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DESK REVIEW

Eastern and Southern Caribbean – Antigua and Barbuda, Dominica, St. Kitts and Nevis, St. Vincent and the Grenadines: Gender Considerations in the Context of Zika Emergency Response Programming

DECEMBER 2019

This technical report was prepared by University Research Co., LLC (URC) for review by the United States Agency for International Development (USAID) and authored by Morgan Mickle, Taroub Harb Faramand, and Kelly Dale of WI-HER, LLC under the USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project. The work of the USAID ASSIST Project to improve Zika-related health services is made possible by the generous support of the American people through USAID.

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Acronyms

ASSIST	USAID Applying Science to Strengthen and Improve Systems Project
CARPHA	Caribbean Public Health Agency
CDC	U.S. Centers for Disease Control and Prevention
CSaZ	Congenital Syndrome associated with Zika
GBS	Guillain-Barré Syndrome
GBV	Gender-based violence
GDP	Gross Domestic Product
IPV	Intimate partner violence
LAC	Latin America and the Caribbean
MSM	Men who have sex with other men
NCD	Non-Communicable Disease
PAHO	Pan American Health Organization
RDCS	Regional Development Cooperation Strategy
SDG	Sustainable Development Goal
STI	Sexually transmitted infection
UN	United Nations
URC	University Research Co., LLC
USAID	United States Agency for International Development
WHO	World Health Organization

EXECUTIVE SUMMARY

After arriving in Brazil in May 2015, Zika virus rapidly swept across the Americas. By February 2016, the World Health Organization declared Zika virus infection a Public Health Emergency of International Concern due to its associations with microcephaly and other neurological disorders. Zika virus continued to spread in the region arriving to the Eastern and Southern Caribbean islands of Antigua and Barbuda, Dominica, St. Kitts and Nevis, and St. Vincent and the Grenadines between February and September 2016. According to statistics reported to the Pan American Health Organization (PAHO) and the World Health Organization (WHO), there were 220 cumulative confirmed cases of Zika in the four nations between February 2016 and January 2018.

Infants born to mothers infected with the Zika virus can suffer severe microcephaly, brain damage, severe damage to the back of the eye, congenital contractures, and hypertonia. Children affected by the developmental disabilities caused by the Zika virus, called Congenital Syndrome associated with Zika (CSaZ) will need long-term access to specialized health services. Families will need financial and psycho-social support to meet regular well-child care, provide any additional care needs, and address emotional issues. To respond to these needs most effectively, and to design initiatives that will best help families protect themselves from Zika, Zika response and prevention programs will need to integrate gender-sensitive interventions that address the variances of needs and behaviors of women, men, boys, and girls. This desk review looks at several key Zika prevention and response areas where gender plays a role and provides insights and initial recommendations based on the findings. Factors in the Zika response addressed in this review are:

Gender Norms and Expectations: Societal, cultural, and familial expectations of men and women play an important role in the Caribbean. Boys and men are encouraged to initiate sexual activity early, have multiple sexual partners, and have children. While men are encouraged to have many concurrent sexual partners, women are punished or looked down upon for doing so. Almost 70% of children in the Caribbean are born into non-nuclear families. While patriarchal norms still permeate these societies, women are often charged with managing family life. In the context of Zika, parental and family support are critical as children affected often need physical therapy, cognitive stimulation therapy, and extra assistance with everyday activities.

Contraceptive Use: Examining contraceptive use is particularly relevant in the context of Zika as the virus can be transmitted through sexual intercourse. Condoms specifically are the only way to prevent the virus from being passed sexually. Throughout the Caribbean region, men are typically the decision-makers regarding contraceptive use and method, family size, and women's access to health care. While there is limited data on contraceptive use and family planning methods for Antigua and Barbuda, Dominica, St. Kitts and Nevis, and St. Vincent and the Grenadines, over 80% of women ages 15 to 49 in both Antigua and Barbuda and St. Vincent and the Grenadines reported their demand for contraception was satisfied. Perspectives on condom use in these four counties are limited but regional data has shown condom use at last sexual encounter around 54 percent.

Gender-Based Violence (GBV), Zika, and STIs: According to the USAID Eastern and Southern Caribbean Regional Development Cooperation Strategy, at least 40-50% of women experience domestic violence in the region, and the rates of GBV continue to increase. For Antigua and Barbuda, Dominica, St. Kitts and Nevis, and St. Vincent and the Grenadines GBV data is limited. Since the impact of Zika is still recent, evidence on the association between gender-based violence and Zika infections is limited. However, research demonstrates links between GBV and other infections that can be transmitted sexually, such as HIV, particularly as related to women's limited control over their bodies and power to negotiate methods to prevent pregnancies and STIs. Pregnancy is also not a protective factor against violence and in some cases a period where violence increased. In the context of Zika women and girls (including those already pregnant)

experiencing GBV may be more at risk of acquiring the virus and less likely to receive health services related to Zika prevention and well-child care.

Disability and Gender in the Caribbean: Monitoring disability data and the services available at facilities is important in the context of Zika and subsequent response efforts because Zika virus infection during pregnancy can cause severe birth defects, including microcephaly, other brain defects, and congenital Zika syndrome. Specifically, the risk of congenital neurologic defects related to Zika virus infection has ranged from 6 to 42% in various reports. Recent data reveal that children with disabilities make up approximately 1% of the total children's population in Antigua and Barbuda, Dominica, St. Kitts and Nevis, and St. Vincent and the Grenadines, but these numbers could rise as a result of the recent Zika epidemic as affected families are still being identified. Persons with disabilities in the Caribbean have little or no access to the specialized types of healthcare, rehabilitation, or other support services which are what children and families affected by Zika need.

Childcare Practices: Child health and well-being are largely influenced by their caretakers. While there have been no deaths associated with Zika in these four countries, children affected by the virus may still require additional health and home care needs. Children and parents affected by Zika may face many challenges, particularly with regards to the child experiencing any disabilities or developmental delays. The 2011 World Disability Report noted that most extended families have a disabled member, and many non-disabled people take responsibility for supporting and caring for their relatives and friends with disabilities. Evidence of childcare practices across the Caribbean are limited, but studies have shown that despite stereotypes of extended Caribbean families, children are increasingly cared for by the mothers.

Health Systems: The proportion of Gross Domestic Product (GDP) spent on health financing ranges from 3.56% to 5.67% in Antigua and Barbuda, Dominica, St. Kitts and Nevis, and St. Vincent and the Grenadines. The WHO/PAHO has documented that the countries of ESC have insufficient health human resources and a resulting inadequate quality of care. In addition, there are skills shortages in key relevant professions including epidemiology, nursing, biostatistics, and mental health. Furthermore, these countries face limitations in health information systems, making timely, complete, and quality data for responsive decision-making limited and, in some cases, completely unavailable. While Antigua and Barbuda, Dominica, St. Kitts and Nevis, and St. Vincent and the Grenadines all have functioning and accessible health systems, there are growing concerns that they are becoming overburdened. These challenges disproportionately affect the health of women and children and health care for the poor, vulnerable, and migrant populations.

Youth: Youth and adolescents are particularly vulnerable in the context of Zika. Specifically, youth and adolescents in the Caribbean experience high rates of sexual activity, multiple partners, low rates of contraceptive use including condoms, low sexual education, challenges surrounding adolescent pregnancy, violence, and stigma and discrimination in receiving health services that can impact their health choices and health-seeking behaviors. On average, girls have their first sexual intercourse between ages 14-15, boys at age 11, and one-third of adolescents have had sexual intercourse. All four countries provide family planning services, yet 40% of girls and 50% of boys in the region reported that they did not have access to contraception at the time of their first sexual intercourse. Teenage pregnancy is a major concern in the region.

I. INTRODUCTION

Zika is a flavivirus transmitted by the *Aedes* species mosquito that was first discovered in Uganda in 1947. Between the 1960s and 1980s, human infections were found across Africa and Asia. In 2007, the first large outbreak of the infection was reported in the Federated States of Micronesia. As the infection spread across the Pacific researchers started to link it to other health challenges such as Guillain-Barre syndrome (GBS), an illness affecting the nervous system that can result in muscle weakness and paralysis. In 2015, Zika virus infection made its way to South America arriving first in Brazil in May. By July, Brazilian health authorities reported an association between Zika and GBS, and by October the infection was linked with another significant health challenge - microcephaly, a congenital birth defect whereby a baby's head is smaller than expected when compared to babies of the same age and sex. (Microcephaly has also been associated with other birth defects and neurological conditions in children and adults.) Zika virus infection quickly swept across the Latin America and Caribbean region, arriving in the Caribbean (Puerto Rico) in December 2015. By February 2016, the World Health Organization declared Zika virus infection a Public Health Emergency of International Concern due to its associations with microcephaly and other neurological disorders.

The USAID ASSIST Project supports Zika emergency response programming in four Eastern and Southern Caribbean countries – Antigua and Barbuda, Dominica, St. Kitts and Nevis, and St. Vincent and the Grenadines – as part of a larger Latin America and the Caribbean regional response initiative. Zika arrived in these countries first in St. Vincent and the Grenadines in February 2016, followed by Dominica in March 2016, Antigua and Barbuda in July 2016, and St. Kitts and Nevis in September 2016. While the Caribbean region was not impacted on the same scale as its South American and Central American neighbors in the initial outbreak, certain elements – such as small island sizes which can contribute to accelerated spread, and the islands themselves being tourism hubs where thousands of people visit every year (522,000 across all four countries in 2015¹) – have the potential to spread any new cases quickly from the local to global arenas.

According to statistics reported to the Pan American Health Organization (PAHO) and the World Health Organization (WHO), between arrival of the virus in early 2016 and January 2018, there were 25 cases of confirmed Zika virus infection in Antigua and Barbuda, 79 in Dominica, 33 in St. Kitts and Nevis, and 83 in St. Vincent and the Grenadines. No data is publicly available after January 2018. Though reported active Zika cases have trended downward, the long-term impacts of the virus on populations must not be overlooked. Some children born to mothers who had Zika virus infection during pregnancy may have had birth defects evident at birth, but others may still be at risk of developing neurological delays as they continue to grow. Prevention efforts should be maintained at health facilities, but in addition, it is necessary to prepare for families who may have been missed and who will need services in the future.

Children affected by the developmental disabilities caused by the Zika virus, called Congenital Syndrome associated with Zika (CSaZ) will need long-term access to specialized health services. Families will need financial and psycho-social support to meet regular well-child care needs and address emotional issues. To respond to these needs most effectively, and to design initiatives that will best help families that are potentially affected by Zika, Zika response and prevention programs will need to integrate gender-sensitive interventions that address the variances of needs and behaviors of women, men, boys, and girls. This desk review pulls from literature and data to illustrate important factors to consider in Zika response initiatives.

II. SOCIODEMOGRAPHIC OVERVIEW

Antigua and Barbuda, Dominica, St. Kitts and Nevis, and St. Vincent and the Grenadines- four separate countries- are islands between the Caribbean Sea and the North Atlantic Ocean, situated

south-east of Puerto Rico and north of Venezuela. They range in land mass and population, with the largest being Dominica in terms of square mileage (751 square kilometers) and St. Vincent and the Grenadines in terms of population (109,897 people). St. Kitts and Nevis is the smallest country with a land mass of 261 square kilometers and 55,345 people.^{2,3} (See **Figure 1**.)

The countries are largely composed of persons from black ethnic and racial groups and also include mixed race, East Indian, European, indigenous, Hispanic and white individuals. English is the official language in each of the four nations and other languages include Antiguan creole in Antigua and Barbuda, and French patois in Dominica and St. Vincent and the Grenadines.

These four countries, along with Eastern and Southern Caribbean region neighbors, have recently experienced advancements in human development, including universal access to primary education for boys and girls, lower infant and child mortality rates, higher life expectancy, lower fertility rates, and overall improved access to health care.⁴ However, the region has also experienced increasing rates of unemployment, income inequality, and stagnating economic growth.

Figure 1: Key population data

	Antigua and Barbuda	Dominica	St. Kitts and Nevis	St. Vincent and the Grenadines
Population**	102,012	73,925	55,345	109,897
Population, male (% of total)**	48	No data	No data	50.4
Population, female (% of total)**	52	No data	No data	49.6
Life expectancy at birth[^]	76.5 years	78 years	74.4 years	73.3 years
Death rate (per 1,000 people)**	5.8	No data	No data	7.2

Sources:

*World Bank. Country Profiles. 2016. <https://data.worldbank.org/>

** World Bank. World Development Indicators Database. 2016.

<https://databank.worldbank.org/data/source/world-development-indicators>

[^]UNDP. Human Development Index. <http://hdr.undp.org/en/countries/profiles>

The United Nation’s 2015 Sustainable Development Goals (SDGs) are a set 17 globally identified goals to reach by 2030. **Figure 2** illustrates the assessment of the four countries for SDG Goals 3 and 5.⁵ SDG 3 tracks health data including life expectancy, maternal mortality, child mortality, HIV and AIDS, burden of disease, and health financing among others. SDG 5 tracks gender equality data including discrimination, violence, care work, decision-making, economic resources, and sexual and reproductive health rights among others. The SDG Index ranks countries on a color scale (green, yellow, orange, red) and analyzes trends. A green rating signifies that targets under SDG goals are on track, whereas yellow, orange and red indicates increasing distance from some or all SDG targets. Where data is available, the SDG index indicates that the trend is moving up for Goals 3 and 5 in all countries.

Figure 2: 2018 Sustainable development assessment by country

	Goal 3	Goal 5	Regional Average Score
Antigua and Barbuda			66.0
Dominica			66.0
St. Kitts and Nevis			66.0
St. Vincent and the Grenadines			66.0

Source: Bertelsmann Stiftung and Sustainable Development Solutions Network. SDG Index and Dashboards Report 2018. <https://sdgindex.org/reports/sdg-index-and-dashboards-2018/>

Figure 3 provides basic health data for each of the four Eastern and Southern Caribbean countries.

Figure 3: Key health data

	Antigua and Barbuda	Dominica	St. Kitts and Nevis	St. Vincent and the Grenadines
Fertility rate (births per woman)*	2.1	No data	No data	1.9
Births attended by skilled health staff (% of total)*	100	96	100	99
Mortality rate (infant per 1,000 live births)^	5.1	31.2	7.6	15.2
Mortality rate (under 5 per 1,000 live births)^	8.5	34	9.3	16.6
Maternal mortality ratio (per 100,000 live births)*	No data	110 (2012)	310 (2012)	53.5 (2012)
NCDs (as % of all deaths estimated)†	82	No data	No data	81
People living with HIV who know their status∞	<1000	No data	No data	No data

Sources:

*World Bank. Country Profiles. 2016. <https://data.worldbank.org/>

** World Bank. World Development Indicators Database. 2016.

<https://databank.worldbank.org/data/source/world-development-indicators>

^UNDP. Human Development Index. <http://hdr.undp.org/en/countries/profiles>

†World Health Organization. Country Factsheets. <https://www.who.int/gho/countries/en/#S>

∞UNAIDS. Country Factsheets. <http://aidsinfo.unaids.org/>

Data from the four Caribbean countries indicate that women in Antigua and Barbuda and St. Vincent and the Grenadines have relatively low fertility rates. To complement this, recent statistics illustrate that over 95% of births are attended by skilled health staff in each of the countries. World Bank data for neonatal, infant, and child (under 5) mortality from 2009 to 2017 show falling trends in Antigua and Barbuda and St. Vincent and the Grenadines, and stagnation in St. Kitts and Nevis (slight decrease in neonatal and child, stagnant in infant). Dominica is the only country of the four to experience an increase in neonatal (from 15.5 to 27.3), infant (from 17.6 to 31.5), and child mortality (from 19.4 to 24) during this time.⁶ While deaths among children paint a generally positive picture, data on maternal mortality is limited and the most recent data available demonstrate challenges in St. Kitts and Nevis. Additionally, non-communicable diseases (NCDs) such as cardiovascular disease, cancers, chronic respiratory diseases, diabetes, among others, play an important role in the health status of Caribbean populations. High rates of deaths attributed to NCDs place a major economic burden on households and in society.

According to the USAID Regional Development Cooperation Strategy (RDCS) for the Eastern and Southern Caribbean, the Caribbean has the second-highest regional rate of HIV prevalence in the world (after sub-Saharan Africa) with over 250,000 adults and children reported to be living with HIV in 2012.⁷ The HIV and AIDS epidemic is the leading cause of death among Caribbean adults ages 25-44. However, since 2001, the region has also experienced the greatest regional decline in the world of new HIV infections. Contributing to this trend is likely fact that the various Caribbean governments have programs and policies in place to aid people living with HIV and to prevent future infections.⁸ While HIV is still a prominent health challenge in the Caribbean, it is primarily spread through sexual transmission and concentrated amongst certain marginalized populations, including sex workers and their clients, men who have sex with other men (MSM), and others engaged in transactional sex (see **Figure 4**).⁹ Geographically, the HIV and AIDS epidemic is highly concentrated in a small number of Caribbean states including the Bahamas, Barbados, Jamaica, Suriname, and Trinidad and Tobago, which account for approximately 95 percent of all new HIV infections. Data from UNAIDS for Antigua and Barbuda, Dominica, St. Kitts and Nevis, and St. Vincent and the Grenadines is limited regarding prevalence, trends, and other indicators but country profiles suggest that HIV prevalence is low (except in the case of St. Vincent and the Grenadines) and condom use high among target groups outlined in the USAID RDCS. The USAID report attributed the challenging legal environment and stigma and discrimination across the region as some of the barriers restricting people from seeking primary health care services.

Figure 4: HIV data among target populations

	Antigua and Barbuda	Dominica	St. Kitts and Nevis	St. Vincent and the Grenadines
Sex worker HIV prevalence (%)	0.5	No data	No data	No data
Sex worker condom use (%)	100	No data	No data	No data
MSM HIV prevalence (%)	2.5	No data	1.3	29.6
MSM condom use (%)	81.3	No data	82	73.3

Source: UNAIDS Country Factsheets 2017. <http://aidsinfo.unaids.org/>

The United Nations Development Program (UNDP) compiles health, economic, and education indicators into one index to represent overall human development. The human development index (HDI) health component is captured by life expectancy at birth, the economic component by the gross national income per capita, and the education component by mean years of schooling for adults over 25 years and expected years of schooling for children entering school. Despite some economic challenges, all four countries fall into the high human development category (see **Figure 5**).¹⁰ The HDI does not capture elements such as inequalities, poverty, human security, or empowerment.

Figure 5: Human development index

	Antigua and Barbuda	Dominica	St. Kitts and Nevis	St. Vincent and the Grenadines
HDI	0.780	0.715	0.778	0.723
Rank (out of 189 countries)	70	103	72	99

Source: UNDP. 2018. Human Development Index Ranking: 2018 Statistical Update. <http://hdr.undp.org/en/2018-update>.

Antigua and Barbuda has the fastest growing population and GDP growth compared to the other three countries; the GDP growth is a major rebound after experiencing -12% growth in 2009 and two subsequent years of negative GDP growth rates (-7.2% in 2010 and -2.1% in 2011). St. Vincent and the Grenadines is experiencing the slowest population growth at only 0.2% annually while Dominica is in the worst financial situation- with a GDP growth rate of -9.5% in 2017. St. Kitts and Nevis and St. Vincent and the Grenadines are experiencing modest GDP growth – close to 1% annually. Dominica and St. Vincent and the Grenadines have the lowest GDPs per capita amongst the four countries and both are below the Latin America and Caribbean regional GDP per capita (9,274.8) (see **Figure 6**).

Figure 6: Key economic data

	Antigua and Barbuda	Dominica	St. Kitts and Nevis	St. Vincent and the Grenadines
Income level*	High income	Upper middle income	High income	Upper middle income
GDP (current US\$)**	1,510,084,750.7	496,727,000.0	992,007,403.1	785,222,509.1
GDP growth (annual %)**	3.0	-9.5%	1.2	0.9
GDP per capita (current US\$)**	14,803.0	6,719.3	17,924.1	7,145.1
Population growth (annual %)**	1.0	0.5	1.0	0.2
Current health expenditure (% of GDP)^	4.8	5.4	5.6	4.2

Sources:

*World Bank. Country Profiles. <https://data.worldbank.org/>

**World Bank. World Development Indicators. 2017. <https://databank.worldbank.org/data/source/world-development-indicators>

^UNDP. Human Development Index. <http://hdr.undp.org/en/countries/profiles>

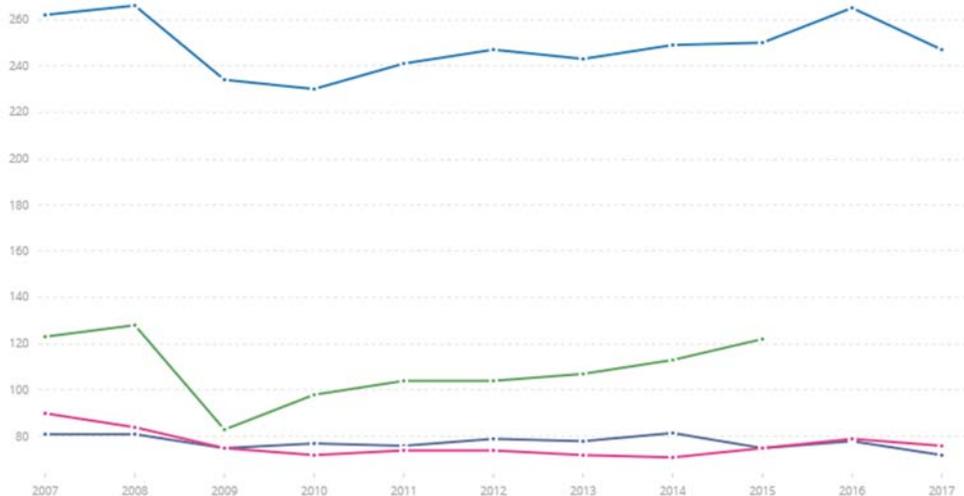
There are no recent statistics on poverty rates or inequality measures for any of these four countries¹¹, but according to WHO, the region experiences high levels of poverty, particularly among rural populations and female headed households.¹² Rural populations account for 75.3% of the total population in Antigua and Barbuda, 69.2% of the total population in St. Kitts and Nevis, 48.2% of the total population in St. Vincent and the Grenadines, and 29.8% of the total population in Dominica.¹³ No data is available for the four countries on percent of households with a female head.

Some of the region’s economic hardship can be attributed to destructive natural disasters, including the July 2017 Tropical Storm Beryl and the September 2017 Hurricanes Irma and Maria. According to a USAID Hurricane Update, 71,293 people on Dominica were affected by Hurricane Maria, including 27 reported fatalities.¹⁴ Hurricane Irma devastated the island of Barbuda, destroying almost all structures and vegetation, and forcing the population to flee to Antigua.¹⁵ Overall, 265,000 people in the Caribbean region were affected by Hurricane Irma. As of July 2018, humanitarian support was still being provided to Dominica and Antigua and Barbuda due to significant infrastructure damage and lingering humanitarian challenges.¹⁶

The region also struggles with gang and criminal activity, partially attributed to high rates of secondary school drop-out, unemployment, and economic recessions. Violent crime is thwarting development in each of the four countries, and according to the UN Office on Drugs and Crime, the homicide rate increased by approximately 165% annually between 2000 and 2010.¹⁷ There are also high levels of organized crime, primarily the trafficking of guns and illegal drugs.¹⁸

The region’s economy is largely reliant on remittances, agriculture, and tourism, all of which are vulnerable to macro-economic conditions. The 2006-2009 PAHO/WHO Eastern Caribbean Cooperation Strategy reported that tourism had decreased due to natural disasters and security concerns¹⁹, but the World Bank recently reported that economies in the region have been growing in the last three years²⁰. Tourism did decline for Antigua and Barbuda, Dominica, and St. Vincent and the Grenadines after 2016, likely a combination of fears around Zika virus and natural disasters that hit during that time. No data is available for St. Kitts and Nevis after 2015 (see **Figure 7**).

Figure 7: International tourism in the Caribbean, number of arrivals, 2007-2017*



Source: World Bank Data. https://data.worldbank.org/indicator/ST.INT.ARVL?end=2017&locations=AG-KN-DM-VC&name_desc=false&start=2007&view=chart

*Blue: Antigua and Barbuda; Green: St. Kitts and Nevis; Purple: Dominica; Pink: St. Vincent and the Grenadines

III. THE ZIKA VIRUS OUTBREAK: TIMELINE AND SPREAD

The World Health Organization (WHO) defines an outbreak as “the occurrence of cases of disease in excess of what would normally be expected in a defined community, geographical area or season. An outbreak may occur in a restricted geographical area, or may extend over several countries. It may last for a few days or weeks, or for several years.”²¹ When tracking the Zika virus outbreak and spread specifically, the WHO uses the following terms:

- **Suspected case** – a person presenting with rash and/or fever and at least one of the following signs and symptoms (arthralgia, arthritis, conjunctivitis)
- **Probable case** – a suspected case with presence of the antibody against Zika virus and an epidemiological link such as contact with a confirmed case or, a history or a history of residing in or traveling to a Zika-affected area in the prior two weeks
- **Confirmed case** – a person with laboratory confirmation of Zika virus infection²²

The Zika virus is primarily transmitted to people through the bite of an infected *Aedes* species mosquito; the same mosquito species that spread dengue and chikungunya viruses. Once infected, a person can pass Zika virus through sexual intercourse and from a pregnant woman to her baby during pregnancy. While rare, there are few recorded cases of Zika virus transmission through blood transfusions and through laboratory and healthcare setting exposure. Zika virus has been found in breastmilk, but there are no confirmed cases of Zika virus transmission through breastmilk.²³

The four Caribbean countries analyzed in this document have all reported a Zika virus outbreak in the last three years, beginning with Saint Vincent and the Grenadines whose first confirmed case of Zika virus was at the end of February 2016. Dominica (mid-March 2016), Antigua and Barbuda (end of July 2016) and St. Kitts and Nevis (mid-September 2016) all reported confirmed cases in the following weeks of 2016 (see **Figure 8**). While no information is available for Antigua and Barbuda or St. Vincent and the Grenadines on how far the virus has spread, the WHO reports show that the virus has reached all districts of Dominica and St. Kitts and Nevis. In all four countries, samples of suspected Zika cases were sent to the Caribbean Public Health Agency (CARPHA) for laboratory confirmation (RT-PCR).

Guillain-Barré Syndrome (GBS) is a disorder that affects the nervous system where a person’s own immune system causes muscle weakness and, in extreme cases paralysis.²⁴ CSaZ is a pattern of birth defects unique to infants infected with Zika before birth. It is described with the following features: microcephaly, decreased brain tissue and brain damage, damage to the back of the eye, congenital contractures, and hypertonia restricting body movements after birth.²⁵ GBS and conditions related to CSaZ have been linked to Zika virus in several Latin American and Caribbean countries.

Following the emergence of Zika in the region the number of suspected and confirmed cases saw a drastic increase then declined towards the end of 2016. Zika virus transmission continued in 2017, but with less intensity. No new or confirmed cases have been reported in the four island nations; the most recent data reported by the WHO and PAHO is from January 2018.

Dominica is the only country that has provided any publicly available Zika data disaggregated by age or sex (though limited). The figure below shows that higher rates of Zika were observed in females than males in every age group, except for the ≥ 65 age group, and the highest rates were amongst women ages 25-29 (see **Figure 9**).²⁶

Figure 8: Zika cases in the Eastern and Southern Caribbean as of January 2018

	Antigua and Barbuda	Dominica	St. Kitts and Nevis	St. Vincent and the Grenadines
Zika first confirmed[^]	July 2016	March 2016	September 2016	February 2016
Suspected cases*	540 (MOH reported 552 during ASSIST scoping visit July 2018)	1,154	554	508
Confirmed cases*	25 (MOH reported 28 during ASSIST scoping visit July 2018)	79	33	83
Suspected cases among pregnant women[^]	16 (as of July 2017) (MOH reported 28 during ASSIST scoping visit July 2018)	3 (as of October 2016) (MOH reported 13 during ASSIST scoping visit July 2018)	0 (as of September 2017)	1 (as of September 2016)
Confirmed cases among pregnant women[^]	6 (as of July 2017) (MOH reported 16 during ASSIST scoping visit July 2018)	10 (as of October 2016)	0 (as of September 2017) (MOH reported 5 during ASSIST scoping visit July 2018 all from St. Kitts)	2 (as of September 2016)
Confirmed congenital syndrome associated with Zika virus infection*	0 (MOH reported 2 during ASSIST scoping visit July 2018)	0	0	0
Suspected Zika virus associated with GBS[^]	0 (as of September 2017)	2 (as of April 2016)	0 (as of September 2017)	4 (as of October 2016)
Deaths among Zika cases*	0	0	0	0

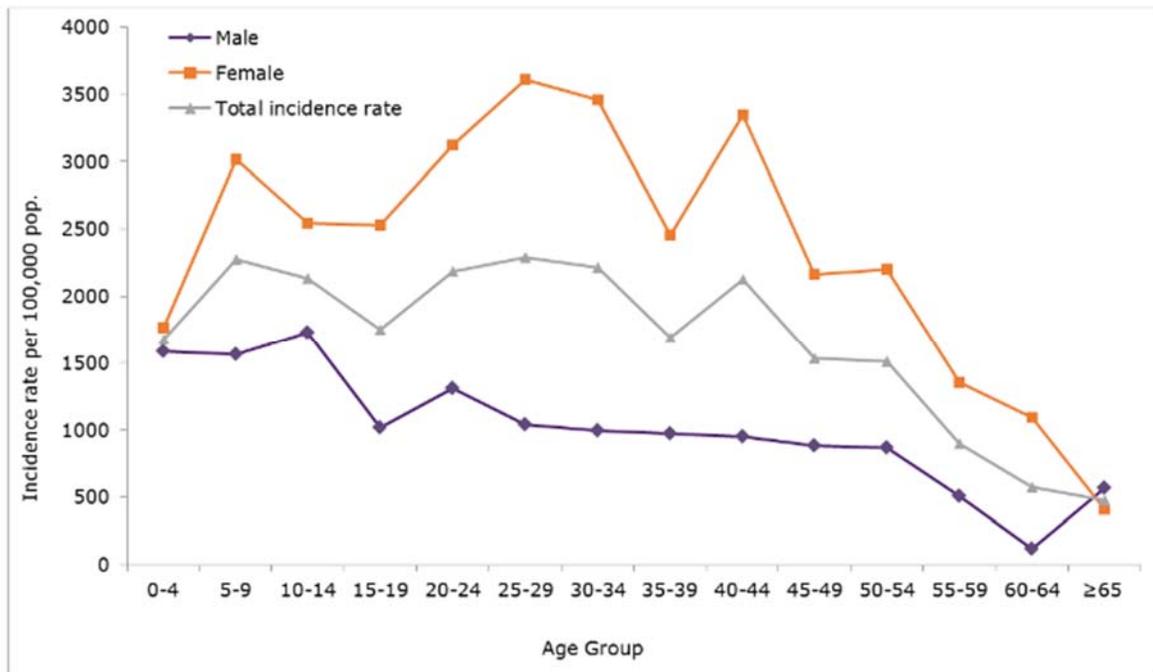
Sources:

*WHO/PAHO. 2018. Zika cases and congenital syndrome associated with Zika virus reported by countries and territories in the Americas, 2015 – 2018. Cumulative cases.

https://www.paho.org/hq/index.php?option=com_docman&view=download&category_slug=cumulative-cases-pdf-8865&alias=43296-zika-cumulative-cases-4-january-2018-296&Itemid=270&lang=en

[^]WHO/PAHO. 2016-2017. Zika epidemiological country reports. (See references 26-30.)

Figure 9: Incidence rate of Zika virus by sex and group of age per 100,000 population. Dominica. As of Epidemiologic Week 41 of 2016



Source: WHO/PAHO Zika epidemiological country reports – Dominica. 25 September 2017.
<https://www.paho.org/hq/dmdocuments/2017/2017-phe-zika-situation-report-dom.pdf>

Dengue and chikungunya are other arboviruses pervasive in the region. As previously mentioned, they are also transmitted by the *Aedes* mosquito, and some countries use the same surveillance and control methods for all three viruses. Symptoms are also similar and include fever, headache, muscle and joint pain, and rash. Therefore, each virus has the potential to be misdiagnosed if a case is not tested and confirmed in a laboratory. As of July 2017, one probable case of dengue was reported in Antigua and Barbuda. Antiguan and Barbudan health authorities reported 103 probable and three confirmed cases of dengue in 2016, an increase from the 37 probable cases in 2014. In 2016, there were 38 suspected and 2 confirmed cases of chikungunya.²⁷ As of July 2017, 31 probable cases of dengue were reported in Dominica. In 2016, Dominican health authorities reported 351 probable cases of dengue, including six confirmed cases. This was a significant increase in suspected cases compared to the previous two years (184 in 2014 and 38 in 2015). As of July 2016, health authorities in Dominica reported 269 cases of chikungunya since its initial arrival on the island in 2014.²⁸ In St. Kitts and Nevis there was an increase in the number of dengue cases reported in 2016 compared to 2015- 136 probable cases, up from 5 the previous year. Only 28 suspected cases of chikungunya were reported in 2016.²⁹ As of April 2017, 2 probable of which 1 laboratory-confirmed cases of dengue had been reported in St. Vincent and the Grenadines. In 2016, there were 89 probable cases of dengue and 154 cases of chikungunya.³⁰

Zika swept across Antigua and Barbuda, Dominica, St. Kitts and Nevis, and St. Vincent and the Grenadines in 2016, with no cases reported in 2017. From 2016 to present, response has been largely focused on vector control and community and health facility public education. Across these four countries, there is little reliable, easily accessible, and publicly available information regarding specific government programming for Zika or public perceptions of Zika. The following section will outline some factors that are critical to consider when planning Zika response efforts.

IV. FACTORS TO CONSIDER IN ZIKA RESPONSE

A. Gender Norms and Expectations

According to the USAID Regional Development Cooperation Strategy, “throughout the region, men and women remain trapped in socially-prescribed roles, fueling expectations and behavior patterns that negatively affect their health and life choices.”³¹ For example, in the Caribbean, there are pervasive discriminatory beliefs around manhood and sexuality. A man is expected to be sexually skilled³², and further, it is believed that a man’s sexuality is innate and uncontrollable, and therefore boys and men should have sexual freedom and be allowed to experiment sexually or have multiple partners.³³ In fact, in many Caribbean countries a measure of men’s manliness is the number of sexual partners and children that he has.³⁴ While men are encouraged to have many concurrent sexual partners, women are punished or looked down upon for doing so.^{35,36}

When looking at relationships dynamics, Afro-Caribbean populations experience low rates of legal marriage and high rates of single-motherhood. Specifically in the Eastern Caribbean, almost 70% of children are born into non-nuclear families.³⁷ However, male dominance and patriarchal norms still permeate these societies and drive expectations of women’s subordination and dependence on men while also charging them with managing family life.^{38, 39} This is somewhat contradictory to the fact that women are relatively economically independent in the Caribbean, partially due to the fact that men tend to be absent from the family unit- either uninvolved or having migrated away from the islands- leaving a large number of female-headed households. Dr. Janet Momsen attributes this phenomenon of patriarchy and simultaneous independence of women, which is seen most commonly amongst lower-income Afro-Caribbean groups, to a long history of colonialism.⁴⁰ Other scholars attribute this system of matrifocal households- where mothers and their children are the basis of the family unit- to high rates of male migration, decades of slavery, or African roots.^{41, 42} Women, however, are not necessarily pleased with this system. Reports from St. Kitts show that women are unhappy about certain male behavior and the level of financial support received from them. Women from Antigua say that they believe men to be undependable and irresponsible, especially when it comes to providing for their children.^{43, 44}

These relations are important. While often primary caretakers are the mother or another female family member, an increase in father involvement has been linked to improved health outcomes, academic performance, mental health, and social skills in children. When fathers have positive relationships with their children, the children are less likely to be delinquent or use drugs, and more likely to live longer, be more productive, and generally have happier lives.⁴⁵ In the context of Zika parental and family support is critical as children with CSaZ or affected by neurodevelopmental challenges often need physical therapy, cognitive stimulation therapy, and extra assistance with everyday activities. These special needs can also result in an increased financial burden. Finally, caretakers can also face emotional strain and lack the support to cope with the demands of caring for a child with severe disabilities along with insufficient clinical support or access to services.⁴⁶ In these situations, primary caretakers are often unable to work outside the home or spend time on non-caregiving pursuits, like education. This isolation from the workforce can increase the risk of persistent or worsening poverty.⁴⁷

The overall trend in the Latin America and Caribbean region follows that women face challenges and inequality in comparison to men with regards to the careers they have and the wages they earn. Women tend to be in less stable, less desirable, and lesser-paid jobs compared to men.⁴⁸ They are also too often forced into un- and under-paid domestic work, which not only limits their ability to be economically independent, but also reinforces a patriarchal hierarchy.⁴⁹ Furthermore, women participating in the informal economy are often faced with fewer social and economic protections. However, Latin America and the Caribbean is not a homogenous region and there are notable exceptions to this trend. For example, according to the 2018 Women, Business, and the

Law report, 42% of the labor force in St. Vincent and the Grenadines is female and a 2015 Ministry of Finance report on the labor market revealed that though women are less likely to be employed than men, they are more likely than men to be employed in higher-skilled occupations including professionals, technicians/associate professionals, and clerical support workers.^{50 51} Men are more likely to be employed in lower-skilled occupations such as craft and related trade. On another note, the government of St. Vincent and the Grenadines also recently increased the percentage of wages received during maternity leave. This can provide extra time for the mother to be with her newborn; however, some companies that pay for maternity leave may see this as a dis-incentive for hiring women of reproductive age, since employers would bear the higher costs for maternity leave.

Similar to participation in the workforce, women are under-represented in political and other decision-making spheres. In 2017, females made up only 25% of the Parliament in Dominica, 13.3% of the Parliament in St. Vincent and the Grenadines, 13% of the Parliament in St. Kitts and Nevis, and 11.1% of the Parliament in Antigua and Barbuda.⁵² Though it is not guaranteed that getting more women in decision-making roles will bring about immediate change, the increased visibility and representation helps ensure diverse voices and perspectives are included when negotiating and developing governing policies. Restrictive laws that limit the movement of women still exist (such as how women in St. Vincent and the Grenadines may not apply for a passport in the same way as men and require their current or previous husband's background information to file for a separate passport or otherwise be joined to their spouse's⁵³), but these countries are slowly progressing to becoming more equitable societies.

B. Contraceptive Use

Considering that the Zika virus can be transmitted through sexual intercourse, contraceptive use (particularly condoms) is particularly relevant to the Zika virus epidemic. Throughout the Caribbean region, men are typically the decision-makers regarding contraceptive use and method, family size, and women's access to health care.⁵⁴ There is limited public data on contraceptive use and family planning methods for Antigua and Barbuda, Dominica, St. Kitts and Nevis, and St. Vincent and the Grenadines, but the UNFPA's 2018 State of the World Population The Power of Choice report cites that in 2018 in Antigua and Barbuda, the contraceptive prevalence rate for women 15 to 49 using modern methods was 61%. The unmet need for family planning was 14% and 80% of women using modern methods said their demand was satisfied. In St. Vincent and the Grenadines, the contraceptive prevalence rate for women 15 to 49 using modern methods was 63%. The unmet need for family planning was 12% and 81% of women using modern methods said their demand was satisfied.⁵⁵ One study looking at factors associated with condom use among persons living with HIV or AIDS in Antigua and Barbuda, Grenada, and Trinidad and Tobago found that 54 percent of respondents reported using a condom the last time they had sex.⁵⁶

There is limited information about perceptions of condom use in other Caribbean nations though examining some findings may provide a backdrop for exploratory opportunities in the Eastern and Southern Caribbean countries targeted in this review. In Grenada, one study that looked at the extent to which males use condoms and the association between condom use and concern with acquiring a sexually transmitted infection found that "males appear to exude confidence or possible ignorance when it comes to sexual health."⁵⁷ Even though participants were aware of sexually transmitted infections, they do not optimally use protection to safeguard themselves and their partners. Some of the reasons males cited for not using a condom in their last sexual intercourse included – having one partner, it being more pleasurable, the couple's choice, not having one, lacking trust of the partner, a regular partner, or it was unexpected. Ultimately, the study found that even though there was some level of awareness of sexually transmitted infections, men continued to engage in risky sexual behaviors. In Curaçao, one study that looked at factors contributing to inconsistent condom use by men found that there is a disconnect between what is considered appropriate sexual behavior for men and for women and condom use.⁵⁸ Participants reported that

Caribbean family structures, where mothers assume the role of primary caretaker and fathers contribute biologically but less so from a social stand point, can also impact condom use. The study also revealed that condom use is influenced by taboos on talking seriously about sex and sexual health.

Regionally, in Latin America and Caribbean countries it is common for women to have limited control over their sexual and reproductive health. Men are often the primary decision-makers regarding whether contraception should be used.^{59,60} Studies from several countries in the region examined reasons why men might not permit their wives to use contraception, including the fear that it encourages infidelity, myths that some methods cause permanent sterility, and religious beliefs.⁶¹ (While these reasons may be plausible, there is no data for the Caribbean that illustrate male partners restricting contraceptive use for their female partners.) Threats of violence also limit the power of women to negotiate the use of contraceptive methods.⁶² In addition, the social pressure from immediate and extended family networks, local religious groups and local political organizations also play a significant role in discouraging women from seeking contraception and using it consistently.⁶³ Regional studies have found that requesting condom use with a stable partner threatens the male authority common in patriarchal cultures. It can be perceived as an offense, lack of trust, accusation of infidelity, and can lead to violent reactions, usually on the part of the male partner to the female partner, including forced unprotected sex.^{64, 65}

C. Gender-Based Violence (GBV), Zika, and other Sexually Transmitted Infections

There are no recent official publicly available statistics on the rates of gender-based violence (GBV) in Dominica, St. Kitts and Nevis, St. Vincent and the Grenadines, or Antigua and Barbuda. However, according to the USAID RDCS, at least 40-50% of women experience domestic violence in the region, and the rates of GBV continue to increase.⁶⁶ According to the UN Office on Drugs and Crime (UNODC), there were 426 cases of sexual violence (rape and sexual assault) in St. Vincent and the Grenadines in 2011, a major increase from the 168 cases in 2010. This translates to a rate of 154 cases and 389 cases per 100,000 people in 2010 and 2011 respectively. UNODC reported that there were 56 rape cases in 2011.⁶⁷ In Dominica, a report by the Bureau of Gender Affairs and UN Women, using data from the recently established (2011) National Registry for Domestic Violence, showed that there were 349 reported cases of sexual abuse, 140 cases of physical abuse, and 118 cases of emotional abuse between 2008 and 2011. The report indicates that 86% of these victims were female.⁶⁸ Data from the United Nation's Gender Equality Observatory for Latin America reveals that in 2015, two women died at the hands of their intimate partner or former partner in Dominica and three in St. Vincent and the Grenadines; in 2018, St. Kitts and Nevis reported two deaths. No data is available for Antigua and Barbuda on the platform regarding this aspect of physical autonomy (women's death at the hands of their intimate partner or former partner).⁶⁹ While Antigua and Barbuda has no national repository for GBV-related data, the Directorate of Gender Affairs maintains a database on key information and can be accessed by response team members.⁷⁰ According to the database, 130 persons (113 females and 17 males) suffered some form of GBV in 2018. 72% of these individuals were single while 25% were married; 3% were divorced. 77% were between the ages of 18 and 60 with 21% below the age of 18. For both females and males in Antigua and Barbuda, emotional/psychosocial violence was the most reported type of GBV followed by physical, sexual, and economic respectively.

While all four countries have national legislation specifically addressing domestic violence, none of them have legislation against sexual harassment in the workplace or in education. They also do not have criminal penalties or civil remedies for sexual harassment in education.⁷¹ Laws against domestic violence are rarely enforced, and as such intimate partner violence (IPV) is seen in all four countries. This violence, according to a Child Fund study looking specifically at Dominica, is rooted in imbalanced power relations between men and women.⁷² Men perpetrate violence to exercise control over victims and their social, economic, and political lives. This is reflected in a general

culture of male power in Dominica, and likely in the other three countries as well. Furthermore, severe cases of domestic violence have been reported in the Carib (indigenous) community of Dominica, often fueled by alcohol. However, one study found that Dominican women have been becoming more assertive and are less likely than before to remain silent in the face of a violent partner.⁷³

Since the Zika outbreak is quite recent, there are not yet studies estimating the association between intimate partner violence and Zika infections; however the relationship between IPV and Zika has been drawn as there is strong evidence between IPV and infections that are transmitted sexually such as HIV. A 2013 WHO systematic global review across different HIV epidemic settings found that intimate partner violence increases the risk for HIV infection among women and girls by more than 50%, and in some instances up to four-fold.⁷⁴ There is a two-way link between GBV and STIs: victims of GBV are more likely to acquire STIs and having an STI makes them more vulnerable to violence.⁷⁵ The WHO also reported that forced sex has a direct link with HIV, and highlighted that the younger a girl or woman is at the time of her first sexual intercourse, the higher probability of being forced into sex.⁷⁶

Pregnancy is not a protective factor and does not stop abuse, according to one study on domestic violence carried out in Barbados and Grenada.⁷⁷ The study, which gathered qualitative evidence from 109 participants (49 women and 60 men), found that in some cases domestic violence increased during pregnancy, and only in one case did it decrease. Further, several women reported that the violence was intended to inflict damage not only on the woman, but also the child she was carrying. Additionally, 12 of 14 women in one of the study's groups reported that their pregnancy was the catalyst for violence of used by the male partner as an excuse to commit violence. Finally, nine women from the study reported that during their pregnancy they felt financially and emotionally trapped in their relationships and dependent on their partner.

Gender-based violence must be considered in the context of Zika because women and girls (including those already pregnant) experiencing GBV may be more at risk of acquiring the virus and less likely to seek health services including education about Zika prevention and well-child care.

D. Disability and Gender in the Caribbean

According to the World Health Organization's 2011 World Disability Report, over a billion people (or 15% of the world's population) are estimated to be living with a disability.⁷⁸ The report defines "disability" as "an umbrella term for impairments, activity limitations, and participation restrictions, denoting the negative aspects of the interaction between an individual (with a health condition) and that individual's contextual factors (environmental and personal factors). The Economic Commission for Latin American and the Caribbean (ECLAC), who have developed at least two reports on disability in the Caribbean in particular, highlight that a significant portion of the population is already living with disabilities however, statistics on persons living with disabilities are limited.⁷⁹ Monitoring disability data and the services available at facilities is important in the context of Zika and subsequent response efforts because it has been recognized that Zika virus infection during pregnancy can cause severe birth defects, including microcephaly, other brain defects, and congenital Zika syndrome.⁸⁰

Specifically, the risk of congenital neurologic defects related to Zika virus infection has ranged from 6 to 42% in various global reports. A recent study on pregnancy outcomes after Zika infection in the French Caribbean (French Guiana, Guadeloupe, and Martinique) was conducted between March and November 2016 that tracked the pregnancies of 546 women with confirmed Zika infection. Researchers found that neurologic and ocular defects possibly associated with Zika infection were seen in 7% of the fetuses and infants (39 total). Furthermore, microcephaly was detected in 5.8% of the fetuses and infants (32 total), of whom 1.6% (9 total) had severe microcephaly. Neurologic and ocular defects were more common when Zika infection occurred during the first trimester than when

it occurred during the second trimester or third trimester. The findings concluded that birth defects occurred more frequently in fetuses and infants whose mothers had been infected early in pregnancy.⁸¹

Statistics from a 2013 UNICEF survey on children and disabilities in 12 Caribbean countries had noted that children with disabilities accounted for 1.5% of the children's population (and 0.4% of the national population) in Antigua, 1.2% of the children's population (and 0.3% of the national population) in Dominica, 1.9% of the children's population (and 0.7% of the national population) in St. Kitts and Nevis, and 0.7% of the children's population (and 0.3% of the national population) in St. Vincent and the Grenadines⁸², but these numbers could rise as a result of the recent Zika epidemic. As a new disease to the region, information and knowledge to reach providers and families may have been slow. As more research is being conducted, we are learning that some babies with possible Zika infection during pregnancy may look healthy at birth but may develop long-term health challenges as they grow. These factors allude that there could be families who may not yet know that their child has been affected by the virus.^{83 84} This is important as the implications of Zika can affect a family for their whole life.

Persons with disabilities in the Caribbean have little or no access to healthcare, rehabilitation, or other support services.⁸⁵ These are exactly the services that children and families affected by Zika need. According to the CDC, we are still learning the long-term effects of the Zika virus during pregnancy, but that babies affected may have lasting special needs. Some of the conditions associated with congenital Zika syndrome – such as problems with brain development, hearing loss, seizures, vision problems, and challenges with joint and muscles movements – may lead to problems progressing in speaking, learning, moving, and playing.⁸⁶ These babies may need additional tests, exams, and therapies from various specialists; some of which may be difficult to reach or find. The family may also require the assistance of a social worker, insurance provider, friends, and other family and community members to help with transport, care, and services. What is evident looking at long-term care is that taking raising a child affected Zika can come at a high financial and social costs.

Additionally, children affected by Zika may also face stigma and discrimination in the home or from their wider community. ECLAC reported that children with disabilities are generally excluded from normal activities within the home and do not participate in community life. Families often shun or mistreat their disabled children and frequently adequate care is not provided. This information reflects some of UNFPA's findings from a 2018 global report on young persons with disabilities.⁸⁷ UNFPA goes further to say that girls with disabilities are marginalized in that they are less likely to receive care and food in the home and are more likely to be left out of family interactions and activities. They are less likely to receive health care or assistive devices than are boys with disabilities.

Finally, as children affected by disabilities grow older, they may also face other challenges. Girls with disabilities are less likely than their male peers with disabilities to attend school, making these girls less eligible to hold formal employment and to be literate. As women, they are more likely to live in poverty and to be subjected to GBV. They are more likely than their male peers are to think of themselves as disabled and hold a negative self-image. This in turn can make them more vulnerable to harmful social interactions.⁸⁸ Studies from around the world have found that women and girls with disabilities are at greater risk of sexual violence and exploitation than are either women without disabilities or men with disabilities.⁸⁹

According to stakeholders surveyed in the Caribbean, more needs to be done to enable persons with disabilities to maximize their potential to actively participate in society (see **Figure 10**).⁹⁰ Too many children with disabilities continue to face barriers to their participation in the civic, social, and cultural affairs of their communities. Across the region, there is a need for ongoing public education

and awareness programs to address issues of abuse, stigma, discrimination, marginalization, and exclusion of persons with disabilities.⁹¹

Social inclusion of persons disabilities, including children and families affected by Zika, need to be urgently addressed. As part of this response, programs must work to identify services and support systems for families and strengthen provider capabilities. In using this approach, implementers must also be aware of generalizations about “disability” or “people with disabilities” that can be misleading. Like their peers without disabilities, persons with disabilities have diverse gender, age, socioeconomic, sexuality, ethnic, and cultural identities.^{92 93} These perspectives must be taken into account as response efforts work to improve equitable quality healthcare for families and children affected by Zika.

Figure 10: Stakeholder-identified priority needs for children with disabilities by country

Antigua	Dominica	St. Kitts and Nevis	St. Vincent and the Grenadines
<ul style="list-style-type: none"> • Diagnostic center with qualified personnel to assess and recommend appropriate programs for children with disabilities, which should include specialists such as a speech and language therapist/pathologist, education psychologist, occupational therapist, pediatric audiologist and physical therapist • More training programs for specialist teachers and other qualified personnel to cater to the growing needs of children with disabilities • A structured system so that parents know where to get reliable and ongoing help for their children and themselves 	<ul style="list-style-type: none"> • Psychological assistance or counseling of children with disabilities in the school system • Early detection and intervention programs to ensure smooth transition of children with disabilities to preschools and other education programs • Access to education at all levels for children with disabilities by mainstreaming children with disabilities into the school system • Ongoing access to training for personnel who work in schools • Counseling and training for parents • Provision of health care and rehabilitation • Upgrading of physical amenities, e.g. access to public buildings, 	<ul style="list-style-type: none"> • Improving societal attitudes and removing stigma and discrimination towards children with disabilities • Improving early detection, prevention systems and therapies such as speech therapy, and testing for hearing aids so that they can be fitted as early as possible • Providing more education and training opportunities, for example, the Special Education Unit accommodates the blind but there is no trained teacher for the blind, so children are not really getting 	<ul style="list-style-type: none"> • Improving attitudes towards children with disabilities as some parents still keep children at home • Improving access to resources such as speech and physical therapists for early detection, prevention and therapy particularly in rural communities • Increasing the availability of financial assistance as many children with disabilities have unemployed parents and are living in poverty • Providing adequate health care and rehabilitation services • Providing transportation to special needs schools

Antigua	Dominica	St. Kitts and Nevis	St. Vincent and the Grenadines
<ul style="list-style-type: none"> • More health care and rehabilitation programs • Faster development and adoption of legislation and policy to advise/inform procedures and programs for the disabled community • Further development of facilities, infrastructure and resource centers e.g. computer centers and libraries to cater to the needs of children with disabilities • More social programs and a transportation service catering to the needs of children with disabilities • More public awareness and education to promote that children with disabilities can lead full lives and can play an integral role in national development • More robust involvement of corporate partners especially in providing employment opportunities for 	<p style="text-align: center;">sidewalks, ramps, hand rails etc. especially in the city</p> <ul style="list-style-type: none"> • Resourcing a testing center • Employment opportunities and skills training • Reduction/elimination of abuse, ridicule, exclusion, stigma and discrimination of children with disabilities by society • Increasing financial support from all stakeholders, e.g. Government, corporate organizations, NGOs etc. • Timely development and adoption of supportive legislation 	<p style="text-align: center;">the full educational benefit</p> <ul style="list-style-type: none"> • Financial aid and program funding • Government and leadership attitude and low priority to children with disabilities, inadequate facilities and infrastructure in terms of sidewalks, ramps, building access • Lack of transportation and social services • The need for public education and awareness • The need for recreation, sports and leisure programs • Improving resource availability e.g., children with disabilities in the special education school were not provided with laptops like other students in high schools, students at the special education school do not benefit from the 	<ul style="list-style-type: none"> • Increasing agency coordination for better networking and a more unified approach to the issue • Providing ongoing training for teachers and care givers as well as ensuring that access to education is available for all children with disabilities including the severely challenged kids who currently are not allowed access to primary school. There is also very limited spaces in secondary school for children with disabilities • Reducing/eliminating the exploitation, violence and abuse of children with disabilities • More support and direction from government and leadership • More public education and awareness programs • Increasing facilities and infrastructure to improve accessibility, e.g. sidewalks, ramps

Antigua	Dominica	St. Kitts and Nevis	St. Vincent and the Grenadines
persons with disabilities		lunch program that is given to a number of primary schools <ul style="list-style-type: none"> The need for work and employment opportunities 	<ul style="list-style-type: none"> Provision of work and employment opportunities as even the young disabled who get educated, leave school and have no choice but to sit at home because there are no jobs

Source: UNICEF. State of the World's Children. Eastern Caribbean Area Supplement. 2013.

E. Childcare Practices

According to UNICEF's Situation Analysis of Children reports, infant and under-five mortality in Antigua and Barbuda have steadily declined.⁹⁴ The main cause of infant death is premature delivery and the leading causes of morbidity for children under five are acute respiratory infections and gastroenteritis. Dominica's infant mortality rate has been described as "concerning" and analysis determines that most deaths occur before the age of one.⁹⁵ Leading causes in infant mortality include, asphyxia, neonatal sepsis, prematurity, and neonatal pneumonia; causes of under-five morbidity are under review but partially explained by sepsis. St. Kitts and Nevis has also seen declines in infant and child mortality. Infant deaths are mainly caused by prematurity and congenital abnormalities while leading causes of under-five deaths include acute respiratory infections and gastroenteritis.⁹⁶ In St. Vincent and the Grenadines, while under-five mortality has declined steadily, infant mortality has fluctuated and not declined as steadily compared to the rest of the region.⁹⁷ The majority of infant deaths are due to prematurity and perinatal infections or congenital conditions originating in the perinatal period. The leading causes of morbidity for children under five are acute respiratory infections and gastroenteritis⁹⁵.

Examining infant and child mortality and morbidity is important as child health and well-being are largely influenced by their caretakers. While there have been no deaths associated with Zika in these four countries, children affected by the virus may still require additional health and home care needs. A Save the Children report on gender inequalities in Latin America and the Caribbean noted that women's decision-making power in the home, in particular, influences the health and nutritional resources dedicated to children such as feeding practices, prenatal and birthing care, and treatment for child illness and immunization.⁹⁸ Additionally, women's access and control to resources for their own health and well-being has a significant impact on their children's survival, health, and nutrition. With care work often falling to women as detailed below, it is important to consider how care roles can influence the health status (and health progress in the context of Zika) of a child.

Children and parents affected by Zika may face many challenges, particularly with regards to the child experiencing any disabilities or developmental delays. One report on early childhood in the Caribbean found that like children from minority groups, children with special physical needs are often thought to be less capable, less honest, or less socially able than majority children.⁹⁹ The report further states that children with special needs can be isolated or stigmatized, and that governments tend to be poor at providing the resources they need. Within the home the report notes, an 'ugly' or disabled baby may be regarded as less desirable and can mean shame for the

family. Though the report also found differing practices with regards to caring for children with disabilities with some of them being neglected and hidden away, while others are pampered and spoiled. Additionally, women in the Caribbean feel they are under constant pressure from their families and society to have children that turn out well, and they take the blame for their children's failings. Children affected by Zika facing disabilities or developmental delays may experience similar stigmatization and discrimination both from their families and in wider society, and parents, particularly mothers, may be blamed for any perceived negative health results of their child.

Children affected by Zika need care and support. The most recent 2011 World Disability Report noted that most extended families have a disabled member, and many non-disabled people take responsibility for supporting and caring for their relatives and friends with disabilities.¹⁰⁰ Evidence of childcare practices across the Caribbean are limited, but the early childhood report found that despite stereotypes of extended Caribbean families, children are increasingly cared for by the mothers.¹⁰¹ According to the report, a mother's load is often eased by help from a father, or from other relatives such as aunts or grandparents, but despite the importance of other family members and the growing role of men in childcare, most of the responsibility for children falls upon women. Additionally, friends and neighbors have become less willing to look out for other people's children and in some cases, leaving children with friends or neighbors is frowned upon in a way it was not before. Compounding limited care support networks, Caribbean mothers think they have a more demanding role than in previous generations. The report found that mothers took pride in their role but stressed that it is a full-time and demanding one. In the context of Zika, having a support system is important as affected children need additional care to access and utilize treatments, and parents of affected children need physical and emotional assistance to properly provide and maintain the well-health of the child.

Finally, child care and raising a child must be considered in the long-term. While the early childhood report found that children living with a disability, in poverty, or with some other form of disadvantage are often ignored, shouted at or belittled, child-rearing in the region does seem to be getting less regimented and more caring as there is a growing realization that the first few years of a child's life are vital to his or her social, intellectual, and physical development.¹⁰² This shift is especially important in the context of Zika as children affected may already be delayed and may need additional health treatment and support services to stimulate their development. Having both parents invested in child care and rearing early on and through the long-term will help a child's overall health and well-being progress.

F. Health Systems

Very little information is available regarding the governments' or international actors' responses to Zika in these four countries. It was commonly believed that the WHO had recommended governments to spend 5% of their GDPs on health.¹⁰³ Though not formally adopted, many countries have based their health spending off this idea. In comparison, Antigua and Barbuda and St. Vincent and the Grenadines have been slightly under (4.31% and 3.56% respectively), and Dominica and St. Kitts and Nevis slightly over (5.30% and 5.67% respectively).¹⁰⁴ Potentially these budgets were too limited to handle an outbreak of this nature. Furthermore, as these countries developed stronger economies, official development assistance (international development financing) has decreased. More specifically, international donors have started to focus their health financing and programming specifically on HIV/AIDS, further limiting support for the broader health system and potentially limiting capacity to rapidly respond to the Zika outbreak.¹⁰⁵

The WHO/PAHO has documented issues with human resources for health in the region, including insufficient personnel and inadequate quality of care.¹⁰⁶ In the region, St. Kitts and Nevis has the highest ratio of physicians per 1,000 people- 1.2 per 1,000- but this rate is still low compared to the global average.¹⁰⁷ There are skills shortages in key relevant professions including epidemiology, nursing, biostatistics, and mental health. Furthermore, these countries are generally marked by

weak health information systems, making timely, complete, and quality data limited and, in some cases, completely unavailable.¹⁰⁸ While Antigua and Barbuda, Dominica, St. Kitts and Nevis, and St. Vincent and the Grenadines all have functioning and accessible health systems, recent UNICEF Situation Analysis of Children reports stated that there growing concerns that they are becoming overburdened.¹⁰⁹ Specifically, there are significant challenges related to the health of women and children and health care for the poor, vulnerable, and migrant populations.

V. NATURAL DISASTERS

All four of these countries are very prone to natural disasters and have suffered from multiple hurricane and tropical storm events over the past few years. The frequency of these disasters seems to be increasing. Natural disasters, especially hurricanes and large storms, can increase vector-borne disease transmission by creating new vector breeding sites and in turn increasing vector populations and the potential for transmission. These issues can be compounded by weakened health infrastructure and service delivery interruptions. The WHO has documented increased dengue transmission after natural disasters due to increased vector breeding sites and disruptions to water supplies and solid waste disposal services. Furthermore, populations affected by hurricanes and similar natural disasters may be forced to further expose themselves by sleeping outside.¹¹⁰ A 2007 paper by Watson, Gayer, and Connolly states that epidemics in the wake of natural disasters are primarily associated with forced population displacement and subsequent overcrowding.¹¹¹ These disasters can have lasting impacts on the environment- deforestation, river damming, etc.- that can increase mosquito breeding.¹¹² Finally, natural disasters impact the economic well-being of countries. According to recent studies from the World Bank, some 26 million people worldwide fall into poverty each year due to natural disasters and historically, hurricanes have caused great damage in the Caribbean region. “For example, in 1979, Hurricane David caused damages of over 117% of GDP in Dominica. Hurricane Ivan, in 2004, caused losses in excess of 200% of GDP in Grenada”¹¹³, majorly affecting countries in just a few days. Such drastic economic changes can impact spending at the national level including reconstruction costs, but also trickle down to families who may forgo prevention methods such as mosquito repellents over more pressing needs such as food and shelter.

VI. VULNERABLE POPULATIONS - YOUTH

In the context of Zika and its response, there are populations who face additional risks. In addition to some adult women who may be limited in their condom use negotiation power and groups in lower socio-economic brackets who may be hindered by financial means to purchase condoms or lack adequate sexual education and knowledge, youth and adolescents also are particularly at risk in the context of Zika. Amongst the four countries, Dominica has the highest proportion of its population between the ages of 15-24 (17.2%), followed by St. Vincent and the Grenadines (17%), Antigua and Barbuda (16.7%), and finally St. Kitts and Nevis (15.6%).

Zika viral spread and subsequent implications (as detailed in previous sections) can be particularly detrimental for youth and adolescent populations because of high rates of sexual intercourse and low rates of contraceptive (particularly condoms) use. Further, sexual education for these groups are low. On average, girls have their first sexual intercourse between ages 14-15, boys at age 11, and one-third of adolescents have had sexual intercourse.¹¹⁴ All four countries provide family planning services, yet 40% of girls and 50% of boys in the region reported that they did not have access to contraception at the time of their first sexual intercourse.¹¹⁵ Additionally, for women, the first sexual encounter is more likely to be forced compared to men.¹¹⁶

One study looking at sexual activity and condom use of high-school girls in Dominica found that, 41% (of 204 girls surveyed) reported at least one sexual activity (vaginal or anal sex) and among sexually active girls, 59% were inconsistent condom users.¹¹⁷ Inconsistent condom use – defined as never reported or never used, used once, or used a few times – was also found to be associated

with coercion and low socio-economic status. The study mentioned that activities that characterize adolescence such as sexual exploration, frequent new sexual partners, and drug use compound their vulnerability as well as regionally strong religious beliefs disapproving condom use that limit sexual education programs.

Similarly, a UNFPA report on sexual and reproductive health and rights in the Eastern Caribbean found that, only some young people used condoms and that use was inconsistent.¹¹⁸ Focus group participants identified that the main reason to use a condom was to prevent pregnancy. Specifically, male condoms were known across the board but generally believed to reduce pleasure, and female condoms were known but not used.

Gender norms particularly reinforce youth vulnerability.¹¹⁹ Not engaging in sexual activity is particularly challenging for youth and adolescents given pressures that solicit early sexual initiation. Abstinence was identified as not socially acceptable for boys in particular and difficult to maintain for girls given multiple social influences. For boys, there is pressure from peers and family members to be sexually active to dispel fears of homosexuality and for young men to have more than one partner. Additionally, a transactional element exists in many relationships whereby to access economic resources, young men, and to a greater extent young woman, put themselves at risk by accepting multiple partners, not negotiating condom use, and/or trading sex for money and goods.

According to the UNFPA report, multiple partners is common.¹²⁰ Over a 12-month period, at least half of 15 to 24-year-olds reported that they had one or two partners with most males reporting two. In Dominica, 542 (285 M, 257 F) respondents had sex in the past 12 months; the number of partners for males ranged from 1 to 24 whereas females ranged from 1 to 5 partners. In St. Vincent and the Grenadines, of the 556 (225 M, 331 F) respondents, males had 1 to 12 partners and females had 1 to 4 partners. Additionally, characteristically, females are particularly likely to have older partners. In Dominica of the 701 respondents that had ever had sex, 16% of females and 3% of males first sexual partner was 5 to 9 years older and 6% of females and 1% of males first sexual partner was 10 or more years older. In St. Vincent and the Grenadines, of the 706 respondents that had ever had sex, 28% of females and 4% of males first sexual partner was 5 to 9 years older and 7% of females and 2% of males first sexual partner was 10 or more years older.

High sexual activity and low contraceptive use likely contribute to the multiple reports that claim that teenage pregnancy is a major concern in the region. Official statistics on adolescent fertility (births per 1,000 women ages 15-19) are only available in Antigua and Barbuda and St. Vincent and the Grenadines, showing that they have adolescent fertility rates of 44.7% and 50% respectively.¹²¹ According to the World Bank, 42.2% of women ages 15 to 49 in St. Kitts and Nevis had their first child between the ages of 15 and 19.¹²² The WHO reported that these high rates of adolescent fertility negatively impact school enrollment, employment, poverty rates, and the health of both mothers and infants.

Youth violence is also an issue throughout the Caribbean region. A 2017 study by Carolyn Gentle-Genitty in five Caribbean countries showed that violence differs greatly by age and gender.¹²³ While boys are more likely to engage in violence, girls are more likely to report it. Furthermore, older boys are more likely to be violent compared to younger boys and all boys are more likely to access weapons and drugs compared to girls. Girls are more likely to experience and report domestic violence.

Stigmatization and discrimination also play a vital role in youth and adolescents accessing and utilizing health services and sexual health information. The UNFPA report stated that, stigma and discrimination pose an enormous challenge to HIV, STI, and pregnancy prevention and that the stigmatization and denial of young people's sexuality can lead to denial of needed services and to poor health-seeking behaviors.¹²⁴ Looking at high rates of sexual activity, multiple partners, low rates of contraceptive use and potentially limited condom negotiation in particular, challenges

surrounding adolescent pregnancy, youth violence, and stigma and discrimination, it is evident that youth and adolescents face a particular set of challenges that can impact their health choices and health-seeking behaviors, and must be considered in the context of Zika.

VII. CONCLUSION

While the most recent data on Zika indicate that Zika epidemic is over in the Eastern and Southern Caribbean, we cannot overlook the importance of preventative measures to discourage an upsurge in the epidemic. Based on the currently available information, actors engaged in Zika prevention and response should pay special attention to gender norms and cultural practices that may affect successful efforts such as contraceptive uptake, family planning, and condom use; family dynamics in decision-making and childcare; perceptions of disability; gender-based violence; resource gaps in health structures and services; and to vulnerable groups such as youth and adolescent populations who face their own unique challenges in protecting their health. These gender considerations can complement Ministries of Health and partners in efforts to strengthen health systems, address the impacts of Zika, and promote well-child and family care.

Evidence presented in this report indicate that the relationships, norms, and behaviors between women, men, partners, families, and health care providers can impact when families seek health services including early Zika detection, the prevention of Zika during pregnancy including the likelihood of sexual transmission of the infection or risk of sexual transmission where GBV is present, and the support provided to parents born with Zika-affected children.

This report has also revealed several areas where additional research and information would be beneficial. Firstly, while there are many reports and studies pertaining to the wider Latin America and Caribbean context, few paint a detailed picture of solely the Caribbean sub-region. Where Caribbean data is available it often focuses on larger and regional hub islands such as Jamaica and Barbados. More country specific (and sex-disaggregated) data for Antigua and Barbuda, Dominica, St. Kitts and Nevis, and St. Vincent and the Grenadines is needed to provide a clearer picture particularly with regards to condom use, STIs, Zika, disability, and child well-health and care practices. Secondly, with regards to the recent Zika epidemic, studies have looked at the pregnancy outcomes from Zika virus infection in the French Caribbean, but more research is needed to understand the results of Zika virus and pregnancy outcomes in the Eastern Caribbean. Thirdly, actors interested in and working on Zika prevention and response would benefit from cross-sharing of successful (or unsuccessful) programming that has already been implemented regionally and sub-regionally, especially those approaches in these four Caribbean countries and by their governments.

Finally, this report has helped highlight that though Zika is no longer active in these four Caribbean countries, the impacts of the virus are still being identified. As Zika virus was new to the region little information was known at the onset and height of the spread. With this in mind it is quite possible that there are cohorts of children and families on each of the islands that may not know their child has been affected or that a health challenge present in their child could be as a result of previous Zika infection. This message must be recognized by governments, donors, implementing partners, and providers so that more families can be identified, entered into treatment, and start additional well-child therapies that can assist with healthy development. Considering gender in Zika, prevention and response efforts helps provide more equitable health information and services so that children, families, and communities can be educated, make informed decisions, and prosper.

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