Number of private facilities
Alibori	Banikora	33
	Kandi-Gogounou-Ségbana	57
	Karimama -Malanville	16
Atacora	Kouandé, Pehunco, Kérou	63
	Natitingou, Boukounbe, Toucountouna	13
	Tanguieta, Cobly, Materi	3
Atlantique	Abomey-Calavi, Sô-Ava	353
	Allada , Toffo, Zè	103
	Ouidah, Kpomassè, Tori- Bossito	65
Borgou	Bèmbèrèkè- Sinendé	25
	Nikki-Kalalé-Pèrèrè	38
	N'Dali- Parakou	128
	Tchaorou	87
Collines	Dassa- Glazoué	63
	Savè-Ouèssè	54
	Savalou- Bantè	82
Couffo	Applahoué, Djakotomey, Dogbo	102
	Klouékanmè, Lalo, Toviklin	83
Donga	Bassila	2
	Djougou, Ouaké, Copargo	63
Littoral	Cotonou I Et Iv	104
	Cotonou Ii Et Iii	80
	Cotonou V	119
	Cotonou Vi	104
Mono	Comè, Grand Popo, Houéyogbé, Bopa	63
	Lokossa, Athiémé	52
Ouémé	Adjohoun, Bonoun Dangbo	74
	Akpro-Missrété, Avrankou, Adjarra	138
	Porto-Novo, Sèmè-Kpodji, Aguégué	238
Plateau	Pobè, Kétou, Adjaouèrè	140
	Sakété-Ifangni	56
Zou	Bohicon, Za-Pota, Zogbodomey	113
	Covè, Zangnanado, Ouinhi	28
	Abomey, Agbagnizoun, Djidja	109

TABLE A2. GEOGRAPHIC DISTRIBUTION OF PRIVATE FACILITIES BY COMMUNE

Department	Commune	Number of private facilities
Alibori	Banikora	33
	Gogounou	19
	Kandi	30
	Segbana	8
	Karimama	1
	Malanville	15
Atacora	Kerou	33
	Kouandé	16
	Pehunco	14
	Boukounbe	2
	Natitingou	9
	Toucou touna	2
	Cobly	1
	Materi	1
	Tanguieta	1
Atlantique	Abomey-calavi	312
	Sô-ava	41
	Allada	51
	Toffo	24
	Ze	28
	Kpomassè	7
	Ouidah	45
	Tori- bossito	13
Borgou	Bèmbèrèkè	14
	Sinendé	11
	Kalale	18
	Nikki	11
	Pèrèrè	9
	N'dali	30
	Parakou	98
	Tchaorou	87
Collines	Dassa	32
	Glazoué	30
	Ouèssè	27
	Savè	27
	Bantè	25
	Savalou	57
Couffo	Applahoué	51
	Djacotomè	23
	Dogbo	28
	Klouékanmè	42
	Lalo	36
	Toviklin	5
Donga	Bassila	2
	Copargo	2
	Djougou	58
	Ouaké	3
Littoral	Cotonou	104
	Cotonou	80
	Cotonou	119
	Cotonou	104

Mono	Bopa	22
	Comè	21
	Grand popo	4
	Houéyogbé	16
	Athiémé	10
	Lokossa	42
Ouémé	Adjohoun	31
	Bonou	12
	Dangbo	31
	Adjarra	31
	Akpro-missrete	59
	Avrankou	48
	Aguegue	8
	Porto-novo	101
	Seme-kpodji	129
Plateau	Adja-ouere	40
	Ketou	70
	Pobe	30
	Ifangni	24
	Sakete	32
Zou	Bohicon	58
	Za-kpota	26
	Zogbodomey	29
	Cove	13
	Ouinhi	7
	Zangnanado	8
	Abomey	25
	Agbangnizoun	24
	Djidja	60

TABLE A3. GEOGRAPHIC DISTRIBUTION OF SURVEYED PRIVATE PROVIDERS BY ZONE SANITAIRE

Department	Zone Sanitaire	Number of private providers
Alibori	Banikora	63
	Kandi-Gogounou-Ségbana	137
	Karimama -Malanville	57
Atacora	Kouandé, Pehunco, Kérou	58
	Natitingou, Boukounbe, Toucountouna	41
	Tanguieta, Cobly, Materi	120
Atlantique	Abomey-Calavi, Sô-Ava	932
	Allada , Toffo, Zè	212
	Ouidah, Kpomassè, Tori- Bossito	89
Borgou	Bèmbèrèkè- Sinendé	109
	Nikki-Kalalé-Pèrèrè	120
	N'Dali- Parakou	280
	Tchaorou	176
Collines	Dassa- Glazoué	129
	Savè-Ouèssè	63
	Savalou- Bantè	106
Couffo	Applahoué, Djakotomey, Dogbo	159
	Klouékanmè, Lalo, Toviklin	112
Donga	Bassila	3

	Djougou, Ouaké, Copargo	178
Littoral	Cotonou I et IV	175
	Cotonou II et III	229
	Cotonou V	455
	Cotonou VI	288
Mono	Comè, Grand Popo, Houéyogbé, Bopa	116
	Lokossa, Athiémé	111
Ouémé	Adjohoun, Bonoun Dangbo	115
	Akpro-Missrété, Avrankou, Adjarra	183
	Porto-Novo, Sèmè-Kpodji, Aguégué	587
Plateau	Pobè, Kétou, Adjaouèrè	226
	Sakété-Ifangni	138
Zou	Bohicon, Za-Pota, Zogbodomey	185
	Covè, Zangnanado, Ouinhi	58
	Abomey, Agbagnizoun, Djidja	207
TOTAL		**6,217**

TABLE A4. GEOGRAPHIC DISTRIBUTION OF PROVIDERS BY COMMUNE

Department	Commune	Number of private providers
Alibori	Banikora	63
	Gogounou	42
	Kandi	83
	Segbana	12
	Karimama	3
	Malanville	54
Atacora	Kerou	24
	Kouandé	20
	Pehunco	14
	Boukounbe	7
	Natitingou	28
	Toucou touna	6
	Cobly	4
	Materi	11
	Tanguieta	105
Atlantique	Abomey-calavi	855
	Sô-ava	77
	Allada	108
	Toffo	68
	Ze	36
	Kpomassè	9
	Ouidah	63
	Tori- bossito	17
Borgou	Bèmbèrèkè	89
	Sinendé	20
	Kalale	31
	Nikki	70
	Pèrèrè	19
	N'dali	120
	Parakou	160
	Tchaorou	176
Collines	Dassa	43
	Glazoué	86

	Ouèssè	34
	Savè	29
	Bantè	30
	Savalou	76
Couffo	Applahoué	75
	Djacotomè	38
	Dogbo	46
	Klouékanmè	55
	Lalo	45
	Toviklin	12
Donga	Bassila	3
	Copargo	5
	Djougou	167
	Ouaké	6
Littoral	Cotonou	175
	Cotonou	229
	Cotonou	455
	Cotonou	288
Mono	Bopa	31
	Comè	41
	Grand popo	7
	Houéyogbé	37
	Athiémé	21
	Lokossa	90
Ouémé	Adjohoun	54
	Bonou	25
	Dangbo	36
	Adjarra	41
	Akpro-missrete	80
	Avrankou	62
	Aguegue	8
	Porto-novo	317
	Seme-kpodji	262
Plateau	Adja-ouere	54
	Ketou	115
	Pobe	57
	Ifangni	61
	Sakete	77
Zou	Bohicon	107
	Za-kpota	42
	Zogbodomey	36
	Cove	32
	Ouinhi	9
	Zangnanado	17
	Abomey	90
	Agbangnizoun	42
	Djidja	75
TOTAL		**6,217**

TABLE A5. NUMBER OF PRIVATE PHARMACIES BY ZONE SANITAIRE

Department	Zone Sanitaire	Freq. (n=324)	Percent (%)
Alibori	Banikora	5	1.5
	Kandi-Gogounou-Ségbana	6	1.9
	Karimama -Malanville	4	1.2
Atacora	Kouandé, Pehunco, Kérou	8	2.5
	Natitingou, Boukounbe, Toucountouna	3	0.9
	Tanguieta, Cobly, Materi	4	1.2
Atlantique	Abomey-Calavi, Sô-Ava	24	7.4
	Allada , Toffo, Zè	4	1.2
	Ouidah, Kpomassè, Tori- Bossito	12	3.7
Borgou	Bèmbèrèkè- Sinendé	6	1.9
	Nikki-Kalalé-Pèrèrè	7	2.2
	N'Dali- Parakou	17	5.3
	Tchaorou	7	2.2
Collines	Dassa- Glazoué	4	1.2
	Savè-Ouèssè	5	1.5
	Savalou- Bantè	9	2.8
Couffo	Applahoué, Djakotomey, Dogbo	6	1.9
	Klouékanmè, Lalo, Toviklin	5	1.5
Donga	Bassila	1	0.3
	Djougou, Ouaké, Copargo	1	0.3
Littoral	Cotonou I et IV	33	10.2
	Cotonou Ii et III	12	3.7
	Cotonou V	26	8.0
	Cotonou VI	24	7.4
Mono	Comè, Grand Popo, Houéyogbé, Bopa	12	3.7
	Lokossa, Athiémé	5	1.5
Ouémé	Adjohoun, Bonoun Dangbo	9	2.8
	Akpro-Missrété, Avrankou, Adjarra	6	1.9
	Porto-Novo, Sèmè-Kpodji, Aguégué	32	9.9
Plateau	Pobè, Kétou, Adjaouèrè	5	1.5
	Sakété-Ifangni	3	0.9
Zou	Bohicon, Za-Pota, Zogbodomey	5	1.5
	Covè, Zangnanado, Ouinhi	5	1.5
	Abomey, Agbagnizoun, Djidja	9	2.8
Total		**324**	**100.0**

TABLE A6. GEOGRAPHIC DISTRIBUTION OF PRIVATE PHARMACIES BY COMMUNE

Department	Commune	Freq. (n=324)	Percent (%)
Alibori	Banikora	5	1.5
	Kandi	5	1.5
	Segbana	1	0.3
	Karimama	1	0.3
	Malanville	3	0.9
Atacora	Kerou	2	0.6
	Kouandé	3	0.9
	Pehunco	3	0.9
	Natitingou	3	0.9
	Materi	1	0.3
	Tanguieta	3	0.9
Atlantique	Abomey-Calavi	24	7.4
	Allada	2	0.6
	Toffo	1	0.3
	Ze	1	0.3
	Kpomassè	2	0.6
	Ouidah	7	2.2
	Tori- Bossito	3	0.9
Borgou	Bèmbèrèkè	2	0.6
	Sinendé	4	1.2
	Kalale	4	1.2
	Nikki	1	0.3
	Pèrèrè	2	0.6
	N'dali	5	1.5
	Parakou	12	3.7
	Tchaorou	7	2.2
Collines	Dassa	3	0.9
	Glazoué	1	0.3
	Ouèssè	3	0.9
	Savè	2	0.6
	Bantè	4	1.2
	Savalou	5	1.5
Couffo	Applahoué	3	0.9
	Djacotomè	1	0.3
	Dogbo	2	0.6
	Klouékanmè	1	0.3
	Lalo	4	1.2
Donga	Bassila	1	0.3
	Djougou	1	0.3

Littoral	Cotonou	95	29.3
Mono	Bopa	3	0.9
	Comè	4	1.2
	Grand Popo	3	0.9
	Houéyogbé	2	0.6
	Athiémé	1	0.3
	Lokossa	4	1.2
Ouémé	Adjohoun	4	1.2
	Bonou	4	1.2
	Dangbo	1	0.3
	Adjarra	3	0.9
	Akpro-Missrete	2	0.6
	Avrankou	1	0.3
	Porto-Novo	25	7.7
	Seme-Kpodji	7	2.2
Plateau	Adja-Ouere	1	0.3
	Ketou	2	0.6
	Pobe	2	0.6
	Ifangni	1	0.3
	Sakete	2	0.6
Zou	Bohicon	4	1.2
	Zogbodomey	1	0.3
	Cove	3	0.9
	Zangnanado	2	0.6
	Abomey	3	0.9
	Agbangnizoun	3	0.9
	Djidja	3	0.9
Total		**324**	**100.0**

TABLE A7. STOCK OF DRUGS AT PRIVATE PHARMACIES

	Frequency (n=281)	Percent
Antiretroviral drugs		
In stock (observed)	16	5.7
In stock (reported)	11	3.9
Out of stocked	7	2.5
Not sold	247	87.9
ORS		
In stock (observed)	134	47.7
In stock (reported)	39	13.9
Out of stocked	47	16.7

Not sold	61	21.7
ACT		
In stock (observed)	178	63.4
In stock (reported)	60	21.4
Out of stocked	9	3.2
Not sold	34	12.1
Zinc		
In stock (observed)	134	47.7
In stock (reported)	46	16.4
Out of stocked	32	11.4
Not sold	69	24.6
Orasel-Zinc kit		
In stock (observed)	150	53.4
In stock (reported)	55	19.6
Out of stocked	41	14.6
Not sold	35	12.5
Amoxicillin		
In stock (observed)	217	77.2
In stock (reported)	58	20.6
Out of stocked	3	1.1
Not sold	3	1.1
Cotrimoxazole		
In stock (observed)	213	75.8
In stock (reported)	57	20.3
Out of stocked	6	2.1
Not sold	5	1.8
Malaria rapid diagnostic tests		
In stock (observed)	46	16.4
In stock (reported)	12	4.3
Out of stocked	22	7.8
Not sold	201	71.5
HIV rapid test kits		
In stock (observed)	11	3.9
In stock (reported)	4	1.4
Out of stocked	8	2.9
Not sold	258	91.8

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