INTRODUCTION

The islands of Guadeloupe and Martinique (in the Lesser Antilles) and French Guiana (along the northern coast of South America between Suriname and Brazil) constitute the French Overseas Departments (FDAs) in the Americas. They have been an integral part of France since 1946, and their political and administrative structure mirrors that of metropolitan France. Through legislation enacted in 2007, Saint Barthelemy and the French portion of Saint Martin became two new overseas entities that were no longer linked with Guadeloupe.

Stretching for 1,628 km², the Guadeloupe archipelago includes Guadeloupe itself (Basse-Terre and Grande-Terre) and the islands of Marie-Galante, Les Saintes, and La Désirade. Martinique spans 1,128 km², making it the smallest French department. French Guiana covers 83,534 km², 94% of which is blanketed by the Amazon rain forest; it is the
largest French region. The French Antilles boast a tropical climate tempered by trade winds, but the islands are threatened by hurricanes from July through October; French Guiana has an equatorial climate.

The population of Guadeloupe and Martinique is a blend of the Amerindian, black, white, and Indian populations who settled here over the course of centuries. Unlike in other Caribbean islands, the FDAs have no remaining indigenous (Amerindian) populations. French Guiana’s population is an ethnic mosaic. Original Amerindians were joined by Europeans and African slaves. In the 20th century Chinese and Lebanese merchants arrived in the departments, followed by Hmong farmers who immigrated here from Upper Laos in the aftermaths of the War in Indochina and the Vietnam War.

Despite a high birth rate between the 1960s and the 1980s, the French territories’ population remained stable in those decades, owing to emigration to the French mainland which was in need of laborers. Since the mid-1980s, migration flows have reversed, and population growth increased. Guadeloupe, and especially French Guiana, are experiencing a rising migration influx.

On 1 January 2010, Guadeloupe’s population was 404,394 inhabitants, followed by Martinique, with 399,637, and French Guiana, with 232,223. Given its small size, Martinique has the highest population density among the French territories, at 354 persons/km² in 2010, followed by Guadeloupe with 248, and French Guiana, given its vast territory, with 3. In French Guiana, 90% of the population lives along the coast. Between 1999 and 2010, French Guiana’s population grew very rapidly (an average increase of 3.7% per year); Guadeloupe and Martinique experienced far more modest growth, at only 0.7% per year in the same period (1). See Figures 1A–C for the population structure in each of the territories in 1990 and 2010, and Table 1 for the demographic indicators.

Of the three FDAs, Martinique had the longest life expectancy in 2008, 83.8 years for women and 77.6 for men. Guadeloupe follows closely, at 83.4 years for women and 75.6 for men. French Guiana lagged at 81.2 years for women and 74.8 for men.

Martinique’s foreign population represents less than 2% of the total population and remains stable, consisting primarily of immigrants from Saint Lucia and Haiti. In Guadeloupe, foreigners account for 4% of the population, over half of them from Haiti. French Guiana’s situation is very different, however, with one out of three persons being foreign-born. The three nationalities with the highest presence there are Surinamese (39%), Haitians (27%), and Brazilians (22%). According to official figures, the foreign-born accounted for 38% of the population in 2007, but the figure is likely to be higher. French Guiana’s extensive land borders, the fact that its natural borders—the Maroni and Oyapock rivers, for example—can easily be breached, and the prevalence of activities such as gold mining all foster clandestine immigration.

There is a marked contrast between French Guiana, with its high birth rate and demographic dynamism, and the Antilles, where the birth rate is low and the aging of the population is becoming increasingly accentuated (Table 1).

**HEALTH DETERMINANTS AND INEQUALITIES**

The economies of the French departments exhibit the problems common to microeconomies: low export competitiveness, some service-sector concentration, a reliance on natural resources and tourism, environmental fragility, and vulnerability to natural disasters. Furthermore, these economies depend heavily on mainland France, with little opportunity to tap other external markets (there is a low volume of trade with the Caribbean, mainly in goods and petroleum).

French Guiana’s economy has two special features: the space center (built by the European Community for launching Ariane rockets) located in Kourou commune, which is one of the mainstays of the territory’s economy, and gold mining. The latter fosters clandestine activities and results in trafficking of various types.

In Guadeloupe and Martinique, banana, sugar, and rum industries continue to have an important hand in these territories’ economies, even though these sectors face persistent difficulties (especially the banana sector) that require that they be subsidized in order to survive. Martinique’s economy experienced sustained growth until 2006, and Guadeloupe’s did.


* Each age group’s percentage represents its proportion of the total for each sex.
so until 2008; the 2009 economic and social crisis reversed the positive trend. Martinique was particularly affected by a 6.5% drop in its gross domestic product (GDP) in 2009. The per capita GDP in the French Departments in the Americas is lower than that of other French regions: in 2009, per capita GDP was estimated at US$ 24,329 in Martinique, US$ 23,072 in Guadeloupe, and US$ 17,812 in French Guiana, compared with an average of US$ 37,962 in mainland France.

Unemployment in the French Overseas Departments is high. In 2010, 21.0% of the economically active population of French Guiana was unemployed, as was 23.5% in Guadeloupe and 21.0% in Martinique. Young people are particularly affected, especially those with the least schooling (62% of persons under 25 were unemployed in Martinique in 2010). Women’s unemployment rate was higher than men’s: for example, in 2009, the employment rate for women in Martinique was 49.3%, compared with 54.9% for men. Salaried employment in the service sector predominates in Guadeloupe’s, Martinique’s, and French Guiana’s labor markets. The 2009 social crisis, compounded by the global economic recession, resulted in the closing of certain enterprises and lowered investor confidence. Moreover, certain fiscal measures that had buoyed the local economy (such as tax cuts) were rescinded or weakened by the French Government, which severely penalized sectors such as construction and public works, leading to job losses in those sectors since 2009. French Guiana’s economy has benefited from the territory’s demographic dynamism, which has been accompanied by major investment in public works projects to accommodate the territory’s rapid population growth. The local population’s low educational level must be improved, because potential employers cannot always find qualified personnel.

The FDAs’ economic and social situations are disadvantaged compared to other regions of France. This largely translates into a higher proportion of people benefiting from certain social measures, such as the guaranteed minimum income (Revenu Minimum d’Insertion [RMI]). The measure, instituted in France in 1988 and renamed as active solidarity income (Revenu de Solidarité Active [RSA]) in 2010 (3), provides individuals aged 25 years (or younger, for those who have or are expecting a child) with basic financial resources, access to certain social benefits, and help in entering society or finding work. The proportion of RMI/RSA beneficiaries is higher in the Overseas Departments than in other regions of mainland France. On 31 December 2009, the FDAs had 71,000 RMI beneficiaries—103 per 1,000 persons aged 20–59 in French Guiana, 141 in Martinique, and 146 in Guadeloupe.

The 2006 National Institute of Statistics and Economic Studies (Institut national de la statistique et des études économiques [INSEE]) Household Budget Surveys confirm that the Overseas Departments have more poor households than does mainland France (4). They also show that poverty is more prevalent in French Guiana than in the French Antilles, with 26.5% of households falling below the poverty line, as compared to 17.8% in Guadeloupe and 19.8% in Martinique. Unmarried persons and single-parent households are the most affected. Many children live

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1 The poverty line is set at 60% of the annual median income per consumption unit. The number of consumption units for a household is calculated as follows: the first adult counts as 1, other persons aged 14 and over each count as 0.5, and persons under 14 each count as 0.3. This standardization by number of consumption units makes it possible to take household size into account.
in households that are below the poverty line: one-quarter of the children in Martinique and Guadeloupe, and almost one-half in French Guiana. This is due largely to the high proportion of low income in single-parent households and large families.

Guadeloupe and Martinique, for example, are threatened by natural disasters, and the territories have risk-prevention plans in place to cope with earthquakes, hurricanes, and volcanic eruptions.

THE ENVIRONMENT AND HUMAN SECURITY

Access to Clean Water and Sanitation

Due to its geography, French Guiana cannot guarantee access to safe drinking water for all its residents, be they populations living in remote areas who receive mediocre water or populations who live along rivers or in urban and periurban slums who lack a public water supply. In Guadeloupe and Martinique there is good access to clean water and sanitation.

Persistent Organic Pollutants

Since 1973, Guadeloupe and Martinique have grappled with the contamination of river waters and sediments with organochlorine pesticides (mainly chlordecone). Several studies already have been conducted and additional ones are under way to determine the health risks for residents in these areas (principally Guadeloupe). The Hibiscus Study conducted in Guadeloupe in 2003 showed that chlordecone had been detected in 90% of maternal blood and cord blood samples and in 100% of abdominal fat collected during cesarean births (5). Only 40% of breastmilk samples had detectable chlordecone levels, however. The Karuprostate Study, which examined the correlation of chlordecone exposure with prostate cancer, showed a higher risk of prostate cancer in men with higher plasma chlordecone concentrations. A family history of prostate cancer and having lived in mainland France increased that risk (6).

Disasters

In August 2007, Hurricane Dean struck Guadeloupe and Martinique and in November of that year, an earthquake severely damaged one of Martinique’s three major hospitals. Guadeloupe also is regularly blanketed by clouds of ash from Montserrat’s volcano.

Health Conditions and Trends

Health Problems of Specific Population Groups

Maternal and Reproductive Health

In 2008, the overall birth rate was 13.3 births per 1,000 inhabitants in Martinique, 14.3 in Guadeloupe, and 28.2 in French Guiana. The fertility rate is 47 births per 1,000 women of childbearing age in Martinique and Guadeloupe, but higher in French Guiana (64 in 2008). The aging of the population and a decline in the birth rate explain why the actual number of births is declining in the Antilles, whereas French Guiana, with its inverse indicators, experiences a sharp increase. In 2008, there were 5,758 births reported in Guadeloupe, 5,333 in Martinique, and 6,247 in French Guiana.

Infants (under 1 year old)

Perinatal mortality remains higher in Guadeloupe and Martinique than in French Guiana, which can be explained in part by better care for at-risk pregnancies and extremely premature newborns at the university hospitals in Pointe-à-Pitre and Fort-de-France. The average for 2005–2007 was 20.3 deaths per 1,000 births in Guadeloupe, 22.7 in Martinique, and 15.8 in French Guiana.

The infant mortality rate in the FDAs is higher than the national average and is not decreasing. The average in 2005–2007 was 7.5 deaths per 1,000 live births in Guadeloupe, 8.8 in Martinique, and 11.8 in French Guiana. In 2008–2010, the averages were 7.6 in Guadeloupe, 8.3 in Martinique, and 11.6 in French Guiana (7).
Children (1–14 years old)

This age group has the lowest mortality rates and the best health status in the FDAs. Between 2007 and 2009, there were fewer deaths each year on average (65) in persons 1–14 years old than in any other cohort, representing 1.0% of all deaths; most deaths in this age group were caused by injuries and poisoning.

Adolescents and Adults (15–34 and 35–64 years old)

In 2007–2009, there were 242 deaths each year among persons 15–34 years old, on average, or 3.8% of all deaths. Deaths from road accidents and other types of violence predominate. The French health care system guarantees comprehensive financial coverage for a list of 30 chronic diseases requiring expensive long-term care. Among persons 15–34 years old, the main causes of admission for long-term conditions in this age group are mental illness, diabetes, and cardiovascular disease.

Between 2007 and 2009, there was an average of 1,427 deaths each year in persons between 35 and 64 years old, representing 22.5% of all deaths. Cancer and cardiovascular disease predominated in all three departments, followed by deaths from traumatic injuries and other forms of violence (Table 2).

In 2009, the main causes of admissions for long-term conditions in this age group were cardiovascular disease (2,199 for males and 2,341 for females), diabetes types 1 and 2 (1,442 for males and 1,756 for females), malignant tumors (694 for males and 782 for females), and other causes (870 for males and 1,132 for females). (The information in this paragraph comes from databases compiled by regional observatories on health, CNAMTS and RSI.)

The Elderly (65 years old and older)

An annual average of 4,446 deaths occurred in this age group between 2007 and 2009, accounting for 70.1% of all deaths in the FDAs; cardiovascular diseases and cancers predominated (Table 3). In 2009, the leading causes of admission for long-term conditions for men in this age group were cardiovascular diseases (2,092 of a total of 4,498 admissions), cancers (1,038), and diabetes types 1 and 2 (704). In women 65 years old and older, the main causes of admission were cardiovascular diseases (2,712 of a total of 5,104 admissions), diabetes types 1 and 2 (945), and mental disorders (104).

<table>
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<tr>
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<tr>
<td></td>
<td>Guadeloupe</td>
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<td>Martinique</td>
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<tr>
<td>Cause</td>
<td>No. (%)</td>
<td>Cause</td>
<td>No. (%)</td>
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<tr>
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<td>Tumors</td>
<td>53 (22.4)</td>
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<td>Diseases of the circulatory system</td>
<td>43 (18.1)</td>
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<td>Symptoms, signs, and ill-defined conditions</td>
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<td>Other</td>
<td>198 (29.2)</td>
<td>Other</td>
<td>75 (31.6)</td>
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<tr>
<td>Total all causes</td>
<td>677 (100.0)</td>
<td>Total all causes</td>
<td>237 (100.0)</td>
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</table>

Source: Reference (1).

a The number of deaths in Martinique represents an average for 2007–2009.
<table>
<thead>
<tr>
<th>Cause</th>
<th>Guadeloupe</th>
<th>French Guiana</th>
<th>Martinique</th>
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<th>Martinique</th>
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<td>70</td>
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<td>Endocrine, nutritional, and metabolic diseases</td>
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<td>104</td>
<td>185</td>
<td>Infectious and parasitic diseases</td>
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<tr>
<td>Other causes</td>
<td>376</td>
<td>311</td>
<td>687</td>
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<td>Total all causes</td>
<td>435</td>
<td>291</td>
<td>726</td>
</tr>
</tbody>
</table>

Source: Reference (2).

* The number of deaths in each of the territories represents an average for 2007–2009.
Mortality

There were more than 6,300 deaths reported each year between 2007 and 2009, 54% among males and 46% among females. The leading causes of mortality in the Overseas Departments are cardiovascular diseases, cancers, and external causes of injuries. In French Guiana, infectious and parasitic diseases rank fourth, if symptoms, signs, and ill-defined conditions are excluded, while in Guadeloupe and Martinique, endocrine disorders, notably diabetes, hold that position. See Table 4 for the leading causes of death in each of the territories.

Morbidity

Communicable Diseases

Vector-borne Diseases

Roughly 10 imported malaria cases are reported annually in Martinique and Guadeloupe. The disease is endemic in French Guiana—after peaking at 4,479 cases in 2005, cases have tended to decrease, with 3,276 cases in 2008 and 3,345 in 2009. Malaria prevalence in French Guiana varies from location to location, with most cases occurring near rivers. Most of the active foci are found in areas with migrant populations, particularly those engaged in gold mining. Fewer than one-third of the cases are found along the coast, where the vast majority of the population resides, and most of the cases that occur there are often imported. The western portion of French Guiana has seen the number of malaria cases decline thanks to Suriname’s concerted effort to control the disease, especially among gold miners. While a mandatory reporting system has been set up, it has not been totally successful and will be restructured in 2012.

Yellow fever is not an issue in Guadeloupe nor in Martinique. French Guiana, on the other hand, is always at risk of infection; the last case isolated in that department was in 1998. Surveillance is ongoing, because circulation of the yellow fever virus appears to have intensified in the Amazon rainforest and has been accompanied by sporadic human cases in the Amazon basin countries near French Guiana. Yellow fever vaccination is mandatory for all persons living in or traveling to French Guiana.

Epidemiological surveillance data on dengue in the FDAs come from three sources: a network of sentinel general practitioners; medical laboratories; and the public hospitals that furnish clinical and paraclinical information, enabling hospital patients to be classified in accordance with the recommendations of the World Health Organization. The dengue situation in Martinique and Guadeloupe is endemoendemic, with marked seasonal variations. In the past 10 years, the two islands have had five epidemics (including a particularly long one in 2010). These usually have lasted five to six months, and their incidence in terms of clinical cases in the health system has ranged between 3,650 and 10,000 cases per 100,000 population, with a severity rate ranging between 3 and 12 severe cases per 1,000 cases. Since the early 2000s, co-circulation of at least two serotypes has usually been observed. Dengue also is endemoendemic in French Guiana, but without noticeable seasonal variations. Epidemics generally last almost two years and are bimodal. Their characteristics (incidence and severity) are no different from those observed in Guadeloupe and Martinique. French Guiana probably also experiences co-circulation of serotypes. The epidemiology of dengue in the three French Overseas Departments is evolving toward hyperendemicity characterized by shorter intervals between epidemics, more residual sporadic cases between epidemics, and more cases requiring hospitalization (8).

The major chikungunya fever epidemic in La Réunion (the French department in the Indian Ocean) in late 2005 and early 2006, the several imported cases in Guadeloupe, French Guiana, and Martinique in 2006, the fact that the mosquito vector (Aedes aegypti) is present in all three departments and the frequent exchanges among these regions, make it clear that a chikungunya epidemic could threaten the French Departments in the Americas. Since 2006, there has been mandatory reporting of chikungunya fever in the FDAs (9). Subsequent to the imported cases of 2006 and 31
<table>
<thead>
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<th>Cause</th>
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<th>Martinique</th>
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<tr>
<td></td>
<td>Males</td>
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<td>2,828</td>
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</tbody>
</table>

Source: References (1, 2).

* The number of deaths in each of the territories represents an average for 2007–2009.
December 2010 no further cases were reported in any department.

Since the etiologic agent, *Trypanosoma cruzi*, is present exclusively in the continental Americas, Chagas’ disease does not pose a problem for Guadeloupe or for Martinique. French Guiana has long been considered a low-risk area, but an evaluation mission conducted in 2005 confirmed the existence of indigenous transmission of Chagas’ disease. Transmission is not confined to the rainforest, since circulation of the parasite has been demonstrated along the coast, even in residential areas.

Since 2004, French Guiana has been part of the international program for the surveillance and prevention of Chagas’ disease in the Amazon area (AMCHA initiative). Moreover, a surveillance system based on clinician reporting of suspected cases has been in place since 2008. The results of this surveillance show that 26 cases were diagnosed in 2008, 23 of them chronic, and 38 new cases in 2009, 35 of them chronic (10).

**Vaccine-preventable Diseases**

No cases of acute flaccid paralysis, poliomyelitis, or diphtheria have been reported for many years to the health authorities of the FDAs. In contrast, epidemics or isolated cases of whooping cough are regularly reported. No case of neonatal tetanus has been reported since the late 1970s. Some cases are still found among the elderly, due to the loss of immunity with age and a lack of revaccination. In terms of measles and congenital rubella syndrome, the French Departments in the Americas have followed the National Plan for the Elimination of Measles and Congenital Rubella Syndrome, 2005–2010, since its inception. This plan includes the following five lines of action: a change in vaccination strategy, involving a change in the 2005 vaccination schedule with two doses of MMR vaccine; improved surveillance; monitoring of vaccination coverage; limitation of dissemination; and promotion of vaccination. Since 2001, measles surveillance in French Guiana has been coupled with dengue surveillance. All suspected cases of dengue showing rash are tested (IgM) for measles and rubella. A commission to document the elimination of measles and of congenital rubella syndrome was set up for the three French Overseas Departments in October 2009 (11). The last measles epidemic in the FDAs occurred in Guadeloupe from November 1996 to June 1997. From 1 July 2005 (the date improved surveillance went into effect) to 31 December 2010, eight cases of measles were diagnosed in the departments. The incidence rose sharply in the first half of 2011, with 19 cases. These cases were imported or linked to imported cases.

Vaccination coverage surveys were reinstated, given that no data had been collected after 2000. Guadeloupe conducted a survey in 2007 (12) and French Guiana in 2009 (13). Martinique was scheduled to conduct a survey in 2011. Children’s vaccination coverage is very good. Vaccination coverage in French Guiana has improved since the 2000 survey, and the disparities between communities living along the coast and those in the interior have almost disappeared. Vaccination coverage in children is well-documented, but there is no information on coverage among adults. An evaluation of the Expanded Program on Immunization, conducted with PAHO’s assistance, was carried out in Martinique in 2006; French Guiana plans to conduct one in 2012.

**Zoonoses**

Leptospirosis has a greater impact in the French Departments in the Americas than in mainland France; it also is more common in Guadeloupe and Martinique than in French Guiana. From 2002 to 2006, the annual number of confirmed cases ranged from 81 to 140 in Guadeloupe, 33 to 78 in Martinique, and 6 to 16 in French Guiana. An average of five deaths per year were reported in the departments during the same period. In 2006, the incidence of leptospirosis was 18 per 100,000 population in Guadeloupe, 14 in Martinique, and 5 in French Guiana. Since the proliferation of leptospires is influenced by climate (freshwater at elevated temperatures), the disease’s incidence increases during the rainy season—July through
November in Guadeloupe and Martinique, and January through June in French Guiana (14).

Neglected Diseases and Other Infections Related to Poverty

Schistosomiasis has drastically decreased in the French Departments in the Americas after the implementation of a plan to combat this parasitic disease in the 1970s and the initiation of targeted activities, such as identifying parasitic sites and engaging in targeted actions in these sites. The disease appears to have been eradicated in Martinique since 2005, with the disappearance of its leading intermediate host (*Biomphalaria glabrata*) (15). Guadeloupe’s situation differs somewhat, because that department has several types of foci. In Grande-Terre, for example, the island’s marshlands are home to vast populations of infested black rats, thus allowing the parasite to remain endemic there. Efforts at biological control of the intermediate host mollusk through the introduction of Thiaridae snails have proven ineffective. French Guiana has only had imported cases.

Leprosy continues to diminish in the FDAs, thanks to widespread access to multidrug therapy. Estimates put the number of prevalent cases at 43 at the end of 2006 and 40 at the end of 2007. The cases are primarily paucibacillary forms, except in French Guiana. The preponderance of multibacillary forms in French Guiana may be linked to the reemergence of imported cases from Brazil (this country has the world’s highest prevalence of leprosy, and the proportion of multibacillary forms there exceeds 50%) (16). Each department has a facility for the referral of patients with leprosy that offers diagnosis, medical consultations, counseling, and home visits.

HIV/AIDS and Other Sexually-transmitted Infections

Since the mid-1980s, HIV/AIDS has spread in the FDAs, as it has elsewhere in the Caribbean, through sexual contact, primarily heterosexual. According to WHO criteria, the epidemic is considered to be “generalized” in French Guiana and Saint Martin, and more contained in Guadeloupe and Martinique. Rejection, discrimination, and exclusion of infected persons remain as major barriers to early diagnosis, access to care, and, hence, control of the epidemic.

The FDAs are among the four regions of France most affected by HIV/AIDS. On 31 March 2010, the AIDS case rate was 180 per 1,000,000 population in French Guiana, 117 in Guadeloupe, and 39 in Martinique. Reporting of HIV has been mandatory in France since March 2003, which allows for better monitoring of the epidemic. The rate of HIV-positive diagnoses (on 31/12/2010) was 1,124 cases per million inhabitants in French Guiana, 517 in Guadeloupe, and 160 in Martinique (17). The proportion of HIV-positive women is higher in French Guiana (48%) than in the other two departments (40% in Guadeloupe and 44% in Martinique). In French Guiana, on average, HIV-positive women are much younger (34 years) than are seropositive men (41 years); this is not the case in Guadeloupe nor in Martinique, however. Persons born abroad accounted for 61% of seropositive diagnoses in French Guiana in 2008–2009, a proportion that has declined since the 77% rate seen in 2003; the proportion of HIV-positive persons born abroad is lower in Guadeloupe (54%) and lower yet in Martinique (21%). Of those persons in French Guiana who learned that they were HIV positive in 2008–2009, 16% were diagnosed so late that they already had progressed to AIDS; figures for Guadeloupe and Martinique were 27% and 11%, respectively (compared with 13% in mainland France). Men were diagnosed after having already progressed to AIDS (21%) more frequently than were women (10%). The proportion of extremely late diagnoses in French Guiana declined from roughly 20% to 16% between 2008 and 2009 (18).

The three French Departments in the Americas have access to the same antiretrovirals that are available in mainland France. Support for people living with HIV is structured through the Coordinating Committees to Fight the Human Immunodeficiency Virus (COREVIH), which have seven facilities for following patients: one in Martinique, one in Saint Martin, two in Guadeloupe, and three in French Guiana.

HIV testing can be performed in a city or hospital medical-analysis laboratory but may also be
done anonymously in a free diagnostic center. In 2010, compared with other regions of France, the FDAs conducted the most HIV tests per population (168 per 1,000 population in French Guiana, 164 in Guadeloupe, and 134 in Martinique). The seropositivity rate was 1,464 per million population in French Guiana, 816 in Guadeloupe, and 268 in Martinique.

There is no such detailed epidemiological surveillance for other sexually-transmitted infections. Syphilis first reemerged in Guadeloupe in 2001, then in Martinique in 2004, and subsequently in French Guiana. A 2008–2009 study conducted by Guadeloupe’s Regional Health Observatory on medical laboratories that were not part of hospitals showed that after HIV, the highest demand for testing was for hepatitis B, gonorrhea, hepatitis C, syphilis, and chlamydia (19). The positivity rates for those STIs were 3.8% for chlamydia, 2.3% for syphilis, 1.6% for hepatitis B, 0.6% for hepatitis C, 0.2% for HIV, and 0.1% for gonorrhea. The human papillomavirus (HPV) positivity rate was 32.4%.

**Tuberculosis**

Reporting of tuberculosis is mandatory. The incidence of the disease is very low in Guadeloupe and Martinique, under half the national average, but French Guiana is the French department with the highest incidence. In 2006–2008, the incidence of tuberculosis was about 4 per 100,000 population in Martinique, 6 in Guadeloupe, and 22 per 100,000 in French Guiana, compared to 10–12 per 100,000 for national figures. The vast majority of cases are pulmonary. The proportion of foreigners with tuberculosis ranges from 10% in Martinique to 41% in Guadeloupe and 58% in French Guiana (20).

**Emerging Diseases**

Cholera is very rare in the French departments. The last epidemic was reported in French Guiana in 1992. A few imported cases were reported in 2010 (6 cases in Martinique), linked to the cholera epidemic that began in Haiti in October of that year (21).

National surveillance of avian influenza cases by the Institute for Health Surveillance has been ongoing since 2004, but to date no case has been reported in the FDAs. In 2009, the H1N1 pandemic did not spare the FDAs, however. In pursuit of WHO’s alert of 15 April 2009, the territories set up an adapted epidemiological surveillance system in short order. Following the quarantine and management of individual cases, surveillance among the general population was launched, based essentially on data provided by the network of sentinel physicians and the laboratory confirmation of cases. The epidemic ran from early August to mid-September 2009, except in Saint Barthélemy, which remained untouched until the end of that year. Over 50,000 people were stricken in Guadeloupe, French Guiana, and Martinique. Given the rather low attack rates (<8%) and the low proportion of the population vaccinated, there is the potential for a new epidemic wave (22).

The incidence of Legionnaire’s disease in the FDAs is low, less than half the national average. No case has been reported to date by French Guiana. According to the 2006–2008 information on reportable diseases, six cases were reported in Guadeloupe and two in Martinique (23).

**Intestinal Diseases**

High-incidence viral gastroenteritis epidemics occur year round and are the leading case of diarrhea in Guadeloupe and Martinique; their epidemiology is similar to that seen in mainland France. In French Guiana, because of that territory’s water supply problems among certain populations, the incidence of certain enteric diseases can exceed 10% in the more remote settlements.

Collective food poisoning (CFP) requires mandatory reporting; this information is supplemented with data from the National Salmonella Reference Center. The annual CFP incidence varies greatly, but rates in Martinique and Guadeloupe are generally higher than the national average, while those seen in French Guiana are generally lower (23). Between 2006 and 2008, 36 foci were declared in Guadeloupe, 24 in Martinique, and 16 in French Guiana. The bacteria most often implicated are *Staphylococcus aureus*, *Bacillus cereus*, and *Salmonella* spp.
Chronic, Noncommunicable Diseases

The most common chronic diseases in the FDAs’ population are cardiovascular diseases (especially stroke, owing to the high prevalence of hypertension) and cancer, which is the leading cause of death in men in the departments. There is a cancer registry in each of the departments (24); as a group, they show that one out of two cancers in men is prostate cancer, while the leading type of cancer in women is breast cancer, which accounts for one out of four cancers. Colorectal cancer is on the rise in both sexes, linked to the aging of the population and dietary changes. In the FDAs, as in all regions of France, two campaigns are under way for the detection of cancer: one targeting breast cancer and the other, colorectal cancer. Martinique also has an organized campaign for the detection of cervical cancer.

Nutritional Diseases

There have been no reports of disorders associated with protein or vitamin deficiencies for several years. Moreover, improvements in socioeconomic status, changes in lifestyle, and a growing supply of foodstuffs from the food production sector have led to a change in eating habits, and diseases connected with overeating (obesity, diabetes, and high cholesterol, among others) are emerging. In 2007–2008, the Podium study (unpublished as of this writing) confirmed the results of the ESCAL (25) and CALBAS (26) studies conducted earlier in Martinique and Guadeloupe: French Guiana remained less affected, but in Guadeloupe and Martinique 1 out of 4 children and 1 out of 2 adults were overweight or obese. Even in children 5 to 14 years old, the prevalence of excess weight (overweight and obesity combined) was 17.9% in French Guiana, 22.9% in Guadeloupe, and 25.0% in Martinique. In adults aged 15 and over during the 2007–2008 period covered in the Podium study, this prevalence was 48.5% in French Guiana, 50.0% in Guadeloupe, and 51.7% in Martinique (27).

Type 2 diabetes also is very common in the FDAs, with the proportion of persons affected being twice as high as the national average. In 2009, the French Departments in the Americas had the highest prevalence of diabetes in treatment. While the prevalence for France as a whole was 4.4%, it was 7.3% in French Guiana, 7.4% in Martinique, and 8.1% in Guadeloupe (28). Women are more affected than men in the FDAs. The high prevalence of hypertension and diabetes in the FDAs, coupled with the aging of their population, results in a percentage of people with chronic kidney failure that is higher than that seen at the national level (for example, an estimated 500 people are receiving dialysis in Martinique).

Accidents and Violence

Guadeloupe has the highest number of deaths from road accidents in the FDAs—an average of 65 deaths per year were reported between 2007 and 2009, compared to 37 in Martinique and 28 in French Guiana. The number of serious injuries from road accidents during the same period was 415 in Guadeloupe, 250 in Martinique, and 157 in French Guiana.

Mental Disorders

There has been no new study on mental disorders in the departments since the one conducted in the general populations of Guadeloupe and Martinique in the late 1990s. The most frequent pathologies remain depressive disorders, risk of suicide, and generalized anxiety. In the psychiatric sector, the main causes of hospitalization are psychoses and addictive behavior. Several studies have shown that suicide and suicidal behavior are less frequent in the FDAs than at the national level (29, 30).

Risk and Protection Factors

Guadeloupe and Martinique are historical producers and consumers of rum, but the drinks most consumed in the two departments are wine, champagne, whiskey, and beer. Although there are far fewer studies in this regard in French Guiana, the pattern is likely to be the same. Studies of young people and adults show that alcohol is the psychoac-
tive substance with the highest consumption levels. Tobacco use in the FDAs’ population, in contrast, is not very high. The use of illicit substances involves mainly cannabis, crack, and cocaine. The rapid growth of crack use from the mid-1980s to 2000 had a very tangible impact on FDA society, with a marked increase in the number of users in trouble with the law (31).

**HEALTH POLICIES, THE HEALTH SYSTEM, AND SOCIAL PROTECTION**

**Health Policies**

Public health in France is essentially a concern of the State.

From 2006 to 2010, the Regional Public Health Plan (PRSP) was the reference tool for public health programming in France, allowing each region to set its own priorities. In 2010, however, the emergence of the Regional Health Agencies (ARSs) ushered in significant health system reforms. Created under Article 118 of the Law of 21 July 2009, these agencies manage State and health insurance resources at the regional level, including in the FDAs, as a way to improve overall effectiveness and guarantee the sustainability of the public health service. Each ARS brings under one roof all the agencies charged with health policy in the regions and departments (regional health and social-welfare bureaus and departments, hospital agencies, public health groups, health insurance unions, and health missions, as well as the hospital portion of health insurance).

Because they operate as the sole regional interlocutor, the ARSs can make a comprehensive approach to health possible, while simultaneously guaranteeing simpler procedures for health professionals and equal access to care for patients. These agencies also ensure that there is better coordination on the ground between professionals and health, medical, and social facilities. To this end, the ARSs have a wide sphere of operation, ranging from public health (disease prevention, health promotion, health and security surveillance, and epidemiological surveillance) to the organization of health care and even the provision of medical-social services (nursing homes for the elderly and facilities for the handicapped).

In order to reduce territorial inequalities and better adjust its responses to local characteristics and needs, each ARS defines the health areas in which it will carry out its activities. Guadeloupe’s ARSs, for example, have established three territories, one of them corresponding to the two new communities in Saint Martin and Saint Barthélemy. Martinique’s and French Guiana’s ARSs, on the other hand, have opted to handle their territories as a single health territory.

**The Health System’s Performance**

In order to ensure that everyone has access to health care, on 1 January 2000, the Government of France instituted the “basic universal health coverage” measure, which grants health insurance to all those who have had a regular and stable residence in France for more than three months and who have no right to any other type of insurance. The Government also provides universal supplementary health insurance coverage, enabling individuals to access care with no out-of-pocket or advance payments. The proportion of basic universal health coverage and supplementary universal health coverage beneficiaries in the FDAs is high: by the end of 2009, one of every two inhabitants was covered by this measure (41.5% in Guadeloupe, 49.7% in Martinique, and 53.0% in French Guiana).

**Health Legislation**

Three laws enacted in 2004 have altered the approach to health, shifting certain activities to certain actors, developing a prevention policy, and ensuring better management of health expenditures. With the law of 9 August 2004, the public health picture in each region of France profoundly changed.

**The Health Services**

Hospital care is provided by public hospitals and private clinics. Excluding Guadeloupe’s and French
Guiana’s surgical beds, in 2010, two-thirds of short-term-stay hospital beds in these two territories were in the public sector (Table 5).

The availability of beds is roughly comparable to that in mainland France for medicine (average of 2.11 per 1,000 population for the three territories), less than half for surgery (1.62), and higher for obstetrics and gynecology (1.58 per 1,000 women aged 15–49). French Guiana is distinguished by a substantial deficit in the area of surgery and a rate two times higher than the national average in obstetrics and gynecology.

Emergency intake and treatment of patients can be estimated from data on the number of patients who come through the services. In 2009, 135,113 patients came through the emergency services in Guadeloupe, 124,594 in Martinique, and 84,350 in French Guiana. The rates of visits to the emergency services per 1,000 population were 312 in Martinique, 336 in Guadeloupe, and 381 in French Guiana.

In terms of follow-up care and rehabilitation, the availability of equipment (beds and space) ranged from 1.59 per 1,000 population in Guadeloupe, to 1.49 in Martinique, and to 0.47 in French Guiana. Regarding full hospitalization, Martinique offers mainly public services (75% vs. 36% in Guadeloupe and 13% in French Guiana).

Both inpatient and outpatient psychiatric care is provided. Guadeloupe has some facilities for treating children, while Martinique’s facilities treat only adults. The latter territory’s psychiatric private sector is poorly developed and offers no treatment. General psychiatry beds in the private sector represent 22% of inpatient beds in Guadeloupe and 13% in Martinique. In terms of beds per 1,000 population, general psychiatry bed coverage accounts for 0.9 per 1,000 population in Guadeloupe, 0.95 in Martinique, and 0.33 in French Guiana; child and adolescent psychiatric beds account for 0.74 per 1,000 population in Guadeloupe, 0.27 in Martinique, and 0.09 in French Guiana.

Of all three territories, only French Guiana has health centers. Administered under the Cayenne hospital complex, these centers are designed to ensure that remote populations (20% of the department’s total population) that live in areas without town medical facilities and hospitals receive medical care.

There are 62 private medical laboratories in the FDAs and one government (or public) blood bank in each of the three FDAs. There are 349 drug dispensaries (excluding the distribution of medicines in the health centers) in the FDAs: 160 in Guadeloupe (1 per 2,515 population), 151 in Martinique (1 per 2,645 population), and 38 in French Guiana (1 per 5,830 population). There are also seven wholesale distributors, two in Guadeloupe, two in Martinique, and three in French Guiana. All pharmaceutical products are imported from France. Pharmaceuticals go from the manufacturer, through the wholesaler, and to the dispensing pharmacist. A third-party payer system is largely used in the FDAs as a way to prevent patients from having to pay out-of-pocket: health care providers are regulated by the health insurance system, and patients are only responsible for the copay. The price for reimbursable medicines is set by the public authorities.

The Pasteur Institute has two offices in the FDAs: one in Guadeloupe with a reference laboratory for tuberculosis and mycobacterial infections, and one in French Guiana.

### Knowledge, Technology, Information, and Human Resource Management

#### Human Resources

Health care delivery is provided by health professionals working on their own or attached to a

| TABLE 5. Short-term-stay bed availability (per 1,000 population), Guadeloupe, French Guiana, and Martinique, 2010. |
| --- | --- | --- |
| Category                  | Guadeloupe | French Guiana | Martinique |
| Medicine                  | 2.47       | 1.69          | 2.03       |
| Surgery                   | 1.06       | 0.74          | 1.16       |
| Obstetrics and gynecology*| 2.21       | 2.90          | 1.86       |

Source: Reference (32).

* Per 1,000 women aged 15–49 years old.
hospital or other health institution, with the latter working mainly in the public sector. A roster of health professionals including both categories that was compiled in 2010 by the health authorities reveals the differences in the density of health care professionals between Martinique/Guadeloupe and French Guiana (see Table 6).

It is important to underscore the heavy presence, even in French Guiana, of midwives, whose densities per 100,000 women aged 15–49 are significantly higher than in mainland France (133). As for health professionals in independent practice, the densities are lower than the averages calculated for mainland France as a whole, except for nurses in independent practice. French Guiana has the greatest deficit.

**Health Personnel Training**

In 2008, 147 diplomas were issued for State-certified nurses, 19 for midwives, and 19 for kinesthesiotherapy masseurs.

A fully functioning school of medicine is gradually being created at the University of the Antilles and French Guiana. Since the program’s first year of studies was launched in 1998 and through the second (launched in 2008) and third (launched in 2009/2010) years of studies, 1,000 students have enrolled. The fourth year of studies is planned for the near future, but in the meantime, students must attend universities in mainland France to complete their first six years of medical school before returning to the Antilles and French Guiana for their internships.

With the national educational reforms in effect for the 2010–2011 academic year, the first year of health studies will include pharmacy studies, in addition to medical, midwifery, and dental degrees.

**Health and International Cooperation**

The FDAs can draw from local (Fonds de coopération régional [FCR]), national, or European funds for international cooperation, especially the Fond d’Interreg Caraïbes, which is now in its fourth round. Because they are part of France, the FDAs are not entitled to financial support from international agencies (such as USAID or CIDA) or international organizations (such as the World Bank or the IDB). As part of the FDAs’ international cooperation, in 2008 Martinique’s perinatal network launched an inter-Caribbean partnership on maternal and child health to prevent child morbidity and mortality in Saint Lucia and Dominica.

The FDAs provided humanitarian aid to Haiti in the aftermath of the earthquake that struck that country in January 2010. In the very first days after the earthquake, FDA hospitals deployed health

### Table 6. Number of practicing health professionals and coverage (per 100,000 population), by type of practitioner, Guadeloupe, French Guiana, and Martinique, 2010.

<table>
<thead>
<tr>
<th>Category</th>
<th>Guadeloupe</th>
<th>French Guiana</th>
<th>Martinique</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Coverage</td>
<td>Number</td>
</tr>
<tr>
<td>General physicians</td>
<td>582</td>
<td>145</td>
<td>240</td>
</tr>
<tr>
<td>Specialists</td>
<td>487</td>
<td>122</td>
<td>156</td>
</tr>
<tr>
<td>Dentists</td>
<td>197</td>
<td>49</td>
<td>47</td>
</tr>
<tr>
<td>Midwives</td>
<td>163</td>
<td>159</td>
<td>94</td>
</tr>
<tr>
<td>Nurses</td>
<td>2,822</td>
<td>704</td>
<td>1,124</td>
</tr>
<tr>
<td>Physical therapists</td>
<td>396</td>
<td>99</td>
<td>67</td>
</tr>
</tbody>
</table>

**Source:** Reference (32).

* Per 100,000 women of childbearing age.
teams to Haiti, which provided critical specialized care to several hundred patients. Moreover, the main hospitals in the three FDAs routinely participate in activities such as heart surgery, kidney transplants, pediatric surgery, oncology, and the provision of magnetic resonance imaging and new radiodiagnosis equipment.

The FDA university hospitals’ technical capacity and expertise in certain arenas makes them attractive to patients from nearby countries. However, these patients are rarely covered by intergovernmental agreements or by private health insurance, which places a financial burden on the receiving hospitals. To overcome these difficulties, shared services agreements are being developed, such as the one between the university hospital in Pointe-à-Pitre and the Dutch islands of Saba and Saint Eustatius, which allows for the referral of patients from these two islands to Guadeloupe for third-level care. Throughout the reporting period, French Guiana has been cooperating with its neighbors Suriname and Brazil.

In recent years, activities with Suriname involved the rehabilitation and construction of the hospital in Albina with technical assistance and funds from the French Development Agency, an agreement on continuity of care entered into between the hospital in Saint Laurent du Maroni and the university hospital in Paramaribo, the development of a protocol for sharing data with Suriname on the epidemiology of malaria, and the pursuit of cross-border programs for conducting epidemiological studies on HIV. In return, Suriname is also supporting French Guiana to develop a program to control malaria among the migrant populations and illegal gold miners.

The main activities with Brazil include scientific exchange, training, studies in medical entomology virology research (herpes), and standardization of tools used by the reference laboratories for dengue diagnosis.

The Institut Pasteur of French Guiana (IPG) is part of the Dengue Laboratories Network in the Americas (RELDA), created in 2009 to enhance dengue surveillance and response in the Region. In 2009, at the request of WHO’s Global Outbreak Alert and Response Network in Geneva, the IPG began transferring technology for the diagnosis of the influenza A(H1N1)pdm09 virus to the National Public Health Laboratory in Port-au-Prince, Haiti. The IPG is also associated with the Amazon Network for the Surveillance of Antimalarial Drug Resistance (RAVREDA) in the development of subregional surveillance of antimalarial drug resistance.

SYNTHESIS AND PROSPECTS

Although French Guiana, Guadeloupe, and Martinique are overseas departments that share an institutional structure, they have important individual traits that set them apart from one another. French Guiana has the largest territory and is part of South America. Martinique is the smallest and is, as is Guadeloupe, an island entity in the Caribbean Sea. Guadeloupe and Martinique have aging populations, while French Guiana’s population is young and marked by demographic dynamism. All French Departments in the Americas have social and economic problems, but they each have a different potential for overcoming them. While they all have unmet health care needs, the scarcity of health professionals is particularly acute in French Guiana. Telemedicine, which has begun to emerge in French Guiana, could begin to fill the paucity of health professionals.

While the health status in the FDAs is satisfactory overall, challenges remain. This is especially true for French Guiana. For example, all three territories share prevalent health problems—cardiovascular disease, certain cancers, obesity, diabetes, alcoholism, and death by violence. Yet, there are diseases that affect one territory over the others, such as sickle cell disease in Guadeloupe and Martinique and malaria and yellow fever in French Guiana.

The new structure implemented in 2010, with the Regional Health Agencies and the adoption of a geographically based public health policy, should enable Guadeloupe, French Guiana, and Martinique to better serve the health needs of their people.
BOX 1. Demographic changes in Saint Martin/Sint Maarten and Saint Barthélemy.

Since the agreement of 1648, France and the Netherlands have had sovereignty over the island of Saint Martin. The two territories (French and Dutch) are separated by a virtual border: to the north, Saint Martin, and to the south, Sint Maarten. After the dissolution of the autonomous state of the Federation of the Netherlands Antilles, the state of Sint Maarten became one of the four states of the Kingdom of the Netherlands (with Aruba, Curaçao, and Holland) on 10 October 2010.

The French part of Saint Martin and the island of Saint Barthélemy, which were integral parts of Guadeloupe, became Overseas Communities (COM) on 15 July 2007 after the constitutional revision of March 2003. Under the effect of migration, the collectivities of Saint Martin and Saint Barthélemy have experienced a strong population increase since the beginning of the 1980s, to attain a population of 8,450 inhabitants in Saint Barthélemy and 35,926 in Saint Martin, respectively, in 2007. The rates of annual growth of the population have remained relatively stable in Saint Barthélemy, whereas in Saint Martin the population has quintupled since 1982. This latter change was due to the slowing of economic activity and the hardening of the immigration laws.

In Saint Barthélemy, the population is constituted mostly of Europeans, whereas people of Caribbean origin predominate in Saint Martin. The foreign population in the two communities represents 12% and 38%, respectively, of the total population, while it is less than 5% in Guadeloupe. The most represented nationalities are the Portuguese in Saint Barthélemy (50% of foreigners) and Haitians (47%) in Saint Martin. The two islands have not escaped the demographic aging observed in Guadeloupe. People ages 60 and above have increased in Saint Martin (+1.6% between 1999 and 2007), although the population has remained young in the age groups of less than 20 years old. Saint Barthélemy, where the population 60 years and older has remained stable during this period, has a population composed mostly of people between the ages of 15 and 64 (74%) in which men represent the majority (55%).

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