

# Influenza and Other Respiratory Viruses: Surveillance in the Americas 2021



**PAHO**



Pan American  
Health  
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Americas

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# Influenza and Other Respiratory Viruses: Surveillance in the Americas 2021

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Influenza and Other Respiratory Viruses: Surveillance in the Americas 2021

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# Abbreviations and Acronyms

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ARI	acute respiratory infection
EQAP	External Quality Assessment Program
FluID	flu-informed decisions
HAI	hemagglutination inhibition
ICD-10	International Classification of Diseases, 10th revision
IF	immunofluorescence assay
ILI	influenza-like illness
ORV	other respiratory viruses
PISA	pandemic influenza severity assessment
RSV	respiratory syncytial virus
RT-PCR	reverse transcription polymerase chain reaction
SARI	severe acute respiratory infection

## Case Definitions

### Severe Acute Respiratory Infection (SARI)

An acute respiratory infection with history of fever or measured fever  $\geq 38$  °C, and cough; onset within the last 10 days; requires hospitalization. (WHO, 2014)

### Influenza-Like Illness (ILI)

An acute respiratory infection with measured fever  $\geq 38$  °C and cough; onset within the last 10 days. (WHO, 2014)

# Background

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Since 1952, with the creation of the Global Influenza Surveillance and Response System (GISRS) of the World Health Organization (WHO), Member States have been encouraged to exchange identified virus specimens and epidemiological surveillance data and to share benefits as part of their commitment to a global health model. Since 1997, when FluNet, the worldwide network for influenza virological surveillance, was launched, we have been able to monitor influenza activity globally, recommend the composition of the seasonal influenza vaccine, and guide countries in tropical and subtropical areas in selecting the most appropriate formulation (based on the virus circulation pattern) and the consequent scheduling of vaccination campaigns for developing prevention and control measures.

The countries of the Americas have a long history of surveillance for influenza and other respiratory viruses (ORV) and some of them have been identifying and determining types and subtypes of the influenza virus for more than 30 years. Since implementing the International Health Regulations and the influenza pandemic in 2009, Member States have improved their capacities to detect seasonal viruses and viruses with pandemic potential, and, with the participation of WHO Collaborating Centers, they can guarantee provision of supplies and reagents for detecting both the influenza virus and ORV.

The COVID-19 pandemic has tested the flexibility and resilience of surveillance and information systems for influenza and ORV in the Americas.

Capacities for both virological and epidemiological surveillance vary within the Region. However, notwithstanding those variations, the rapid implementation of detection techniques—and more recently, the creation of a regional network for genomic surveillance of COVID-19—demonstrate the robustness of the surveillance platform for influenza and ORV and have enabled health authorities to make more informed and timely decisions.

This report constitutes a summary and update of the version *Influenza and Other Respiratory Viruses: Surveillance in the Americas 2019*. In addition to highlighting surveillance capacities, this most recent version outlines challenges and the need to further strengthen both the surveillance of respiratory systems and the associated information systems.

We focus on four known areas, and this year, we also include some indicators for COVID-19.

## Area 1

- Sociodemographic indicators.

## Area 2

- Surveillance systems
- Surveillance maps

## Area 3

- Country epidemiologic and laboratory data

## Area 4

- FluNet/FluID influenza reporting profile
- FluNet/FluID COVID-19 reporting profile
- Influenza vaccine profile
- COVID-19 vaccine profile
- Pandemic plan profile
- Human-animal interface for influenza profile
- Laboratory capacity profile
- Influenza disease burden profile.

The data were obtained by PAHO/WHO directly from the countries and territories from one or more sources: online surveys administered by PAHO/WHO and completed by epidemiologists and national laboratory coordinators; influenza and COVID-19 bulletins published online and distributed by the countries; and through consultation with influenza surveillance coordinators in the countries. Each country's document was submitted to the corresponding national counterpart for revision and approval before publication.

Profiles are organized in alphabetical order and include all countries that responded on time to requests for data and approval. If a country did not respond, but if it had provided data for the 2019 publication, those data are included here.







# Regional Data 2021

## Country Indicators Table

Country	SARI Surveillance*	ILI Surveillance*	National Influenza Center	RT-PCR Surveillance for Influenza	EQAP Participation	Last Year EQAP	FluID Reporting	FluNet Reporting
Anguilla <sup>3,3</sup>	No	No	No	No	NA	NA	Yes	No
Antigua and Barbuda <sup>3,3</sup>	Yes	No	No	No	Yes	2018	Yes	No
Argentina <sup>1,1</sup>	Yes	Yes	Yes	Yes	Yes	2021	Yes	Yes
Aruba <sup>1,2</sup>	Yes	No	No	No	NA	NA	Yes	Yes
Bahamas <sup>1,2</sup>	Yes	No	No	No	NA	NA	Yes	Yes
Belize <sup>1,1</sup>	Yes	Yes	No	Yes	Yes	2021	Yes	Yes
Bolivia (Plurinational State of) <sup>1,1</sup>	Yes	No	Yes	Yes	Yes	2021	Yes	Yes
Brazil <sup>1,1</sup>	Yes	Yes	Yes	Yes	Yes	2018	Yes	Yes
British Virgin Islands <sup>3,3</sup>	No	No	No	No	No	NA	Yes	Yes
Canada <sup>1,4</sup>	Yes	Yes	Yes	Yes	Yes	2021	Yes	Yes
Cayman Islands <sup>1,2</sup>	Yes	Yes	Yes	Yes	Yes	2021	Yes	Yes
Chile <sup>1,1</sup>	Yes	Yes	Yes	Yes	Yes	2020	Yes	Yes
Colombia <sup>1,1</sup>	Yes	Yes	Yes	Yes	Yes	2020	Yes	Yes
Costa Rica <sup>1,1</sup>	Yes	Yes	No	Yes	Yes	2021	Yes	Yes
Cuba <sup>1,1</sup>	Yes	Yes	No	Yes	Yes	2019	No	No
Dominica <sup>2,3</sup>	Yes	No	No	No	No	NA	Yes	Yes
Dominican Republic <sup>1,1</sup>	Yes	Yes	Yes	Yes	Yes	2020	Yes	Yes
Ecuador <sup>1</sup>	Yes	No	Yes	Yes	Yes	2021	Yes	Yes
El Salvador <sup>1,1</sup>	Yes	Yes	Yes	Yes	Yes	2020	Yes	Yes
Grenada <sup>3,3</sup>	No	No	No	No	No	NA	Yes	No
Guatemala <sup>1,1</sup>	Yes	Yes	Yes	Yes	Yes	NA	Yes	Yes
Guyana <sup>3,3</sup>	No	No	No	Yes	Yes	2018	Yes	No
Haiti <sup>1,1</sup>	Yes	Yes	Yes	Yes	Yes	NA	Yes	Yes
Honduras <sup>1,1</sup>	Yes	Yes	Yes	Yes	Yes	2021	Yes	Yes
Jamaica <sup>1,1</sup>	Yes	Yes	NA	Yes	NA	NA	Yes	Yes
Mexico <sup>1,1</sup>	Yes	Yes	Yes	Yes	Yes	2020	Yes	Yes
Nicaragua <sup>1,1</sup>	Yes	Yes	Yes	Yes	Yes	2020	Yes	Yes
Panama <sup>1,1</sup>	Yes	Yes	Yes	Yes	Yes	2021	Yes	No
Paraguay <sup>1,1</sup>	Yes	Yes	Yes	Yes	Yes	2021	Yes	Yes
Peru <sup>1,1</sup>	Yes	Yes	Yes	Yes	Yes	2020	Yes	Yes
Puerto Rico	NA	NA	NA	NA	NA	NA	NA	NA
Saint Lucia <sup>1,1</sup>	NA	Yes	NA	NA	NA	NA	Yes	Yes
Saint Vincent and the Grenadines	Yes	Yes	No	No	No	NA	Yes	No
Suriname <sup>1,1</sup>	Yes	Yes	Yes	Yes	Yes	2021	Yes	Yes
Trinidad and Tobago <sup>1,2</sup>	Yes	No	Yes	Yes	Yes	2018	Yes	Yes
United States of America <sup>1,4</sup>	Yes	Yes	NA	Yes	NA	2021	Yes	Yes
Uruguay <sup>1,1</sup>	Yes	Yes	Yes	Yes	Yes	2021	Yes	Yes
Venezuela (Bolivarian Republic of) <sup>3,3</sup>	No	No	Yes	Yes	No	NA	Yes	Yes

### \*SARI/ILI Surveillance

1 = SARI/ILI surveillance established: Frequent reporting during January-December 2020

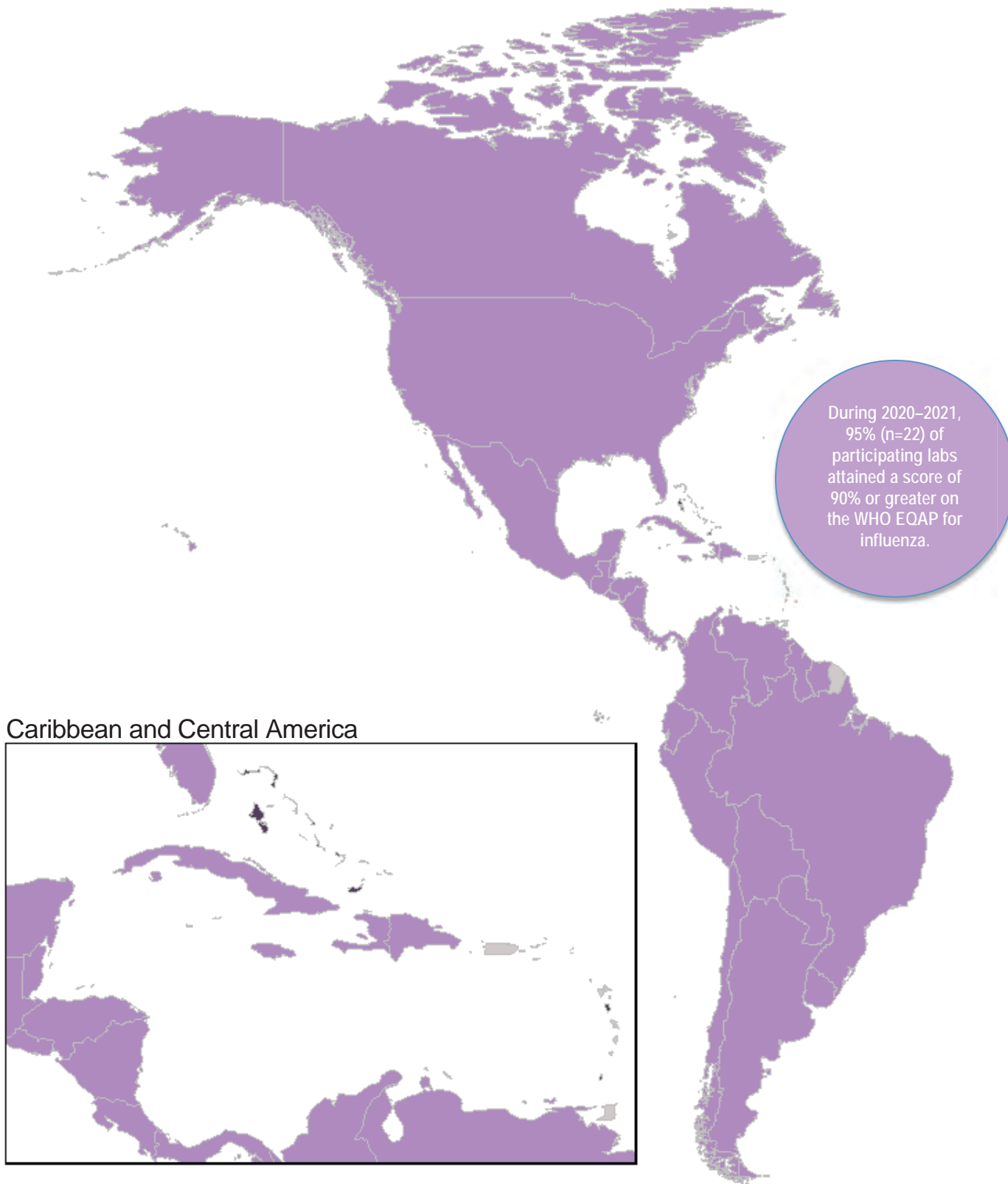
2 = SARI/ILI surveillance being established: Infrequent reporting and PAHO verification of SARI/ILI sites

3 = SARI/ILI surveillance not established: No reporting and no verification of SARI/ILI sites

4 = Hospital-based active surveillance but not using WHO SARI case definition

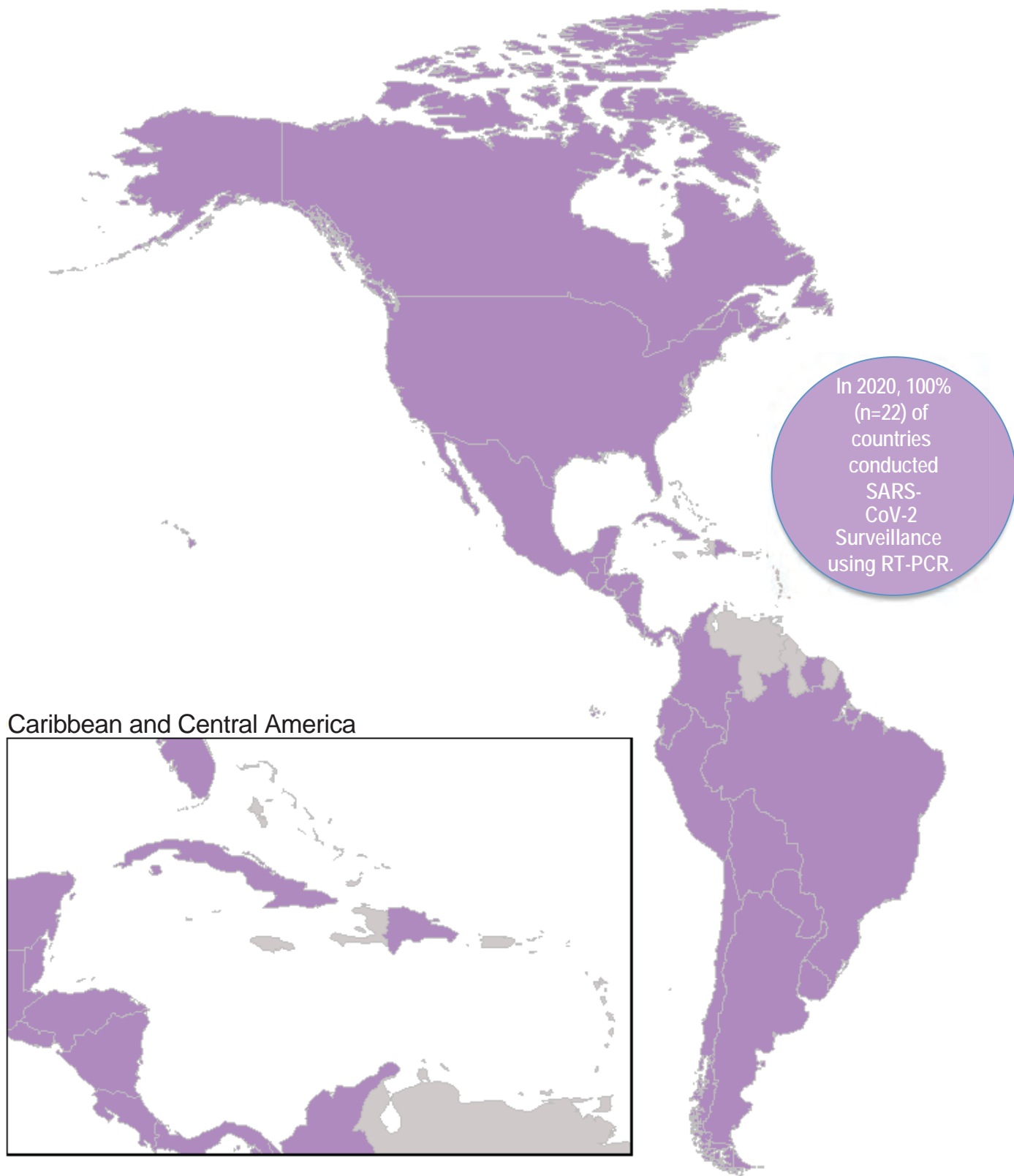
### Note on SARI/ILI Surveillance

## Countries Conducting Influenza Surveillance by RT-PCR



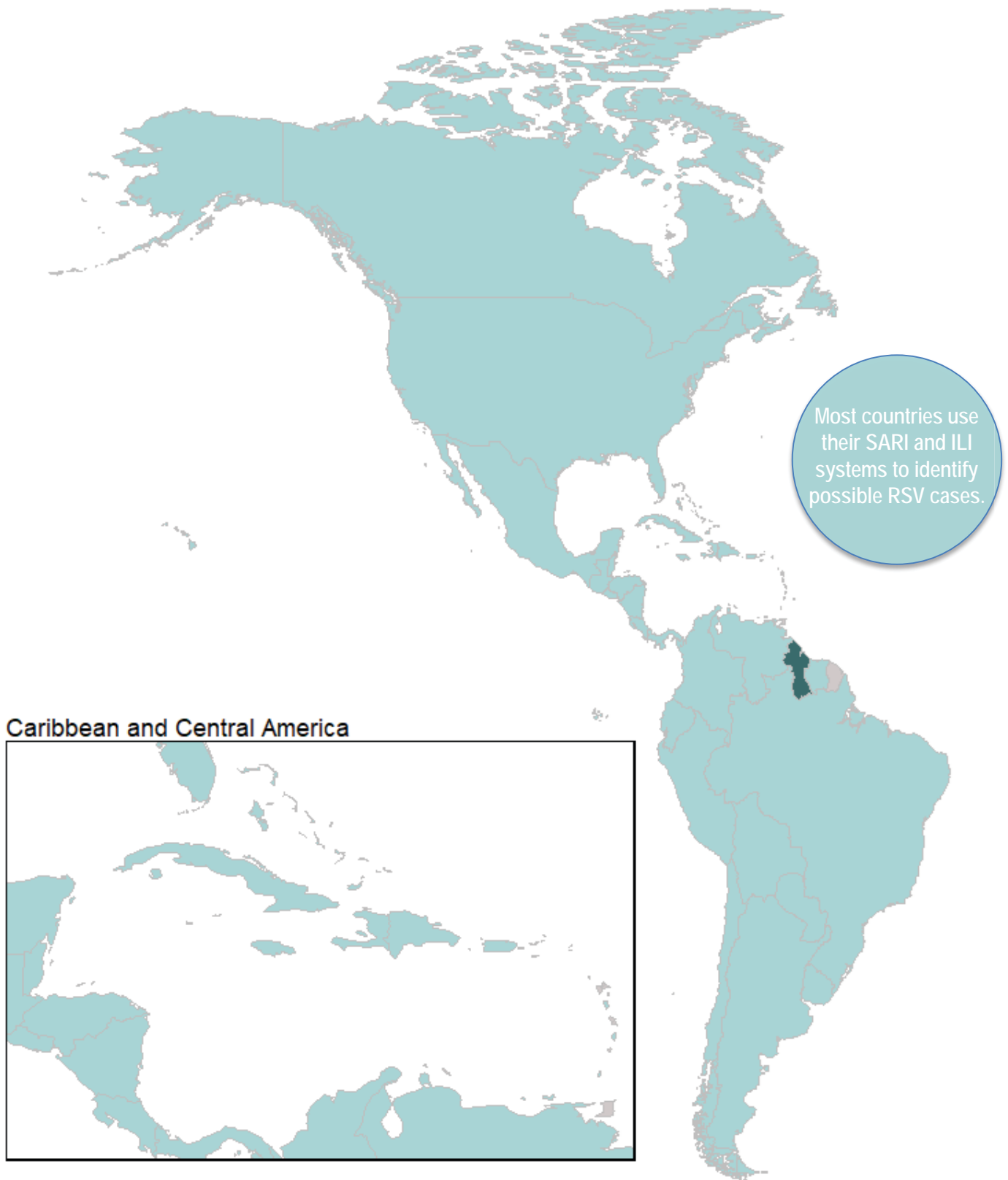
PCR Surveillance: ■ No data ■ No PCR Surveillance ■ PCR Surveillance

Countries Conducting SARS-CoV-2 Surveillance by RT-PCR



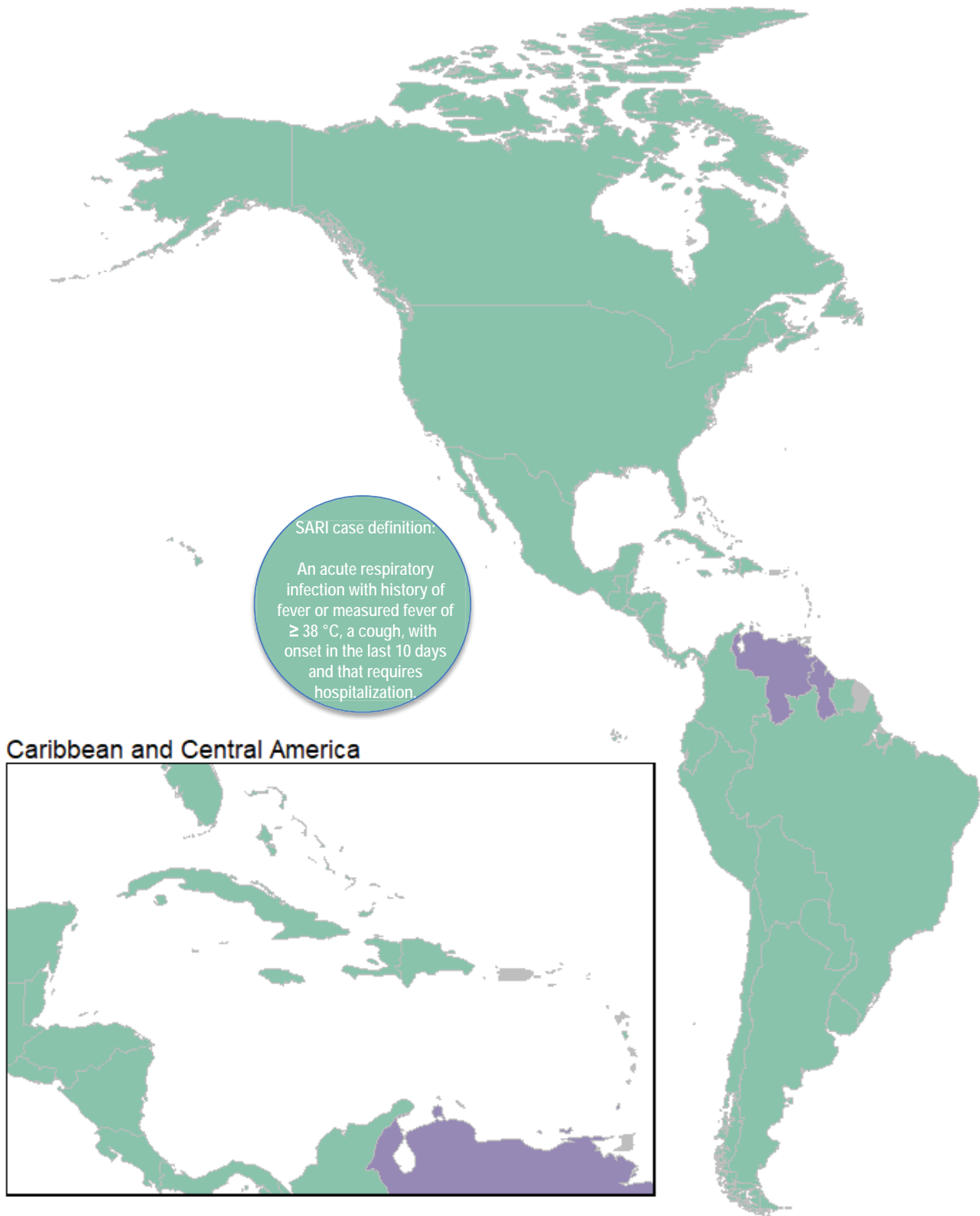
PCR Surveillance:  No data  PCR Surveillance

## Countries Conducting Respiratory Syncytial Virus (RSV) Surveillance



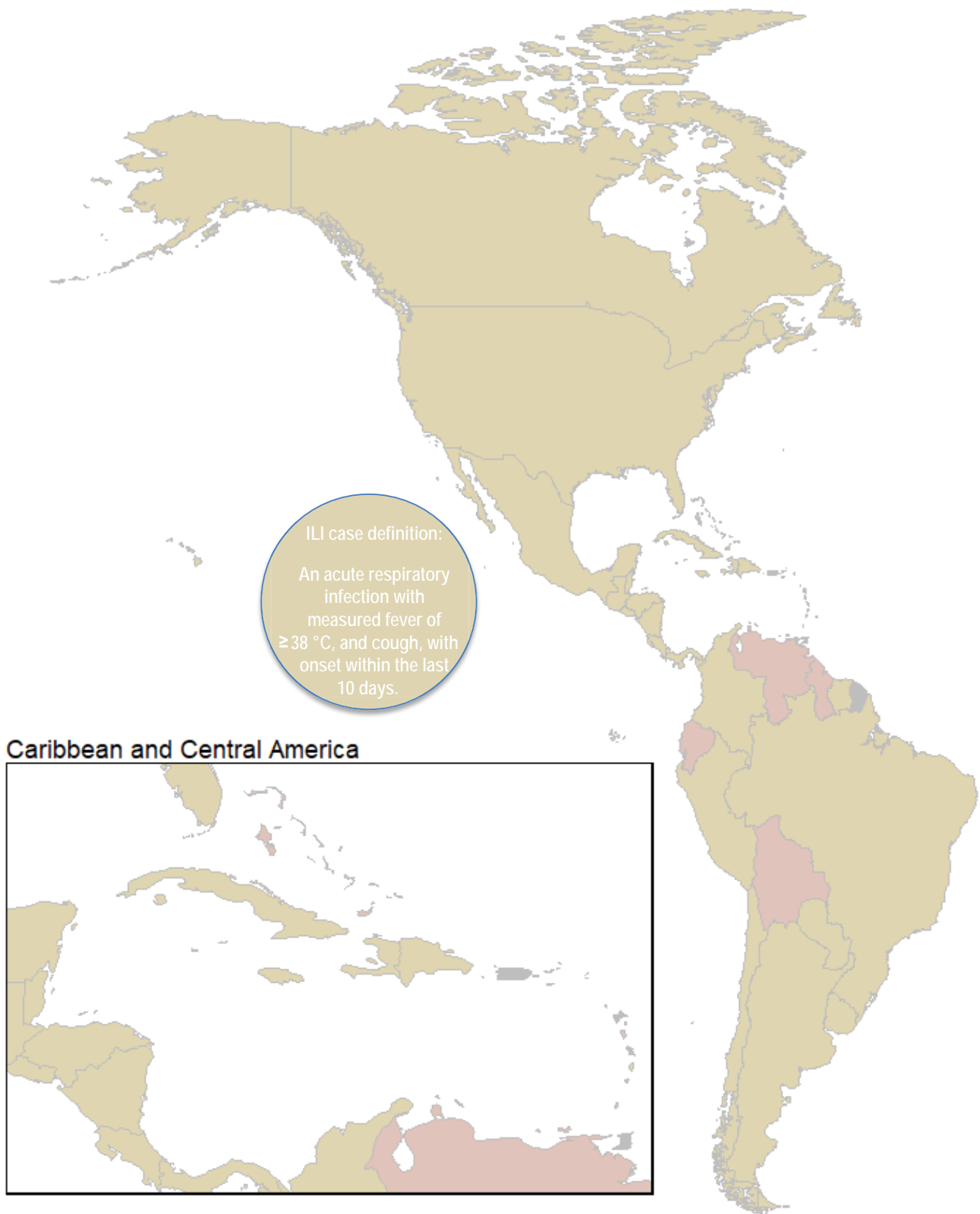
RSV Surveillance:  No data  No RSV Surveillance  RSV Surveillance

## Countries Conducting SARI Surveillance

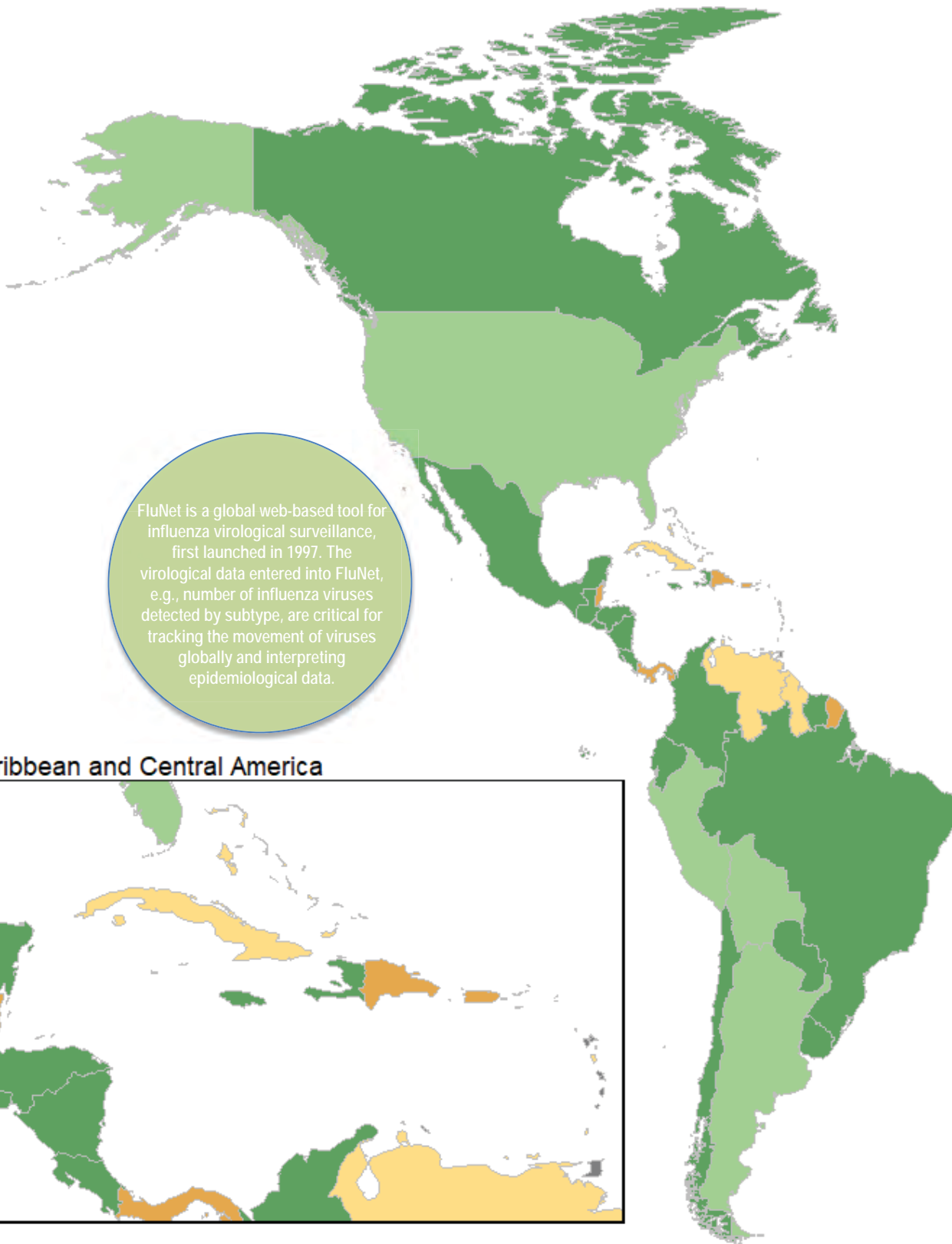


Severe Acute Respiratory Infection (SARI) Surveillance by Country: ■ No SARI Surveillance ■ No data ■ SARI Surveillance

## Countries Conducting ILI Surveillance

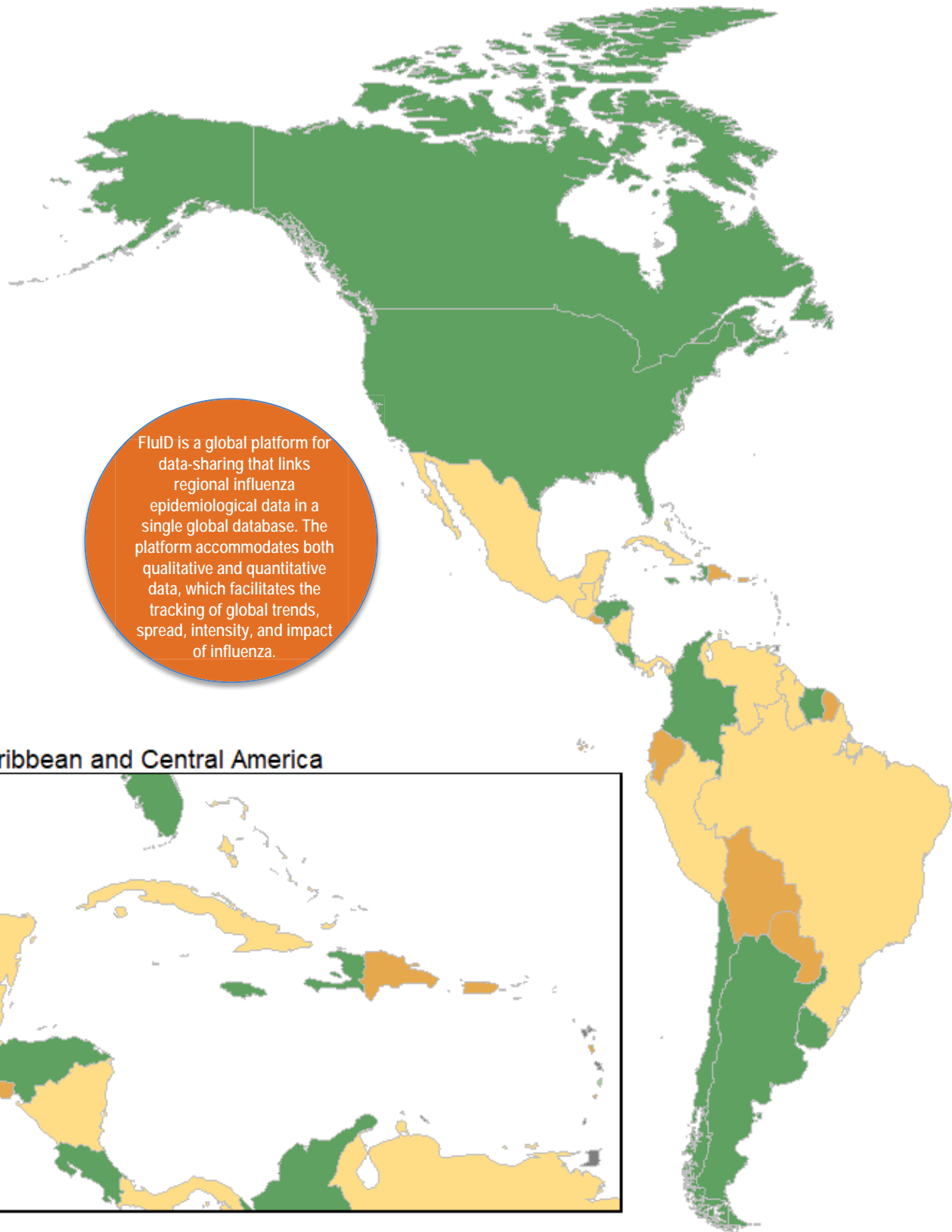


Influenza-Like Illness (ILI) Surveillance by Country: ■ ILI Surveillance ■ No ILI Surveillance ■ No data

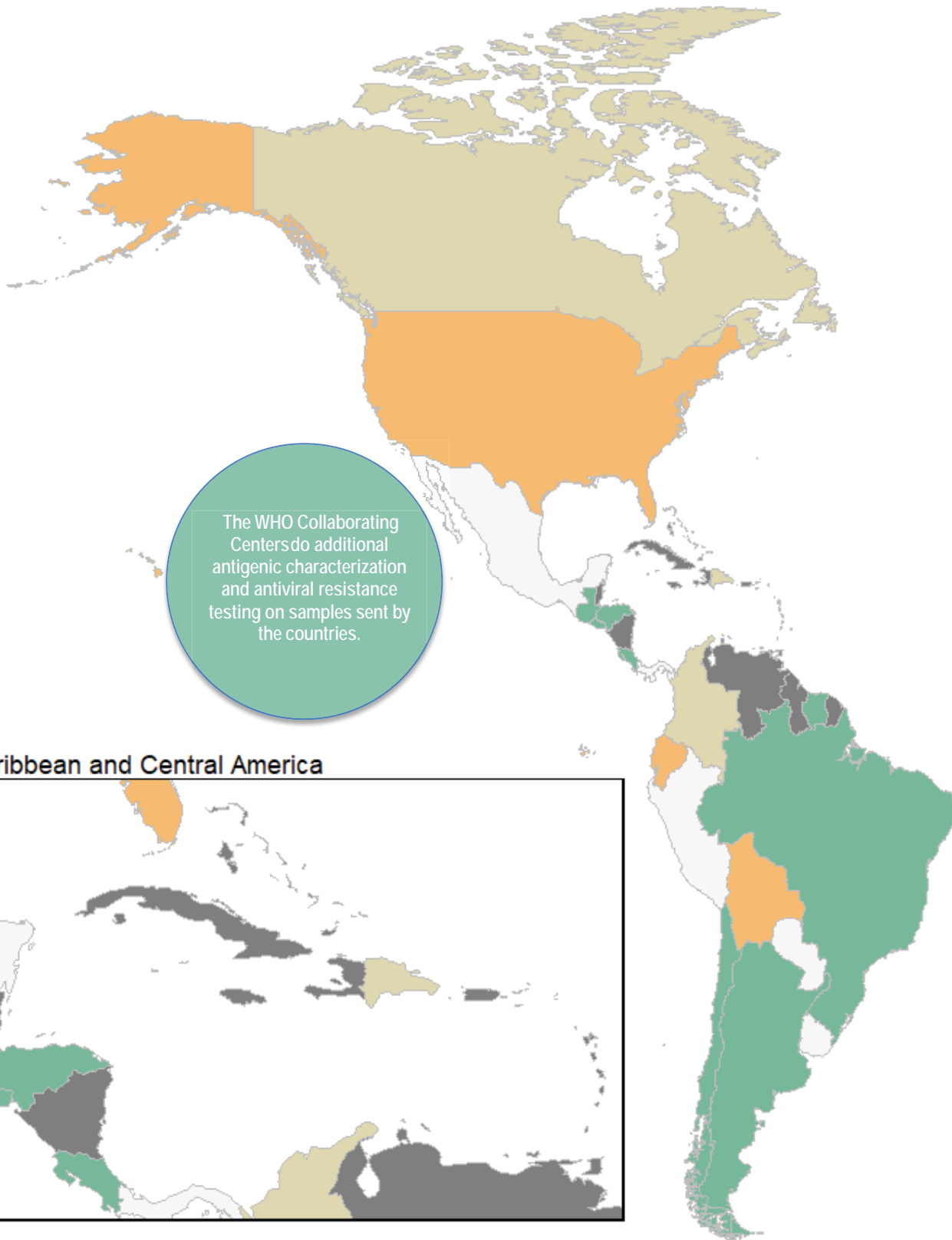


FluNet percentage of weeks reported in 2020: 0–24% 25–49% 50–74% 75–100% NA





FluID percentage of weeks reported in 2020: 0-24% 25-49% 50-74% 75-100% NA



Number of Shipments: 1 shipment 2 shipments 4 shipments No shipments NA

## Influenza Vaccine Formulation



Vaccine formulation: ■ Northern Hemisphere

■ Southern Hemisphere

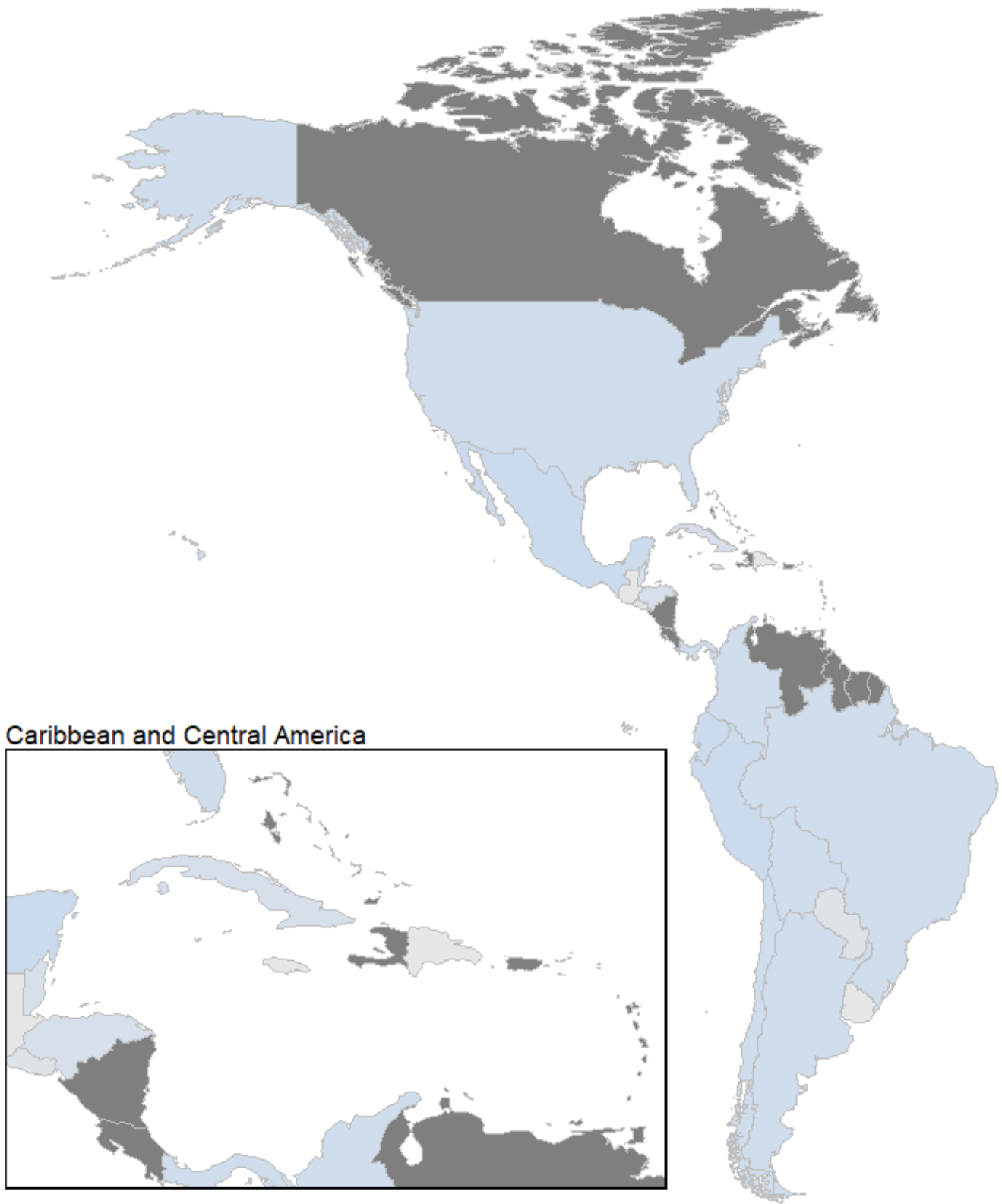
■ NA

# Influenza Vaccine Timing

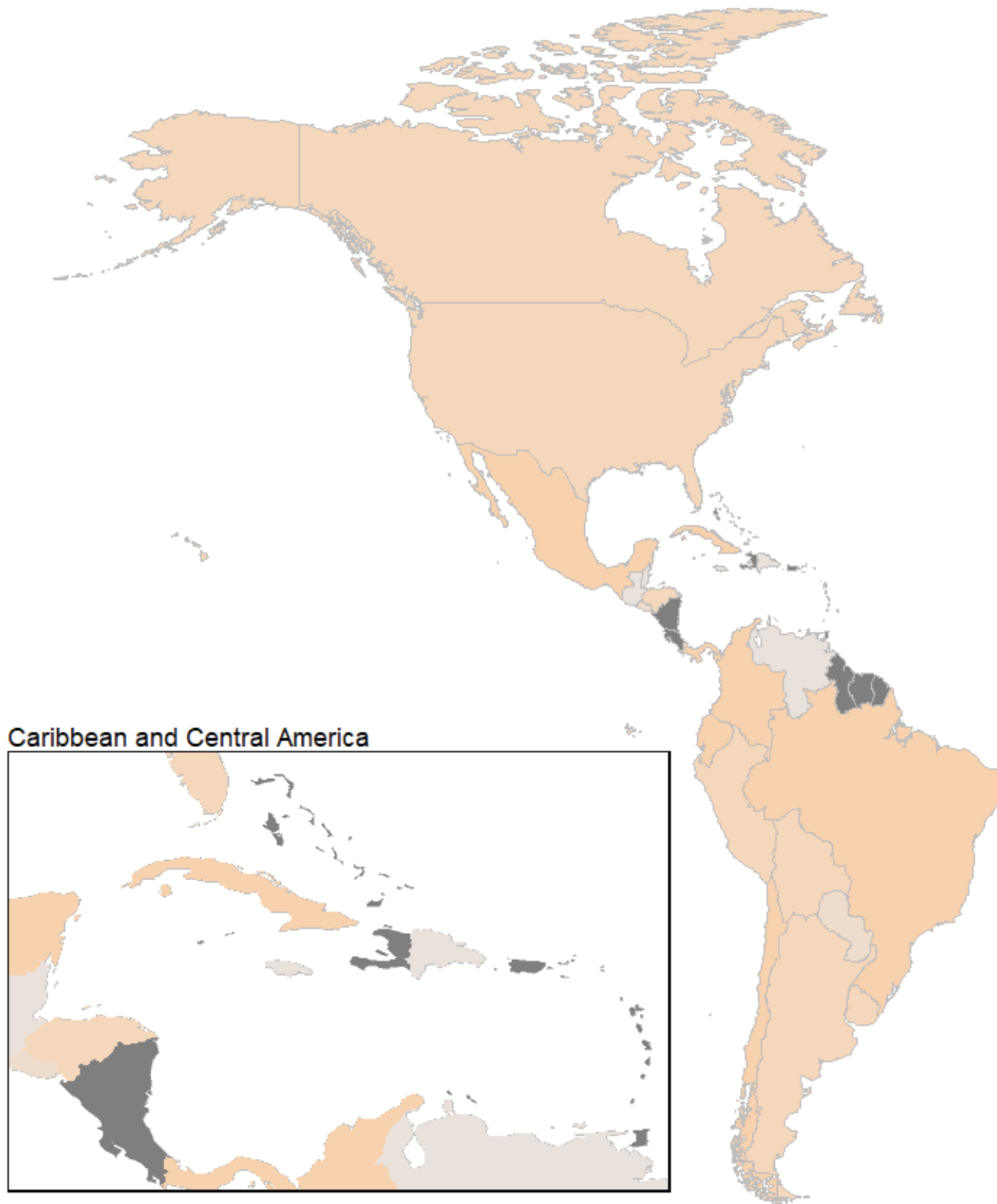


Vaccine timing during 2020: April June May NA  
December March October

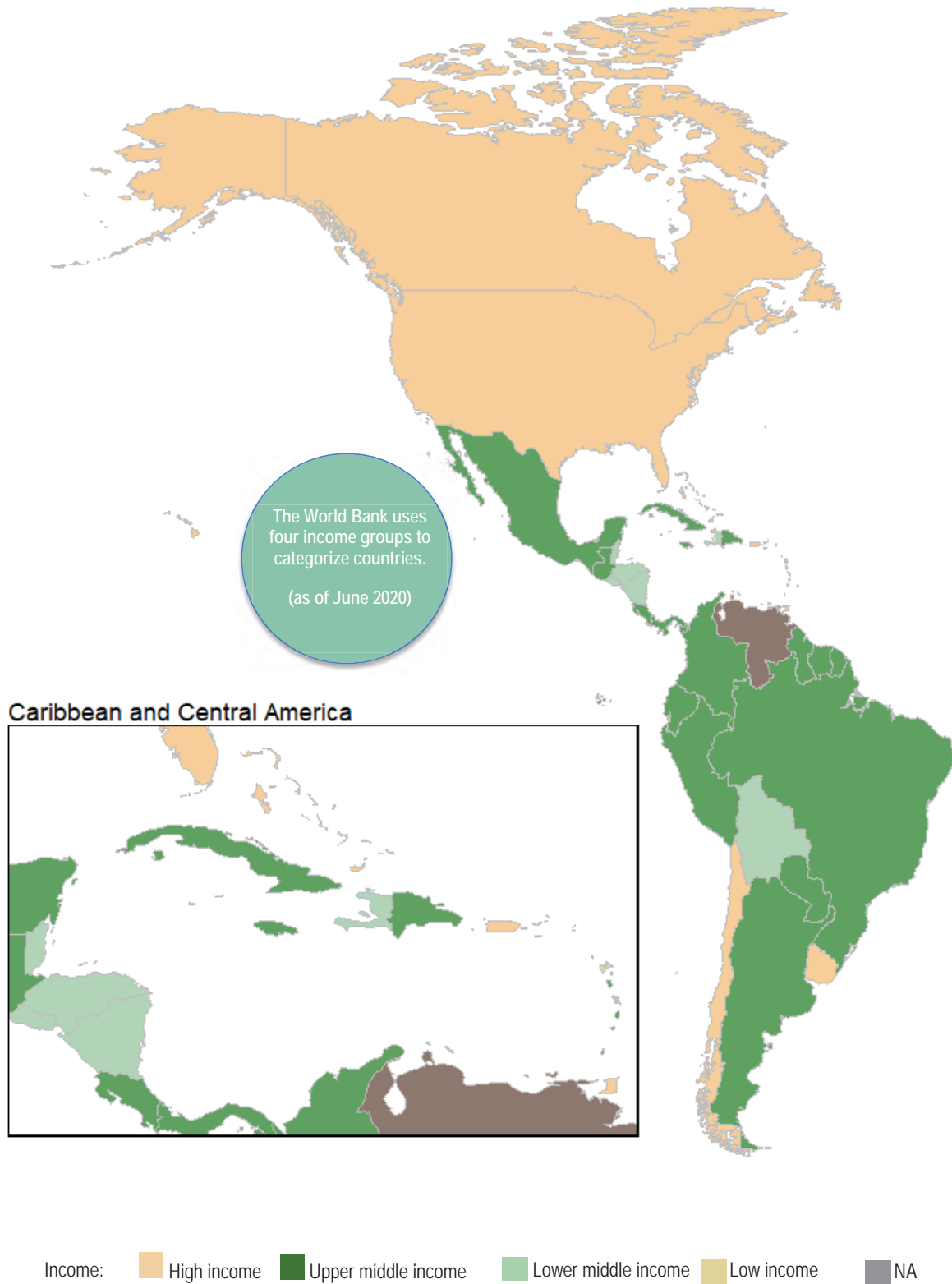
Percentage of Children Vaccinated during 2020



Percentage of Older Adults Vaccinated during 2020

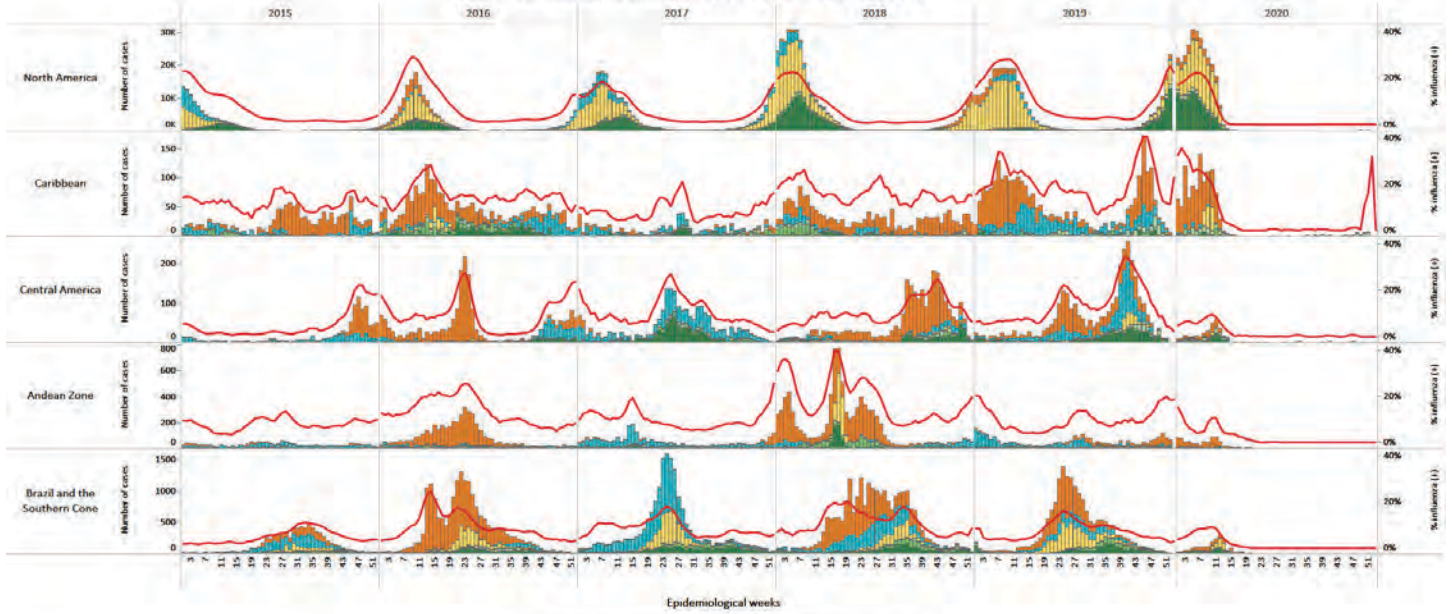


## World Bank Income Classification



# Regional Graphs

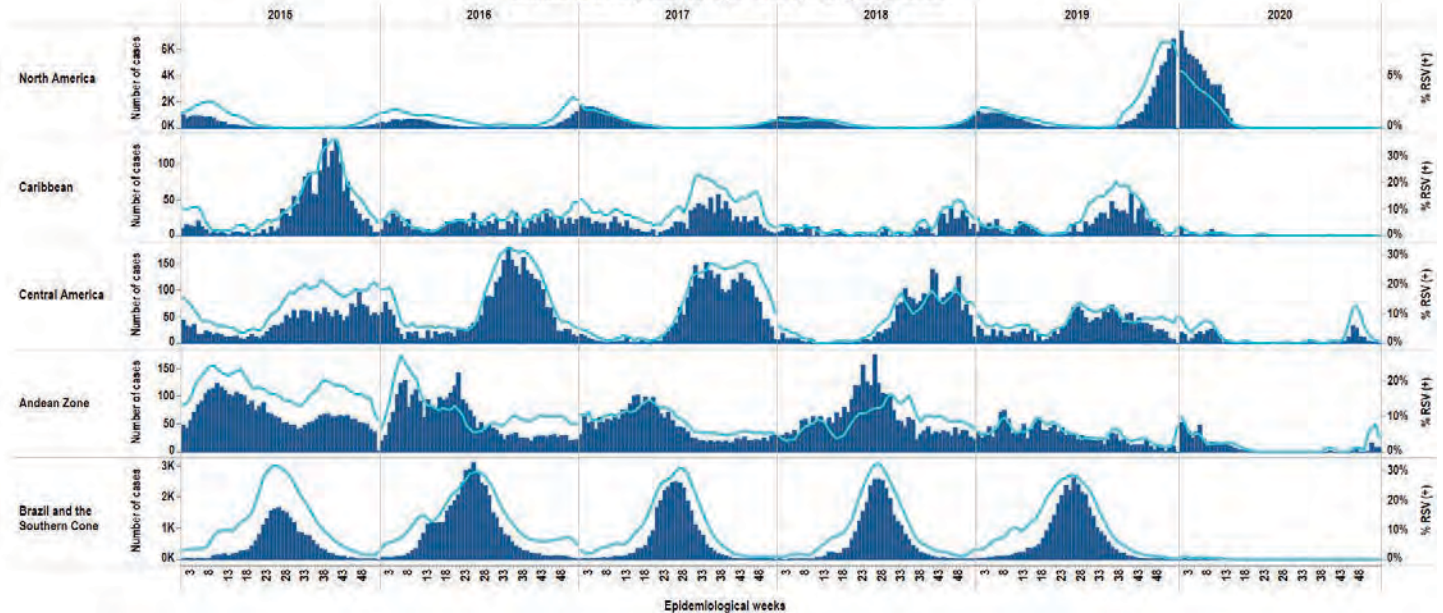
## Distribution of Influenza Viruses by Subregion, 2015-20



Please note that the influenza percent positive line is computed with a three week average.

- Influenza viruses**
- Influenza A (H1N1)pdm09
  - Influenza A(H3N2)
  - Influenza A (Subtyping not performed)
  - Influenza A (unable to subtype)
  - B Victoria
  - B Yamagata
  - B lineage undetermined
  - % Flu (+)

## Distribution of Respiratory Syncytial Virus by Subregion, 2015-20

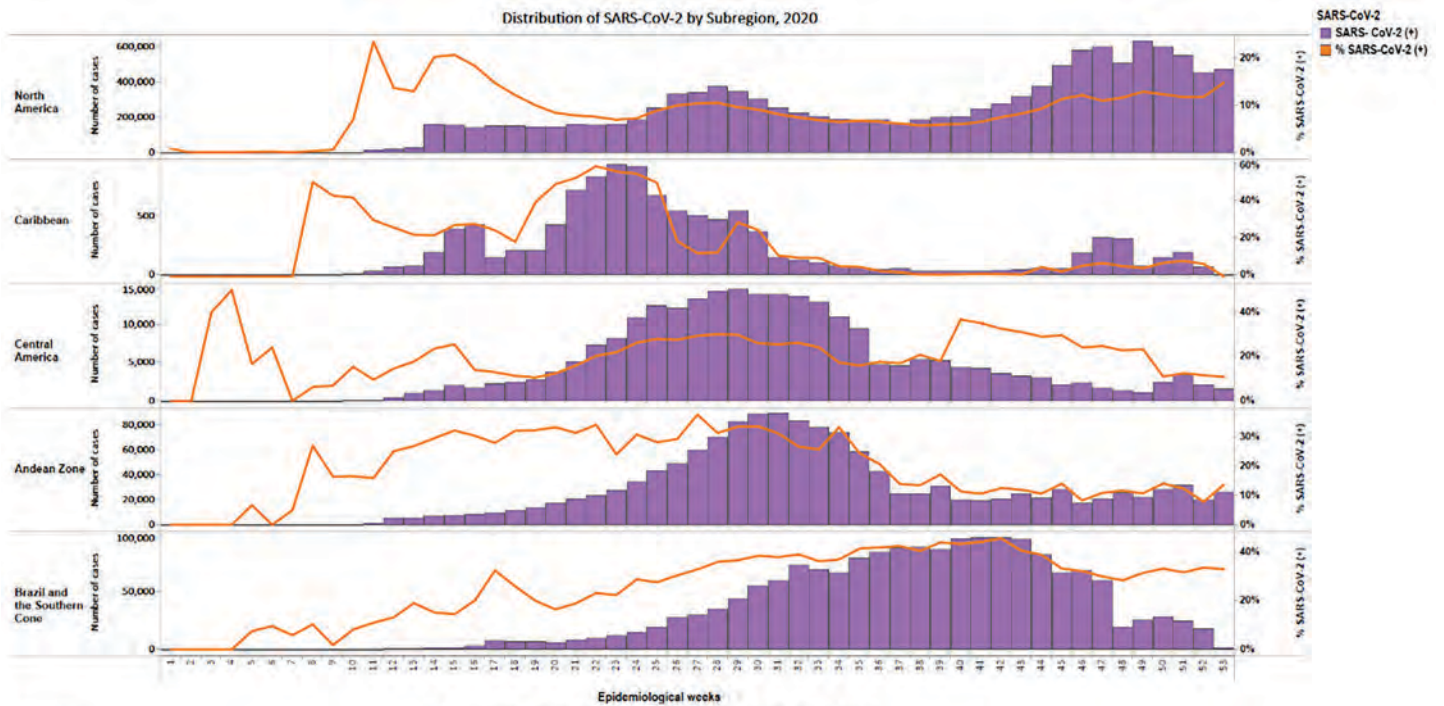


Please note that the respiratory syncytial virus percent positivity line is computed with a three-week average.

- Respiratory Syncytial Virus**
- % RSV (+)
  - RSV



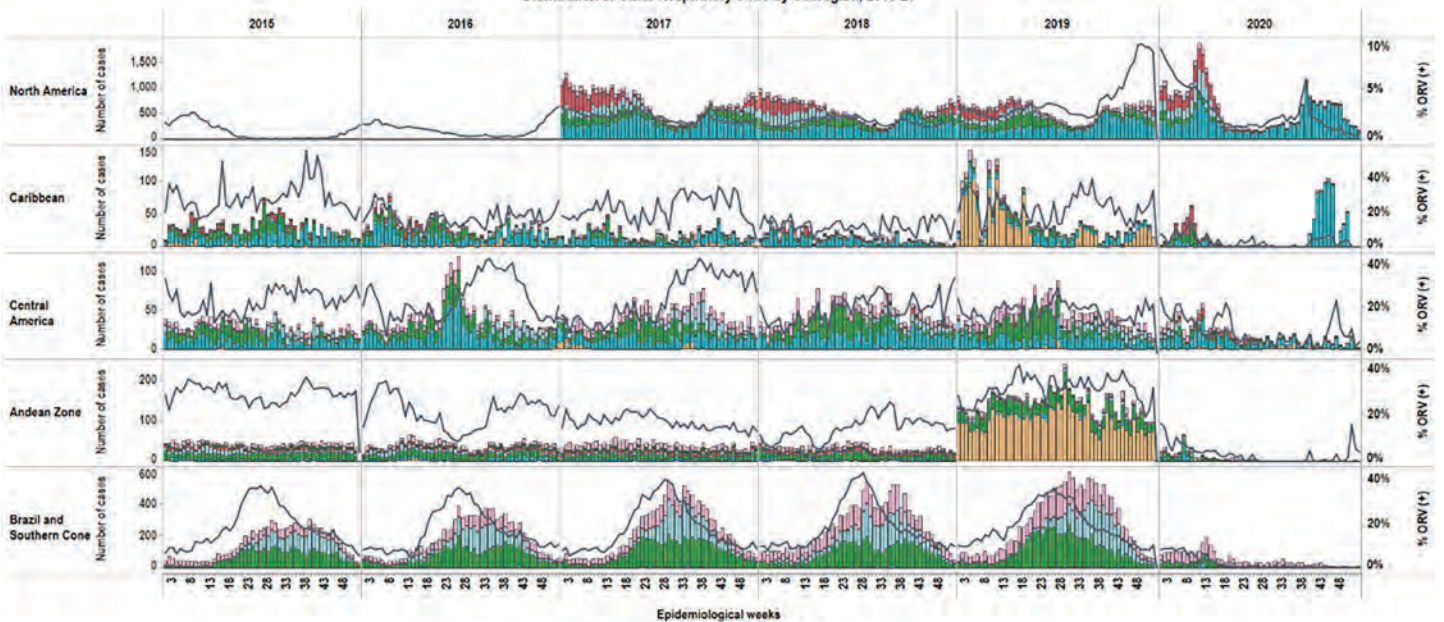
Distribution of SARS-CoV-2 by Subregion, 2020



\* North America  
Combined U.S. Laboratories Reporting to CDC: Public Health Laboratories and a Subset of Commercial and Clinical Laboratories.

Please note that the other respiratory virus (+) % line is computed with a 3 week average.

Distribution of Other Respiratory Virus by Subregion, 2015-20



Please note that the other respiratory virus (+) % line is computed with a 3 week average.

Respiratory viruses  
 Adenovirus    Bocavirus    Coronavirus    Metapneumovirus    Parainfluenza    Rhinovirus    Other viruses    % ORV (+)



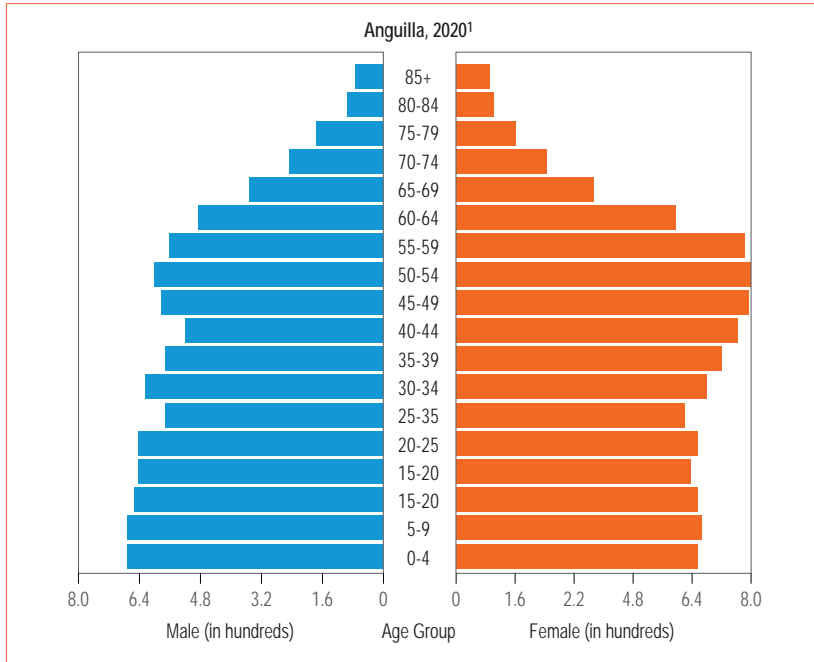


# Country and Territory Data 2021





# Anguilla



**POPULATION**

Population (thousands)<sup>2</sup>: 15  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 166.7  
 Percentage of population < 5 years<sup>2</sup>: NA  
 Percentage of population ≥ 65 years<sup>2</sup>: NA

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 4.8  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 21.1  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 18.4

**PUBLIC HEALTH**

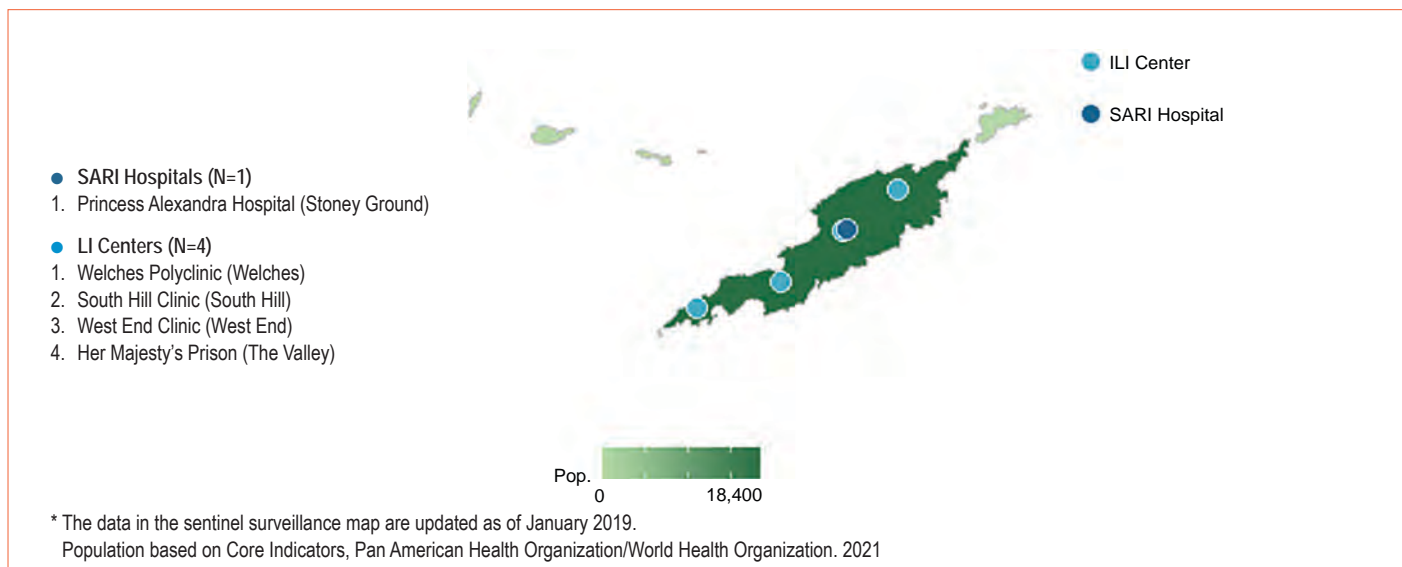
Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 11  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: NA  
 National health expenditure as % of GDP 2016<sup>5</sup>: NA

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	NA	NA	NA	NA	NA	NA	NA	NA	NA
ILI	NA	NA	NA	NA	NA	NA	NA	NA	NA
ARI	No*	Sentinel	No	Varies	NA	5	NA	NA	No

\* ARI: Acute (sudden) febrile illness in a previously healthy person, presenting with cough or sore throat with or without respiratory distress

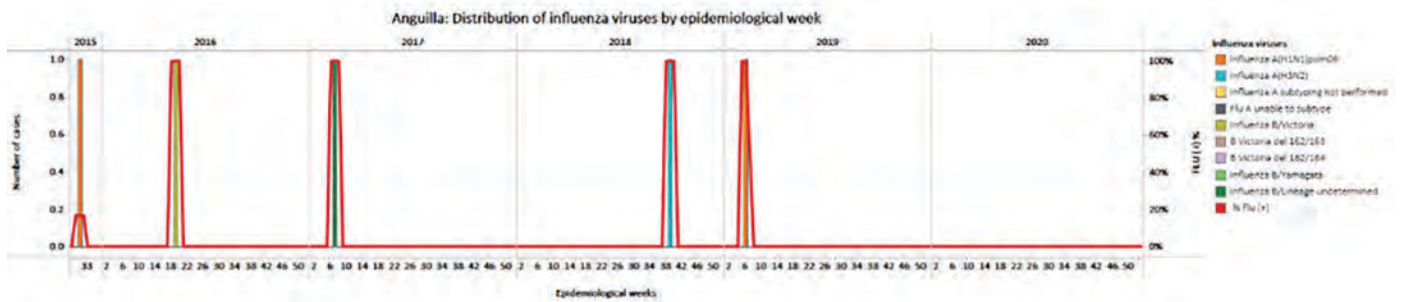
Surveillance Systems



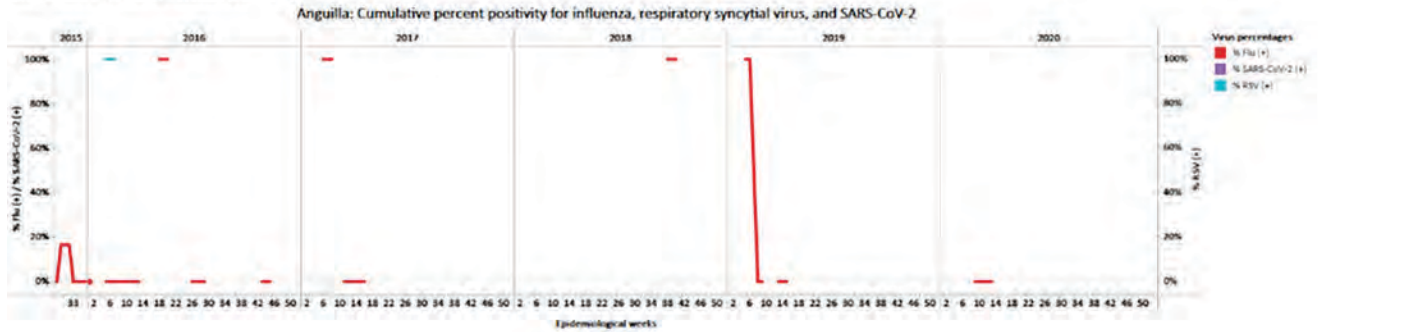
\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data

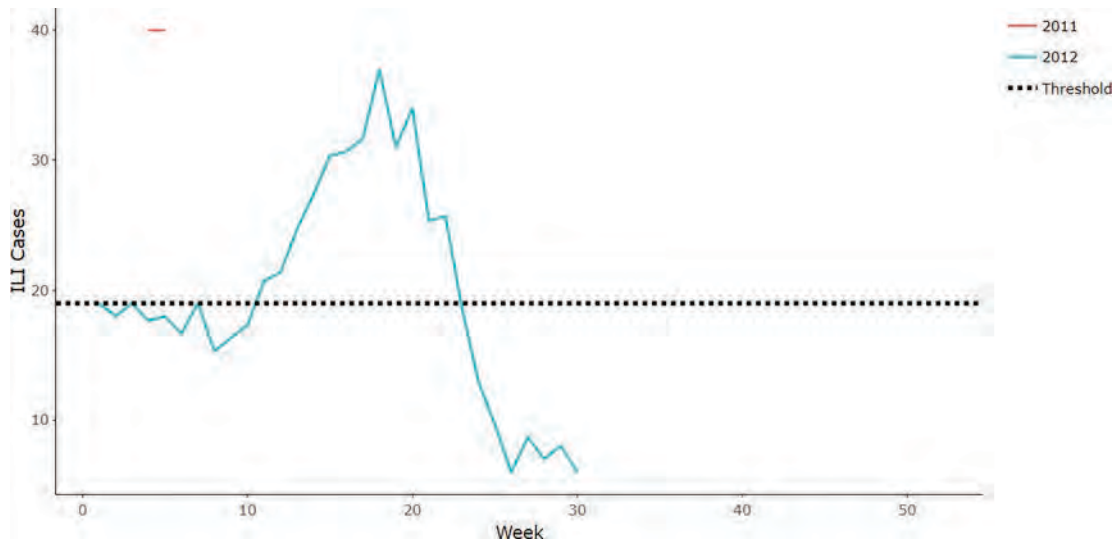


Please note that the %ILI line is computed with a 3 week average



## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>

Not applicable

Pandemic Influenza Preparedness Planning	Response
<b>Influenza</b>	
Plan available	No
Part of an all-hazards plan	NA
Year of original publication	NA
Year of last revision/update	NA
<b>COVID-19</b>	
Plan available	NA
Part of an all-hazards plan	NA
Simulations	NA
Drills	NA
Rapid response teams composed	NA
Risk communication strategy in place	NA

Influenza Vaccine <sup>7</sup>	Response
Composition	Northern Hemisphere
Month of vaccine administration	March
Percentage of older adults vaccinated	NA
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	NA
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	Yes*
Participation in studies evaluating influenza vaccine effectiveness	No
Participation in studies evaluating the impact of influenza vaccination campaign	No

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	No
Information sharing between sectors	No
Surveillance of unusual respiratory cases with exposure to animals	No

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	NA
Samples sent to WHO Collaborating Center	NA
Number of samples analyzed for influenza during 2020	2
Number of samples analyzed for SARS-CoV-2 during 2020	NA
Specimens tested for other respiratory viruses (ORV)	NA
Other respiratory viruses identified	NA

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca
Completed schedules per 100 people	101.5
Vaccination policy for older adults (≥65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	No
Vaccination policy for pregnant women	No
Vaccination policy for people at higher risk for COVID-19-related, please do not break over lines complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	No
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	In progress
FluNet Reported > 33%	In progress
Reported to WHO in 2020	In progress
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

COVID-19 Surveillance	Response
Type of surveillance	NA
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	In progress
FluNet Reported > 33%	In progress
Reported to WHO in 2020	In progress
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	NA

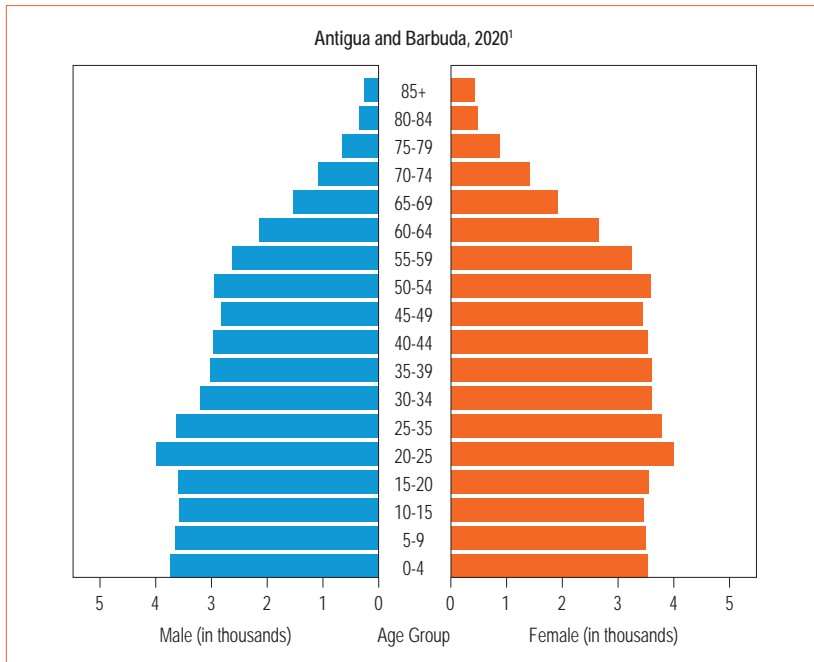
Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=AV](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=AV)
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6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)





# Antigua and Barbuda



### POPULATION

Population (thousands)<sup>2</sup>: 98.0  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 222.5  
 Percentage of population < 5 years<sup>2</sup>: 7.5%  
 Percentage of population ≥ 65 years<sup>2</sup>: 9.3%

### MORTALITY

Gross mortality rate (per 1,000 population)<sup>2</sup>: 6  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 9.6  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 59.3

### PUBLIC HEALTH

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 35.0  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 1,405.8  
 National health expenditure as % of GDP 2016<sup>5</sup>: 2.9

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Only Report
SARI	NA	Sentinel/National	NA	NA	NA	NA	NA	NA	No
ILI	Yes	Sentinel	NA	12	No	9	NA	NA	No
ARI	NA	Sentinel	NA	NA	None	9	NA	NA	No
PNEUMONIA	NA	Sentinel	Yes	12	No	None	NA	NA	No

Surveillance Systems

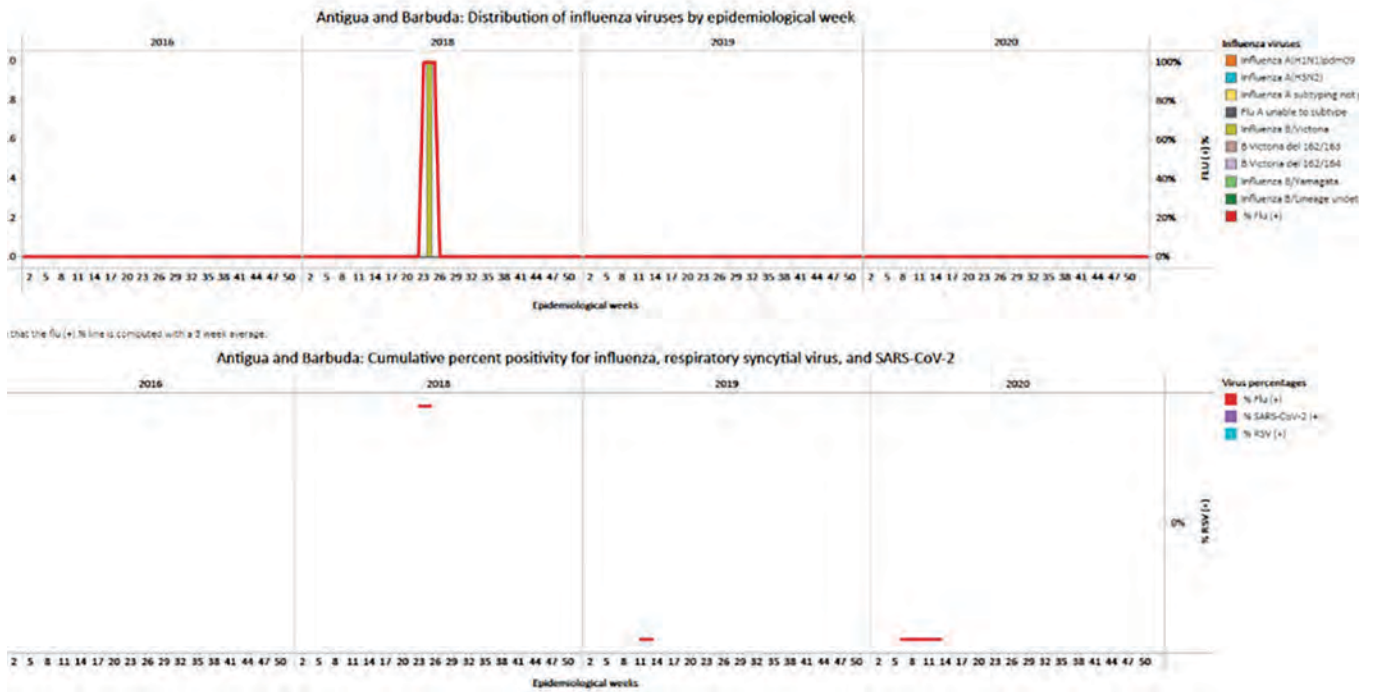
- ILI Centers (N=9)
  - All Saints Health Centre (All Saints)
  - Jennings Health Centre (Jennings)
  - Eastern Area (Parham)
  - Clare Hall Health Centre (Clare Hall)
  - Browns Avenue Health Centre (Browns Avenue)
  - Gray's Farm Health Centre (Gray's Farm)
  - Bishop Gate Health Centre (Upper Gambles)
  - Mount St. John's Medical Centre (St. John)
  - Hannah Thomas Hospital (Barbuda)

\* The data in the sentinel surveillance map are updated as of January 2019.  
 Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

\*Map Influenza Surveillance Capacity

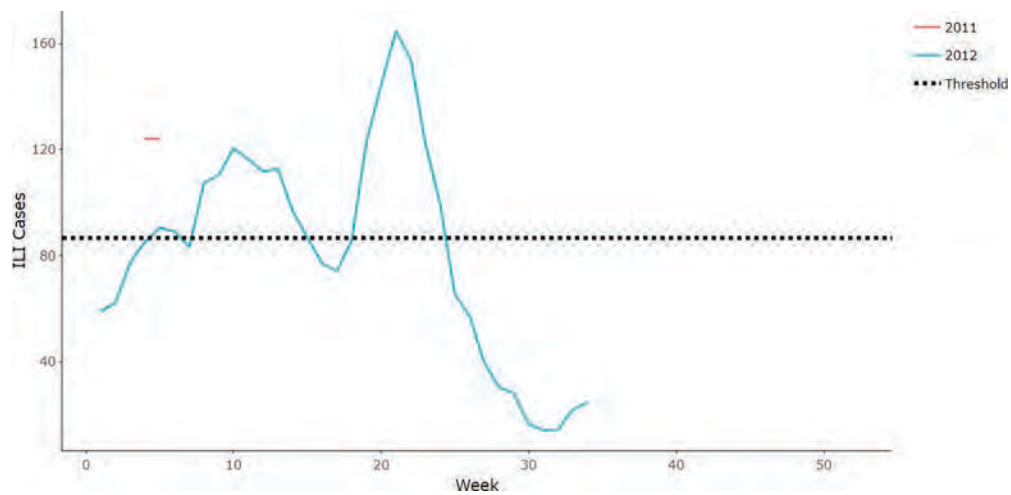
# Influenza and Respiratory Syncytial Virus

## Virologic data



## Influenza-Like Illness (ILI)

### Data from severe cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

### Data from severe cases<sup>6</sup>

Not applicable

Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2007
Year of last revision/update	2007
<b>COVID-19</b>	
Plan available	No
Part of an all-hazards plan	No
Simulations	No
Drills	No

Influenza Vaccine <sup>7</sup>	Response
Composition	NA
Month of vaccine administration	July
Percentage of older adults vaccinated	NA
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	NA
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	Yes*
Participation in studies evaluating influenza vaccine effectiveness	No
Participation in studies evaluating the impact of influenza vaccination campaign	No

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	In progress

Influenza Surveillance	Response
Type of surveillance	Sentinel/National
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	Yes
FluNet Reported > 33%	In progress
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	NA
Samples sent to WHO Collaborating Center	NA
Number of samples analyzed for influenza during 2020	6
Number of samples analyzed for SARS-CoV-2 during 2020	NA
Specimens tested for other respiratory viruses (ORV)	NA
Other respiratory viruses identified	NA

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Pfizer, AstraZeneca, Beijing CNBG, Sputnik V, Janssen
Completed schedules per 100 people	45.67
Vaccination policy for adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	No
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

COVID-19 Surveillance	Response
Type of surveillance	NA
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	In progress
FluNet Reported > 33%	In progress
Reported to WHO in 2020	In progress
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	NA

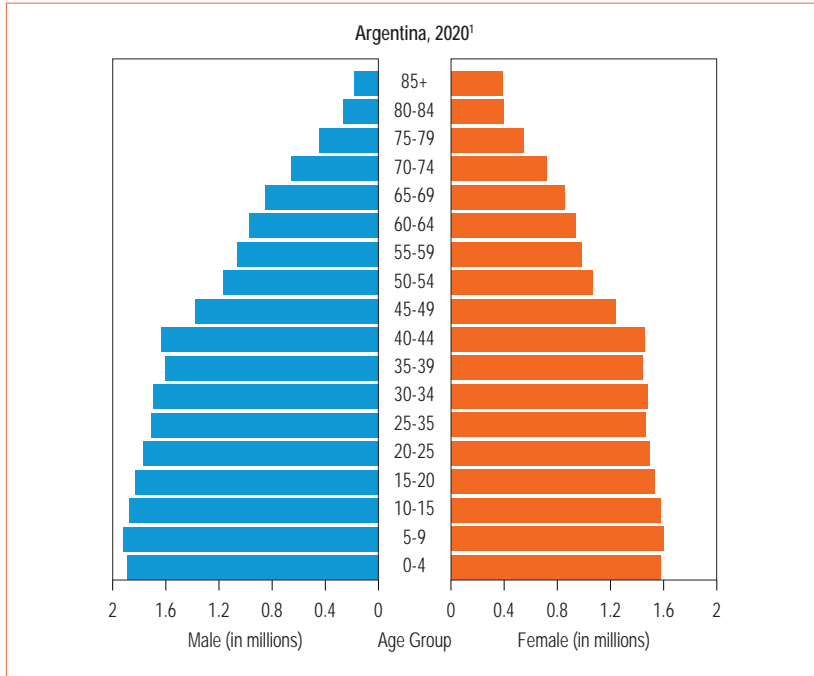
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Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=AC](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=AC)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Argentina



**POPULATION**

Population (thousands)<sup>2</sup>: 45,377  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 16.6  
 Percentage of population < 5 years<sup>2</sup>: 8.2%  
 Percentage of population ≥ 65 years<sup>2</sup>: 11.3%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 5.7  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 9.3  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 97.1

**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 41.0  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 1,989.6  
 National health expenditure as % of GDP 2016<sup>5</sup>: 5.9

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases sentinel	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel and national <sup>1</sup>	100%	Weekly	Yes	9 - 329 <sup>†</sup>	SNVS.2.0	Yes	Yes
ILI	Yes	Sentinel and national <sup>1</sup>	100%	Weekly	Yes	3 - 284 <sup>‡</sup>	SNVS.2.0	Yes	Yes
PNEUMONIA	No*; ICD-10 codes (J10-J18)	National	NA	Weekly	No	284	SNVS.2.0	Yes	Yes
INFLUENZA	NA	National	100%	Weekly	NA	100	SNVS.2.0	Yes	Online

\* Acute febrile respiratory illness (> 38 °C) with cough, respiratory distress, tachypnea, and radiography showing a lobar or segmental infiltrate or pleural effusion.

Surveillance Systems

- **SARI Hospitals (N=9)**
  - Hospital General de Agudos "Dr. C. Durand" (Buenos Aires)
  - Hospital Interzonal Especializado Materno Infantil Dr. V. Tetamanti – INE (Mar del Plata)
  - Hospital San Juan de Dios (La Plata)
  - Hospital San Luis (San Luis)
  - Hospital Teodoro J. Schestakow (San Rafael)
  - Hospital de la Madre y el Niño (La Rioja)
  - Hospital Zonal Trelew Dr. Adolfo Mágina (Trelew)
  - Hospital "Dr. Julio C. Perrando" (Resistencia)
  - Hospital Pediátrico Dr. Avelino Lorenzo Castelán (Resistencia)
- ▲ **Laboratories with PCR capacity (N=38)**  
 The total number of regional laboratories, including those with immunofluorescence capacity, is greater than 100 (only those with PCR capacity are shown in map)

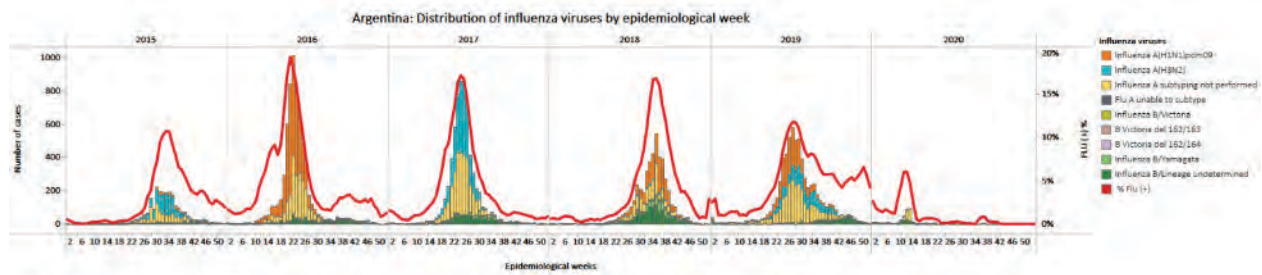
- ◆ **National Influenza Centers (N=3)**
  - National Institute of Infectious Diseases (Buenos Aires City)  
 National Reference Laboratory for influenza and respiratory viruses and coordinator of the National Network of influenza and respiratory viruses.
    - Technical capacity: IF, RT-PCR, viral isolation (VI), hemagglutination inhibition (HAI), sequencing, antiviral susceptibility, serology.
  - Influenza and Other Respiratory Virus Laboratory, Virology Institute - InViV (Córdoba)
    - Technical capacity: IF, RT-PCR, VI, HAI, sequencing, serology.
  - National Institute of Epidemiology (Mar del Plata)
    - Technical capacity: IF, RT-PCR, VI, HAI, sequencing, antiviral susceptibility.
- **ILI Centers (N=3)**
  - Hospital Interzonal Especializado Materno Infantil Dr. V. Tetamanti-INE
  - UC Influenza – CONI
  - UC Influenza Tucumán

\* The data in the sentinel surveillance map are updated as of September 2021. Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

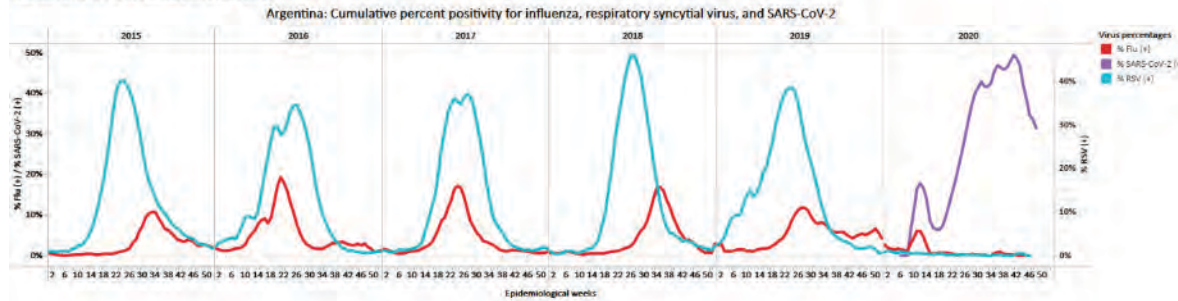
\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data

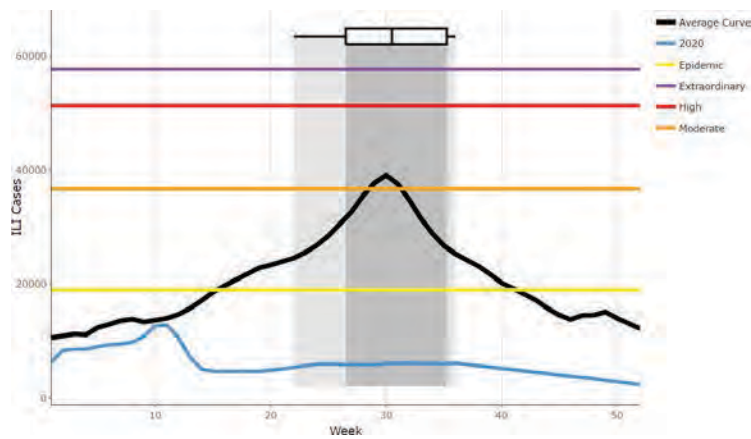


Please note that the flu (%) line is computed with a 3-week average



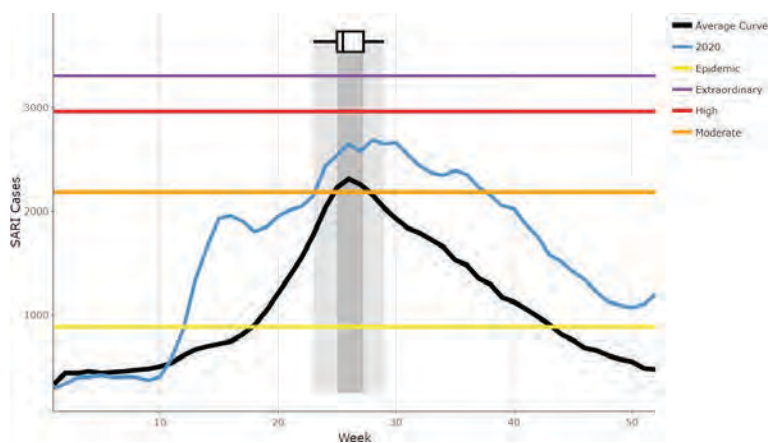
## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2009
Year of last revision/update	2009
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	No
Simulations	Yes
Drills	No

Influenza Vaccine <sup>7</sup>	Response
Composition	Southern Hemisphere Trivalent
Month of vaccine administration	March
Percentage of older adults vaccinated	71% (≥ 65 years)
Percentage of children under 5 vaccinated	69% (6-24 months)
Percentage of pregnant women vaccinated	77%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	100%
Participation in studies evaluating influenza vaccine effectiveness	Yes
Participation in studies evaluating the impact of influenza vaccination campaign	Yes

Human-Animal Interface for Influenza	Response
Intersectoral meetings	In progress
Information sharing between sectors	In progress
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	32,480
Number of samples analyzed for SARS-CoV-2 during 2020	4,274,796
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV, adenovirus, parainfluenza 1, 2, 3; metapneumovirus, bocavirus, rhinovirus, SARSCoV, MERSCoV, NL63Cov, HKU1Cov, 229ECov, OC43Cov, coronavirus (OC43, 229E NL63, HQU1)

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Pfizer, AstraZeneca, Beijing CNBG, Sputnik V, Janssen, CanSino
Completed schedules per 100 people	120.8
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	Yes
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	Yes
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	<a href="#">Online</a>

Influenza Surveillance		Response
Type of surveillance		Sentinel and national
Report		Yes
FluID	Reported > 33%	Yes
	Reported to WHO in 2020	Yes
Report		Yes
FluNet	Reported > 33%	Yes
	Reported to WHO in 2020	Yes
		Transmissibility: In progress
PISA indicators		Seriousness of disease: In progress
		Impact: In progress

COVID-19 Surveillance		Response
Type of surveillance		Sentinel and national
Report		Yes
FluID	Reported > 33%	Yes
	Reported to WHO in 2020	Yes
Report		Yes
FluNet	Reported > 33%	Yes
	Reported to WHO in 2020	Yes
		Transmissibility: In progress
PISA indicators		Seriousness of disease: In progress
		Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic		NA

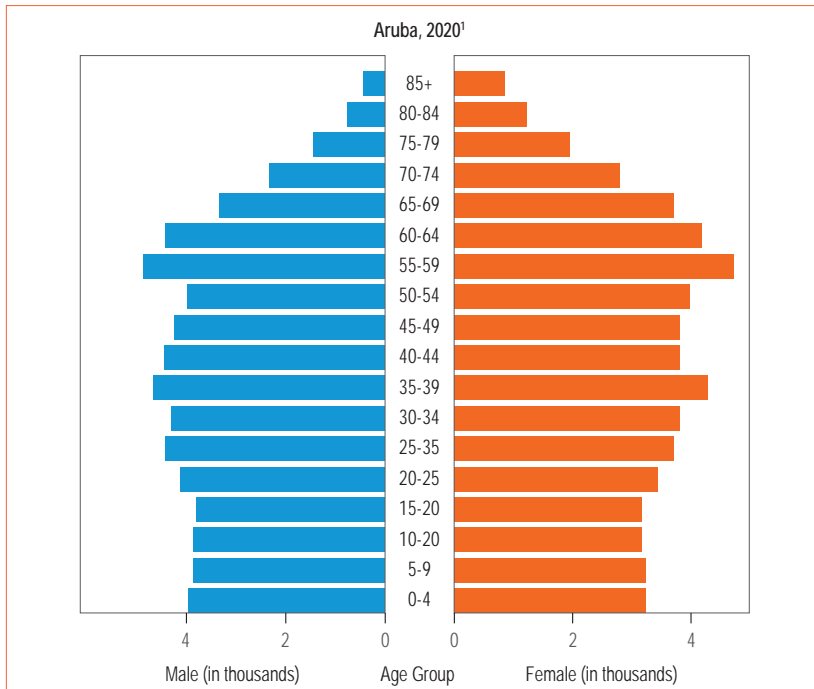
Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=AR](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=AR)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)





# Aruba



**POPULATION**

Population (thousands)<sup>2</sup>: 107  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 593.1  
 Percentage of population < 5 years<sup>2</sup>: 5.7%  
 Percentage of population ≥ 65 years<sup>2</sup>: 14.6%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: NA  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 1.9  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: NA

**PUBLIC HEALTH**

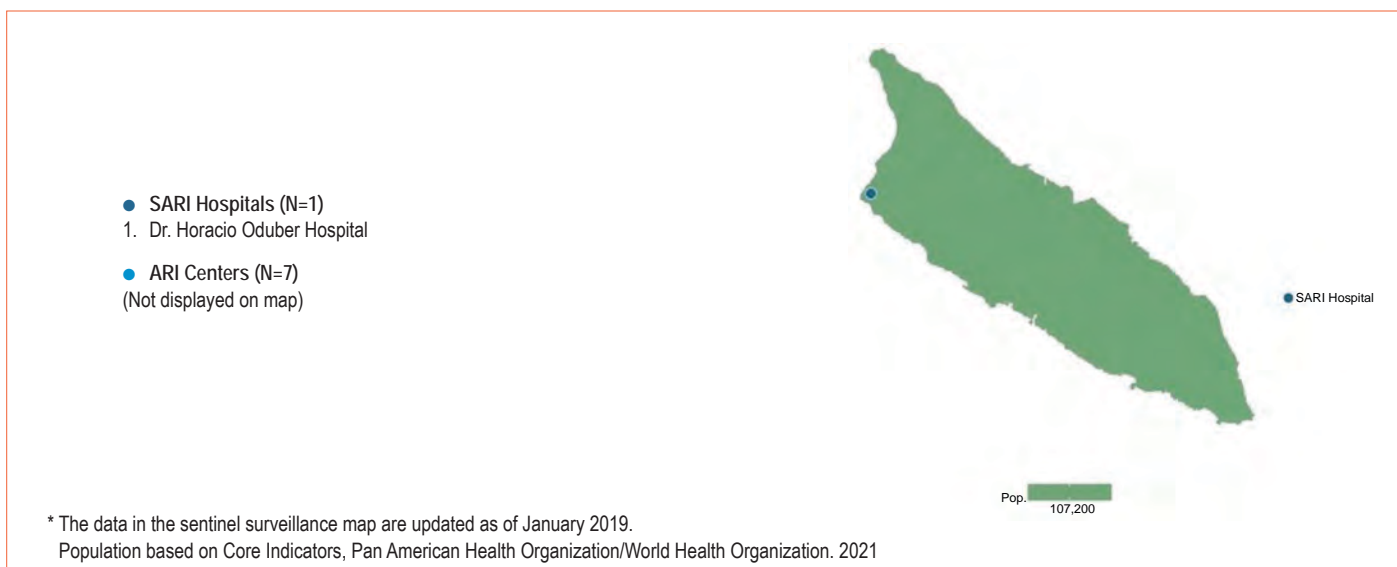
Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 19  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: NA  
 National health expenditure as % of GDP 2016<sup>5</sup>: NA

Sociodemographic Indicators

Event	SURVEILLANCE SYSTEM CHARACTERISTICS					INFORMATION SYSTEM			
	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	100%	No	No	2	SPSS ARI-SARI Data base	Yes	No
ARI	No*	Sentinel	Quota	No	NA	7	SPSS ARI-SARI Data base	Yes	No

\* ARI: Acute (sudden) febrile illness (> 38.0 °C); Previously healthy person; With cough and/or sore throat; With or without respiratory distress

Surveillance Systems

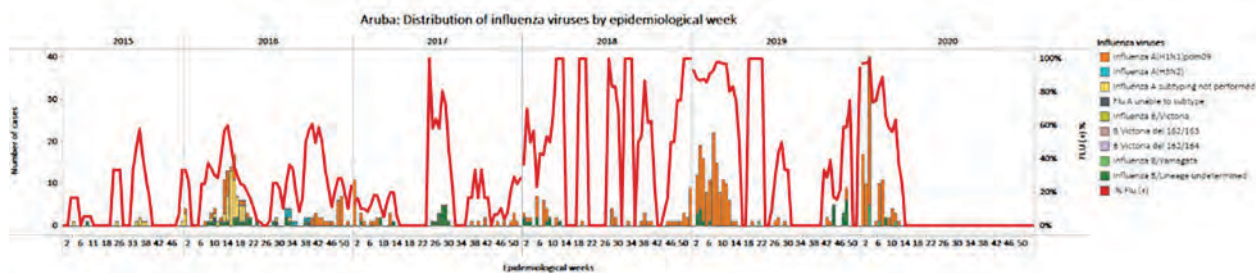


\* The data in the sentinel surveillance map are updated as of January 2019.  
 Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

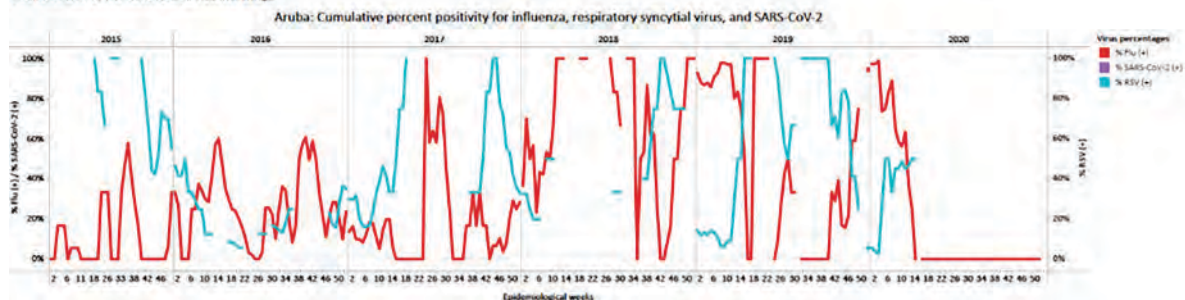
\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data



Please note that the  $Iu(x)$  line is computed with a 3 week average.



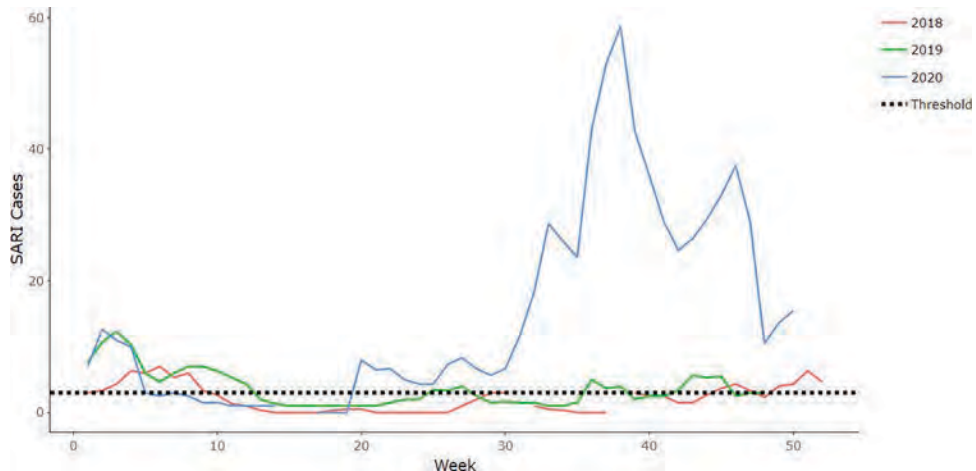
## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>

Not applicable

## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	No
Year of original publication	2009
Year of last revision/update	2013
<b>COVID-19</b>	
Plan available	No
Part of an all-hazards plan	No
Simulations	No
Drills	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	NA
Month of vaccine administration	NA
Percentage of older adults vaccinated	NA
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	Yes*
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	Yes*
Participation in studies evaluating influenza vaccine effectiveness	No
Participation in studies evaluating the impact of influenza vaccination campaign	No

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	No

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	NA
Samples sent to WHO Collaborating Center	NA
Number of samples analyzed for influenza during 2020	7,797
Number of samples analyzed for SARS-CoV-2 during 2020	NA
Specimens tested for other respiratory viruses (ORV)	NA
Other respiratory viruses identified	RSV, adenovirus, parainfluenza 1, 2, 3; metapneumovirus, rhinovirus

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Pfizer, Janssen
Completed schedules per 100 people	70.83
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	No
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

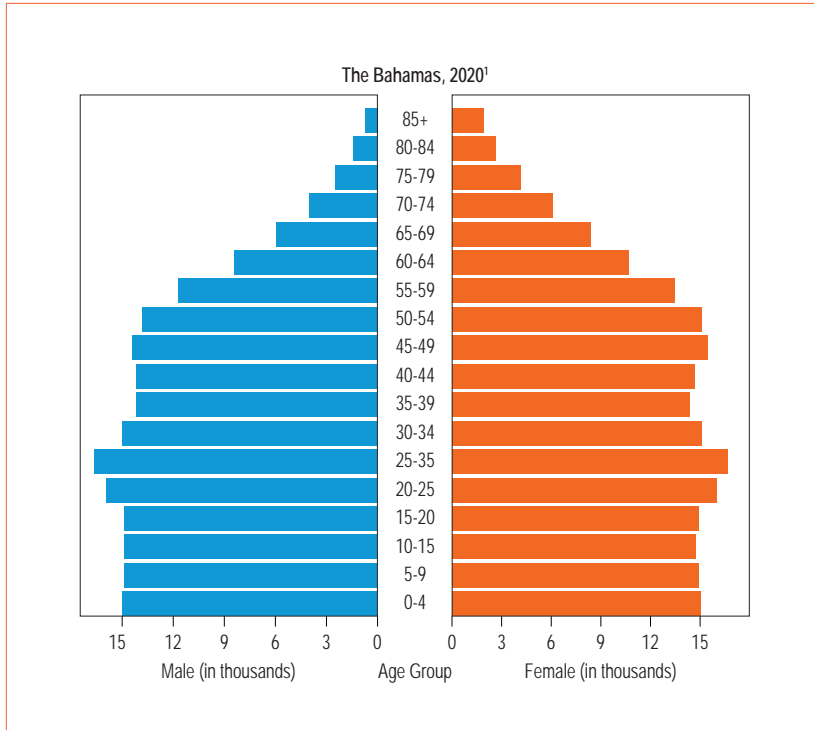
COVID-19 Surveillance	Response
Type of surveillance	NA
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	NA

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=AA](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=AA)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. Pan American Health Organization / World Health Organization. Immunization in the Americas [Internet]. Paho.org. 2021 [cited 4 Oct 2021]. Available from: <https://www.paho.org/en/documents/immunization-americas-2021-summary>
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# The Bahamas



### POPULATION

Population (thousands)<sup>2</sup>: 393  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 39.2  
 Percentage of population < 5 years<sup>2</sup>: 6.9%  
 Percentage of population ≥ 65 years<sup>2</sup>: 7.7%

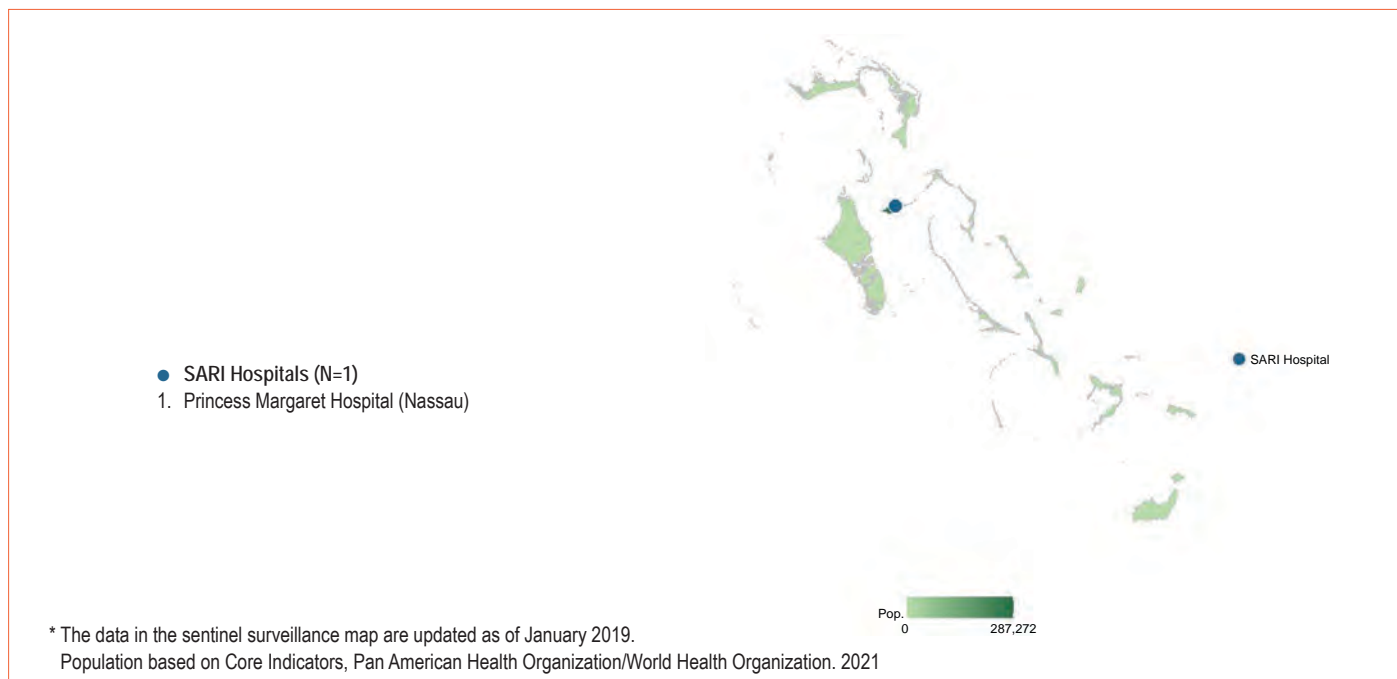
### MORTALITY

Gross mortality rate (per 1,000 population)<sup>2</sup>: 7  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 12.6  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 76.4

### PUBLIC HEALTH

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 22  
 Current health expenditure per capita, PPP\* (current international \$)<sup>2</sup>: 2005.2  
 National health expenditure as % of GDP 2016<sup>5</sup>: 3.1

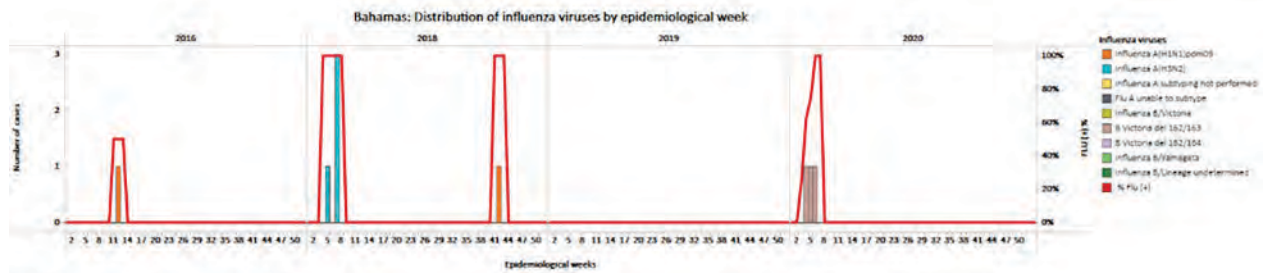
SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	NA	NA	NA	NA	NA	NA	NA



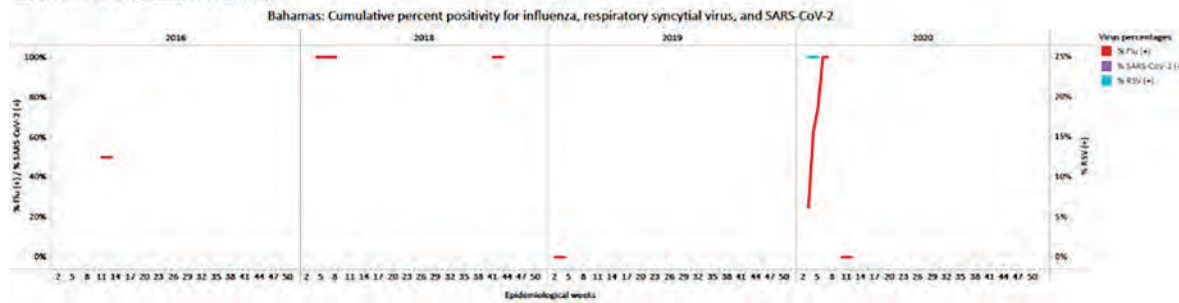
\* The data in the sentinel surveillance map are updated as of January 2019.  
 Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

# Influenza and Respiratory Syncytial Virus

## Virologic data

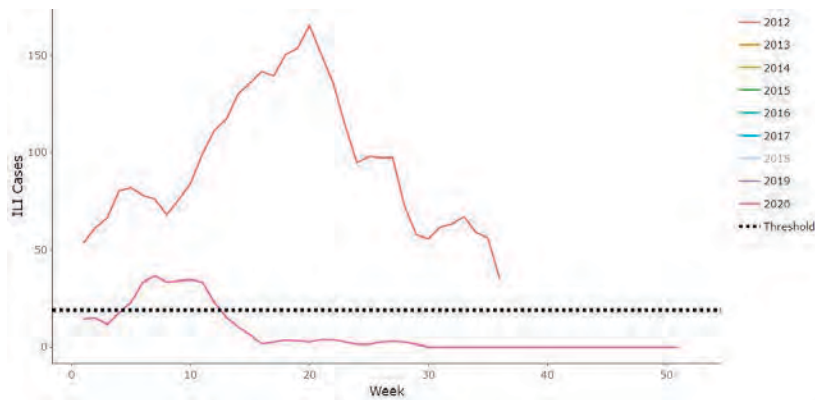


Please note that the Flu (+) % line is computed with a 3 week average.



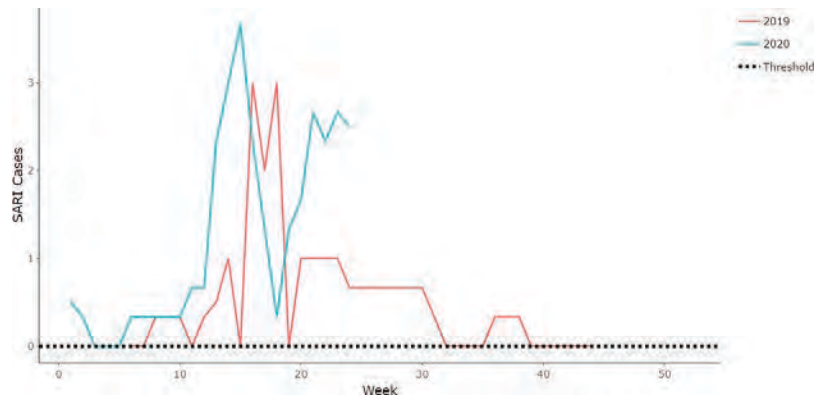
## Influenza-Like Illness (ILI)

### Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

### Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	No
Part of an all-hazards plan	No
Year of original publication	NA
Year of last revision/update	NA
<b>COVID-19</b>	
Plan available	NA
Part of an all-hazards plan	NA
Simulations	NA
Drills	NA

Influenza Vaccine <sup>7</sup>	Response
Composition	Northern Hemisphere Quadrivalent Trivalent
Month of vaccine administration	June
Percentage of older adults vaccinated	NA
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	Yes*
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	Yes*
Participation in studies evaluating influenza vaccine effectiveness	No
Participation in studies evaluating the impact of influenza vaccination campaign	No

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	NA
Information sharing between sectors	NA
Surveillance of unusual respiratory cases with exposure to animals	NA

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	NA
Samples sent to WHO Collaborating Center	NA
Number of samples analyzed for influenza during 2020	7
Number of samples analyzed for SARS-CoV-2 during 2020	NA
Specimens tested for other respiratory viruses (ORV)	NA
Other respiratory viruses identified	NA

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Pfizer, AstraZeneca, Janssen
Completed schedules per 100 people	27.89
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	No
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	No
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	In progress
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	In progress
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

COVID-19 Surveillance	Response
Type of surveillance	NA
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	In progress
FluNet Reported > 33%	In progress
Reported to WHO in 2020	In progress
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	NA

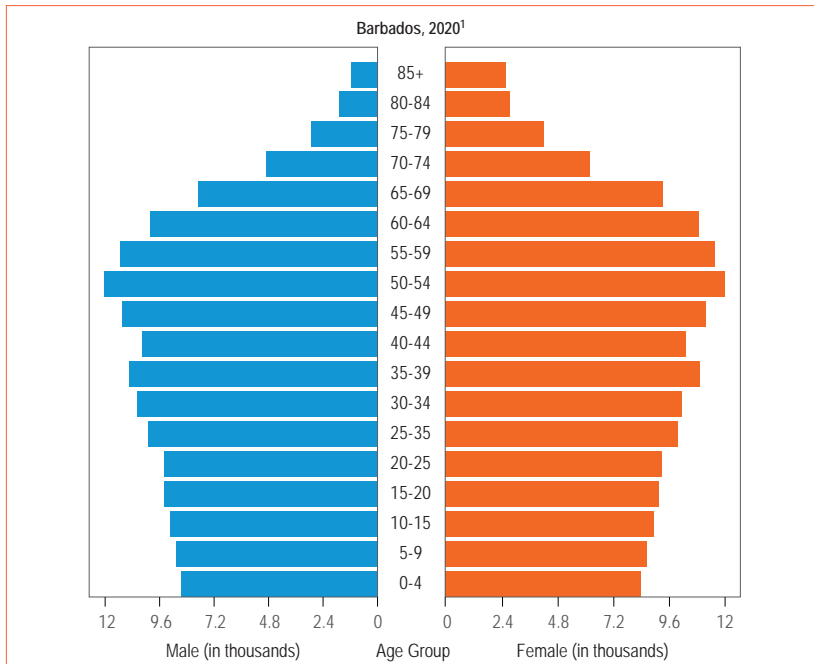
Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=BF](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=BF)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)





# Barbados



**POPULATION**

Population (thousands)<sup>2</sup>: 287

Population density (per km<sup>2</sup>)<sup>3</sup>: 668.3

Percentage of population < 5 years<sup>2</sup>: 5.3%

Percentage of population ≥ 65 years<sup>2</sup>: 16.7%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 6

Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 10.1

Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 82.7

**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 26

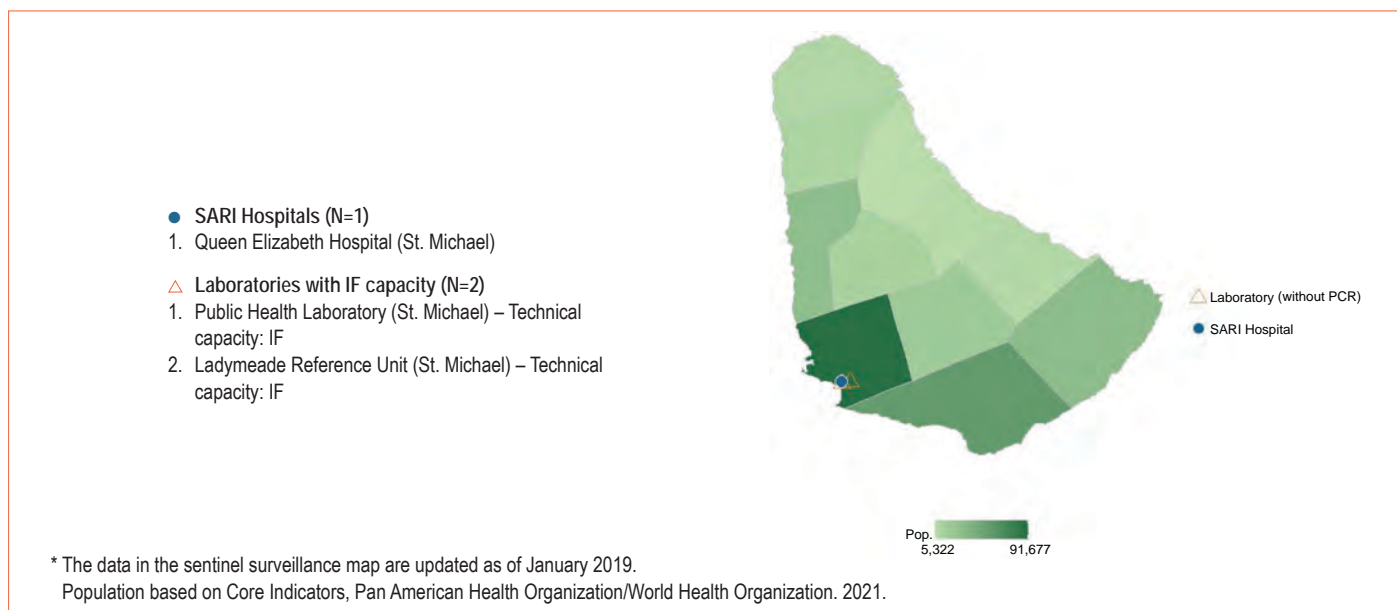
Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 1,203.8

National health expenditure as % of GDP 2016<sup>5</sup>: 2.9

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases sentinel	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	No	Sentinel	100%	Daily	No	1	Access Database	Yes	NA
ARI	No	Sentinel	Quota (6 samples/site/week)	No	None	13	Excel Database	Yes	NA

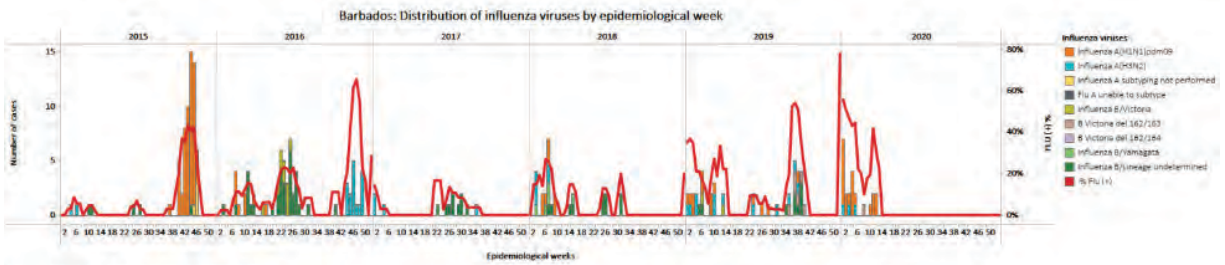
Surveillance Systems



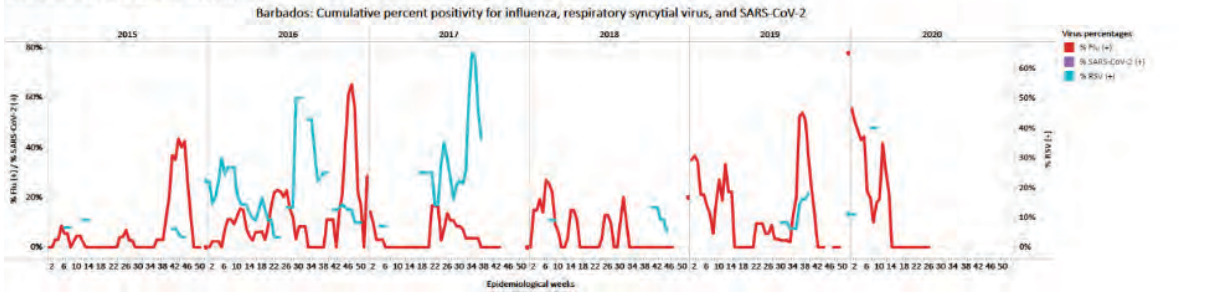
\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data

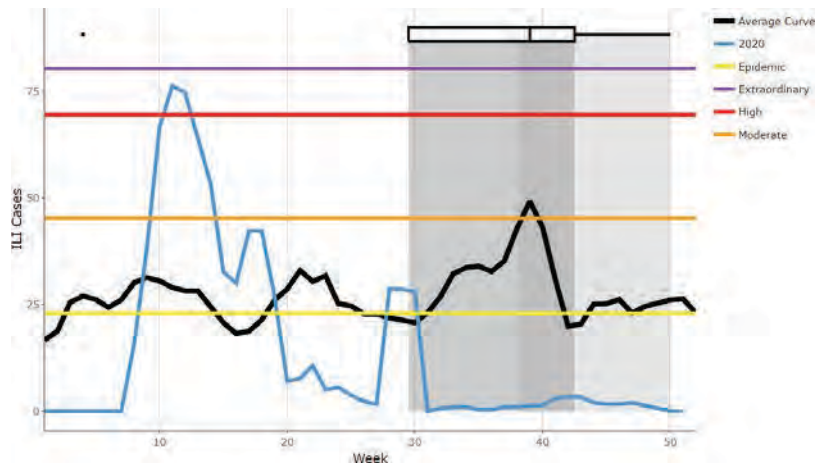


Please note that the Flu A % line is computed with a 3 week average.



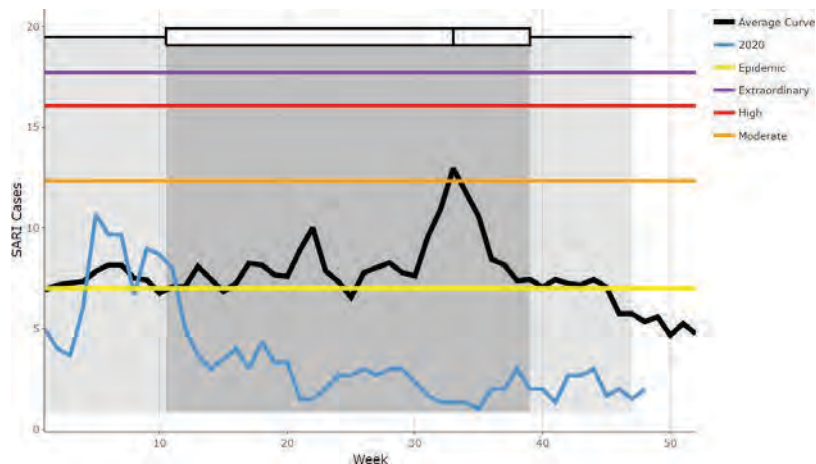
## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2009
Year of last revision/update	2009
<b>COVID-19</b>	
Plan available	No
Part of an all-hazards plan	No
Simulations	No
Drills	No

Influenza Vaccine <sup>7</sup>	Response
Composition	Northern Hemisphere Trivalent
Month of vaccine administration	April
Percentage of older adults vaccinated	NA
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	NA
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	Yes*
Participation in studies evaluating influenza vaccine effectiveness	No
Participation in studies evaluating the impact of influenza vaccination campaign	No

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	NA
Information sharing between sectors	NA
Surveillance of unusual respiratory cases with exposure to animals	NA

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	NA
Samples sent to WHO Collaborating Center	NA
Number of samples analyzed for influenza during 2020	82
Number of samples analyzed for SARS-CoV-2 during 2020	NA
Specimens tested for other respiratory viruses (ORV)	NA
Other respiratory viruses identified	NA

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Pfizer, AstraZeneca, Beijing CNBG
Completed schedules per 100 people	39.82
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	No
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	No
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	Yes
FluNet Reported > 33%	In progress
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

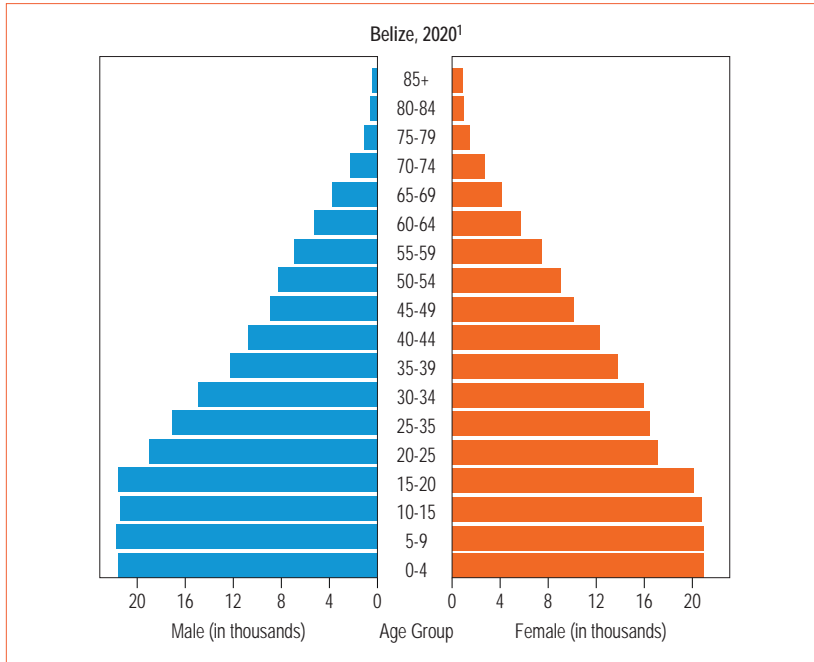
COVID-19 Surveillance	Response
Type of surveillance	NA
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	In progress
FluNet Reported > 33%	In progress
Reported to WHO in 2020	In progress
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	NA

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=BB](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=BB)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. Pan American Health Organization / World Health Organization. Immunization in the Americas [Internet]. Paho.org. 2021 [cited 4 Oct 2021]. Available from: <https://www.paho.org/en/documents/immunization-americas-2021-summary>
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Belize



**POPULATION**

Population (thousands)<sup>2</sup>: 398

Population density (per km<sup>2</sup>)<sup>3</sup>: 17.4

Percentage of population < 5 years<sup>2</sup>: 9.9%

Percentage of population ≥ 65 years<sup>2</sup>: 5%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 6.4

Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 14.5

Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 90.4

**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 11.0

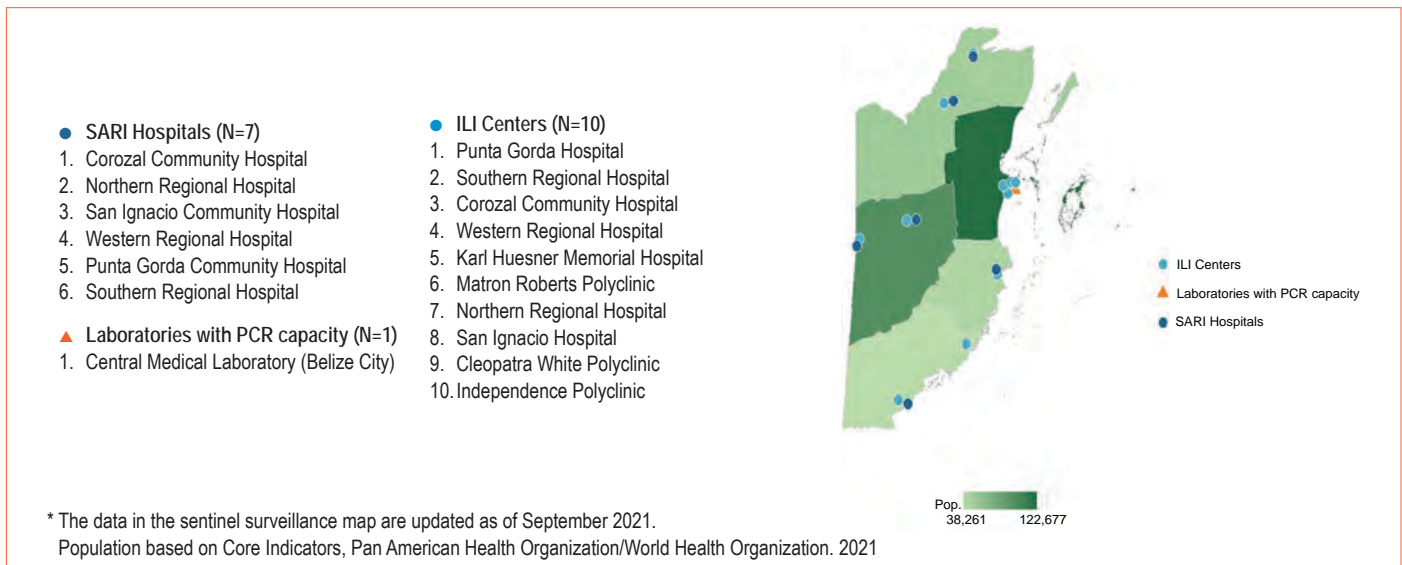
Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 506.3

National health expenditure as % of GDP 2016<sup>5</sup>: 3.9

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases sentinel	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	National	100%	None	Yes	7	Belize Health Information System	Yes	Yes
ILI	Yes	National	Every one in ten samples	None	Yes	10	Belize Health Information System	Yes	Yes
ARI	Yes	National	Every one in ten samples	None	None	10	Belize Health Information System	Yes	NA
PNEUMONIA	NA	NA	NA	None	NA	None	Belize Health Information System	Yes	Yes

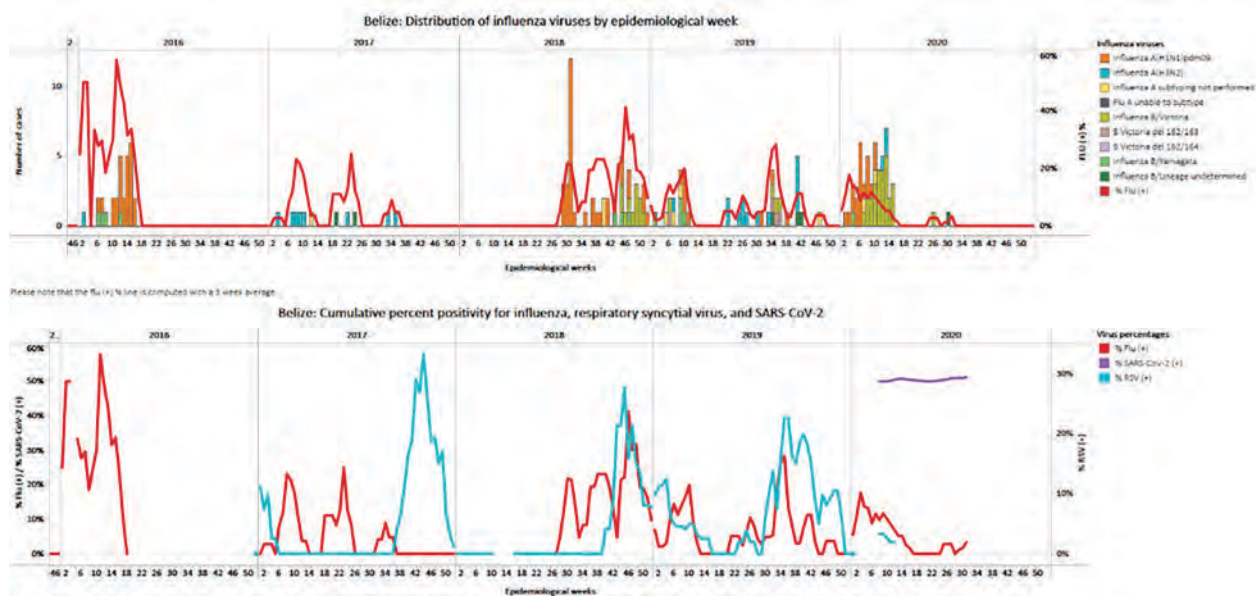
Surveillance Systems



\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data



## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>

Not applicable

## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>

Not applicable

Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2009
Year of last revision/update	2020
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	No
Simulations	No
Drills	No

Influenza Vaccine <sup>7</sup>	Response
Composition	Northern Hemisphere Trivalent
Month of vaccine administration	October
Percentage of older adults vaccinated	6% (reported coverage, ≥65y)
Percentage of children under 5 vaccinated	54% (6-35 months)
Percentage of pregnant women vaccinated	Yes*
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	12%
Participation in studies evaluating influenza vaccine effectiveness	No
Participation in studies evaluating the impact of influenza vaccination campaign	No

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	In progress
Information sharing between sectors	In progress
Surveillance of unusual respiratory cases with exposure to animals	In progress

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	NA
Number of samples analyzed for influenza during 2020	1,078
Number of samples analyzed for SARS-CoV-2 during 2020	6,325
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	NA

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Pfizer, AstraZeneca, Beijing CNBG, Janssen
Completed schedules per 100 people	38.90
Vaccination policy for older adults (≥65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	Yes
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	National
Report	Yes
FluID Reported > 33%	No
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

COVID-19 Surveillance	Response
Type of surveillance	National
Report	Yes
FluID Reported > 33%	No
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	No

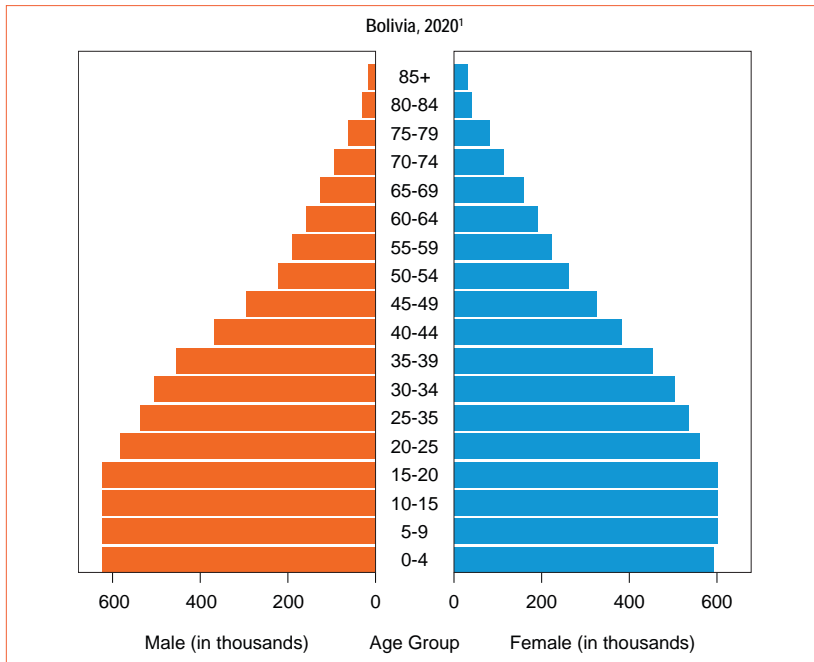
Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=BH](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=BH)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)





# Bolivia (Plurinational State of)



### POPULATION

Population (thousands)<sup>2</sup>: 11,673  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 10.8  
 Percentage of population < 5 years<sup>2</sup>: NA  
 Percentage of population ≥ 65 years<sup>2</sup>: NA

### MORTALITY

Gross mortality rate (per 1,000 population)<sup>2</sup>: 7.9  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 29  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 136.8

### PUBLIC HEALTH

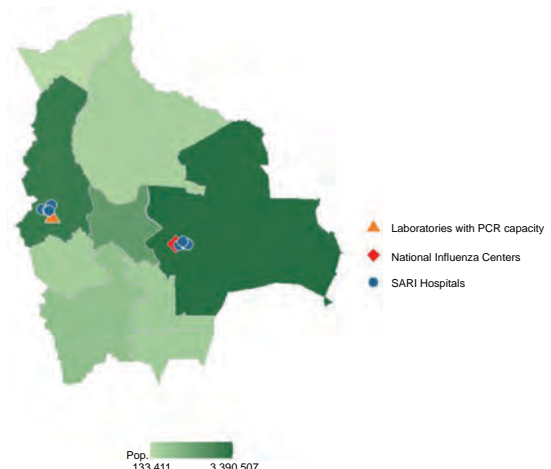
Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 11  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 496.1  
 National health expenditure as % of GDP 2016<sup>5</sup>: 4.5

Sociodemographic Indicators

Event	SURVEILLANCE SYSTEM CHARACTERISTICS					INFORMATION SYSTEM			
	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	95%	2	Yes	8	PAHO FLU	NA	Yes
ARI	Yes	National	1%	None	None	7,213	SNIS	NA	<a href="#">Online</a>
PNEUMONIA	Yes	National	No		No	None	SNIS	NA	<a href="#">Online</a>

Surveillance Systems

- SARI Hospitals (N=8)
  1. Caja Nacional del Seguro Obrero Nro. 3 (Sta. Cruz)
  2. Hospital Universitario San Juan de Dios (Sta. Cruz)
  3. Hospital de Niños Dr. Mario Ortiz Suárez (Sta. Cruz)
  4. Hospital Materno Infantil CNS (Sta. Cruz)
  5. Hospital Boliviano Holandés (El Alto)
  6. Hospital del Niño Dr. Ovidio Aliaga Uriá (La Paz)
  7. Hospital Materno Infantil CNS (La Paz)
  8. Instituto Nacional del Tórax (La Paz)
- ▲ Laboratories with PCR capacity (N=1)
  1. Instituto Nacional de Laboratorios de Salud (La Paz)
- ◆ National Influenza Centers (N=1)
  1. Centro de Enfermedades Tropicales (Center for Tropical Diseases) (Santa Cruz)

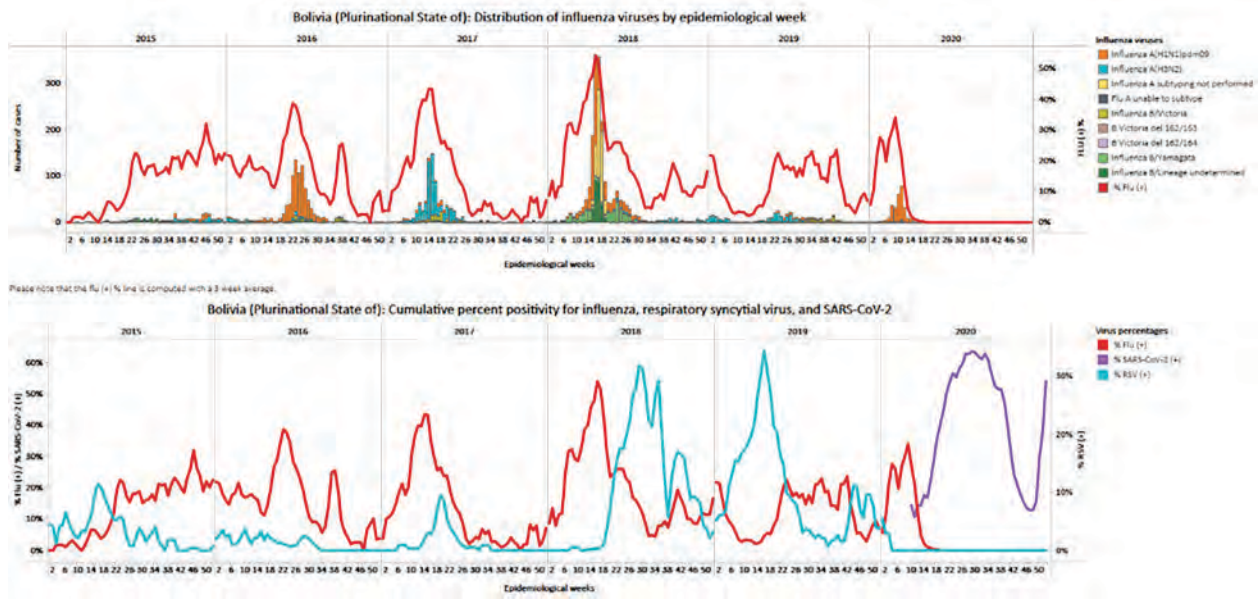


\* The data in the sentinel surveillance map are updated as of September 2021.  
 Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data



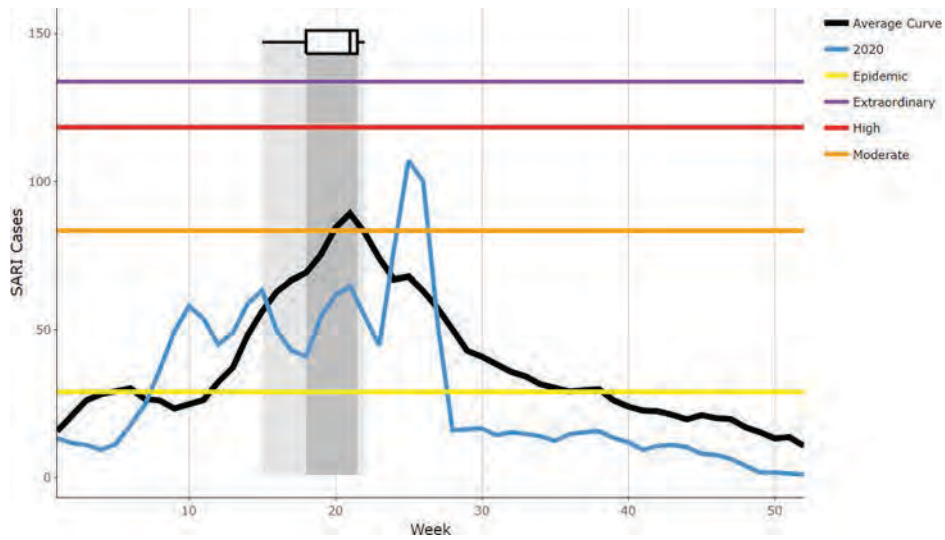
## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>

Not applicable

## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	No
Year of original publication	2015
Year of last revision/update	2020
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	No
Simulations	Yes
Drills	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	Southern Hemisphere Trivalent
Month of vaccine administration	April
Percentage of older adults vaccinated	59% (≥ 60 years)
Percentage of children under 5 vaccinated	61% (6-23 months)
Percentage of pregnant women vaccinated	83%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	64%
Participation in studies evaluating influenza vaccine effectiveness	No
Participation in studies evaluating the impact of influenza vaccination campaign	Yes

Human-Animal Interface for Influenza	Response
Intersectoral meetings	In progress
Information sharing between sectors	In progress
Surveillance of unusual respiratory cases with exposure to animals	In progress

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	2,683
Number of samples analyzed for SARS-CoV-2 during 2020	300,430
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV-Sentinel, adenovirus, parainfluenza 1, 2, 3, metapneumovirus, rhinovirus

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Pfizer, Beijing CNBG, Sputnik V, Janssen
Completed schedules per 100 people	29.9
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	No
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	No
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	Yes
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	<a href="#">Online</a>

Influenza Surveillance	Response
Type of surveillance	
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: Yes
PISA indicators	Seriousness of disease: Yes
	Impact: Yes

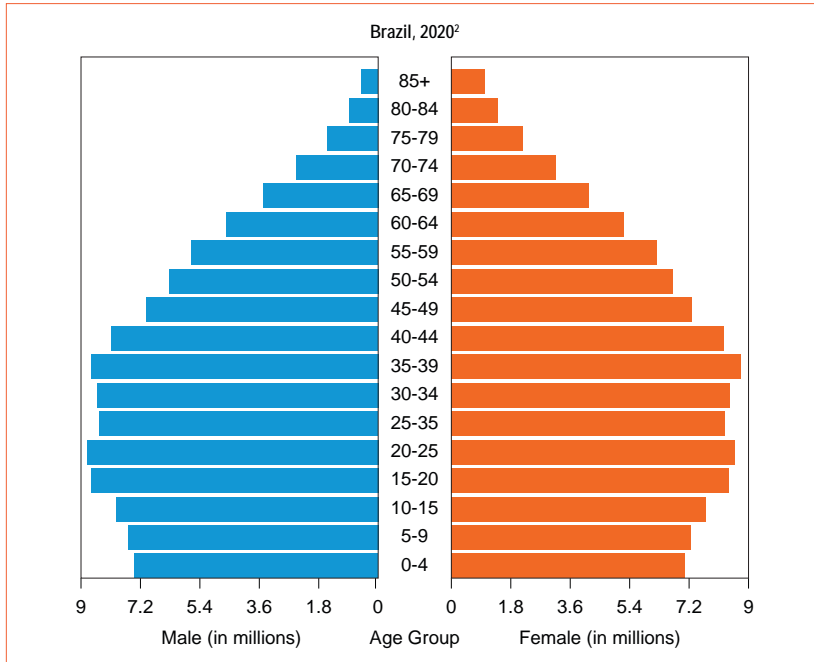
COVID-19 Surveillance	Response
Type of surveillance	NA
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	No

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=BL](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=BL)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Brazil



### POPULATION

Population (thousands)<sup>2</sup>: 212,559  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 25.4  
 Percentage of population < 5 years<sup>2</sup>: 6.8%  
 Percentage of population ≥ 65 years<sup>2</sup>: 9.6%

### MORTALITY

Gross mortality rate (per 1,000 population)<sup>2</sup>: 5.8  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 13.9  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 81.8

### PUBLIC HEALTH

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 20  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 1,530.8  
 National health expenditure as % of GDP 2016<sup>5</sup>: 4

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	No <sup>†</sup>	National	(Quota/40 samples per week)	7/week	Yes	7,128	SIVEP-Gripe	NA	<a href="#">Online</a>
ILI	No <sup>†</sup>	Sentinel	(Quota/5 samples per week)	2/week	Yes	239	SIVEP-Gripe	NA	<a href="#">Online</a>

\* Individual with \*ILI who presents: dyspnea/respiratory discomfort OR persistent pressure in the chest OR O<sub>2</sub> saturation less than 95% in ambient air OR lips or face. (\*ILI: Individual with acute respiratory illness, characterized by at least two of the following signs and symptoms: fever (even if referred), chills, sore throat, headache, cough, runny nose, olfactory or taste disturbances). For the purpose of SIVEP-Influenza notification, hospitalized SARI cases or SARI deaths should be considered regardless of hospitalization.

<sup>†</sup> Individual with history of fever or measured fever, accompanied by cough or sore throat, and presented these two symptoms in the last seven days.

- SARI Hospitals (N=7,128)  
(Not displayed on map)
- ILI Centers (N=239)  
(Not displayed on map)
- ◆ **National Influenza Centers (N=3)**
  1. Instituto Adolfo Lutz (São Paulo)  
Technical capacity: IF, RT-PCR, viral isolation
  2. Instituto Evandro Chagas (Ananindeua)  
Technical capacity: IF, RT-PCR, viral isolation
  3. Instituto Oswaldo Cruz (Rio de Janeiro)  
Technical capacity: IF, RT-PCR, viral isolation, sequencing

◆ National Influenza Centers

Pop. 652,713 46,649,132

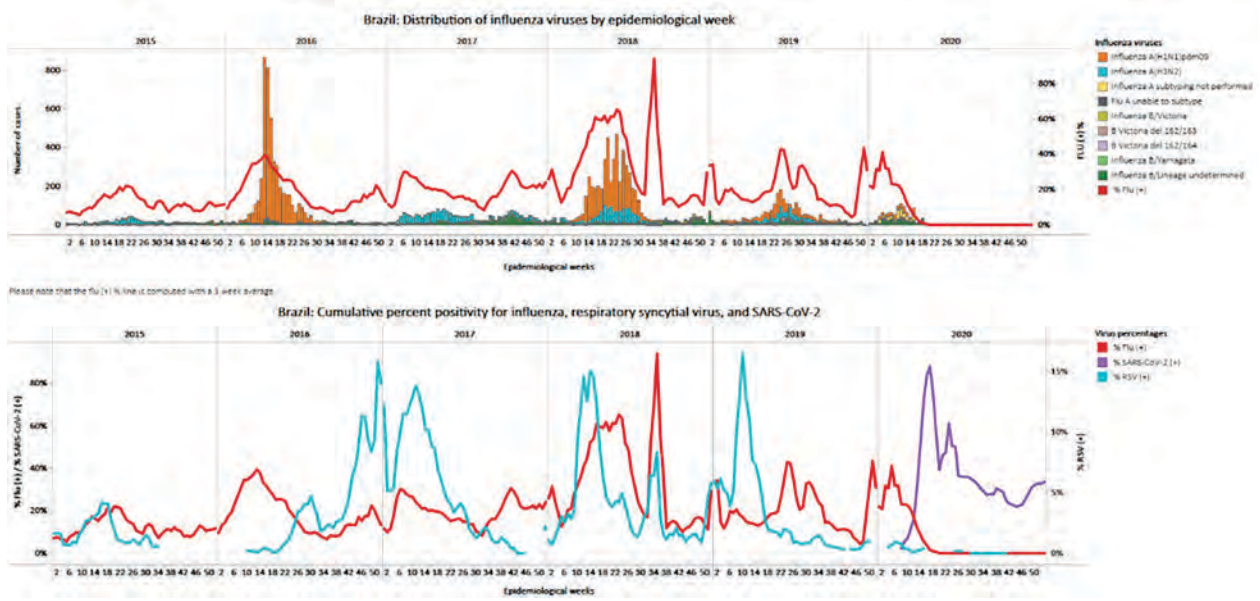
\* The data in the sentinel surveillance map are updated as of September 2021.  
 Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

Surveillance Systems

\*Map Influenza Surveillance Capacity

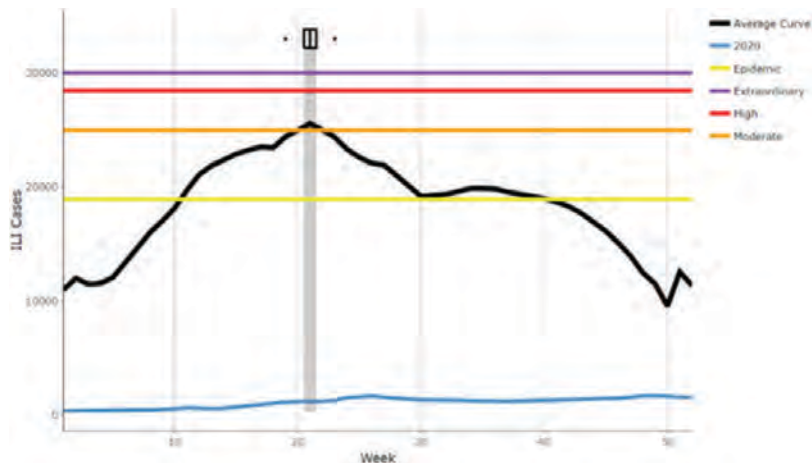
# Influenza and Respiratory Syncytial Virus

## Virologic data



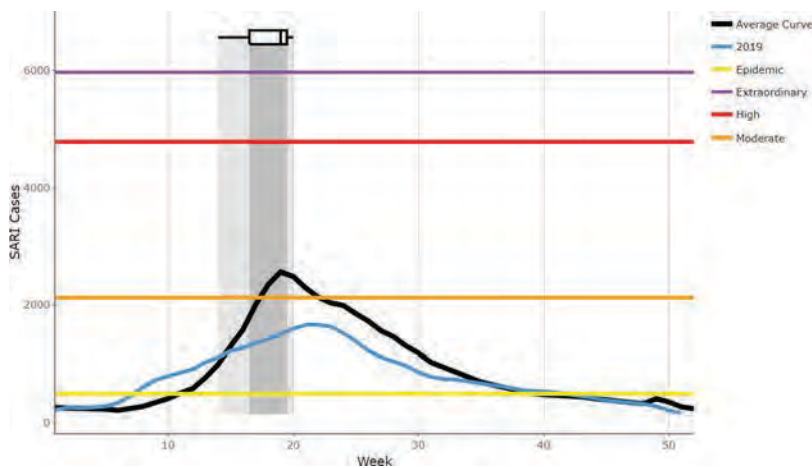
## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2019
Year of last revision/update	2019
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	No
Simulations	No
Drills	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	Southern Hemisphere Trivalent
Month of vaccine administration	April
Percentage of older adults vaccinated	96% (≥60 years)
Percentage of children under 5 vaccinated	67% (6-59 months)
Percentage of pregnant women vaccinated	77%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	100%
Participation in studies evaluating influenza vaccine effectiveness	Yes
Participation in studies evaluating the impact of influenza vaccination campaign	Yes

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	1,185,084
Number of samples analyzed for SARS-CoV-2 during 2020	1,477,404
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV-Sentinel, RSV-Non-Sentinel, adenovirus, parainfluenza 1, 2, 3, metapneumovirus, rhinovirus

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Pfizer, AstraZeneca, Janssen, Sinovac
Completed schedules per 100 people	46.8
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	Yes
Participation in studies evaluating the impact of COVID-19 vaccination campaign	Yes

Influenza Disease Burden	Response
Estimation of medical burden for influenza	Yes
Estimation of economic burden for influenza	Yes
Publication of influenza burden of disease	<a href="#">Yes</a>

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA Indicators	Seriousness of disease: In progress
	Impact: In progress

COVID-19 Surveillance	Response
Type of surveillance	Sentinel
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA Indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	No

PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

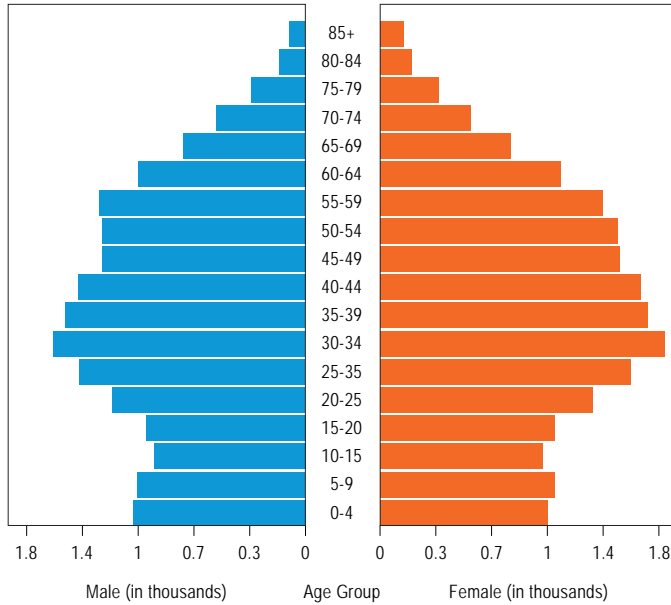
1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=BR](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=BR)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)





# British Virgin Islands

British Virgin Islands, 2020<sup>2</sup>



## POPULATION

Population (thousands)<sup>2</sup>: 38.2  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 201.6  
 Percentage of population < 5 years<sup>2</sup>: NA  
 Percentage of population ≥ 65 years<sup>2</sup>: 10.5%

## MORTALITY

Gross mortality rate (per 1,000 population)<sup>2</sup>: 5.8  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 20.3  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: NA

## PUBLIC HEALTH

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 19.0  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: NA  
 National health expenditure as % of GDP 2016<sup>5</sup>: NA

Sociodemographic Indicators

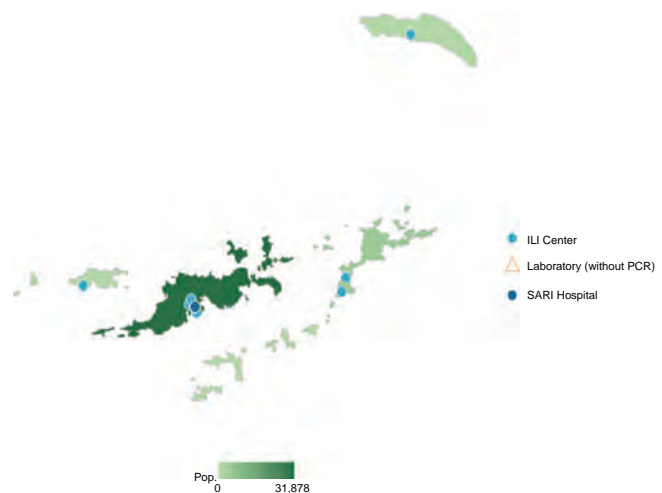
## SURVEILLANCE SYSTEM CHARACTERISTICS

## INFORMATION SYSTEM

Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
INFLUENZA	NA	Sentinel	NA	3 times/week	NA	14	NA	NA	Yes

Surveillance Systems

- SARI Hospital (N=1)
  1. Tortola
- ILI Centers (N=13)
  1. Road Town Clinic (Road Town)
  2. Eureka (Road Town)
  3. BNF (Road Town)
  4. Penn Medical (Road Town)
  5. Pic-Smith Medical (Road Town)
  6. Bain Medical (Road Town)
  7. Appex Medical (Virgin Gorda)
  8. Iris O'Neal (Virgin Gorda-The Valley)
  9. North Sound Clinic (North Sound-Virgin Gorda)
  10. Iris Penn (East End)
  11. Theresa Smith-Blyden (Capeons Bay)
  12. Jost Van Dyke
  13. Romalia Smith (Anegada)
- △ Laboratories with IF capacity (N=1)
  1. Tortola

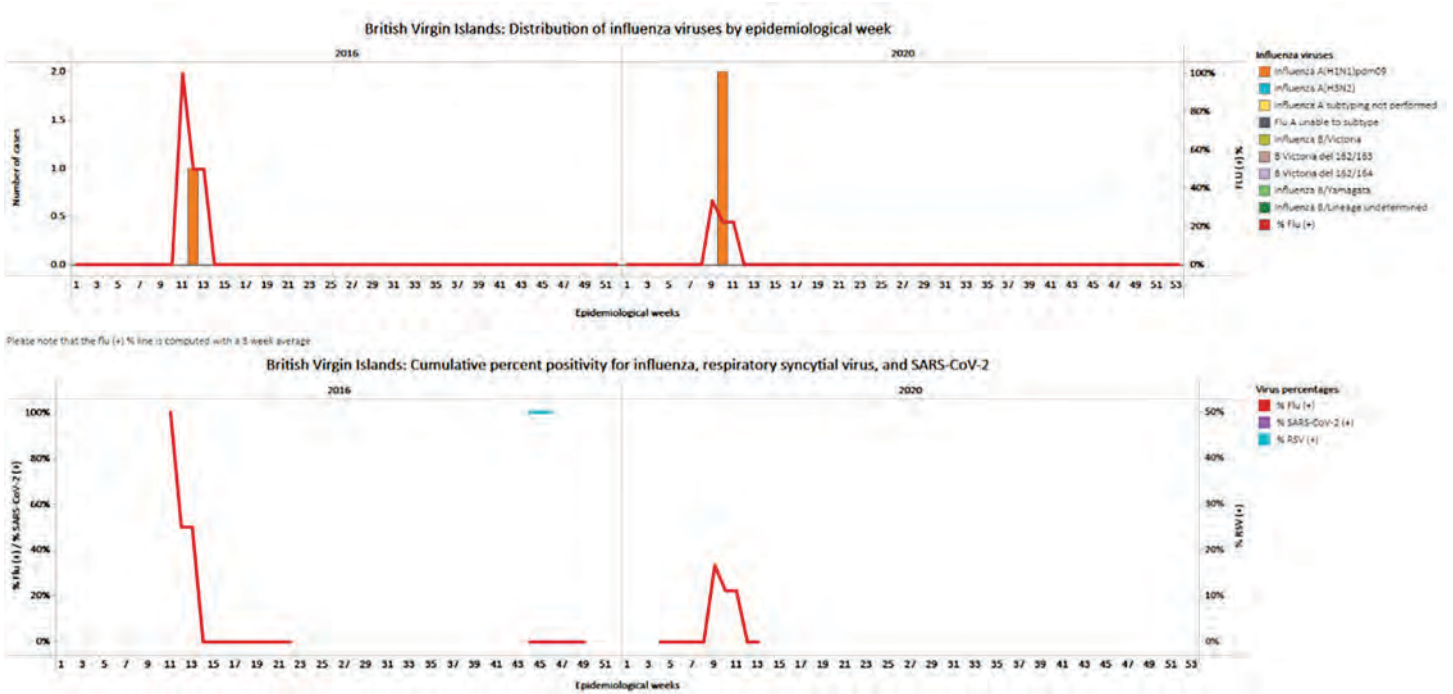


\* The data in the sentinel surveillance map are updated as of January 2019. Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data



## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>

Not applicable

## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>

Not applicable

Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	No
Year of original publication	2010
Year of last revision/update	NA
<b>COVID-19</b>	
Plan available	NA
Part of an all-hazards plan	NA
Simulations	Yes
Drills	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	Southern Hemisphere Trivalent
Month of vaccine administration	April
Percentage of older adults vaccinated	NA
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	NA
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	5%
Participation in studies evaluating influenza vaccine effectiveness	NA
Participation in studies evaluating the impact of influenza vaccination campaign	NA

Human-Animal Interface for Influenza	Response
Intersectoral meetings	In progress
Information sharing between sectors	In progress
Surveillance of unusual respiratory cases with exposure to animals	In progress

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	NA
Samples sent to WHO Collaborating Center	NA
Number of samples analyzed for influenza during 2020	26
Number of samples analyzed for SARS-CoV-2 during 2020	NA
Specimens tested for other respiratory viruses (ORV)	NA
Other respiratory viruses identified	NA

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca, Janssen
Completed schedules per 100 people	86.83
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	NA
Participation in studies evaluating the impact of COVID-19 vaccination campaign	NA

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	In progress
FluNet Reported > 33%	In progress
Reported to WHO in 2020	In progress
	Transmissibility: In progress
PISA Indicators	Seriousness of disease: In progress
	Impact: In progress

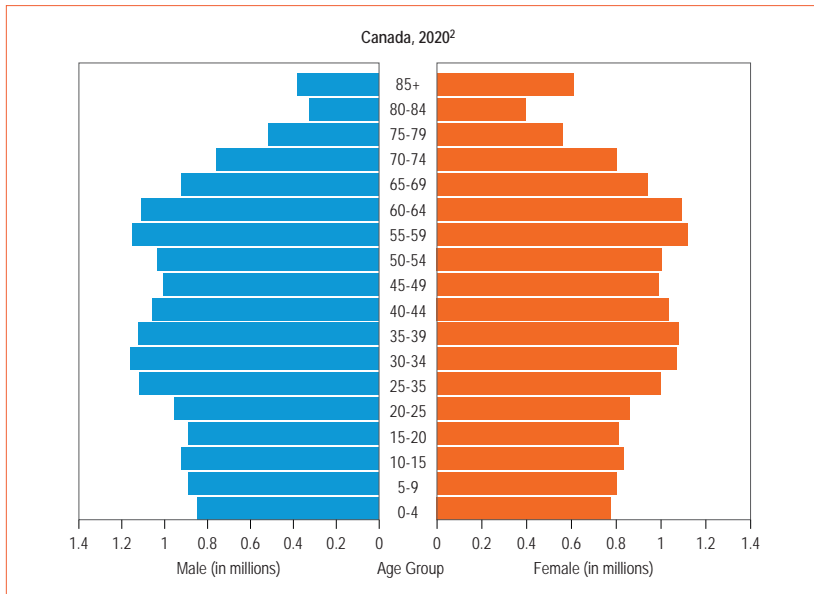
COVID-19 Surveillance	Response
Type of surveillance	NA
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	In progress
FluNet Reported > 33%	In progress
Reported to WHO in 2020	In progress
	Transmissibility: In progress
PISA Indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	NA

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=VI](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=VI)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Canada



**POPULATION**

Population (thousands)<sup>2</sup>: 38,005

Population density (per km<sup>2</sup>)<sup>3</sup>: 4.2

Percentage of population < 5 years<sup>2</sup>: 5.2%

Percentage of population ≥ 65 years<sup>2</sup>: 18%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 3.5

Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 5.1

Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 18.6

**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 28.0

Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 5,200.0

National health expenditure as % of GDP 2016<sup>5</sup>: 7.9

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	No*	Sentinel	Quota	Varies	Varies	20 sentinel hospital sites 9 jurisdictions	Canadian Network for Public Health Surveillance Severe Outcomes, Activity Levels and Outbreaks (SOLAR) module; IMPACT DACIMA reporting system.	NA	<a href="#">Online</a>
ILI	No†	Sentinel	NA	NA	No	125	Sentinel Practitioner ILI Reporting (SPIR), Canadian Network for Public Health Intelligence InFLuenza Automated Surveillance Tool "FAST", various Provincial/Territorial reporting systems	NA	<a href="#">Online</a>
ARI		National	Quota	NA	NA	NA		NA	NA
PNEUMONIA		National	Quota	NA	NA	None		NA	NA
INFLUENZA	NA	National	Quota (6,000 tests/ week)	Weekly / monthly	NA	Participating hospitals & provincial public health laboratories	FluWatch		<a href="#">Online</a>

\* SARI: Any patient who is admitted to hospital with laboratory-confirmed influenza.

† ILI: Sudden onset of flu symptoms with fever and cough and with one or more of the following: sore throat, joint pain, muscle aches or fatigue, which is likely due to the flu. Children younger than 5 years old might also have symptoms like nausea, vomiting, and diarrhea. Patients younger than 5 years old or 65 and older might not have a fever.

◆ **National Influenza Centers (N=1)**

- National Microbiology Laboratory (Winnipeg)

– Technical capacity: RT-PCR, viral isolation, phenotypic antiviral sensitivity, genotyping, antigenic characterization by HAI, micro-neutralization, whole-genome sequencing

◆ National Influenza Center

Pop. 39,403 to 14,826,276

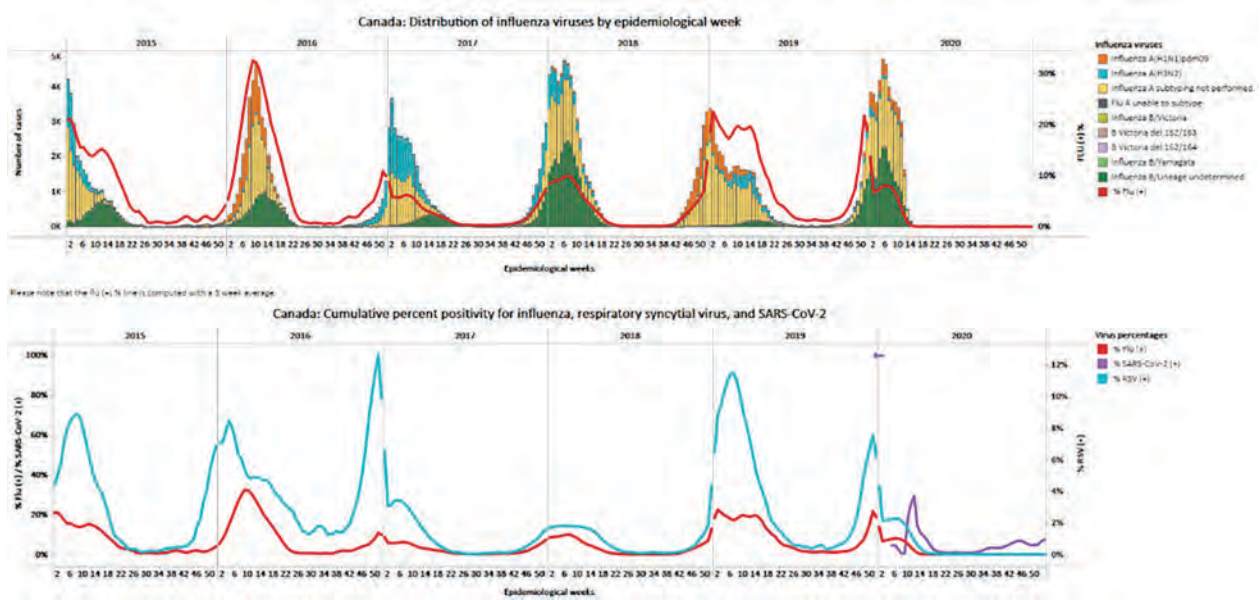
\* The data in the sentinel surveillance map are updated as of September 2021. Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

Surveillance Systems

\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data



## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>

Not applicable

## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>

Not applicable

Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2004
Year of last revision/update	2019
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Simulations	Yes
Drills	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	Northern Hemisphere Trivalent Quadrivalent
Month of vaccine administration	March
Percentage of older adults vaccinated	70% (≥65 years)
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	45%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	Yes*
Participation in studies evaluating influenza vaccine effectiveness	Yes
Participation in studies evaluating the impact of influenza vaccination campaign	No

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	2,724,038
Number of samples analyzed for SARS-CoV-2 during 2020	15,314,339
Specimens tested for other respiratory viruses (ORV)	No
Other respiratory viruses identified	RSV-Sentinel, RSV-Non-Sentinel,

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Pfizer, Moderna, AstraZeneca, Janssen
Completed schedules per 100 people	72.55
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 year)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	Yes
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	Yes
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	<a href="#">Yes</a>

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

COVID-19 Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	No

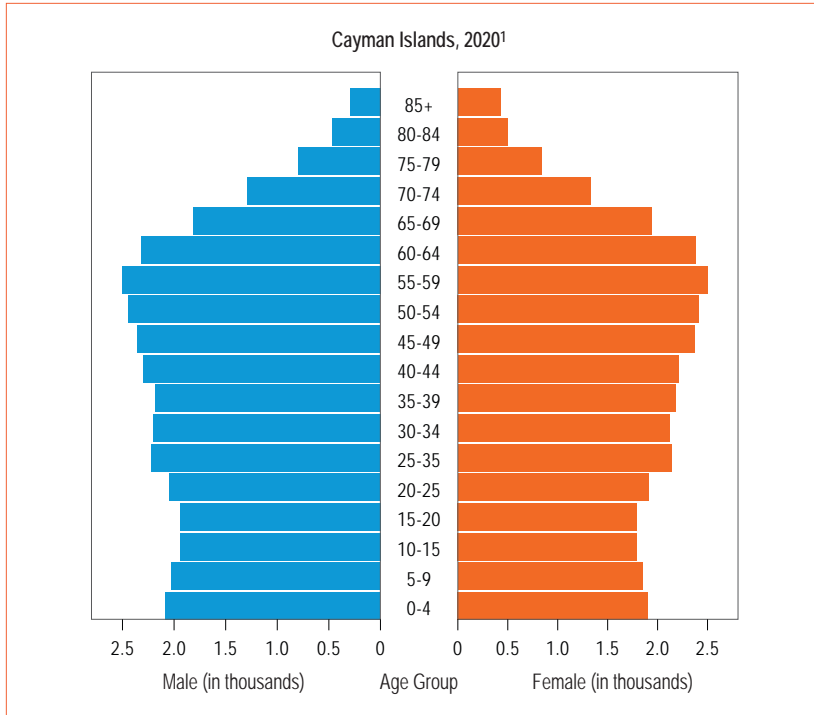
Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=CA](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=CA)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)





# Cayman Islands



**POPULATION**

Population (thousands)<sup>2</sup>: 66  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 273.8  
 Percentage of population < 5 years<sup>2</sup>: NA  
 Percentage of population ≥ 65 years<sup>2</sup>: NA

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: NA  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 11  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: NA

**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 37  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: NA  
 National health expenditure as % of GDP 2016<sup>5</sup>: NA

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel / National	100	1	Yes	1	Cerner	NA	NA
ILI	Yes	Sentinel	6	1	Yes	9	Cerner	NA	NA
ARI	Yes	Sentinel	6	None	None	9	Cerner	NA	NA
PNEUMONIA	No*	Sentinel	Yes, with a proportion of pneumonia cases to be tested	1	Yes	None	Cerner	NA	NA

\* A disease of the lungs, frequently but not always caused by an infection with bacteria, virus, fungus, or parasite. This disease is characterized by fever, chills, cough with sputum production, chest pain, and shortness of breath. Confirmation is by chest X-ray.

Surveillance Systems

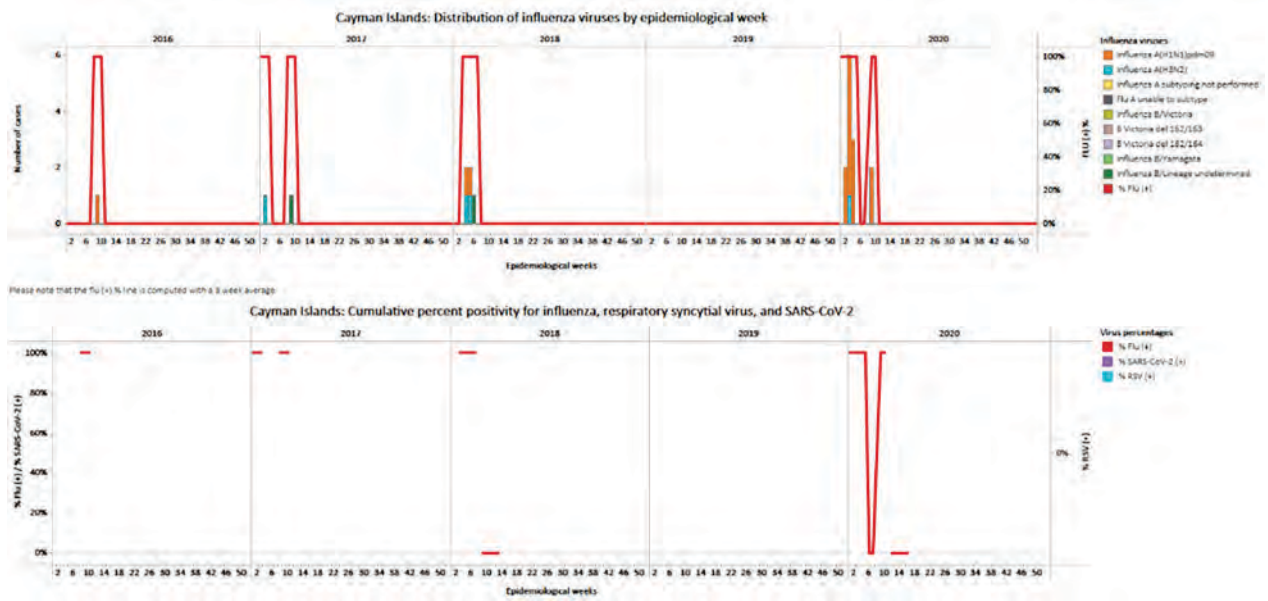
- SARI Hospitals (N=1)
  1. George Town-General Practice Clinic
- ILI Centers (N=9)
  1. George Town - General Practice Clinic
  2. Accident and Emergency - Cayman Hospital
  3. Paediatric Ward - Cayman Islands Hospital
  4. Dica Brown Memorial Health Centre
  5. Liliith McLaughlin Memorial Health Centre
  6. Jessie Ritch Memorial Health Centre
  7. West Bay Nurses Health Centre
  8. Faith Hospital
  9. Little Cayman Health Centre
- ▲ Laboratories with PCR capacity (N=1)
  1. Public Health Laboratory Cayman Islands Hospital

\* The data in the sentinel surveillance map are updated as of September 2021.  
 Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

\*Map Influenza Surveillance Capacity

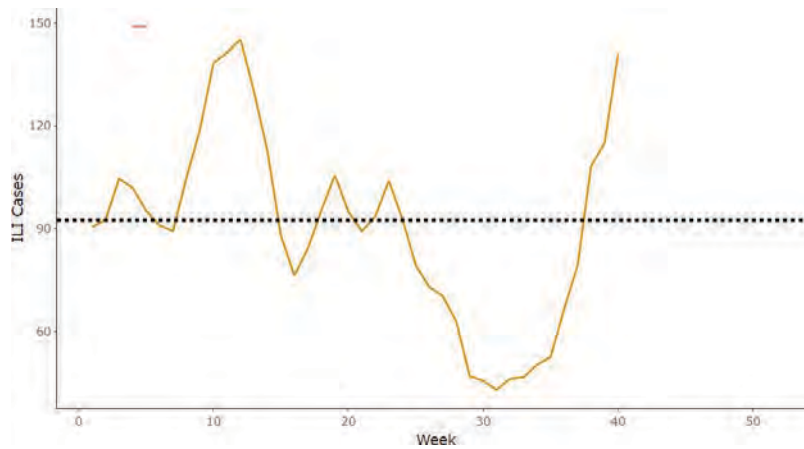
# Influenza and Respiratory Syncytial Virus

## Virologic data



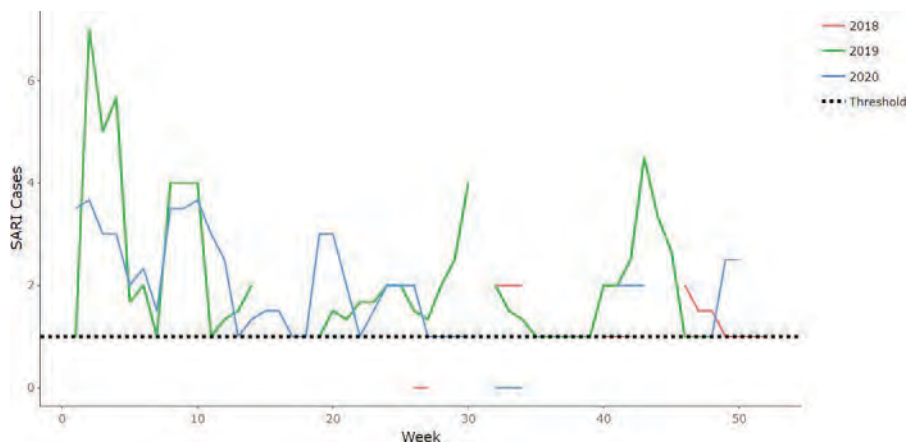
## Influenza-Like Illness (ILI)

### Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

### Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2006
Year of last revision/update	2009
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Simulations	Yes
Drills	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	Northern Hemisphere Trivalent
Month of vaccine administration	May
Percentage of older adults vaccinated	NA
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	Yes*
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	Yes*
Participation in studies evaluating influenza vaccine effectiveness	No
Participation in studies evaluating the impact of influenza vaccination campaign	No

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	NA
Number of samples analyzed for influenza during 2020	17
Number of samples analyzed for SARS-CoV-2 during 2020	NA
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV-Sentinel,

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Pfizer
Completed schedules per 100 people	84.57
Vaccination policy for older adults ≥ 65 years	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	No
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	Sentinel and national
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

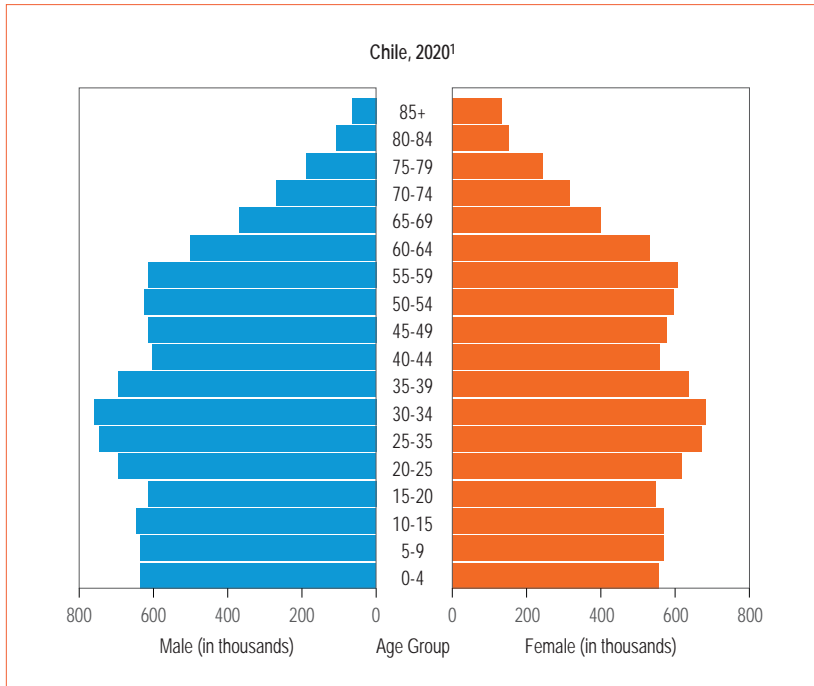
COVID-19 Surveillance	Response
Type of surveillance	Sentinel and national
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	In progress
FluNet Reported > 33%	In progress
Reported to WHO in 2020	In progress
	Transmissibility: Yes
PISA indicators	Seriousness of disease: Yes
	Impact: Yes
PISA tool used to adapt PHSM during COVID-19 pandemic	Yes

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=CJ](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=CJ)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. Pan American Health Organization / World Health Organization. Immunization in the Americas [Internet]. Paho.org. 2021 [cited 4 Oct 2021]. Available from: <https://www.paho.org/en/documents/immunization-americas-2021-summary>
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Chile



**POPULATION**

Population (thousands)<sup>2</sup>: 19,116

Population density (per km<sup>2</sup>)<sup>3</sup>: 25.7

Percentage of population < 5 years<sup>2</sup>: 6.1%

Percentage of population ≥ 65 years<sup>2</sup>: 12.2%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 4.0

Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 7.0

Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 29.5

**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 9.0

Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 2,305.7

National health expenditure as % of GDP 2016<sup>5</sup>: 4.6

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	No*	Sentinel	100%	Weekly	Annually	7	PAHOFlu	Yes	<a href="#">Online</a>
ILI	No†	Sentinel	32 (samples/week)	Weekly	Annually	42	Excel, FileMaker and PAHOFlu	Yes	<a href="#">Online</a>

\* Person requiring hospitalization for a fever equal to or greater than 38 °C and a cough associated with difficulty breathing.

† Patient with fever (> 38.5 °C) and cough, associated with some of the following symptoms: myalgia, odynophagia, or headache.

Surveillance Systems

- **SARI Hospitals (N=7)**
  1. Hospital Ernesto Torres Galdámez (Iquique)
  2. Hospital Gustavo Fricke (Viña del Mar)
  3. Hospital San Juan de Dios (Santiago)
  4. Hospital Militar (Santiago)
  5. Hospital Guillermo Grant Benavente (Concepción)
  6. Hospital Hernán Henríquez Aravena (Temuco)
  7. Hospital Eduardo Schütz Schroeder (Puerto Montt)
- **ILI Centers (N=42)**  
(Not displayed on map)

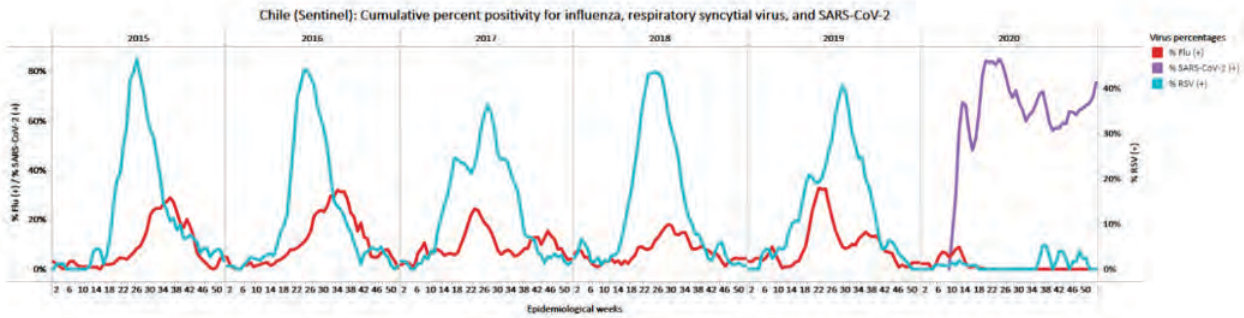
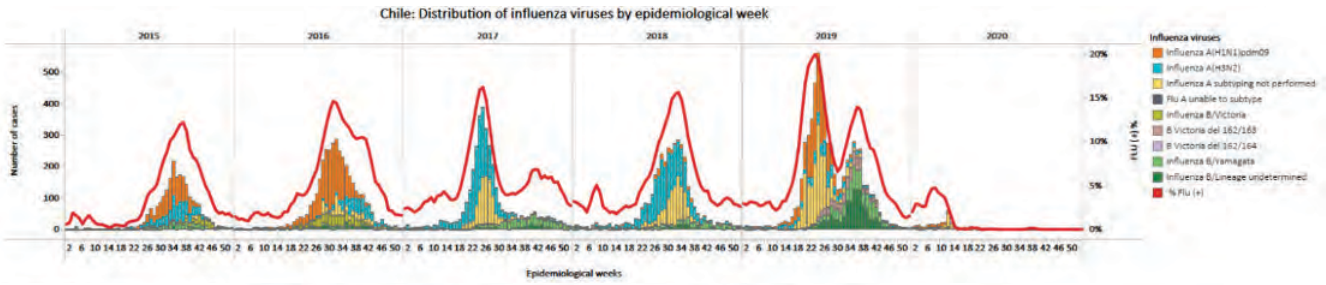
- ◆ **National Influenza Centers (N=1)**
  1. Public Health Institute of Chile: Respiratory and Exanthematic Virus Section (Viral Disease Sub Department)
- △ **Laboratories with IF capacity (N=22)**  
Antofagasta, Arica, Atacama, Biobío (2), Coquimbo, Iquique, Los Lagos (2), Los Ríos, Maule, Región Aisén, Región Magallanes (2), Región Metropolitana de Santiago (4), Región O'Higgins, Valparaíso (3)
- ▲ **Laboratories with PCR capacity (N=6)**  
Antofagasta, Concepción, Puerto Montt, Santiago, San Felipe, Temuco

\* The data in the sentinel surveillance map are updated as of September 2021.  
Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

\*Map Influenza Surveillance Capacity

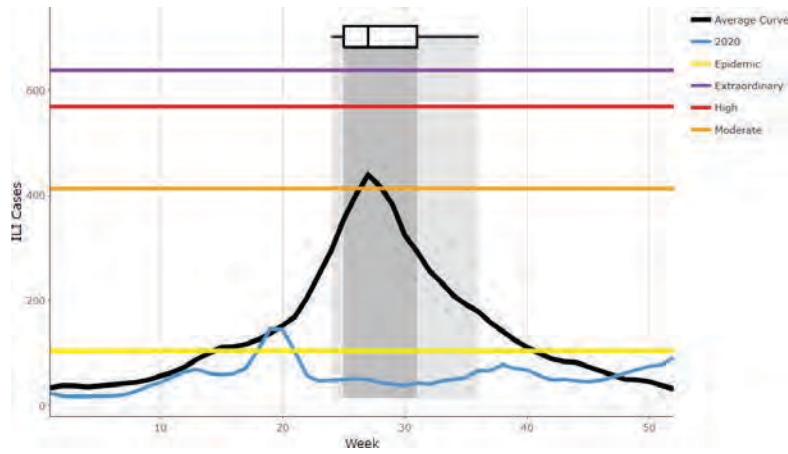
# Influenza and Respiratory Syncytial Virus

## Virologic data



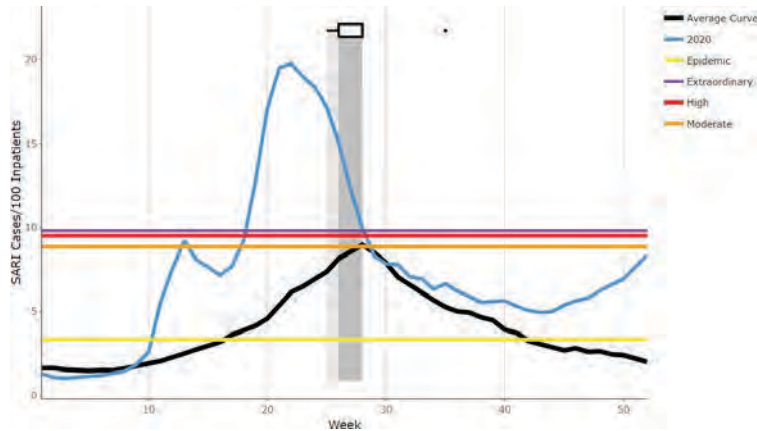
## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2005
Year of last revision/update	2010
<b>COVID-19</b>	
Plan available	No
Part of an all-hazards plan	No
Simulations	Yes
Drills	No

Influenza Vaccine <sup>7</sup>	Response
Composition	Southern Hemisphere Quadrivalent Trivalent
Month of vaccine administration	March
Percentage of older adults vaccinated	85% (≥65 years)
Percentage of children under 5 vaccinated	78% (6-59 months)
Percentage of pregnant women vaccinated	75%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	100%
Participation in studies evaluating influenza vaccine effectiveness	Yes
Participation in studies evaluating the impact of influenza vaccination campaign	Yes

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	44,241
Number of samples analyzed for SARS-CoV-2 during 2020	2,893
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV-Sentinel, adenovirus, parainfluenza 1, 2, 3, metapneumovirus, rhinovirus

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Pfizer, AstraZeneca, CanSino, Sinovac
Completed schedules per 100 people	74.66
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	Yes
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	Yes
Estimation of economic burden for influenza	Yes
Publication of influenza burden of disease	<a href="#">Online</a>

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA Indicators	Seriousness of disease: In progress
	Impact: In progress

COVID-19 Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: Yes
PISA Indicators	Seriousness of disease: Yes
	Impact: Yes
PISA tool used to adapt PHSM during COVID-19 pandemic	No

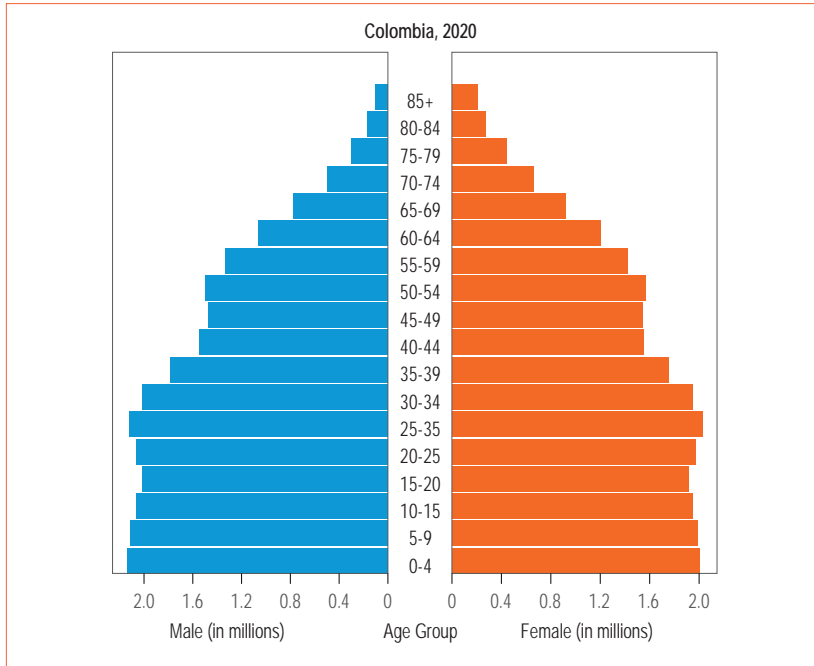
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1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=C](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=C)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)





# Colombia



**POPULATION**

Population (thousands)<sup>2</sup>: 50,883

Population density (per km<sup>2</sup>)<sup>3</sup> 45.8

Percentage of population < 5 years<sup>2</sup>: 7.3%

Percentage of population ≥ 65 years<sup>2</sup>: 9.1%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 4.4

Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 19.3

Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 48

**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 23

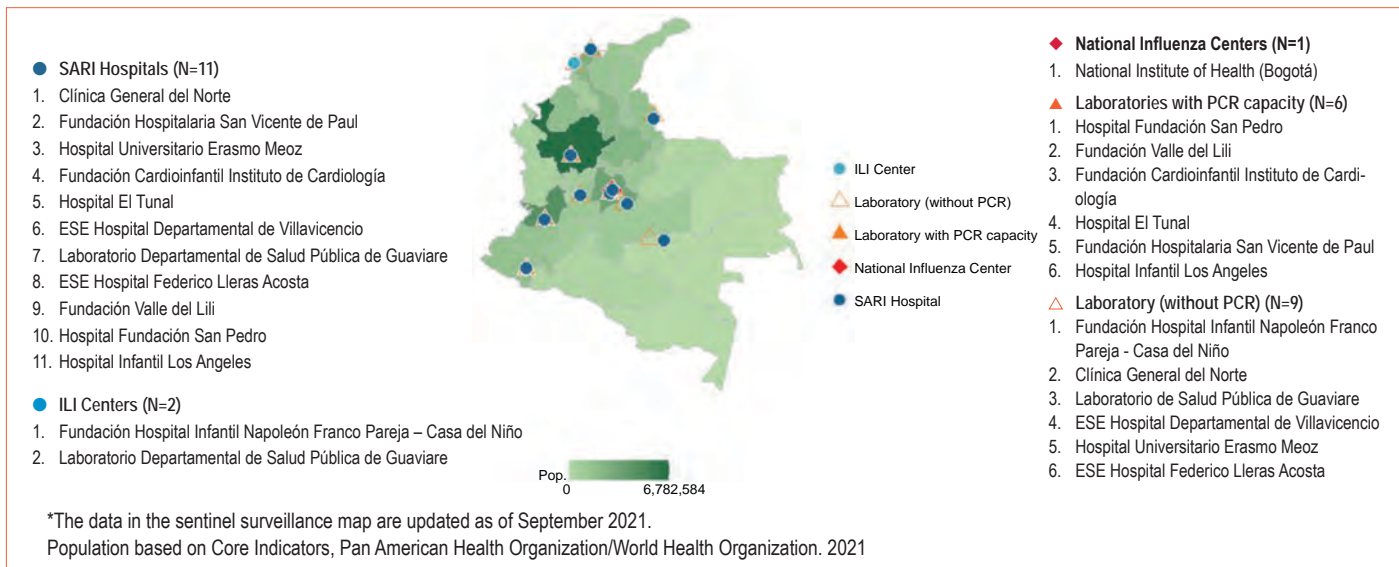
Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 1,155.4

National health expenditure as % of GDP 2016<sup>5</sup>: 5.5

Sociodemographic Indicators

Event	SURVEILLANCE SYSTEM CHARACTERISTICS					INFORMATION SYSTEM			
	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	100%	2-3/week	Yes	11	SIVIGILA	NA	Online
ILI	No	Sentinel	Quota (5/week)	2	Yes	2	SIVIGILA	NA	Online
ARI	Yes	National	None	None	NA	5,200	SIVIGILA	NA	Online
PNEUMONIA	No*	National	No	NA	NA	5,200	SIVIGILA	NA	Online

\* Hospitalized cases in ICU and general ward, considering the Individual Registry for the Provision of Health Services (RIPS, by its acronym in Spanish), ICD-10 codes J00 to J22.

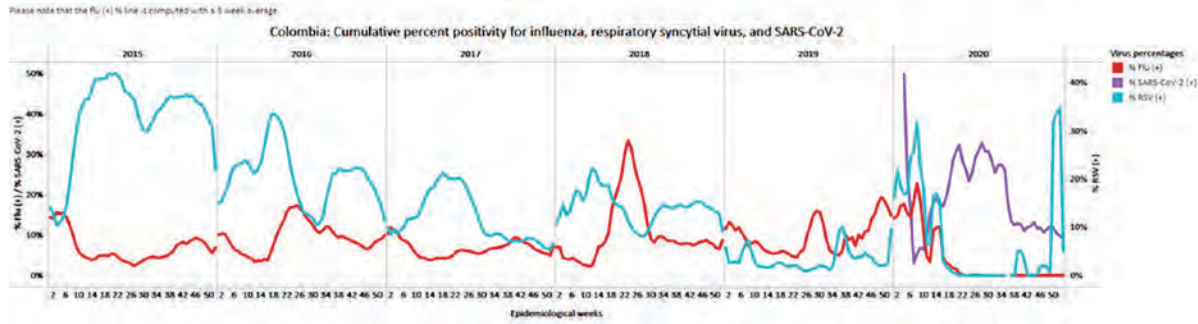
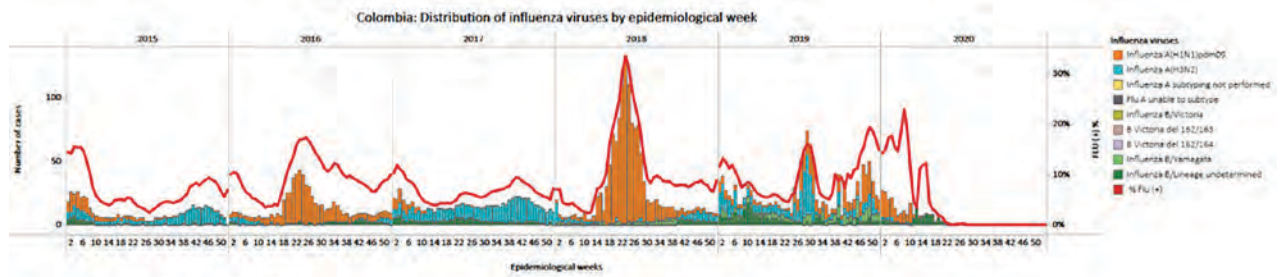


Surveillance Systems

\*Map Influenza Surveillance Capacity

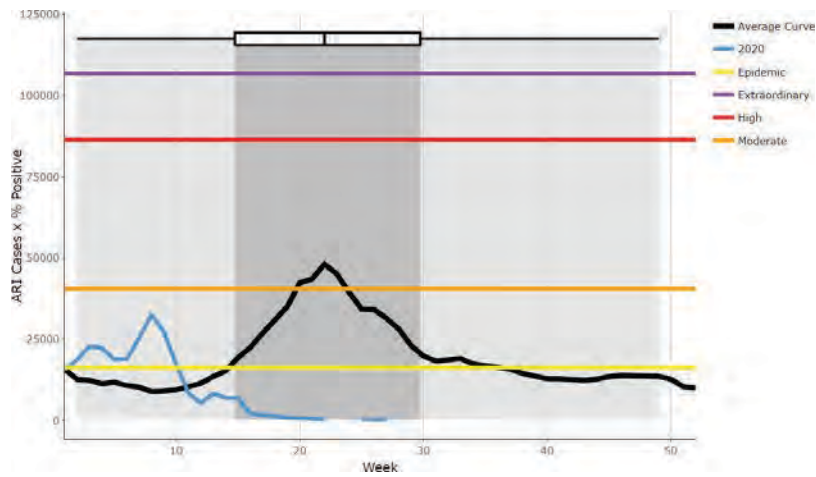
# Influenza and Respiratory Syncytial Virus

## Virologic data



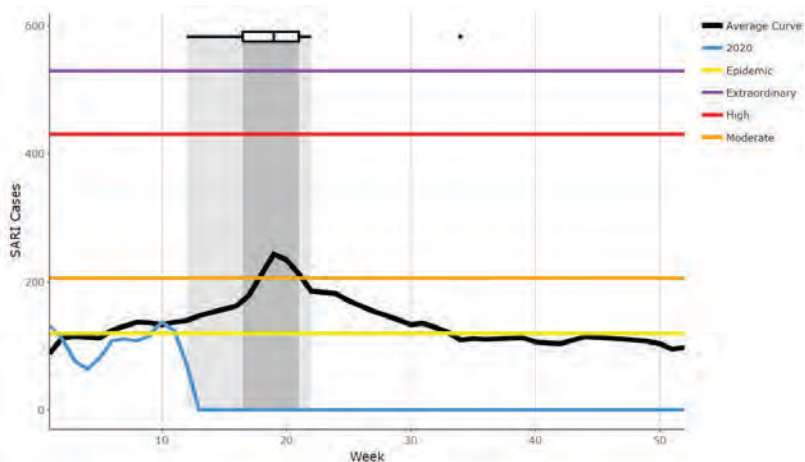
## Influenza-Like Illness (ILI)

### Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

### Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2007
Year of last revision/update	2007
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	No
Simulations	Yes
Drills	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	Southern Hemisphere Quadrivalent Trivalent
Month of vaccine administration	April
Percentage of older adults vaccinated	89% (≥ 60 years)
Percentage of children under 5 vaccinated	74% (<1 year)
Percentage of pregnant women vaccinated	86%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	Yes*
Participation in studies evaluating influenza vaccine effectiveness	Yes, 2017
Participation in studies evaluating the impact of influenza vaccination campaign	No

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	In progress
Information sharing between sectors	In progress
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	7,636
Number of samples analyzed for SARS-CoV-2 during 2020	6,097,140
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV-Sentinel, Adenovirus.

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Pfizer, Moderna, AstraZeneca, Janssen, Sinovac
Completed schedules per 100 people	37.45
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	Yes
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	Yes
Publication of influenza burden of disease	NA

Influenza Surveillance		Response
Type of surveillance		Sentinel
Report		Yes
FluID	Reported > 33%	Yes
	Reported to WHO in 2020	Yes
Report		Yes
FluNet	Reported > 33%	Yes
	Reported to WHO in 2020	Yes
		Transmissibility: Yes
PISA Indicators		Seriousness of disease: Yes
		Impact: Yes

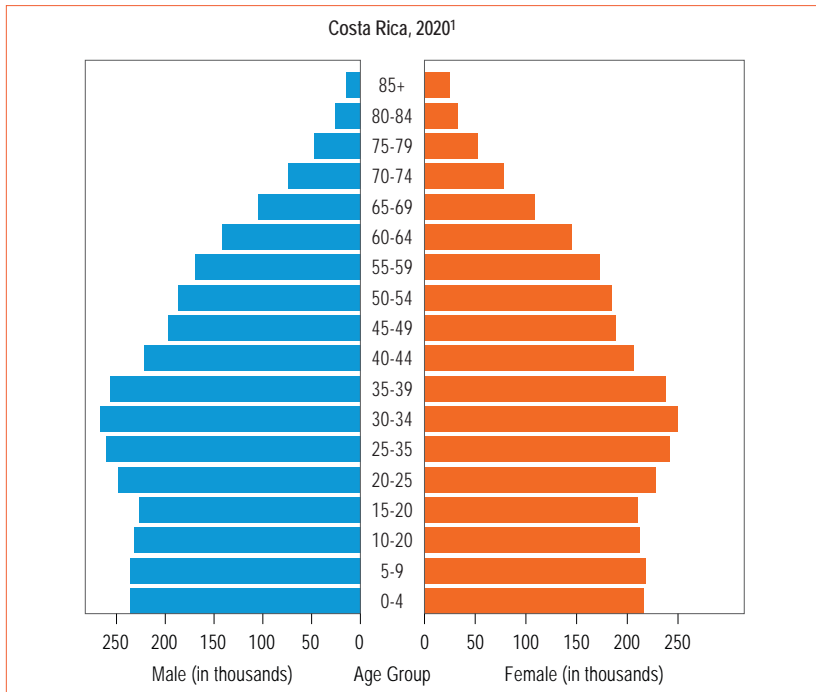
COVID-19 Surveillance		Response
Type of surveillance		National
Report		Yes
FluID	Reported > 33%	Yes
	Reported to WHO in 2020	Yes
Report		Yes
FluNet	Reported > 33%	Yes
	Reported to WHO in 2020	Yes
		Transmissibility: In progress
PISA Indicators		Seriousness of disease: In progress
		Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic		No

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=CO](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=CO)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Costa Rica



**POPULATION**

Population (thousands)<sup>2</sup>: 5,094

Population density (per km<sup>2</sup>)<sup>3</sup>: 99.7

Percentage of population < 5 years<sup>2</sup>: 6.8%

Percentage of population ≥ 65 years<sup>2</sup>: 10.3%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 3.9

Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 9.7

Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 29.9

**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 31

Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 1,336.5

National health expenditure as % of GDP 2016<sup>5</sup>: 5.5

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	No		100%		Yes	9	PAHOFlu	Yes	Online
ILI	No	Sentinel	Quota (50/week)	1	Yes	9	PAHOFlu	Yes	Online
ARI	Yes	Sentinel	NA	None	None	9	EDUS	No	Online

Surveillance Systems

\* SARI: history of fever or measured fever 38 ° C or higher and; sore throat or cough and, dyspnea or shortness of breath and, with onset within the last 10 days and need for hospitalization.\*\*ILI: Any person who presents or reports having had a fever greater than or equal to 38 ° C and, additionally, at least one of the following symptoms: • Sore throat and/or cough, runny or stuffy nose, absence of bacterial infectious focus, with appearance within 10 days.

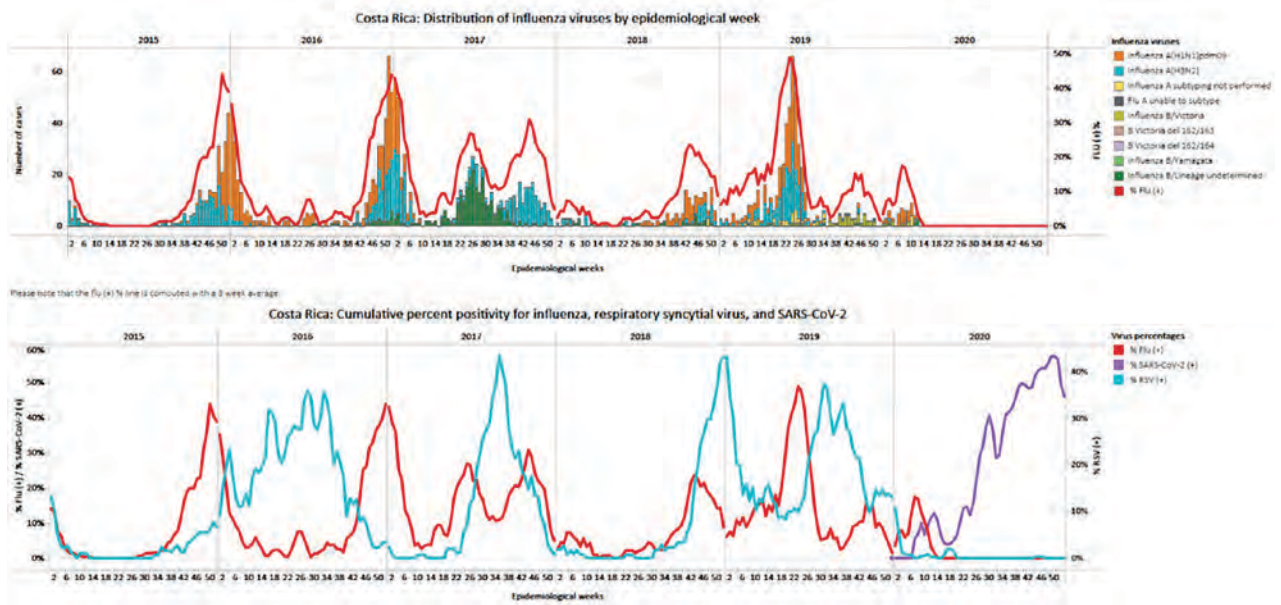
- **SARI Hospitals (N=9)**
  1. Hospital Escalante Pradilla (Pérez Celedón)
  2. Hospital Max Peralta (Cartago)
  3. Hospital Monseñor Sanabria (Puntarenas)
  4. Hospital San Vito (Puntarenas)
  5. Hospital San Rafael de Alajuela
  6. Hospital San Carlos (Alajuela)
  7. Hospital De Los Chiles (Alajuela)
  8. Hospital San Vicente de Paul (Heredia)
  9. Hospital Nacional de Niños (San José)
- **ILI Centers (N=9)**
  1. AS Los Santos
  2. AS La Cruz
  3. AS Barrancas
  4. AS Talamanca
  5. AS La Fortuna
- **AS Alajuela Norte**
- **AS Alajuela Sur**
- **AS COOPESALUD Pavas**
- **AS Grano de Oro**
- ◆ **National Influenza Centers (N=1)**
  1. INCIENSA - Instituto Costarricense de Investigación y Enseñanza en Nutrición y Salud (Cartago)
    - Technical capacity: RT-PCR, viral isolation, cellular culture, sequencing capacity
- ▲ **Laboratories with PCR capacity (N=9)**
- △ **Laboratories with IF capacity (N=1)**
  1. Chacarita, Puntarenas

\* The data in the sentinel surveillance map are updated as of September 2021.  
Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

\*Map Influenza Surveillance Capacity

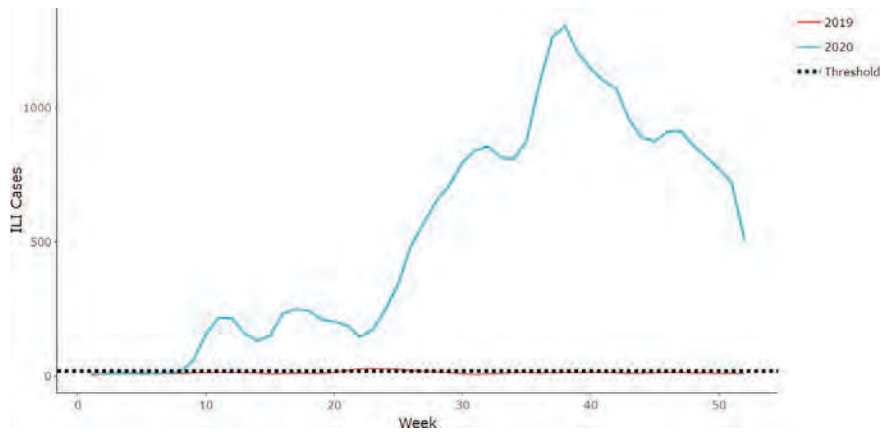
# Influenza and Respiratory Syncytial Virus

## Virologic data



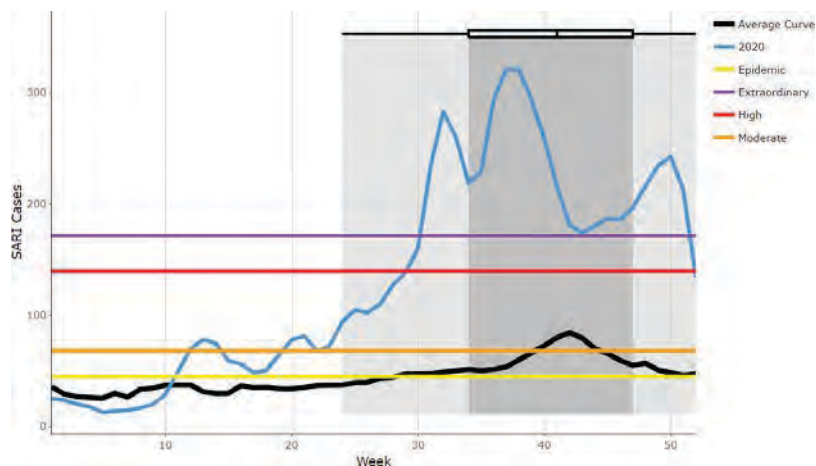
## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2008
Year of last revision/update	2008
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	No
Simulations	Yes
Drills	No

Influenza Vaccine <sup>7</sup>	Response*
Composition	Southern Hemisphere
Month of vaccine administration	NA
Percentage of older adults vaccinated	NA
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	Yes*
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	Yes*
Participation in studies evaluating influenza vaccine effectiveness	Yes
Participation in studies evaluating the impact of influenza vaccination campaign	Yes

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	No
Information sharing between sectors	No
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	4,698
Number of samples analyzed for SARS-CoV-2 during 2020	37,893
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV-Sentinel, adenovirus, parainfluenza 1, 2, 3, metapneumovirus, bocavirus, rhinovirus

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Pfizer, AstraZeneca
Completed schedules per 100 people	46.62
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	Yes
Participation in studies evaluating the impact of COVID-19 vaccination campaign	Yes

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

COVID-19 Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: Yes
PISA indicators	Seriousness of disease: Yes
	Impact: Yes
PISA tool used to adapt PHSM during COVID-19 pandemic	No

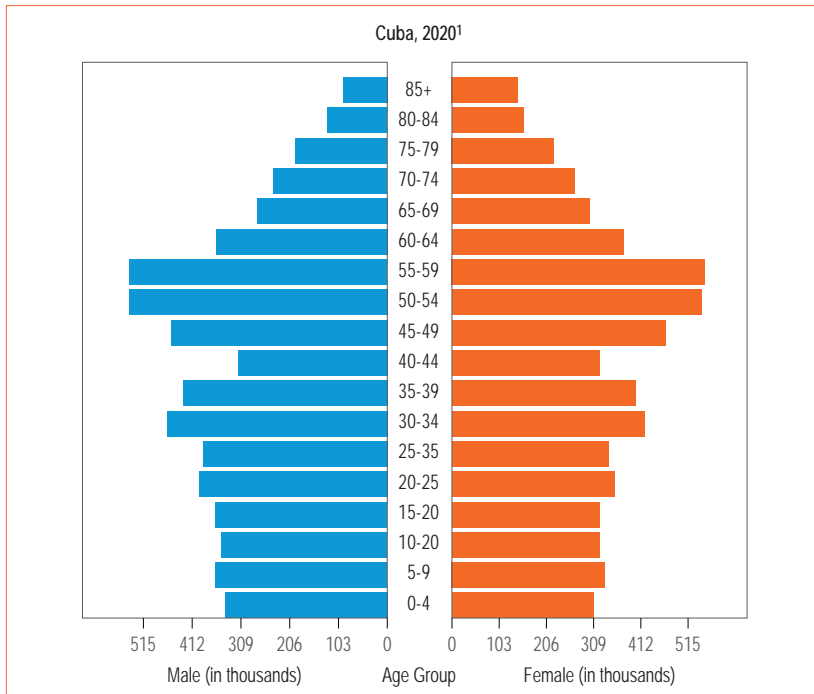
Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=CS](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=CS)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)





# Cuba



**POPULATION**

Population (thousands)<sup>2</sup>: 11,327

Population density (per km<sup>2</sup>)<sup>3</sup>: 109.1

Percentage of population < 5 years<sup>2</sup>: 5%

Percentage of population ≥ 65 years<sup>2</sup>: 15.9%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 5.3

Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 6.2

Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 49.3

**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 92

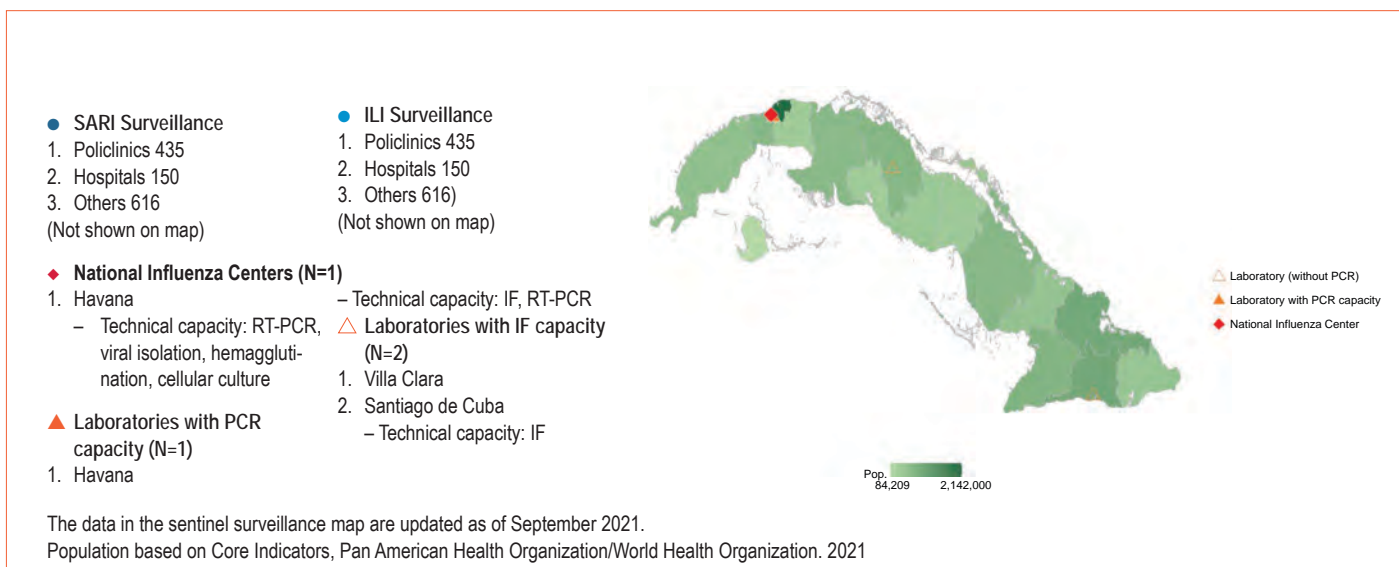
Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 2,519.3

National health expenditure as % of GDP 2016<sup>5</sup>: 9.9

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	National	100%	Daily	Yes	1,201	EDO	NA	Online
ILI	Yes	National	100%	Daily	Yes	1,201	EDO	NA	Online
ARI	Yes	National	100%	None	None	1,201	EDO	NA	Online
PNEUMONIA	No*ICD-10 codes (J09-J18)	National	100%	NA	Yes	None	EDO	NA	Online
INFLUENZA	NA	National	100%	NA	NA	150	EDO	No	Online

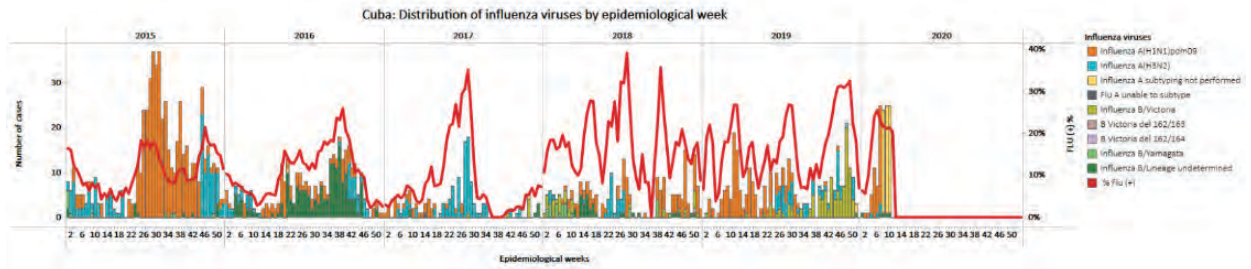
Surveillance Systems



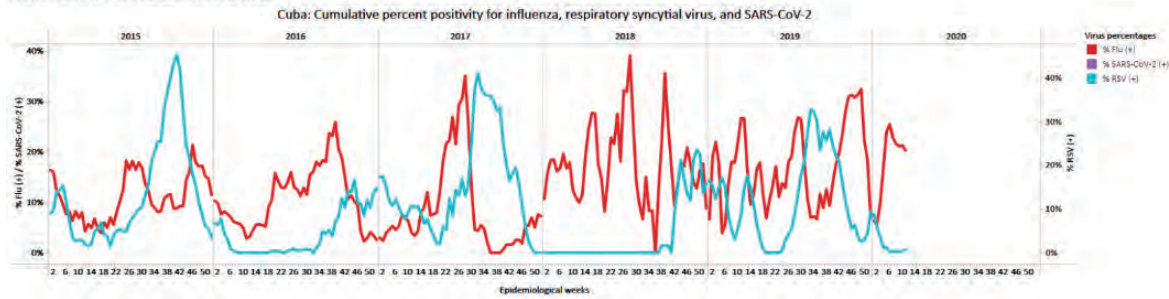
\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data

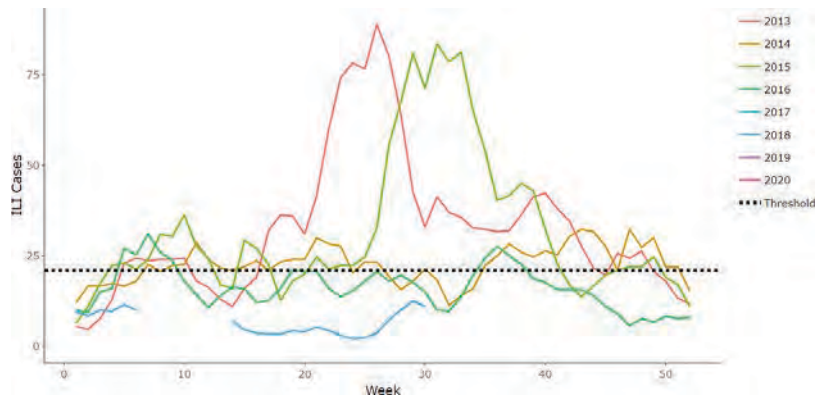


Please note that the flu (+) % line is computed with a 3 week average.



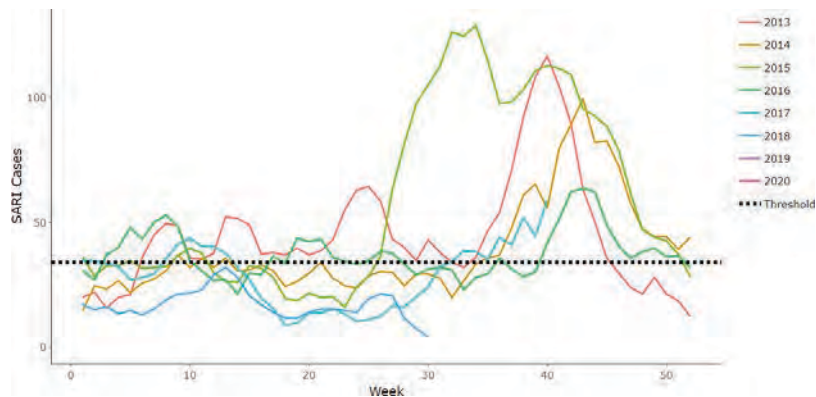
## Influenza-Like Illness (ILI)

### Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

### Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2009
Year of last revision/update	2011
<b>COVID-19</b>	
Plan available	NA
Part of an all-hazards plan	NA
Simulations	NA
Drills	NA

Influenza Vaccine <sup>7</sup>	Response
Composition	Southern Hemisphere Trivalent
Month of vaccine administration	June
Percentage of older adults vaccinated	100% (≥ 75 years)
Percentage of children under 5 vaccinated	56% (<2 years)
Percentage of pregnant women vaccinated	75%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	93%
Participation in studies evaluating influenza vaccine effectiveness	NA
Participation in studies evaluating the impact of influenza vaccination campaign	NA

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	No
Number of samples analyzed for influenza during 2020	989
Number of samples analyzed for SARS-CoV-2 during 2020	NA
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV-Non-Sentinel, adenovirus, parainfluenza 1, 2, 3, metapneumovirus, bocavirus, rhinovirus

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Soberana 02, Soberana Plus, Abdala
Completed schedules per 100 people	58.42
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	No
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	Yes
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	National
Report	Yes
FluID Reported > 33%	In progress
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	In progress
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

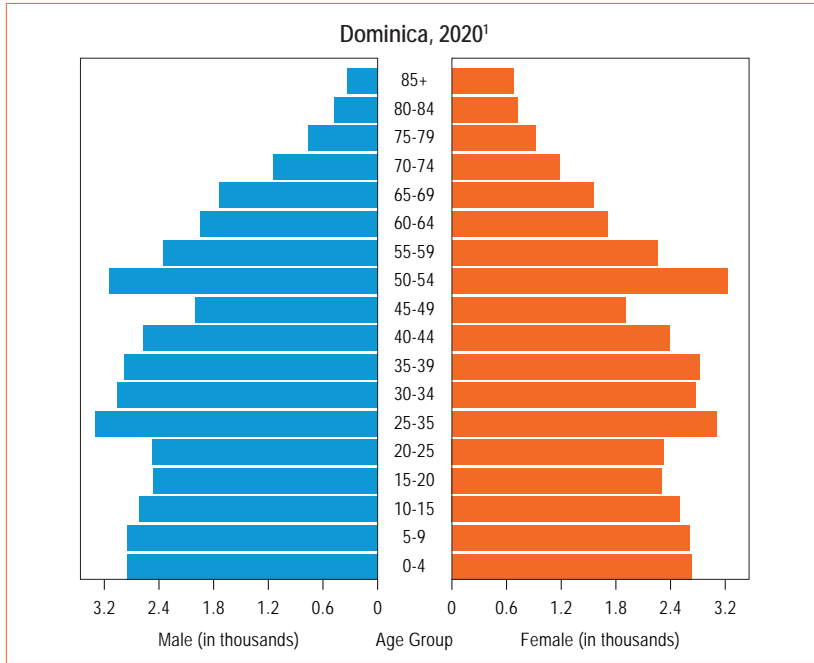
COVID-19 Surveillance	Response
Type of surveillance	NA
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	In progress
FluNet Reported > 33%	In progress
Reported to WHO in 2020	In progress
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	NA

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=CU](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=CU)
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3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. Pan American Health Organization / World Health Organization. Immunization in the Americas [Internet]. Paho.org. 2021 [cited 4 Oct 2021]. Available from: <https://www.paho.org/en/documents/immunization-americas-2021-summary>
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Dominica



**POPULATION**

Population (thousands)<sup>2</sup>: 72  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 95.9  
 Percentage of population < 5 years<sup>2</sup>: NA  
 Percentage of population ≥ 65 years<sup>2</sup>: NA

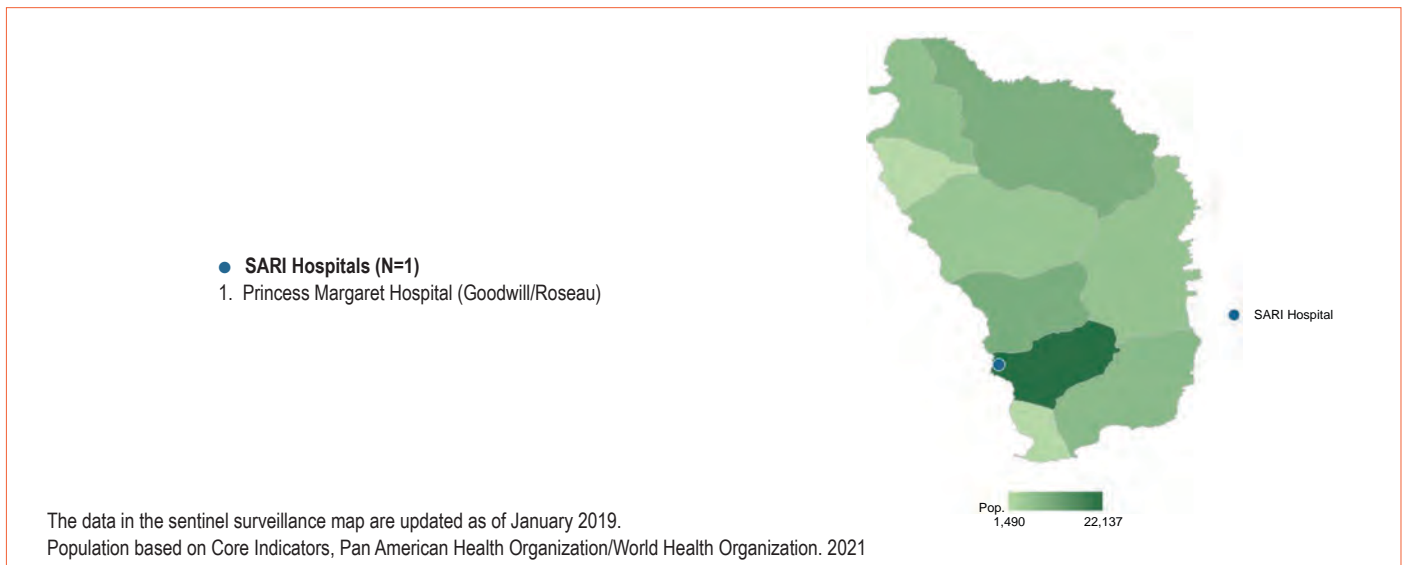
**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: NA  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 17.4  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: NA

**PUBLIC HEALTH**

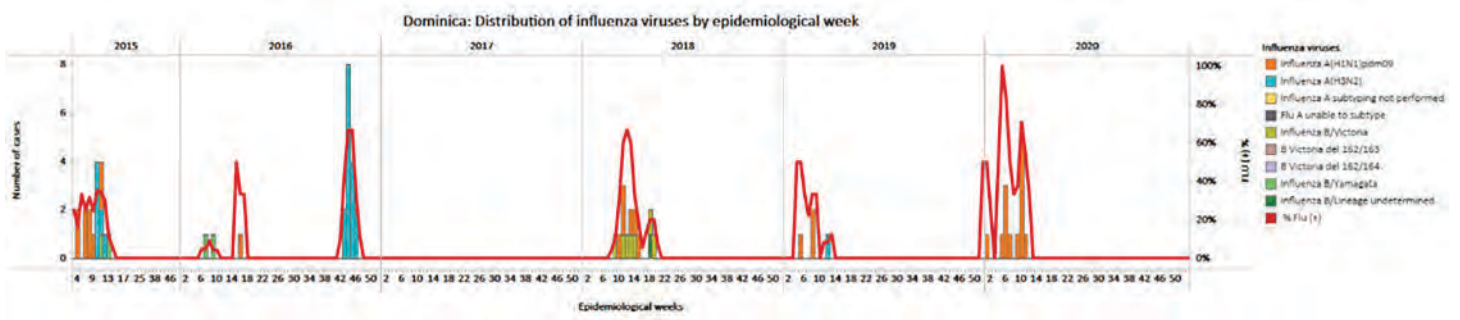
Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 11  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 710.2  
 National health expenditure as % of GDP 2016<sup>5</sup>: 4.3

Event	SURVEILLANCE SYSTEM CHARACTERISTICS					INFORMATION SYSTEM			
	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	100%	Weekly	Weekly	1	PAHOFlu	Yes	No
INFLUENZA MORTALITY	NA	National	No	No	NA	All public health facilities	MORT-BASE	No	No

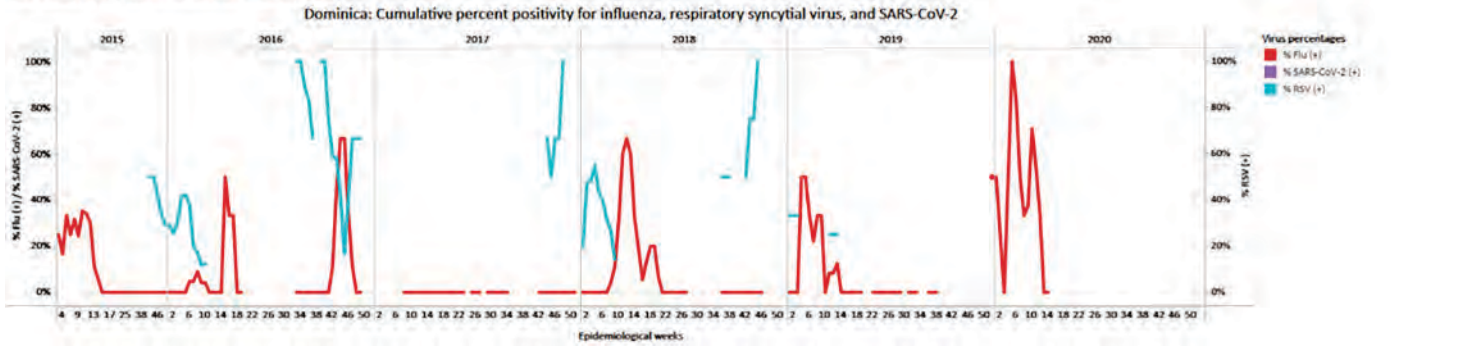


# Influenza and Respiratory Syncytial Virus

## Virologic data



Please note that the flu (+) % line is computed with a 3 week average.



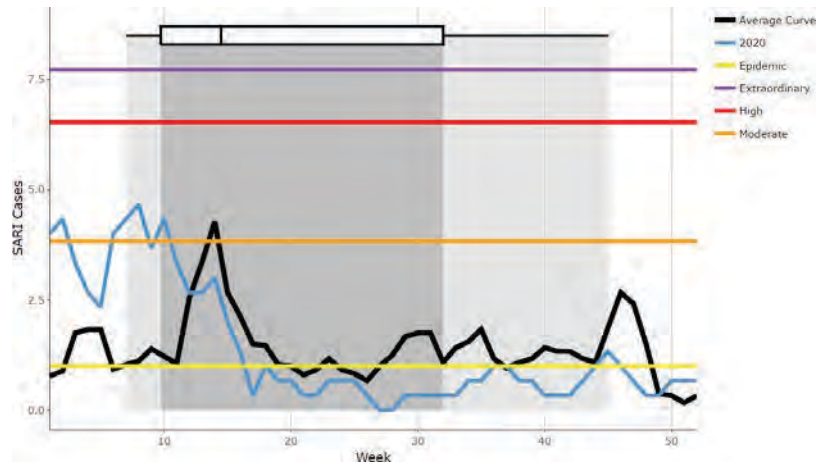
## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>

Not applicable

## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	No
Year of original publication	2013
Year of last revision/update	2013
<b>COVID-19</b>	
Plan available	NA
Part of an all-hazards plan	NA
<b>Simulations</b>	Yes
<b>Drills</b>	No

Influenza Vaccine <sup>7</sup>	Response
Composition	Northern Hemisphere
Month of vaccine administration	June
Percentage of older adults vaccinated	NA
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	Yes*
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	Yes*
Participation in studies evaluating influenza vaccine effectiveness	No
Participation in studies evaluating the impact of influenza vaccination campaign	No

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	NA
Samples sent to WHO Collaborating Center	NA
Number of samples analyzed for influenza during 2020	24
Number of samples analyzed for SARS-CoV-2 during 2020	NA
Specimens tested for other respiratory viruses (ORV)	NA
Other respiratory viruses identified	

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca, Pfizer, Beijing CNBG, SII-Covishield
Completed schedules per 100 people	29.63
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	No
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	NA
Participation in studies evaluating the impact of COVID-19 vaccination campaign	NA

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	
Report	Yes
FluID Reported > 33%	In progress
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	In progress
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

COVID-19 Surveillance	Response
Type of surveillance	NA
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	In progress
FluNet Reported > 33%	In progress
Reported to WHO in 2020	In progress
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	NA

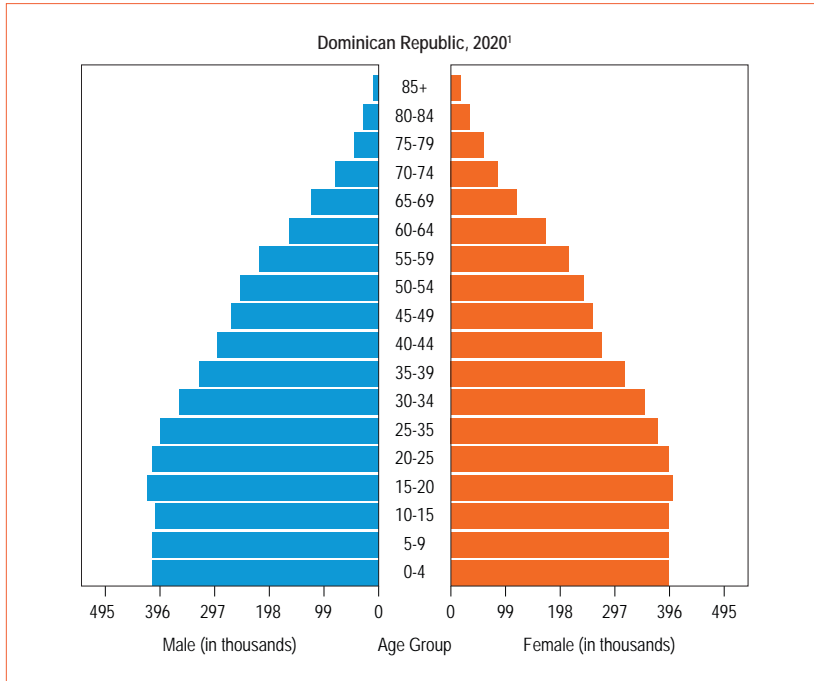
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2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)





# Dominican Republic



**POPULATION**

Population (thousands)<sup>2</sup>: 10,848

Population density (per km<sup>2</sup>)<sup>3</sup>: 224.5

Percentage of population < 5 years<sup>2</sup>: 9.2%

Percentage of population ≥ 65 years<sup>2</sup>: 7.5%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 7

Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 23.5

Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 84.1

**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 14

Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 1,017.5

National health expenditure as % of GDP 2016<sup>5</sup>: 2.5

Sociodemographic Indicators

Event	SURVEILLANCE SYSTEM CHARACTERISTICS					INFORMATION SYSTEM			
	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	5	2/week	Yes	7	SINAVE	NA	Online
ILI	Yes	Sentinel	5	2/week	Yes	1	No*	NA	NA
ARI	Yes	National	NA	None	None	2,492	No**	NA	Online

Surveillance Systems

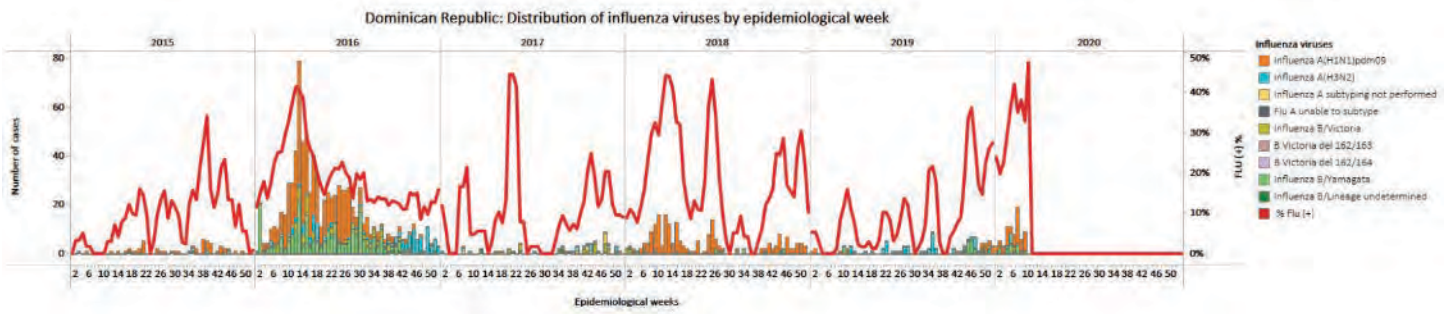
- **SARI Hospitals (N=7)**
  1. Hospital Regional Taiwan (Azua)
  2. Hospital Infantil Robert Reid Cabral (Santo Domingo)
  3. Hospital Dr. Antonio Musa (San Pedro de Macoris)
  4. Hospital Regional Universitario Infantil Dr. Arturo Grullón (Santiago)
  5. Hospital Regional Universitario José María Cabral y Báez (Santiago)
  6. Hospiten Santo Domingo (Santo Domingo)
  7. Centro Médico Punta Cana (La Altagracia)
- **ILI Centers (N=1)**
  1. Hospital Municipal José Contreras (Españillat)
- ◆ **National Influenza Centers (N=1)**
  1. Laboratorio Nacional de Salud Pública Dr. Defilló (Santo Domingo)
    - Technical capacity: IF, RT-PCR
- △ **Laboratories with IF capacity (N=1)**
  1. Laboratorio Regional Hospital Cabral y Báez (Santiago)
    - Technical capacity: IF

\* The data in the sentinel surveillance map are updated as of September 2021.  
Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

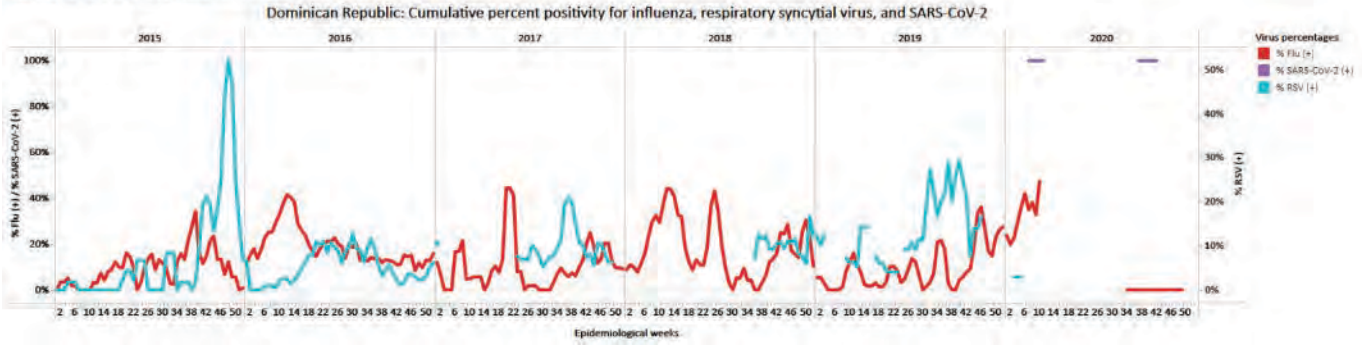
\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data



Please note that the flu (+) % line is computed with a 3 week average.



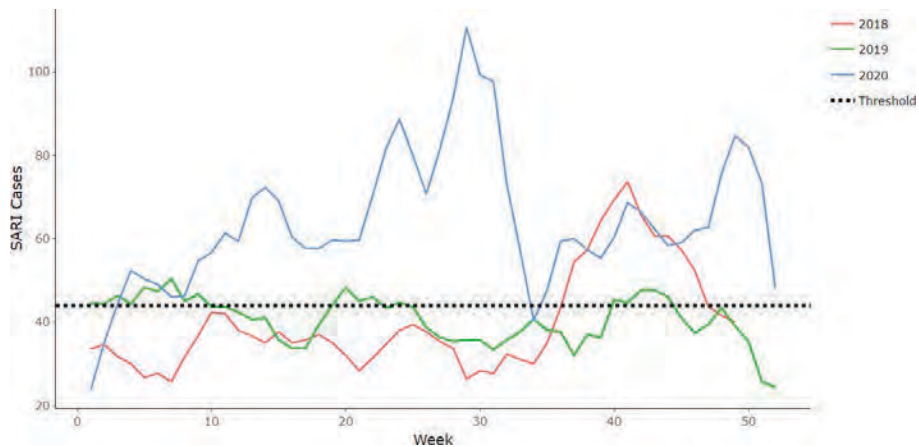
## Influenza-Like Illness (ARI)

Data from ambulatory cases<sup>6</sup>

Not applicable

## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	No
Year of original publication	2008
Year of last revision/update	2008
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Simulations	Yes
Drills	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	Northern Hemisphere Trivalent
Month of vaccine administration	September–October
Percentage of older adults vaccinated	8% (≥ 65 years)
Percentage of children under 5 vaccinated	7% (6-24 months)
Percentage of pregnant women vaccinated	9%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	31%
Participation in studies evaluating influenza vaccine effectiveness	Yes
Participation in studies evaluating the impact of influenza vaccination campaign	No

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	In progress
Information sharing between sectors	In progress
Surveillance of unusual respiratory cases with exposure to animals	In progress

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	302
Number of samples analyzed for SARS-CoV-2 during 2020	2,182
Specimens tested for other respiratory viruses (ORV)	No
Other respiratory viruses identified	

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca, Sinovac, SII-Covishield
Completed schedules per 100 people	46.1
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	Yes
Participation in studies evaluating the impact of COVID-19 vaccination campaign	Yes

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	In progress
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

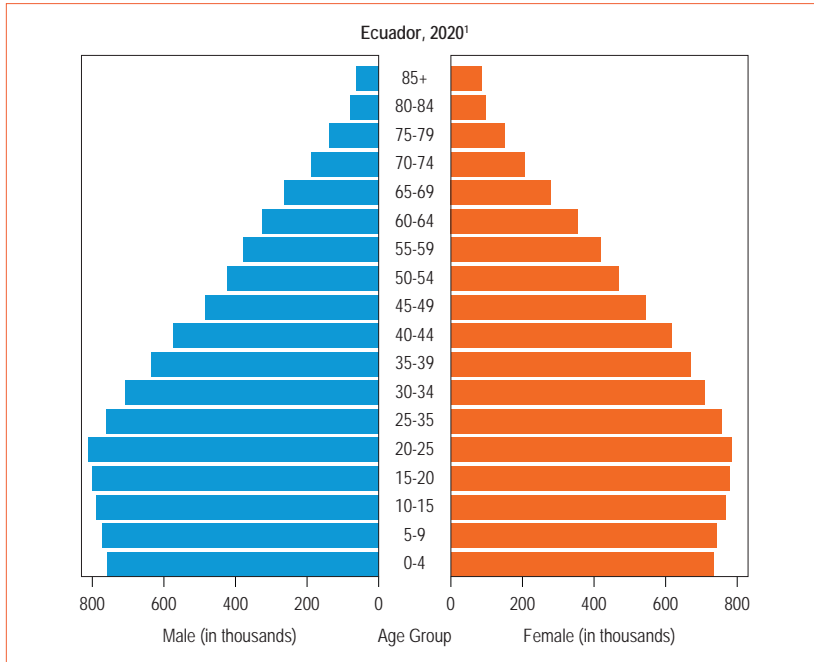
COVID-19 Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	In progress
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	No

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=DR](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=DR)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. Pan American Health Organization / World Health Organization. Immunization in the Americas [Internet]. Paho.org. 2021 [cited 4 Oct 2021]. Available from: <https://www.paho.org/en/documents/immunization-americas-2021-summary>
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Ecuador



**POPULATION**

Population (thousands)<sup>2</sup>: 17,643

Population density (per km<sup>2</sup>)<sup>3</sup>: 71.0

Percentage of population < 5 years<sup>2</sup>: 9.4%

Percentage of population ≥ 65 years<sup>2</sup>: 7.6%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 4.8

Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 12.2

Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 56

**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 23

Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 954.8

National health expenditure as % of GDP 2016<sup>5</sup>: 4.2

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	100	2/week	Yes	15	No*	NA	Online
PNEUMONIA	No <sup>†</sup>	National	NA	NA	No	None	VIEPI	NA	Online

\* Severe acute respiratory infections system.

<sup>†</sup> Pneumonia is suspected in a child with cough or shortness of breath and rapid breathing on physical examination.

Surveillance Systems

- **SARI Hospitals (N=14)**
  1. Hospital General Docente Riobamba
  2. Hospital San Vicente de Paúl
  3. Hospital Homero Castanier Crespo
  4. Hospital Carlos Andrade Marín (IESS)
  5. Hospital Vicente Corral Moscoso
  6. Hospital de Niños Baca Ortíz
  7. Hospital Pablo Arturo Suárez
  8. Hospital del Sur Enrique Garcés
  9. Hospital Pediátrico Roberto Gilbert
  10. Hospital del Niño Dr. Francisco Icaza Bustamante
  11. Hospital de Infectología y Dermatológico
  12. Hospital Eugenio Espejo
- 13. Hospital Vozandes
- 14. Hospital Naval

- ◆ **National Influenza Centers (N=1)**
  1. Instituto Nacional de Salud Pública e Investigación (INSPI), Guayaquil
    - Technical capacity: IF, RT-PCR, viral isolation
- △ **Laboratories with PCR capacity (N=2)**
  1. INSPI Quito
  2. INSPI Cuenca
    - Technical capacity: IF, RT-PCR

Pop. 31,100 4,512,580

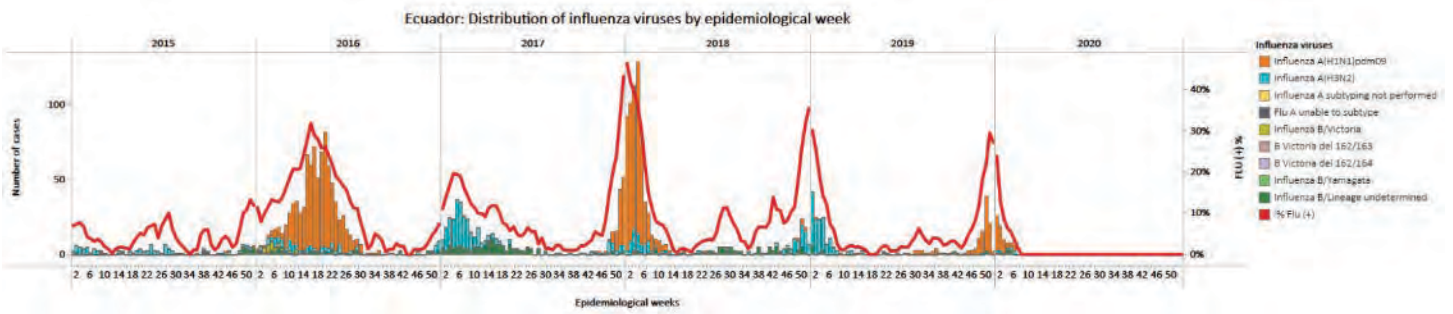
- ▲ Laboratory with PCR capacity
- ◆ National Influenza Center
- SARI Hospital

\* The data in the sentinel surveillance map are updated as of September 2021.  
Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

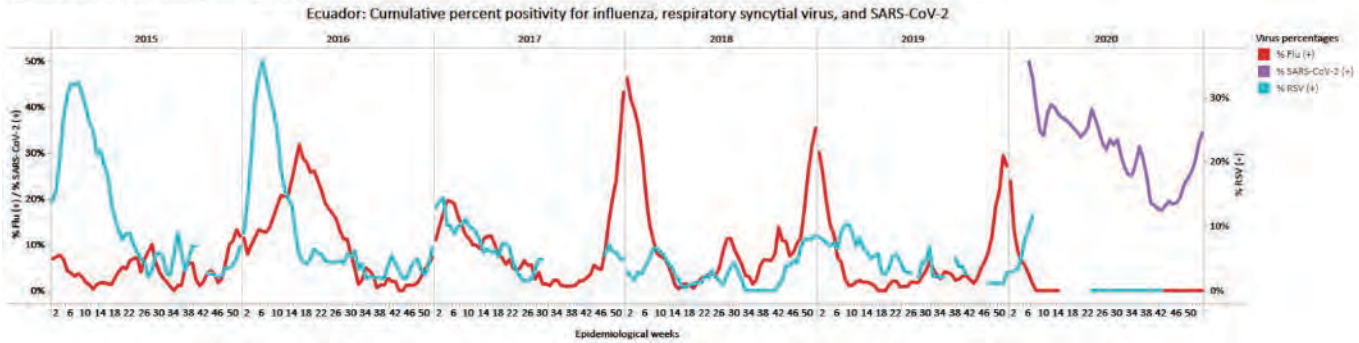
\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data



Please note that the flu (4) % line is computed with a 3 week average



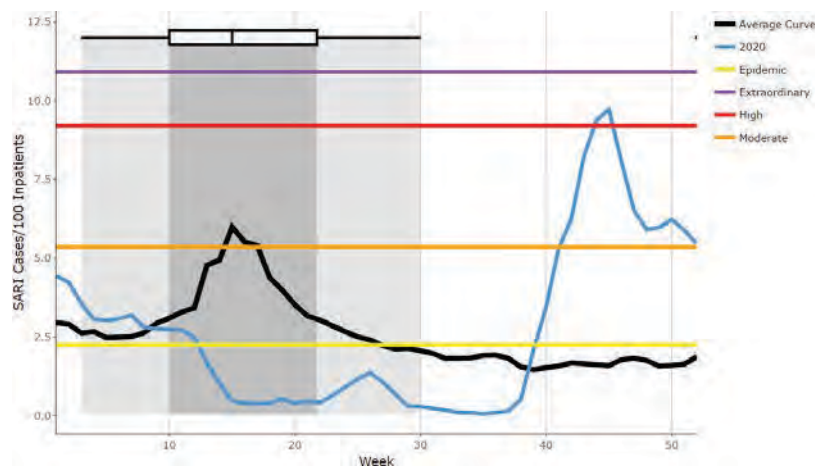
## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>

Not applicable

## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2020
Year of last revision/update	2020
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	No
Simulations	No
Drills	No

Influenza Vaccine <sup>7</sup>	Response
Composition	Northern Hemisphere Trivalent
Month of vaccine administration	March
Percentage of older adults vaccinated	76% (> 65 years)
Percentage of children under 5 vaccinated	88% (6-59 months)
Percentage of pregnant women vaccinated	75%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	94%
Participation in studies evaluating influenza vaccine effectiveness	Yes
Participation in studies evaluating the impact of influenza vaccination campaign	Yes

Human-Animal Interface for Influenza	Response
Intersectoral meetings	In progress
Information sharing between sectors	No
Surveillance of unusual respiratory cases with exposure to animals	No

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	2,178
Number of samples analyzed for SARS-CoV-2 during 2020	328,762
Specimens tested for other respiratory viruses (ORV)	No
Other respiratory viruses identified	NA

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca, CanSino, Pfizer, Sinovac
Completed schedules per 100 people	56.01
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	Yes
Participation in studies evaluating the impact of COVID-19 vaccination campaign	Yes

Influenza Disease Burden	Response
Estimation of medical burden for influenza	Yes
Estimation of economic burden for influenza	Yes
Publication of influenza burden of disease	<a href="#">Online</a>

Influenza Surveillance	Response
Type of surveillance	
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

COVID-19 Surveillance	Response
Type of surveillance	NA
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	Yes

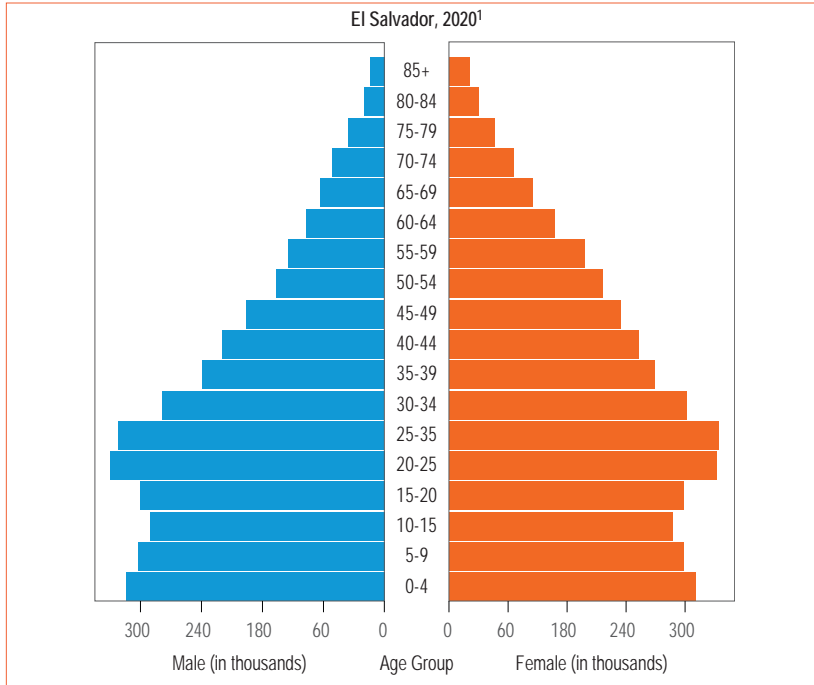
Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=EC](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=EC)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)





# El Salvador



### POPULATION

Population (thousands)<sup>2</sup>: 6,486  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 313.0  
 Percentage of population < 5 years<sup>2</sup>: 8.9%  
 Percentage of population ≥ 65 years<sup>2</sup>: 8.7%

### MORTALITY

Gross mortality rate (per 1,000 population)<sup>2</sup>: 6.1  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 10.9  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 93.9

### PUBLIC HEALTH

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 29  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 592.3  
 National health expenditure as % of GDP 2016<sup>5</sup>: 4.5

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	100%	Weekly	Yes	3	Vigepes	NA	Online
ILI	Yes	Sentinel	100%	Weekly	Yes	4	Vigepes	NA	Online
ARI	Yes	National	No	None	None	1,238	Vigepes	NA	No
PNEUMONIA	No*	National	No	No	No	None	Vigepes	NA	Online

\* Suspected case: person of any age and gender with fever, headache, myalgia, fatigue, sore throat, dry cough; on physical examination at the pulmonary level presence of rales, in children there may be nausea, vomiting, and diarrhea. Confirmed case: any suspected case that presents radiological signs of pneumonia or the infectious agent is isolated through laboratory tests. Case to be notified to the VIGEPES system: suspect in aggregated surveillance.

- **SARI Hospitals (N=3)**
  - Hospital San Juan de Dios de San Miguel
  - Hospital San Juan de Dios de Santa Ana
  - Hospital Nacional de Niños de Benjamín Bloom
- **ILI Centers (N=4)**
  - UCSF Dr. Tomás Pineda, (Santa Ana)
  - UCSF La Presita, (San Miguel)
  - UCSF Barrios, (San Salvador)
  - UCSF Zacamil (San Salvador)
- ◆ **National Influenza Centers (N=1)**
  - Laboratorio Nacional de Referencia Doctor Max Bloch
    - Technical capacity: IF, RT-PCR, viral isolation

- △ **Laboratories with IF capacity (N=3)**
  - Hospital Regional de San Miguel
    - Technical capacity: IF
  - Hospital de Niños Benjamín Bloom
    - Technical capacity: IF
  - Hospital Regional de Santa Ana
    - Technical capacity: IF

Pop. 153,617 1,733,576

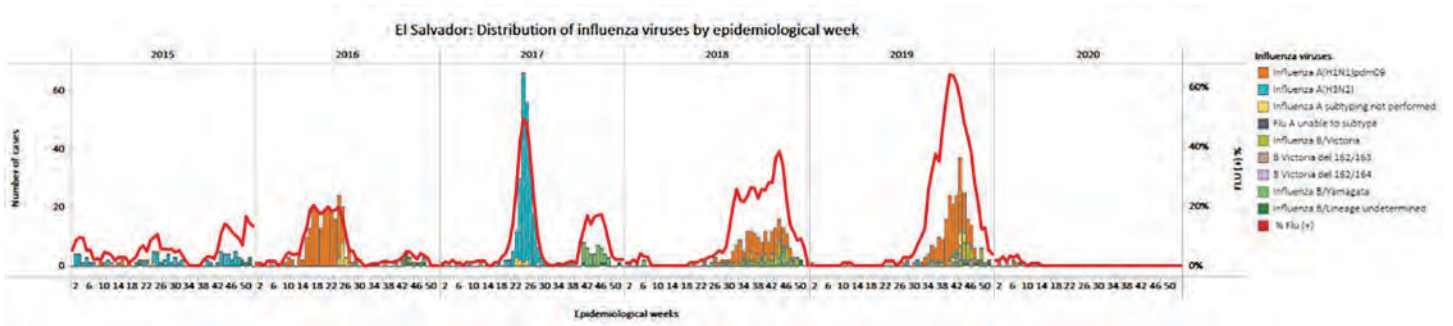
\* The data in the sentinel surveillance map are updated as of September 2021.  
 Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

Surveillance Systems

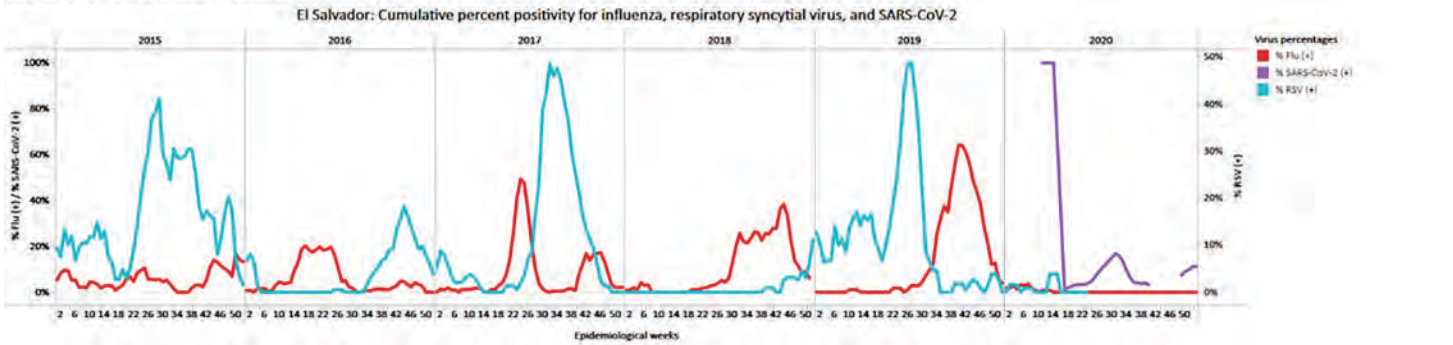
\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data



Please note that the flu (+) % line is computed with a 3 week average.



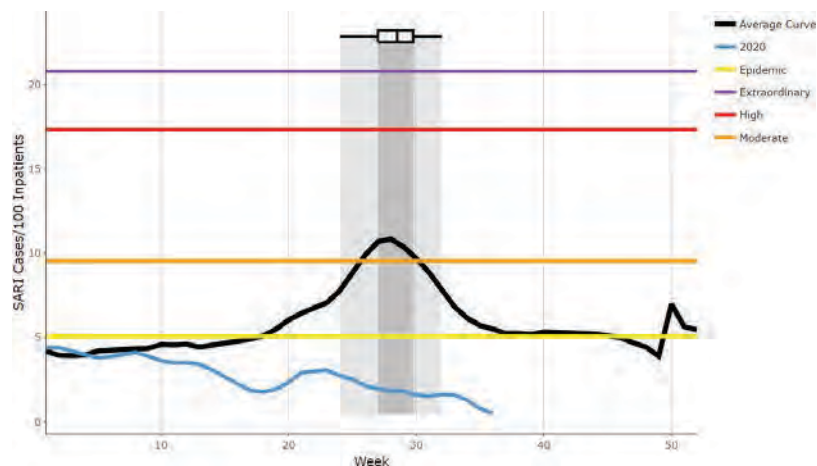
## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>

Not applicable

## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2009
Year of last revision/update	2017
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Simulations	No
Drills	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	Southern Hemisphere Trivalent
Month of vaccine administration	April
Percentage of older adults vaccinated	37% (≥ 60 years)
Percentage of children under 5 vaccinated	39% (6-59 months)
Percentage of pregnant women vaccinated	49%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	100%
Participation in studies evaluating influenza vaccine effectiveness	Yes
Participation in studies evaluating the impact of influenza vaccination campaign	No

Human-Animal Interface for Influenza	Response
Intersectoral meetings	In progress
Information sharing between sectors	In progress
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	1,065
Number of samples analyzed for SARS-CoV-2 during 2020	442,758
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV-Sentinel, adenovirus, parainfluenza 1, 2, 3,

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca, Beijing CNBG, Moderna, Pfizer, SII-Covishield, Sinovac
Completed schedules per 100 people	55.06
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	No
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	In progress
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

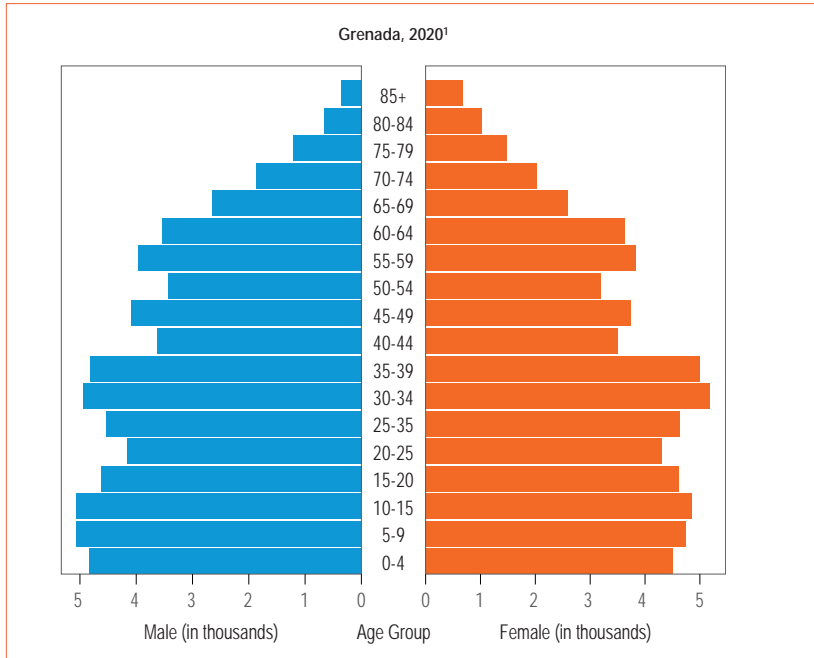
COVID-19 Surveillance	Response
Type of surveillance	
Report	Yes
FluID Reported > 33%	In progress
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	No

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=ES](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=ES)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. Pan American Health Organization / World Health Organization. Immunization in the Americas [Internet]. Paho.org. 2021 [cited 4 Oct 2021]. Available from: <https://www.paho.org/en/documents/immunization-americas-2021-summary>
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Grenada



**POPULATION**

Population (thousands)<sup>2</sup>: 113

Population density (per km<sup>2</sup>)<sup>3</sup>: 330.9

Percentage of population < 5 years<sup>2</sup>: 8%

Percentage of population ≥ 65 years<sup>2</sup>: 9.8%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 7.6

Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 15.1

Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 88.3

**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 14

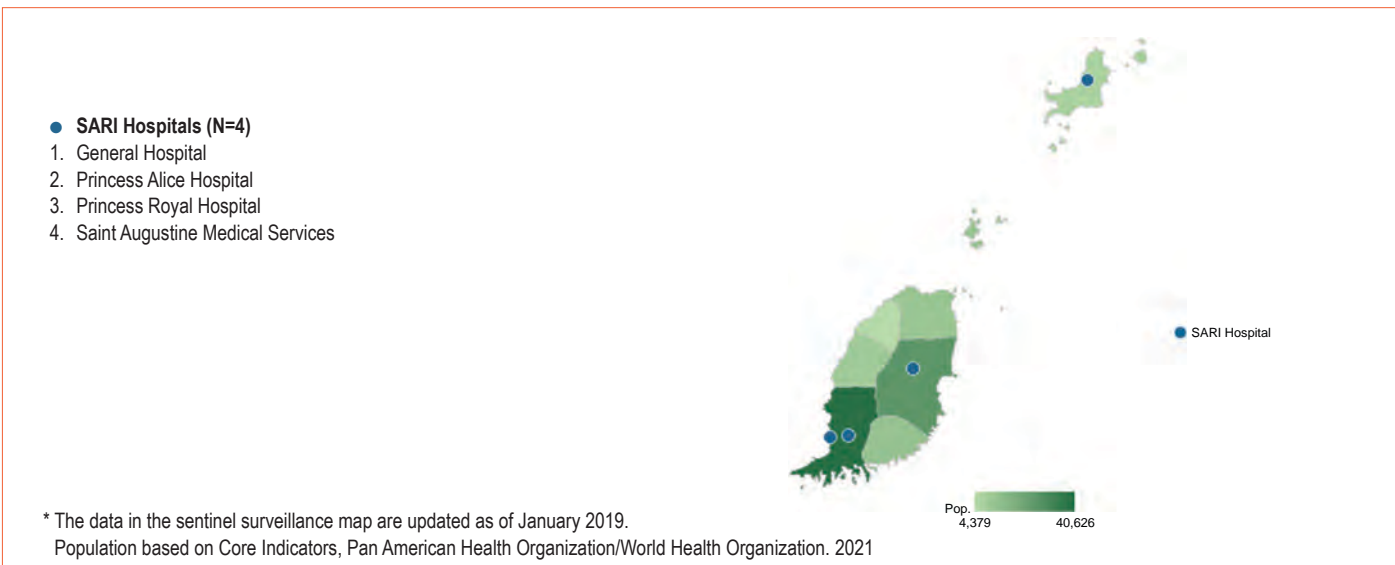
Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 693.8

National health expenditure as % of GDP 2016<sup>5</sup>: 1.7

Sociodemographic Indicators

Event	SURVEILLANCE SYSTEM CHARACTERISTICS					INFORMATION SYSTEM			
	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	Quota	Varies	No	4	NA	NA	No
ILI	Yes	National	No	Varies	No	60	NA	NA	No
ARI	No	National	No	NA	NA	NA	NA	NA	No

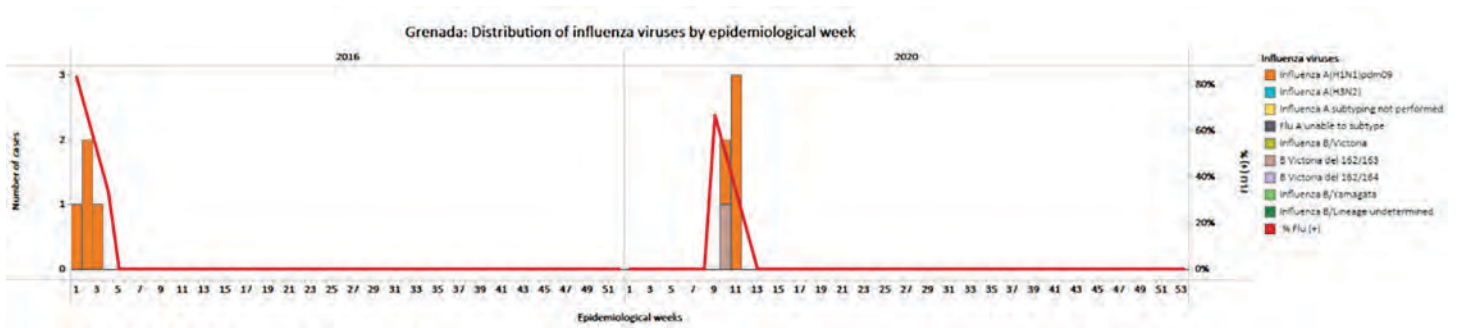
Surveillance Systems



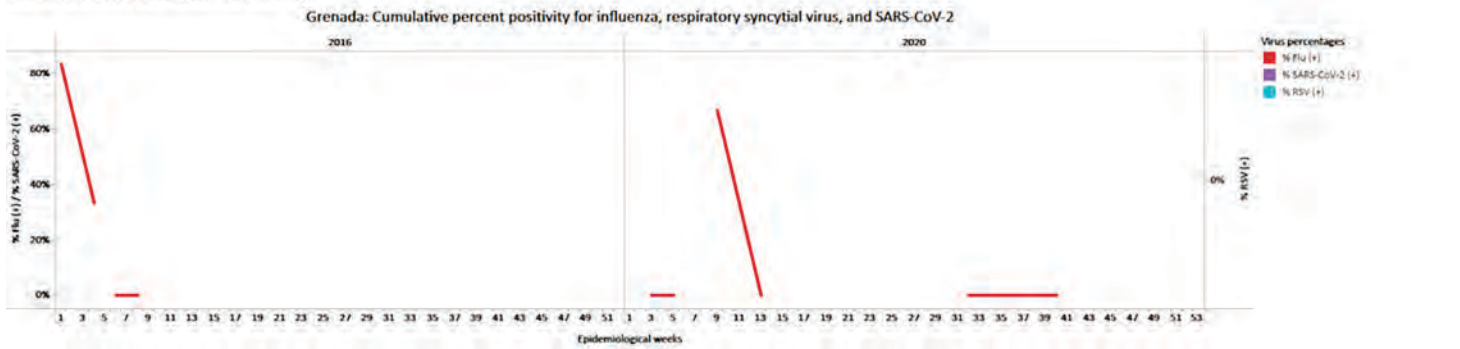
\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data

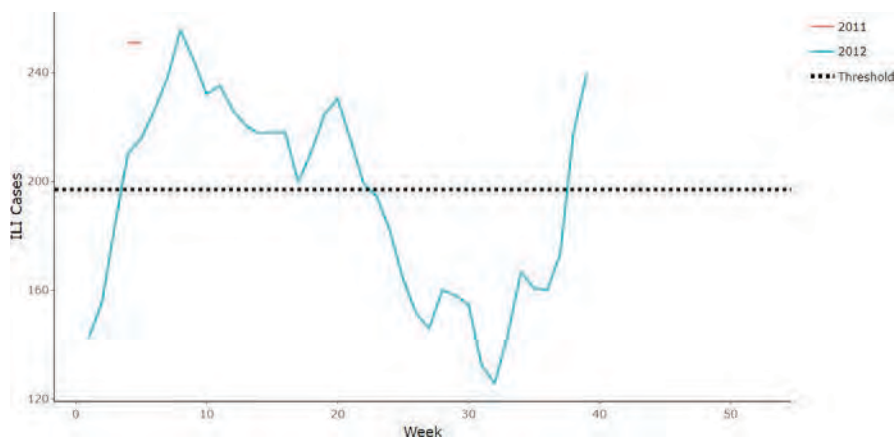


Please note that the flu (+) % line is computed with a 5 week average



## Influenza-Like Illness (ILI)

### Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

### Data from severe cases<sup>6</sup>

Not applicable

Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2009
Year of last revision/update	2009
<b>COVID-19</b>	
Plan available	No
Part of an all-hazards plan	No
Simulations	Yes
Drills	No

Influenza Vaccine <sup>7</sup>	Response
Composition	Northern Hemisphere Trivalent
Month of vaccine administration	June
Percentage of older adults vaccinated	NA
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	Yes*
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	Yes*
Participation in studies evaluating influenza vaccine effectiveness	No
Participation in studies evaluating the impact of influenza vaccination campaign	No

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	In progress
Surveillance of unusual respiratory cases with exposure to animals	No

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	NA
Samples sent to WHO Collaborating Center	NA
Number of samples analyzed for influenza during 2020	20
Number of samples analyzed for SARS-CoV-2 during 2020	NA
Specimens tested for other respiratory viruses (ORV)	NA
Other respiratory viruses identified	NA

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca, Pfizer, SII-Covishield
Completed schedules per 100 people	21.31
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	NA
Participation in studies evaluating the impact of COVID-19 vaccination campaign	NA

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	National
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	Yes
FluNet Reported > 33%	In progress
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

COVID-19 Surveillance	Response
Type of surveillance	NA
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	In progress
FluNet Reported > 33%	In progress
Reported to WHO in 2020	In progress
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	NA

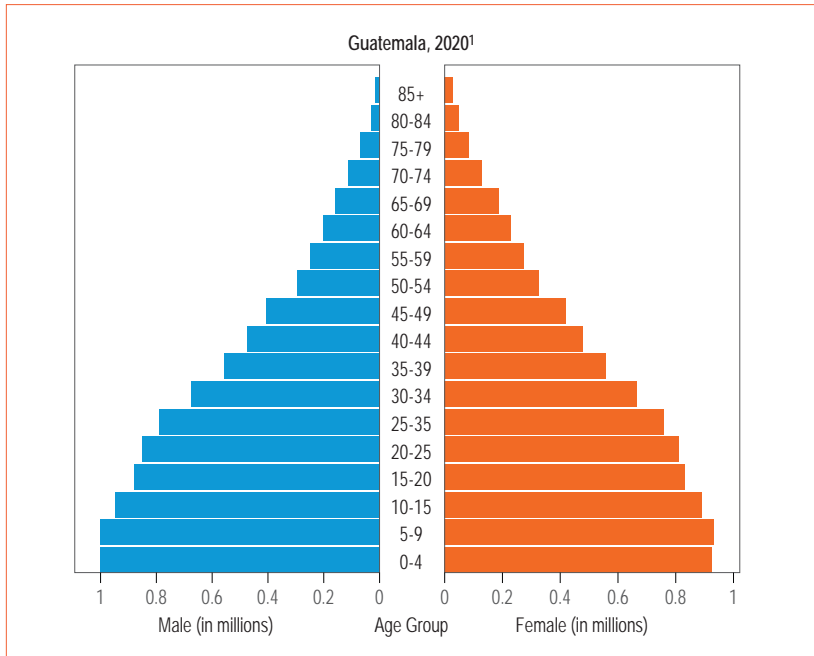
Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=GJ](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=GJ)
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3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
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6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)





# Guatemala



**POPULATION**

Population (thousands)<sup>2</sup>: 16,858

Population density (per km<sup>2</sup>)<sup>3</sup>: 157.3

Percentage of population < 5 years<sup>2</sup>: 12.3%

Percentage of population ≥ 65 years<sup>2</sup>: 5.4%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 7.4

Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 25.9

Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 144.2

**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 10.0

Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 483.0

National health expenditure as % of GDP 2016<sup>5</sup>: 2.1

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	40	1	Yes	4	PAHOFlu	NA	<a href="#">Online</a>
ILI	Yes	Sentinel	60	1	Yes	4	PAHOFlu	NA	<a href="#">Online</a>
ARI	Yes	National	NA	None	None	100	Sigma 3	NA	
PNEUMONIA	Yes	National	NA	1	Yes	None	Sigma 3	NA	

Surveillance Systems

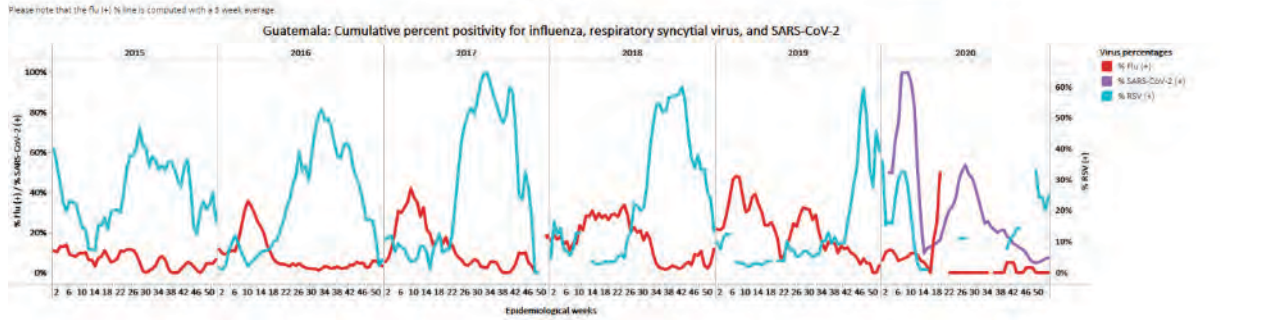
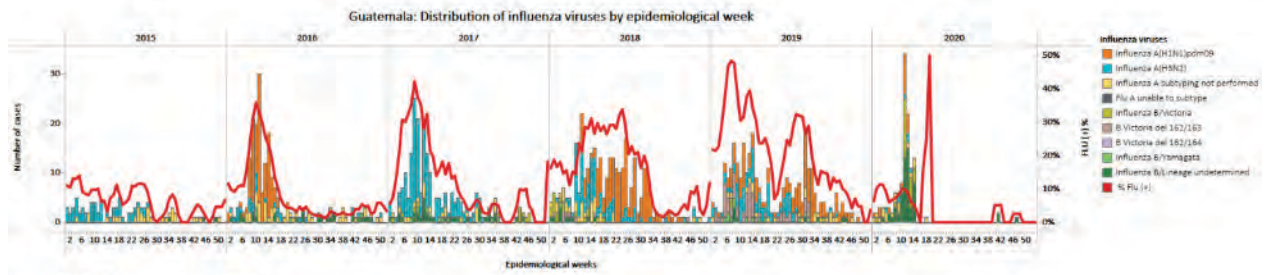
- **SARI Hospitals (N=4)**
  1. Hospital General San Juan de Dios (Guatemala)
  2. Hospital de Infectología y Rehabilitación (Guatemala)
  3. Hospital Nacional de San Marcos (San Marcos)
  4. Hospital Nacional de Cobán Hellen Lossi de Laugerud (Alta Verapaz)
- **ILI Centers (N=4)**
  1. Clínica Periférica Primero de Julio (Mixco Guatemala)
  2. Centro de Salud San Marcos (San Marcos)
  3. Centro de Salud San Pedro Sacatepéquez (San Marcos)
  4. Centro de Salud de Cobán (Alta Verapaz)
- ◆ **National Influenza Centers (N=1)**
  1. Laboratorio Nacional de Salud (Bárcenas)
    - Technical capacity: IF, RT-PCR, viral isolation
- △ **Laboratories with IF capacity (N=3)**
  1. Guatemala City
  2. San Marcos
  3. Cobán

\* The data in the sentinel surveillance map are updated as of September 2021.  
Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

\*Map Influenza Surveillance Capacity

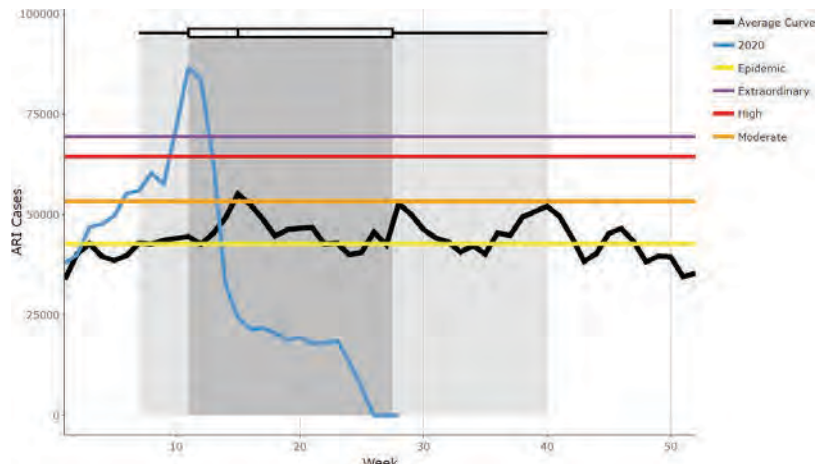
# Influenza and Respiratory Syncytial Virus

## Virologic data



## Influenza-Like Illness (ARI)

### Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

### Data from severe cases<sup>6</sup>

Not applicable

Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2007
Year of last revision/update	2021
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	No
Simulations	No
Drills	No

Influenza Vaccine <sup>7</sup>	Response
Composition	Northern Hemisphere Trivalent
Month of vaccine administration	December
Percentage of older adults vaccinated	0% ( $\geq 65$ years)
Percentage of children under 5 vaccinated	10% (6-35 months)
Percentage of pregnant women vaccinated	16%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	47%
Participation in studies evaluating influenza vaccine effectiveness	Yes
Participation in studies evaluating the impact of influenza vaccination campaign	Yes

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	1,714
Number of samples analyzed for SARS-CoV-2 during 2020	56,956
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV-Sentinel, RSV-non-sentinel, adenovirus, parainfluenza 1, 2, 3, metapneumovirus, rhinovirus

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Pfizer, AstraZeneca, Moderna, Sputnik V, SII-Covishield
Completed schedules per 100 people	15.97
Vaccination policy for older adults ( $\geq 65$ years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children ( $<18$ years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	Yes
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	In progress
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

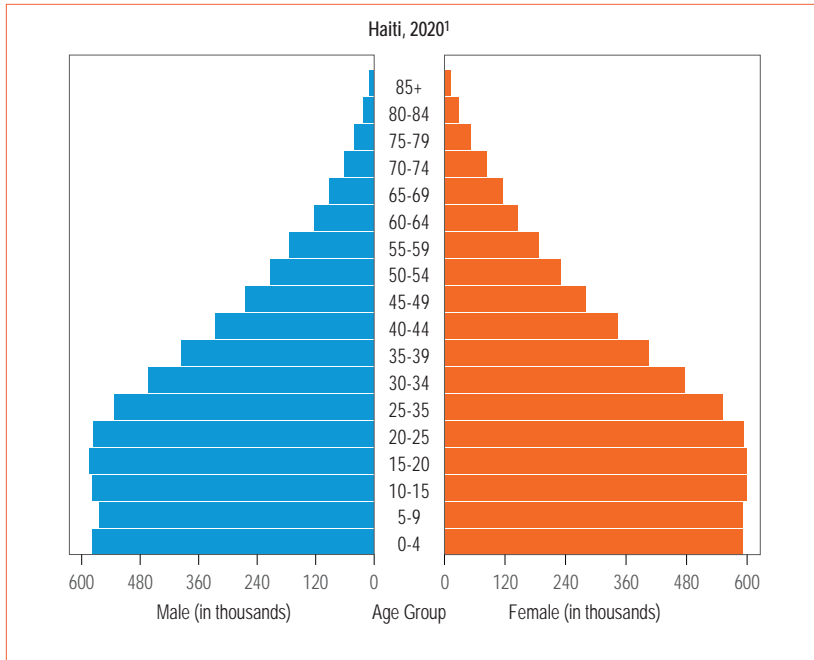
COVID-19 Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	In progress
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: Yes
PISA indicators	Seriousness of disease: Yes
	Impact: Yes
PISA tool used to adapt PHSM during COVID-19 pandemic	Yes

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=GT](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=GT)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
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6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. Pan American Health Organization / World Health Organization. Immunization in the Americas [Internet]. Paho.org. 2021 [cited 4 Oct 2021]. Available from: <https://www.paho.org/en/documents/immunization-americas-2021-summary>
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Haiti



### POPULATION

Population (thousands)<sup>2</sup>: 11,403  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 413.7  
 Percentage of population < 5 years<sup>2</sup>: 11.1%  
 Percentage of population ≥ 65 years<sup>2</sup>: 5.2%

### MORTALITY

Gross mortality rate (per 1,000 population)<sup>2</sup>: 11.5  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 62.8  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 218.1

### PUBLIC HEALTH

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 2.0  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 143.6  
 National health expenditure as % of GDP 2016<sup>5</sup>: 0.9

Sociodemographic Indicators

Event	SURVEILLANCE SYSTEM CHARACTERISTICS					INFORMATION SYSTEM			
	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	100%	2	Yes	6	DHIS2 and Excel	NA	Yes
ILI	Yes	Sentinel	70	2	Yes	690	DHIS2	NA	Yes
ARI	Yes	National	100%	None	None	1	DHIS2 and Excel	NA	Online

Surveillance Systems

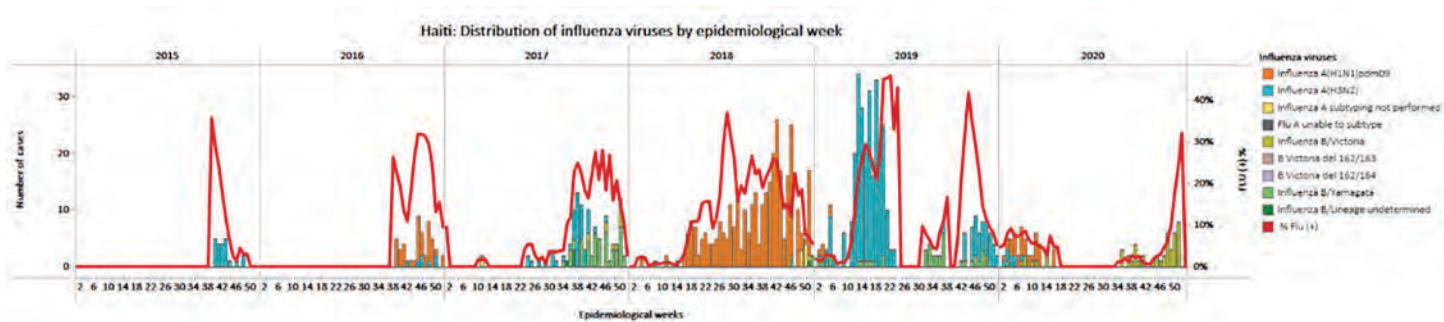
- **SARI Hospitals (N=6)**
  1. Hôpital de l'Université d'Etat d'Haïti (Ouest Département)
  2. Hôpital Universitaire de la Paix (Ouest Département)
  3. Hôpital de nos Petits Frères et Sœurs (Ouest Département)
  4. Hôpital Foyer Saint Camille (Ouest Département)
  5. Hôpital Saint Nicolas de Saint Marc (Artibonite Département)
  6. Hôpital Universitaire de Mirebalais (Centre Département)
  7. Hôpital Saint Michel de Jacmel (Nippes Département)
- ◆ **National Influenza Centers (N=1)**
  1. Laboratoire National de Santé Publique (LNSP) (Port-au-Prince)
    - Technical capacity: RT-PCR, viral isolation, sequencing

\* The data in the sentinel surveillance map are updated as of September 2021.  
 Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

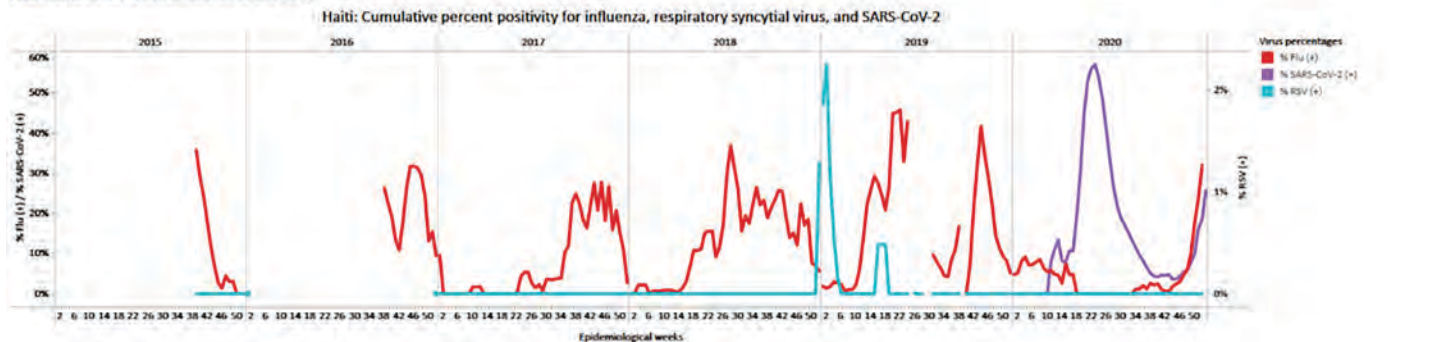
\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data



Please note that the Flu (+) line is computed with a 3 week average.



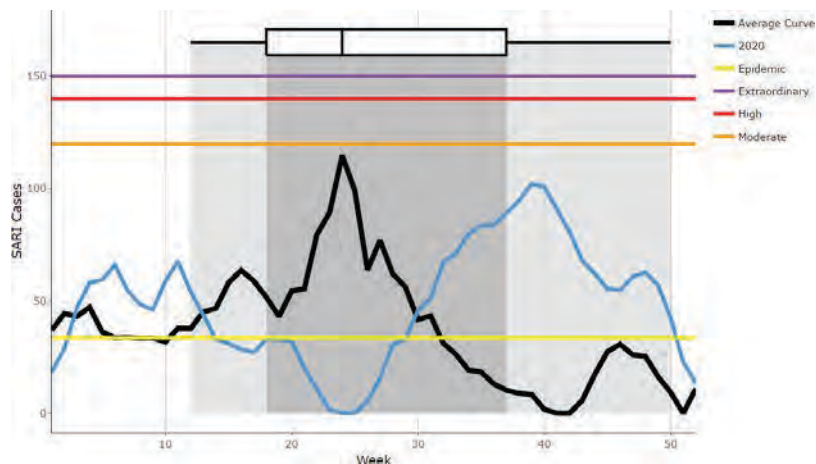
## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>

Not applicable

## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	NA
Part of an all-hazards plan	NA
Year of original publication	NA
Year of last revision/update	NA
<b>COVID-19</b>	
Plan available	NA
Part of an all-hazards plan	NA
Simulations	NA
Drills	NA

Influenza Vaccine <sup>7</sup>	Response
Composition	Southern Hemisphere Quadrivalent
Month of vaccine administration	NA
Percentage of older adults vaccinated	NA
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	NA
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	NA
Participation in studies evaluating influenza vaccine effectiveness	NA
Participation in studies evaluating the impact of influenza vaccination campaign	NA

Human-Animal Interface for Influenza	Response
Intersectoral meetings	NA
Information sharing between sectors	NA
Surveillance of unusual respiratory cases with exposure to animals	NA

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	NA
Number of samples analyzed for influenza during 2020	2,362
Number of samples analyzed for SARS-CoV-2 during 2020	28,656
Specimens tested for other respiratory viruses (ORV)	NA
Other respiratory viruses identified	NA

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Janssen, Moderna
Completed schedules per 100 people	NA
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	No
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	NA
Participation in studies evaluating the impact of COVID-19 vaccination campaign	NA

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

COVID-19 Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	NA

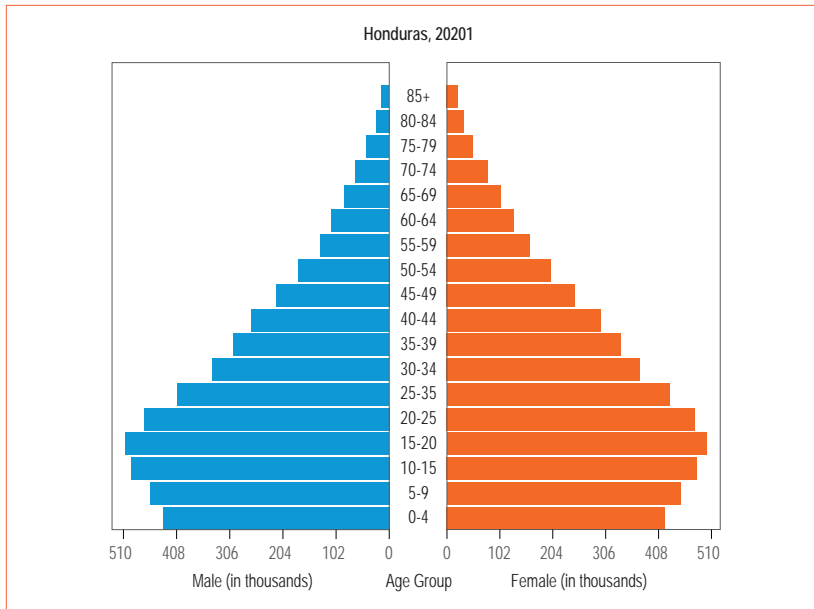
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3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
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6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)





# Honduras



### POPULATION

Population (thousands)<sup>2</sup>: 9,905  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 88.5  
 Percentage of population < 5 years<sup>2</sup>: 10.3%  
 Percentage of population ≥ 65 years<sup>2</sup>: 5%

### MORTALITY

Gross mortality rate (per 1,000 population)<sup>2</sup>: 8.1  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 29.0  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 72.2

### PUBLIC HEALTH

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 2.0  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 362.3  
 National health expenditure as % of GDP 2016<sup>5</sup>: 2.8

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel/National	100	2	Yes	5	PAHOFlu	NA	Online
ILI	Yes	Sentinel	21	2	Yes	3	PAHOFlu	NA	Online
ARI	Yes	National		None	None	298	Alerta respuesta /SINAVIS	NA	Online
PNEUMONIA	No*	Sentinel	Yes, with all pneumonia cases to be tested per week	2	Yes	3	VINUVA agregados y VINUVA desagregados	NA	Online

Surveillance Systems

\* Case definitions. Suspected case: Any child under 5 years of age in whom the presence of severe or very severe pneumonia is clinically suspected and requires hospitalization. Probable case of bacterial pneumonia: Any suspicious case with a chest radiograph in which a radiological pattern compatible with bacterial pneumonia is identified. Confirmed case of bacterial pneumonia: Any probable case of bacterial pneumonia in which *Haemophilus influenzae*, pneumococcus, or other bacteria is isolated in the blood and/or pleural fluid. Bacterial pneumonia ruled out: Any suspicious case with a chest X-ray where a compatible radiological pattern of pneumonia is not identified bacterial. Inadequately investigated pneumonia case: Any suspicious case without a chest X-ray.

- **SARI Hospitals (N=5)**
  1. Instituto Nacional Cardiopulmonar (Tegucigalpa)
  2. IHSS de Especialidades (Tegucigalpa)
  3. Hospital Militar (Tegucigalpa)
  4. Hospital Mario Catarino Rivas (San Pedro Sula)
  5. Hospital de Especialidades del IHSS del Norte
- **ILI Centers (N=3)**
  1. Centro de Salud Alonso Suazo (Tegucigalpa)
  2. Centro de Salud Miguel Paz Barahona (San Pedro Sula)
  3. Consulta Externa del IHSS del Norte (San Pedro Sula)
- ◆ **National Influenza Centers (N=1)**
  1. Laboratorio Nacional de Virologia (Tegucigalpa)
    - Technical capacity: IF, RT-PCR, viral isolation

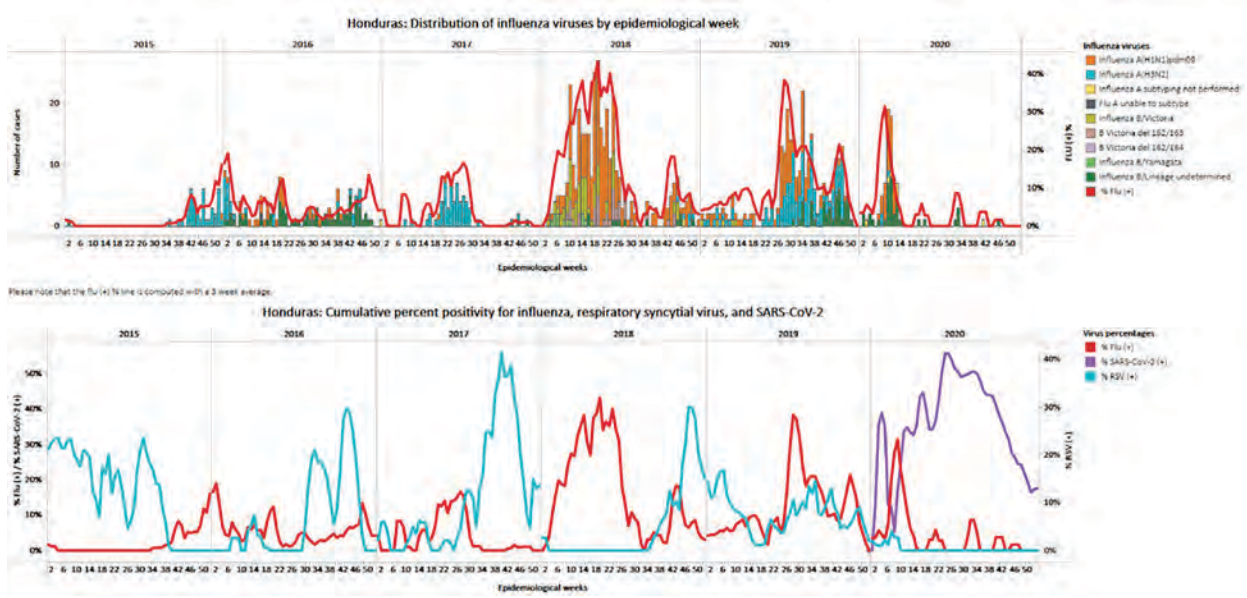
- △ **Laboratories with IF capacity (N=2)**
  1. Laboratorio Regional de Tegucigalpa
  2. Laboratorio Regional de San Pedro Sula

\* The data in the sentinel surveillance map are updated as of September 2021.  
 Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

\*Map Influenza Surveillance Capacity

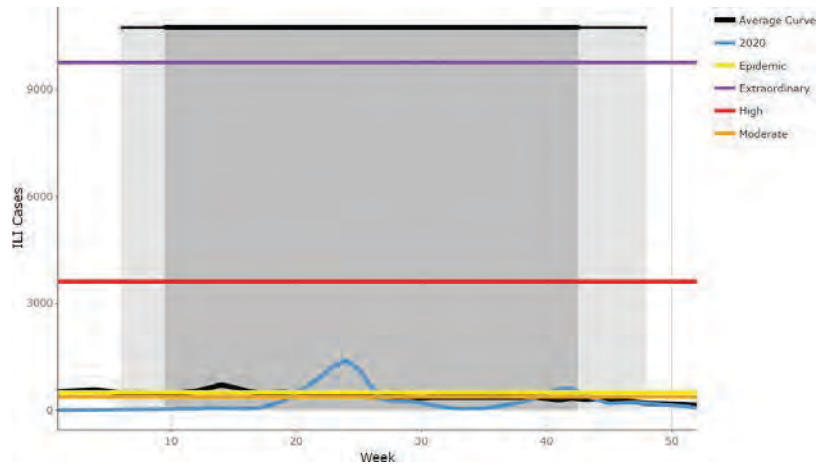
# Influenza and Respiratory Syncytial Virus

## Virologic data



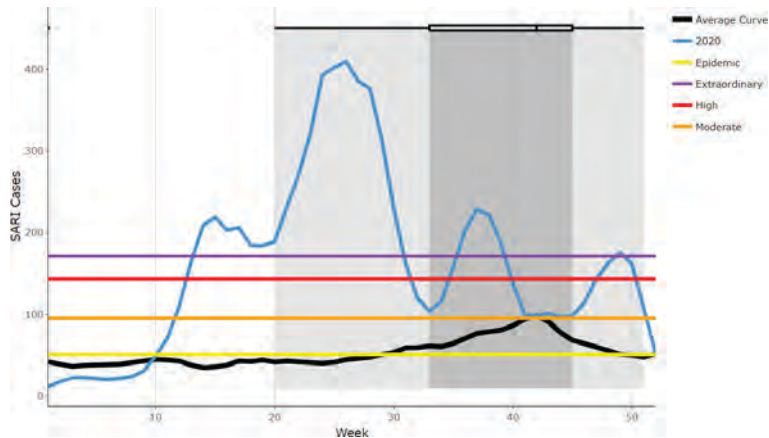
## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2009
Year of last revision/update	2020
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	No
Simulations	No
Drills	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	Southern Hemisphere Trivalent
Month of vaccine administration	May
Percentage of older adults vaccinated	56% (≥ 60 years)
Percentage of children under 5 vaccinated	53% (6-23 months)
Percentage of pregnant women vaccinated	84%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	82%
Participation in studies evaluating influenza vaccine effectiveness	Yes
Participation in studies evaluating the impact of influenza vaccination campaign	Yes

Human-Animal Interface for Influenza	Response
Intersectoral meetings	In progress
Information sharing between sectors	In progress
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	1,262
Number of samples analyzed for SARS-CoV-2 during 2020	199,097
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Pfizer, AstraZeneca, Moderna, Sputnik V, SII-Covishield, Janssen
Completed schedules per 100 people	25.22
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	No
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	Yes
Estimation of economic burden for influenza	Yes
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	Sentinel/National
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

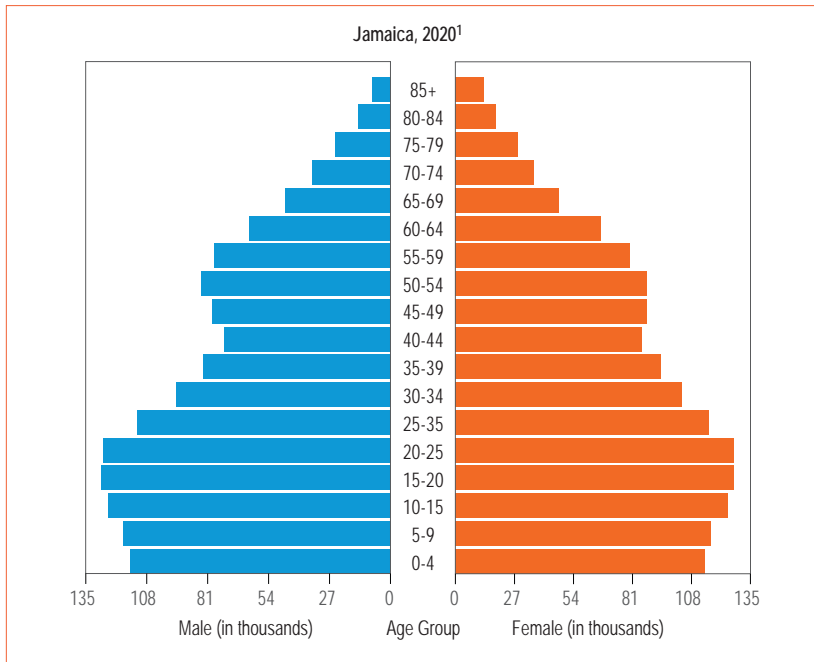
COVID-19 Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: Yes
PISA indicators	Seriousness of disease: Yes
	Impact: Yes
PISA tool used to adapt PHSM during COVID-19 pandemic	Yes

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=HO](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=HO)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. Pan American Health Organization / World Health Organization. Immunization in the Americas [Internet]. Paho.org. 2021 [cited 4 Oct 2021]. Available from: <https://www.paho.org/en/documents/immunization-americas-2021-summary>
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Jamaica



**POPULATION**

Population (thousands)<sup>2</sup>: 2,961

Population density (per km<sup>2</sup>)<sup>3</sup>: 273.4

Percentage of population < 5 years<sup>2</sup>: 7.8%

Percentage of population ≥ 65 years<sup>2</sup>: 9.1%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 5.8

Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 13.9

Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 57.5

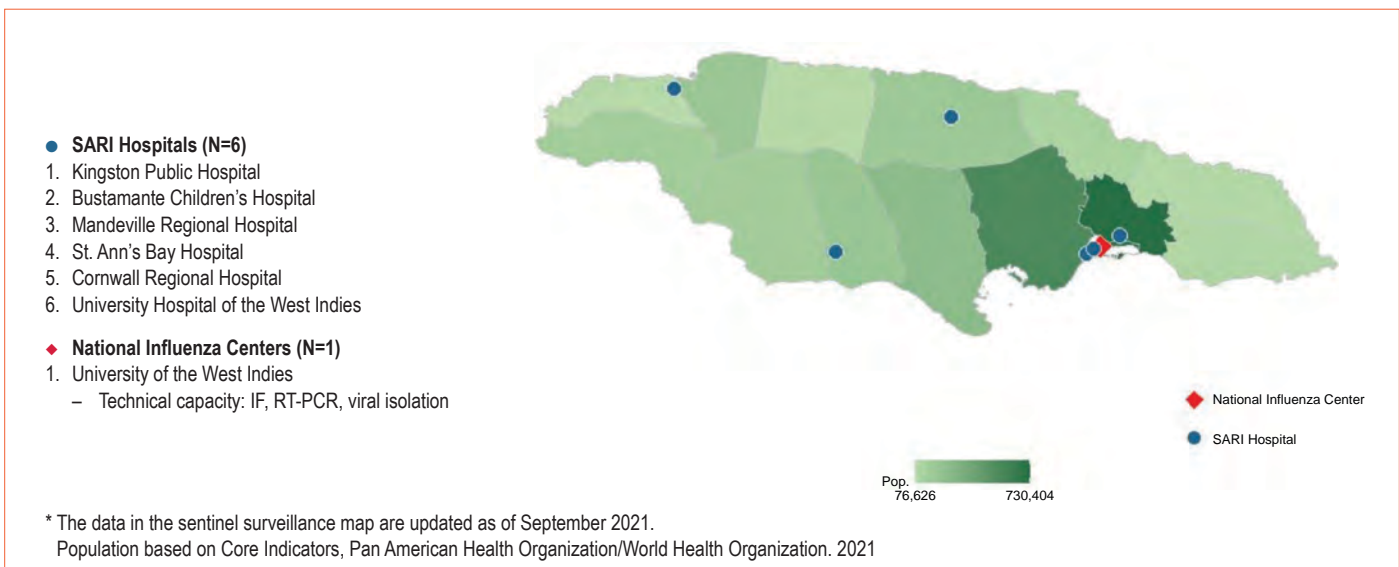
**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 13

Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 559.1

National health expenditure as % of GDP 2016<sup>5</sup>: 3.9

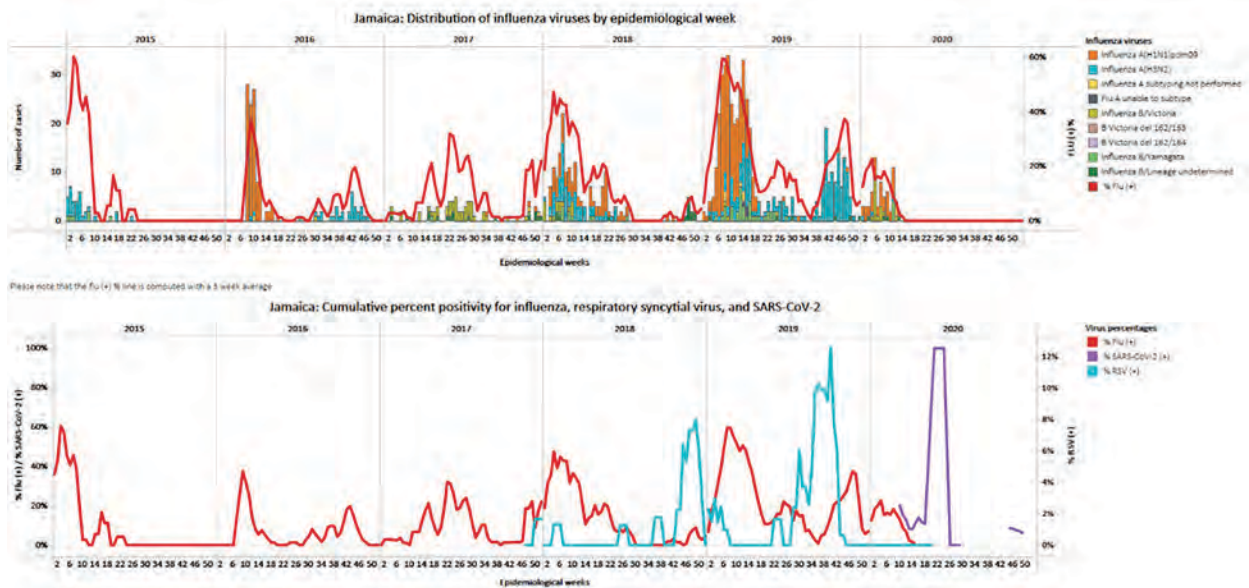
SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	100%	5 days/week	Annually	6	PAHO/WHO Online System for Sentinel Surveillance of Severe Acute Respiratory Infection.	NA	Online
ILI	Yes	Sentinel	Quota	5 days/week	NA	78		NA	Online



\* The data in the sentinel surveillance map are updated as of September 2021.  
Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

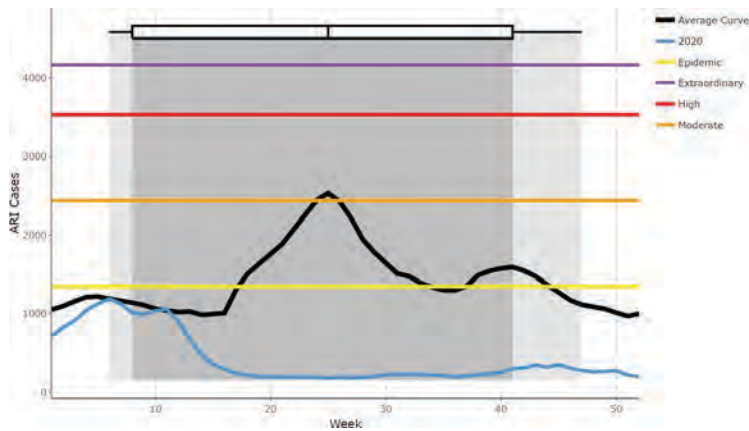
# Influenza and Respiratory Syncytial Virus

## Virologic data



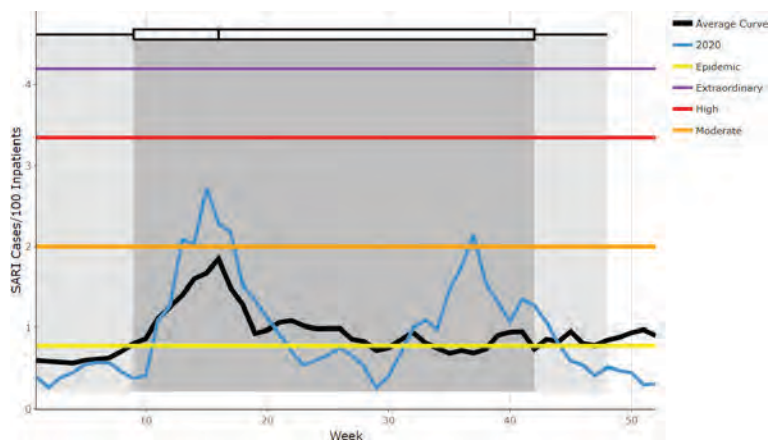
## Acute Respiratory Infection (ARI)

### Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

### Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2007
Year of last revision/update	2017/2018
<b>COVID-19</b>	
Plan available	NA
Part of an all-hazards plan	NA
Simulations	Yes
Drills	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	Northern Hemisphere Trivalent
Month of vaccine administration	March
Percentage of older adults vaccinated	20% (≥ 65 years)
Percentage of children under 5 vaccinated	1% (6-17years)
Percentage of pregnant women vaccinated	7%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	18%
Participation in studies evaluating influenza vaccine effectiveness	NA
Participation in studies evaluating the impact of influenza vaccination campaign	NA

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	NA
Samples sent to WHO Collaborating Center	NA
Number of samples analyzed for influenza during 2020	754
Number of samples analyzed for SARS-CoV-2 during 2020	35,458
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV, adenovirus, parainfluenza 1, 2, 3; metapneumovirus

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca, Janssen, Pfizer, SII-Covishield
Completed schedules per 100 people	11.14
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	NA
Participation in studies evaluating the impact of COVID-19 vaccination campaign	NA

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

COVID-19 Surveillance	Response
Type of surveillance	National
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	NA

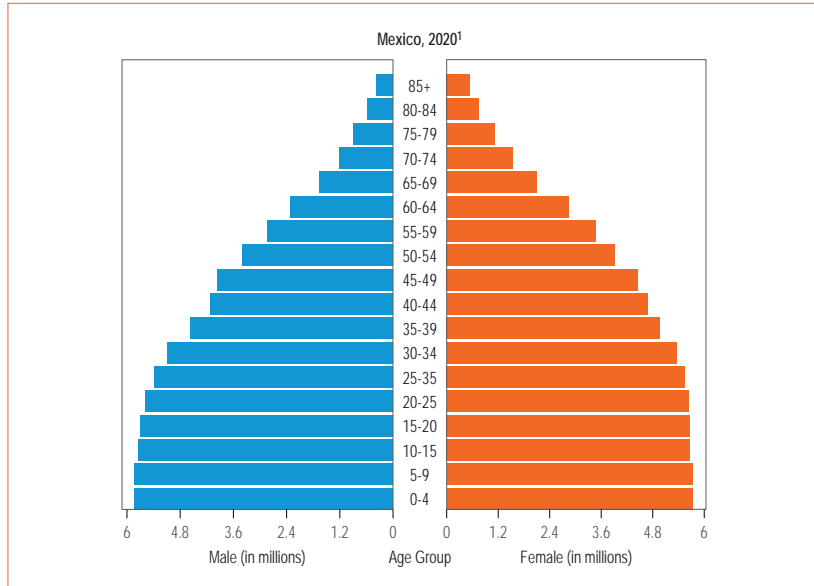
Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=JM](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=JM)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)





# Mexico



### POPULATION

Population (thousands)<sup>2</sup>: 128,933  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 66.3  
 Percentage of population < 5 years<sup>2</sup>: 8.5%  
 Percentage of population ≥ 65 years<sup>2</sup>: 7.6%

### MORTALITY

Gross mortality rate (per 1,000 population)<sup>2</sup>: 5.8  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 15.4  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 51.2

### PUBLIC HEALTH

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 24  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 1,066  
 National health expenditure as % of GDP 2016<sup>5</sup>: 2.7

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS							INFORMATION SYSTEM		
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	No*	Sentinel	100%	1	Yes	359	Sistema de vigilancia epidemiológica de enfermedad respiratoria viral - SISVER	NA	<a href="#">Online</a>
ILI	No*	Sentinel	10%	1	Yes	114	Sistema de vigilancia epidemiológica de enfermedad respiratoria viral - SISVER	NA	<a href="#">Online</a>
ARI	Yes	National	NA	None	Yes	25,000	Sistema único automatizado de vigilancia epidemiológica convencional – SUAVE	NA	<a href="#">Online</a>
PNEUMONIA	No†	National	NA	NA	Yes	None	Sistema único automatizado de vigilancia epidemiológica convencional – SUAVE	NA	<a href="#">Online</a>
INFLUENZA	No*	Sentinel	100%	Daily	Yes	478	Sistema de Vigilancia Epidemiológica de Influenza- SISVEFLU	SISVER	<a href="#">Online</a>

Surveillance Systems

\* A suspected case of Viral Respiratory Disease: Person of any age than in the last 10 days has had at least one of the following signs and symptoms: cough, dyspnea, fever, or headache<sup>‡</sup>, accompanied by at least one of the following signs or symptoms: myalgia, arthralgia, odynophagia, chills, chest pain, rhinorrhea, polypnea, anosmia, dysgeusia, conjunctivitis. †In children under five years of age, irritability can replace headache.

‡ Suspected case: Any person after a respiratory condition presents pleuritic pain and a rusty cough. Case: Any person who, after 1-3 days of having been in contact with patients with cough and runny nose, presents high fever, pleuritic pain, myalgia and raspy cough, dyspnea that can lead to death, with isolation of pneumococci in blood. Discarded Case: any person who, after 1-3 days of having been in contact with patients with cough and runny nose, who has high fever, no pleuritic pain, myalgia and raspy cough, dyspnea, and no Gram-positive diplococci are found in the sputum and there is no presence of polymorphonuclear leukocytes. Bronchopneumonia - Case: Any person of any age who presents with a fever of more than 38-40 °C, cough, expectoration with a previous history of upper respiratory infection, presents small focal opacities on the chest TV, in exudate there is no fibrin. Discarded case: Any person of any age who presents a fever of more than 38-40 °C, cough, expectoration with a previous history of upper respiratory tract infection, presents in chest X-ray small focal opacities, in exudate it presents fibrin.

\*Map Influenza Surveillance Capacity

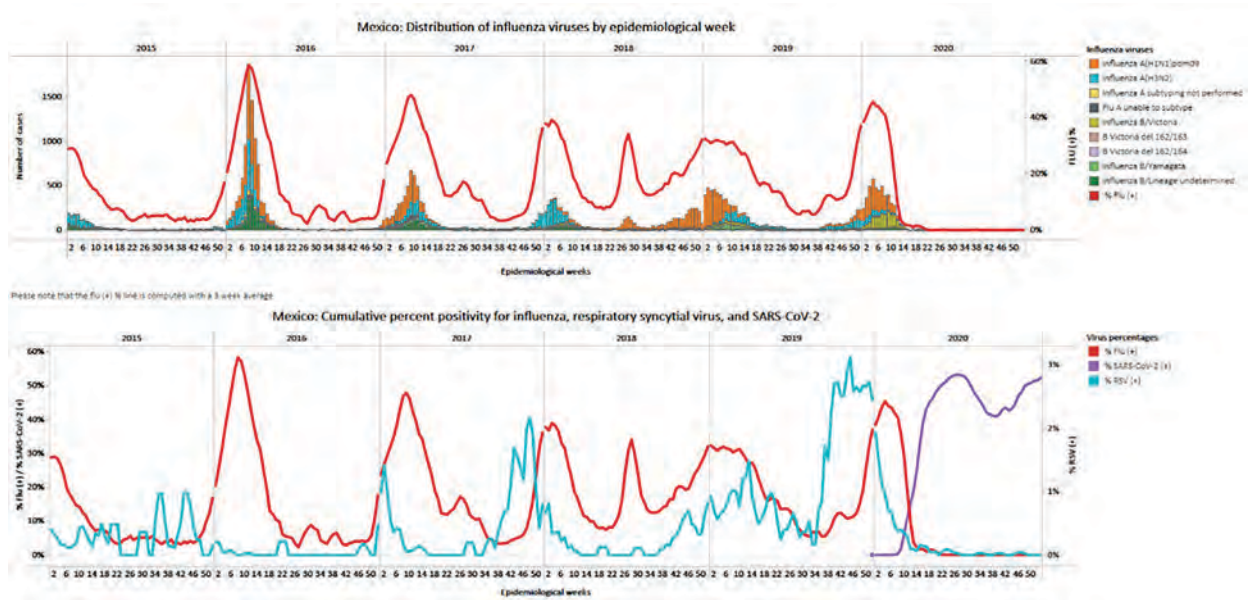
- **SARI Hospitals (N=359) (Not displayed on map)**  
 Aguascalientes (8), Baja California (6), Baja California Sur (10), Campeche (6), Coahuila (14), Colima (5), Chiapas (10), Chihuahua (11), Distrito Federal (27), Durango (5), Guanajuato (11), Guerrero (9), Hidalgo (17), Jalisco (9), Mexico (21), Michoacán (13), Morelos (7), Nayarit (10), Nuevo León (15), Oaxaca (12), Puebla (19), Querétaro (9), Quintana Roo (13), San Luis Potosí (10), Sinaloa (9), Sonora (16), Tabasco (11), Tamaulipas (6), Tlaxcala (13), Veracruz (16), Yucatán (6), Zacatecas (9).
- **ILI Centers (N=114) (Not displayed on map)**  
 Aguascalientes (5), Baja California (1), Baja California Sur (1), Campeche (1), Coahuila (1), Colima (4), Chiapas (2), Chihuahua (2), Distrito Federal (12), Durango (4), Guanajuato (4), Hidalgo (10), Jalisco (7), Mexico (1), Michoacán (2), Morelos (2), Nayarit (2), Nuevo León (7), Puebla (9), Querétaro (5), Quintana Roo (1), Sinaloa (3), Sonora (1), Tlaxcala (3), Veracruz (7), Yucatán (11), Zacatecas (4).

\* The data in the sentinel surveillance map are updated as of September 2021.  
 Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

- ◆ **National Influenza Centers (N=1)**  
 1. Instituto Nacional de Diagnóstico y Referencia Epidemiológicos  
 – Technical capacity: IF, RT-PCR, viral isolation, sequencing
- ▲ **Laboratories with PCR capacity (N=37)**  
 Aguascalientes, Baja California, Baja California Sur, Campeche, Chiapas, Chihuahua, Coahuila, Colima, Durango, Estado de México, Guanajuato, Guerrero, Hidalgo, Jalisco, Michoacán, Morelos, Nayarit, Nuevo León, Oaxaca, Puebla, Querétaro, Quintana Roo, San Luis Potosí, Sinaloa, Sonora, Tabasco, Tamaulipas, Tlaxcala, Veracruz, Yucatán, Zacatecas, Ciudad de México (6).  
 – Technical capacity: IF, RT-PCR

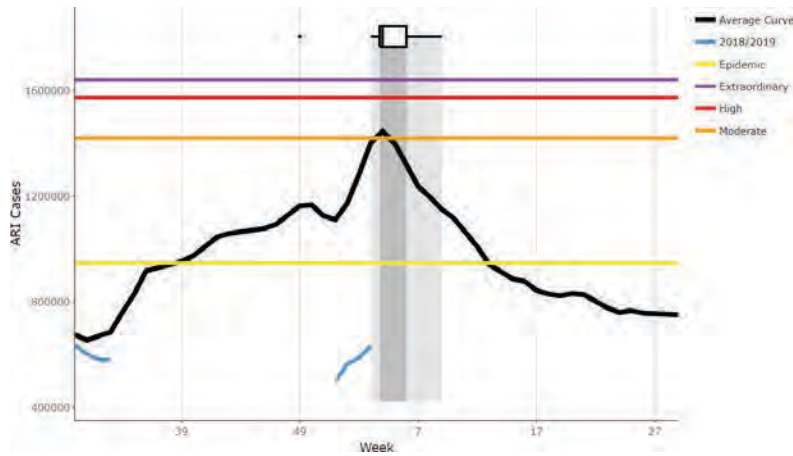
# Influenza and Respiratory Syncytial Virus

## Virologic data



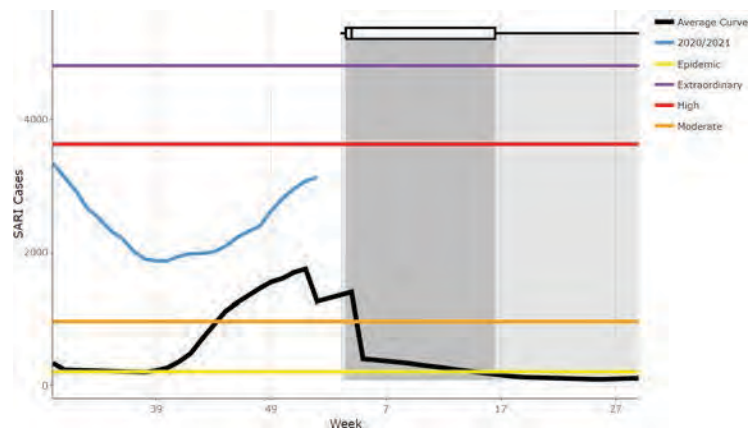
## Acute Respiratory Infection (ARI)

### Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

### Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	No
Year of original publication	2010
Year of last revision/update	2016
<b>COVID-19</b>	
Plan available	No
Part of an all-hazards plan	No
Simulations	No
Drills	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	Northern Hemisphere Trivalent
Month of vaccine administration	October-March
Percentage of older adults vaccinated	94% (≥ 60 years)
Percentage of children under 5 vaccinated	87% (6-59 months)
Percentage of pregnant women vaccinated	78%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	100%
Participation in studies evaluating influenza vaccine effectiveness	No
Participation in studies evaluating the impact of influenza vaccination campaign	No

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	68,165
Number of samples analyzed for SARS-CoV-2 during 2020	3,897,859
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV-Sentinel, adenovirus, parainfluenza 1, 2, 3, metapneumovirus, bocavirus, rhinovirus

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca, CanSino, Sputnik V, Janssen, Moderna, Pfizer, Sinovac
Completed schedules per 100 people	37.07
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	No
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

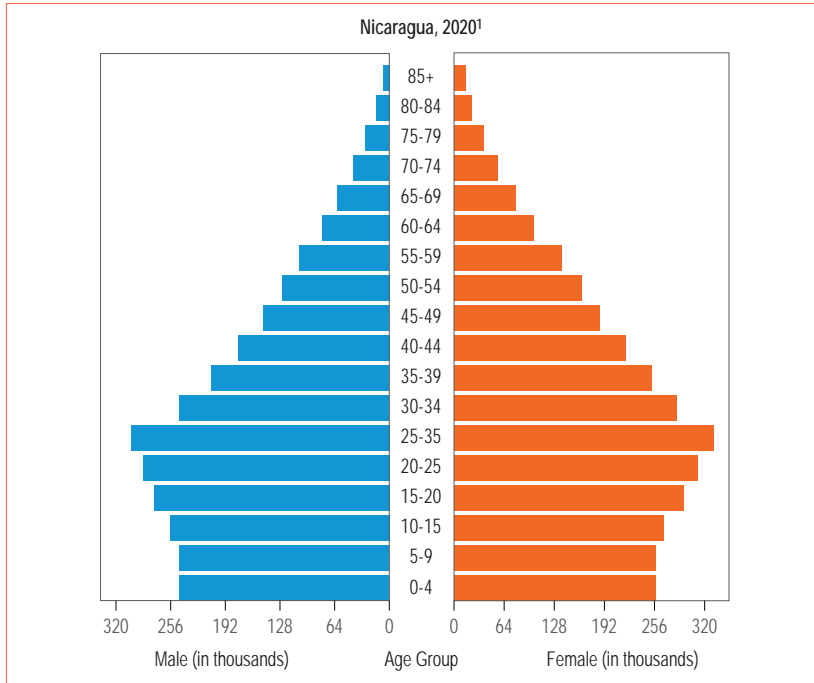
COVID-19 Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	NA

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=MX](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=MX)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC)
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Nicaragua



**POPULATION**

Population (thousands)<sup>2</sup>: 6,625

Population density (per km<sup>2</sup>)<sup>3</sup>: 55.0

Percentage of population < 5 years<sup>2</sup>: 9.9%

Percentage of population ≥ 65 years<sup>2</sup>: 5.7%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 6.5

Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 13

Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 50.4

**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 9

Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 473.9

National health expenditure as % of GDP 2016<sup>5</sup>: 5.1

Sociodemographic Indicators

Event	SURVEILLANCE SYSTEM CHARACTERISTICS					INFORMATION SYSTEM			
	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	No	Sentinel	100%	2 times/week	Yes	6	Alerta	NA	<a href="#">Online</a>
ILI	No	Sentinel	Quota (3 samples/week)	Weekly	Yes	6	Alerta	NA	<a href="#">Online</a>
ARI	Yes	National	NA	NA	None	172	SIVE	NA	<a href="#">Online</a>
PNEUMONIA	*No	National	NA	NA	Yes	172	SIVE	NA	<a href="#">Online</a>

\* Acute lower respiratory disease characterized by fever, prostration, sore throat, cough with expectoration, and shortness of breath. It does not consider the infections resulting from the Infections Associated with Health Care.

Surveillance Systems

- **SARI Hospitals (N=6)**
  1. Hospital Infantil Manuel de Jesús Rivera La Mascota (Managua)
  2. Hospital Alemán Nicaragüense (Managua)
  3. Hospital Roberto Calderón (Managua)
  4. Hospital Humberto Alvarado (Masaya)
  5. Hospital San Juan de Dios (Estelí)
  6. Hospital Primario General Pedro Altamirano (Estelí)
- **ILI Centers (N=6)**
  1. Centro de Salud Villa Libertad (Managua)
  2. Centro de Salud Sócrates Flores (Managua)
  3. Centro de Salud Monimbo (Masaya)
  4. Centro de Salud de Tisma Francisco Buitrago (Masaya)
  5. Centro de Salud Alejandro Dávila Bolaños (Masaya)

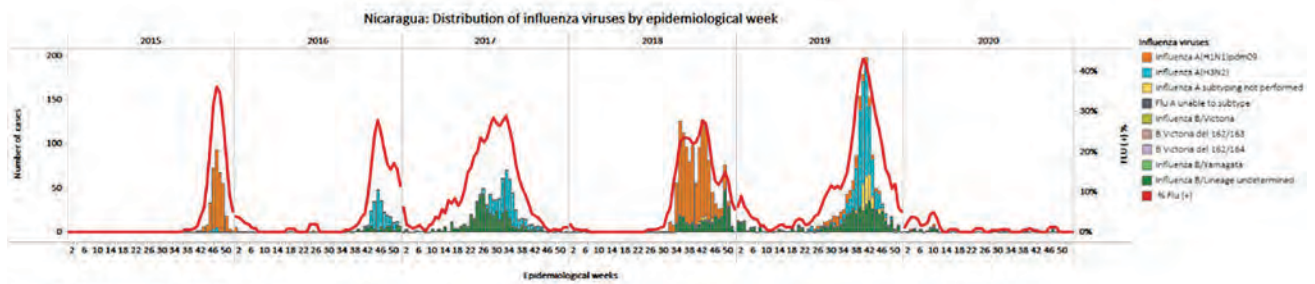
6. Centro de Salud Leonel Rugama (Estelí)

- ◆ **National Influenza Centers (N=1)**
  1. Centro Nacional de Diagnóstico y Referencia (Managua)
    - Technical capacity: IF, RT-PCR, viral isolation, sequencing
- ▲ **Laboratories with IF capacity (N=3)**
  1. Hospital Infantil Manuel de Jesús Rivera La Mascota (Managua)
  2. Laboratorio del Hospital Humberto Alvarado (Masaya)
  3. Hospital San Juan de Dios (Estelí)
- ▲ **Laboratories with PCR capacity (N=1)**
  1. Hospital Infantil Manuel de Jesús Rivera La Mascota (Managua)

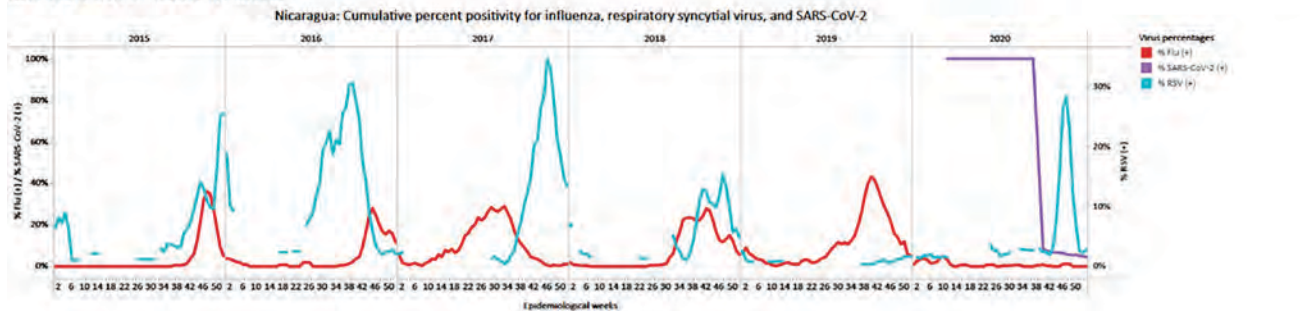
\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data

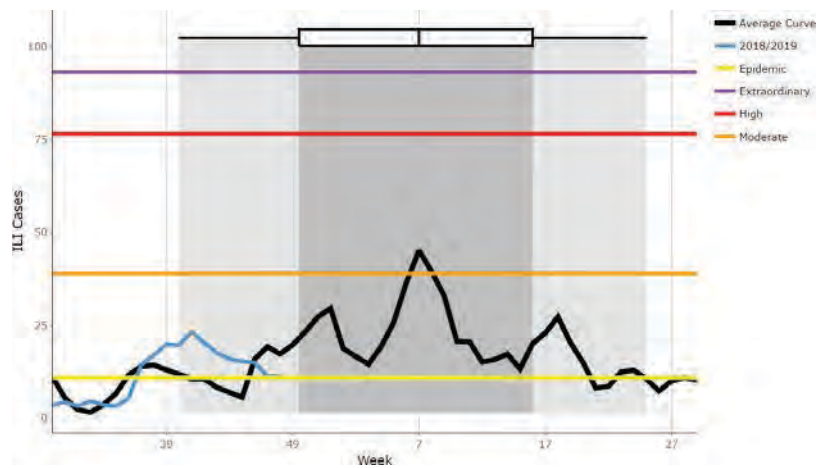


Please note that the Flu (%) line is computed with a 3 week average.



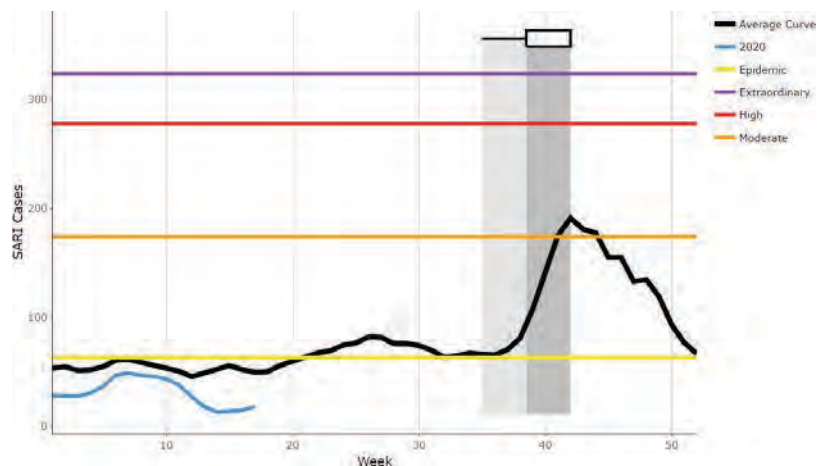
## Influenza-Like Illness (ILI)

### Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

### Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2006
Year of last revision/update	2020
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Simulations	Yes
Drills	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	Southern Hemisphere Trivalent
Month of vaccine administration	May
Percentage of older adults vaccinated	NA
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	Yes*
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	100%
Participation in studies evaluating influenza vaccine effectiveness	Yes
Participation in studies evaluating the impact of influenza vaccination campaign	Yes

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	No
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	No
Number of samples analyzed for influenza during 2020	3,639
Number of samples analyzed for SARS-CoV-2 during 2020	21,786
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV-Non-Sentinel, adenovirus, parainfluenza 1, 2, 3, metapneumovirus, bocavirus, rhinovirus

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca, Sputnik V, Pfizer, SII-Covishield
Completed schedules per 100 people	4.90
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	No
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	Yes
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance		Response
Type of surveillance		Sentinel
Report		In progress
FluID	Reported > 33%	In progress
	Reported to WHO in 2020	In progress
Report		Yes
FluNet	Reported > 33%	Yes
	Reported to WHO in 2020	Yes
		Transmissibility: In progress
PISA indicators		Seriousness of disease: In progress
		Impact: In progress

COVID-19 Surveillance		Response
Type of surveillance		NA
Report		In progress
FluID	Reported > 33%	In progress
	Reported to WHO in 2020	In progress
Report		Yes
FluNet	Reported > 33%	Yes
	Reported to WHO in 2020	Yes
		Transmissibility: In progress
PISA indicators		Seriousness of disease: In progress
		Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic		No

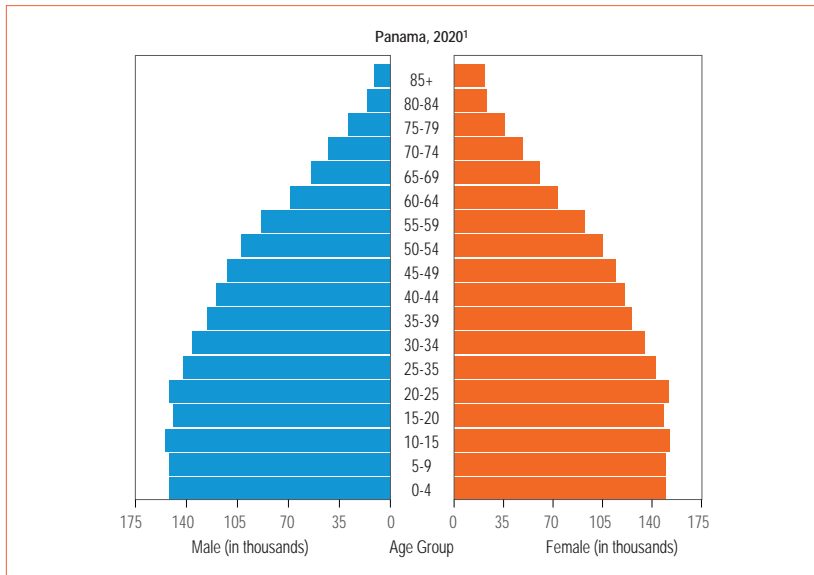
Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=NU](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=NU)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
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# Panama



### POPULATION

Population (thousands)<sup>2</sup>: 4,315  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 58.1  
 Percentage of population < 5 years<sup>2</sup>: 9%  
 Percentage of population ≥ 65 years<sup>2</sup>: 8.5%

### MORTALITY

Gross mortality rate (per 1,000 population)<sup>2</sup>: 4.4  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 14.9  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 59.7

### PUBLIC HEALTH

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 16  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 1,856.7  
 National health expenditure as % of GDP 2016<sup>5</sup>: 4.6

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	Quota (100 samples/week)	Weekly	Yes	10	SISVIG	NA	Online
ILI	Yes	Sentinel/National	Quota (100 samples/week)	Weekly	No	5	SISVIG	NA	Online
ARI	Yes	National	NA	None	None	324	SISVIG	NA	
PNEUMONIA	No* ICD-10 codes (J09.X-J18.9)	National	No	Weekly	Yes	None	SISVIG	NA	Online
INFLUENZA	NA	Sentinel	Quota (5 samples/week)	Weekly	NA	16	SISVIG	Yes	Online
INFLUENZA MORTALITY	NA	National	100%	Weekly	NA	317	SISVIG-VIGMOR	Yes	Online

Surveillance Systems

\* Patient with a clinical diagnosis of pneumonia or bronchopneumonia.

- **SARI Hospitals (N=10)**
  - Hospital del Niño (Ciudad de Panamá)
  - Hospital de Especialidades Pediátrica (Ciudad de Panamá)
  - Hospital Regional de Chepo (Chepo)
  - Hospital Rafael Hernández (David)
  - Hospital Nicolás A. Solano (La Chorrera)
  - Hospital San Miguel Arcángel (San Miguelito)
  - Hospital Rafael Estévez (Ciudad de Aguadulce)
  - Hospital Luis Chicho Fábrega (Ciudad de Santiago)
  - Hospital Joaquín Pablo Franco Sayas (Las Tablas)
  - Hospital José Domingo de Obaldía (David)
- ◆ **National Influenza Centers (N=1)**
  - Laboratorio de Virología (ICGES Instituto Conmemorativo Gorgas de Estudios de la Salud)
    - Technical capacity: IF, RT-PCR, viral isolation, sequencing

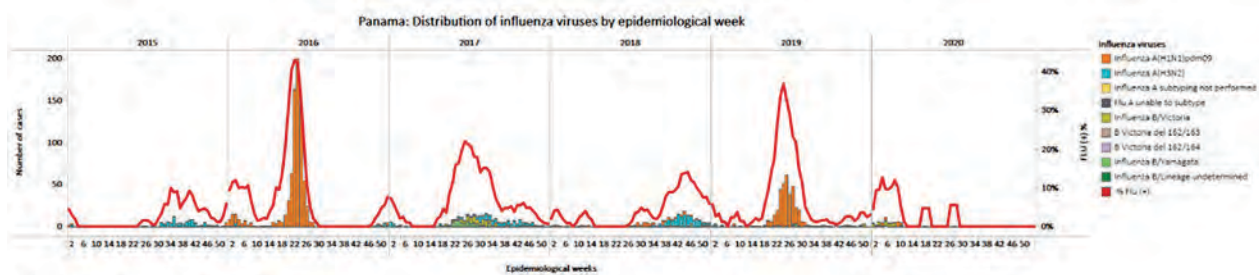
- **ILI Centers (N=5)**
  - Centro de Salud de Tocumen
  - Centro de Salud Parque Lefevre
  - Policlínica Gustavo A. Ross
  - Policlínica Manuel Ferrer Valdés
  - Centro de Salud de Canto del Llano
- ▲ **Laboratories with PCR capacity (N=1)**
  - Hospital José Domingo de Obaldía
- △ **Laboratories with IF capacity (N=1)**
  - Hospital Luis Chicho Fábrega

\*Map Influenza Surveillance Capacity

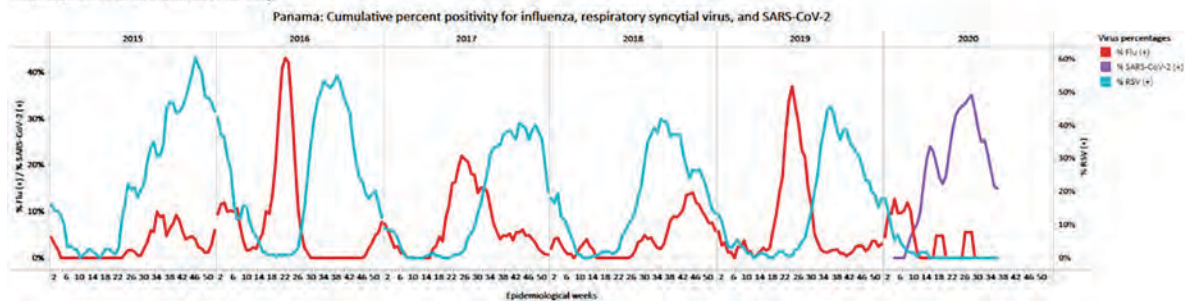
\* The data in the sentinel surveillance map are updated as of September 2021. Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

# Influenza and Respiratory Syncytial Virus

## Virologic data

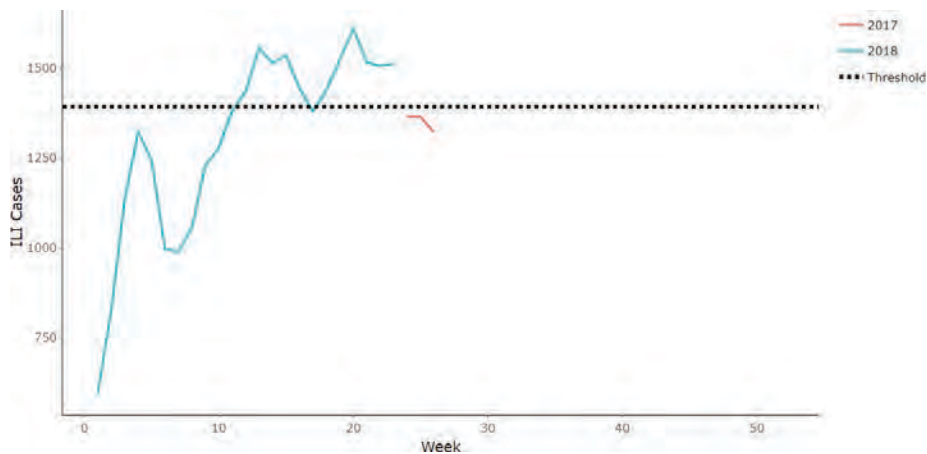


Please note that the Flu (%) line is computed with a 5 week average



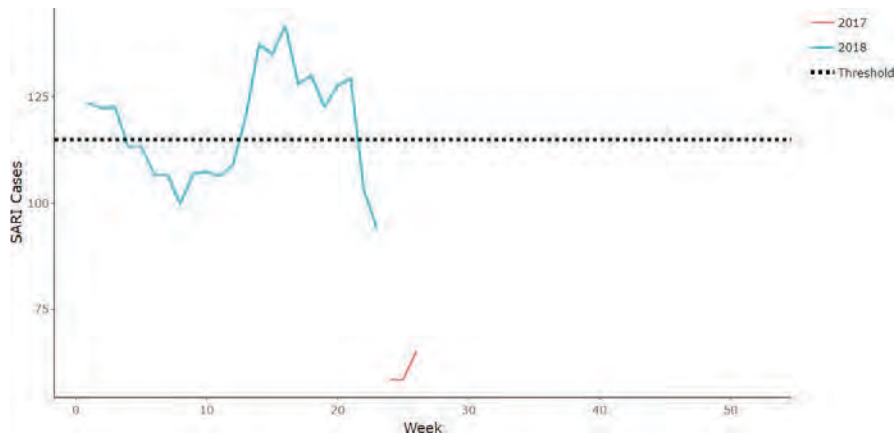
## Influenza-Like Illness (ILI)

### Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

### Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2008
Year of last revision/update	2018
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	No
Simulations	No
Drills	No

Influenza Vaccine <sup>7</sup>	Response
Composition	Southern Hemisphere Quadrivalent
Month of vaccine administration	April
Percentage of older adults vaccinated	99% (≥ 60 years)
Percentage of children under 5 vaccinated	61% (6-59 months)
Percentage of pregnant women vaccinated	73%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	89%
Participation in studies evaluating influenza vaccine effectiveness	Yes
Participation in studies evaluating the impact of influenza vaccination campaign	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	932
Number of samples analyzed for SARS-CoV-2 during 2020	368,718
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV-Sentinel, RSV-Non-sentinel, adenovirus, parainfluenza 1, 2, 3, metapneumovirus, bocavirus, rhinovirus

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca, Pfizer
Completed schedules per 100 people	59.58
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	Yes
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Human-Animal Interface for Influenza		Response
Intersectoral meetings		No
Information sharing between sectors		Yes
Surveillance of unusual respiratory cases with exposure to animals		No

Influenza Surveillance		Response
Type of surveillance		Sentinel / National
Report		In progress
FluID	Reported > 33%	In progress
Reported to WHO in 2020		In progress
Report		Yes
FluNet	Reported > 33%	Yes
Reported to WHO in 2020		Yes
		Transmissibility: In progress
PISA indicators		Seriousness of disease: In progress
		Impact: In progress

Influenza Disease Burden		Response
Estimation of medical burden for influenza		Yes
Estimation of economic burden for influenza		Yes
Publication of influenza burden of disease		NA

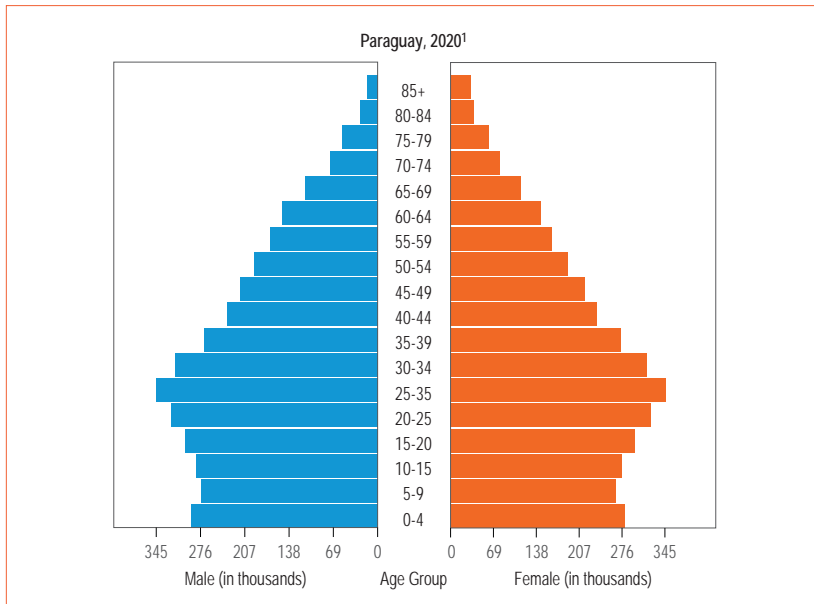
COVID-19 Surveillance		Response
Type of surveillance		Sentinel / National
Report		In progress
FluID	Reported > 33%	In progress
Reported to WHO in 2020		In progress
Report		In progress
FluNet	Reported > 33%	In progress
Reported to WHO in 2020		In progress
		Transmissibility: In progress
PISA indicators		Seriousness of disease: In progress
		Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic		No

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=PM](https://www.census.gov/data-tools/demo/idb/#country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=PM)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. Pan American Health Organization. Immunization in the Americas: 2021 Summary [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 4]. Available from: <https://www.paho.org/en/documents/immunization-americas-2021-summary>
8. Pan American Health Organization/World Health Organization (2021). COVID-19 Vaccination in the Americas. [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp). Updated on 8 Oct 2021.



# Paraguay



### POPULATION

Population (thousands)<sup>2</sup>: 7,133  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 17.9  
 Percentage of population < 5 years<sup>2</sup>: 9.8%  
 Percentage of population ≥ 65 years<sup>2</sup>: 6.8%

### MORTALITY

Gross mortality rate (per 1,000 population)<sup>2</sup>: 5.8  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 14.7  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 74.1

### PUBLIC HEALTH

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 24  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 935.3  
 National health expenditure as % of GDP 2016<sup>5</sup>: 2.9

Sociodemographic Indicators

Event	SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM		
	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	5%	Weekly	Yes	10	Sistema de IRAG	Yes	Online
ILI	Yes	Sentinel	Quota (3-5 samples/week)	2/week	Yes	5	Sistema de ETI	Yes	Online
ARI	Yes	National	No	No	None	NA	Planilla semanal de enfermedades de notificación obligatoria (ENO)	NA	NA
PNEUMONIA	No; ICD-10 codes (J15, J18, J22)	National	No	No	No	None		NA	NA
INFLUENZA	NA	Sentinel	100	No	NA	10	Vigilancia centinela de la ETI y de la IRAG	Yes	NA

Surveillance Systems

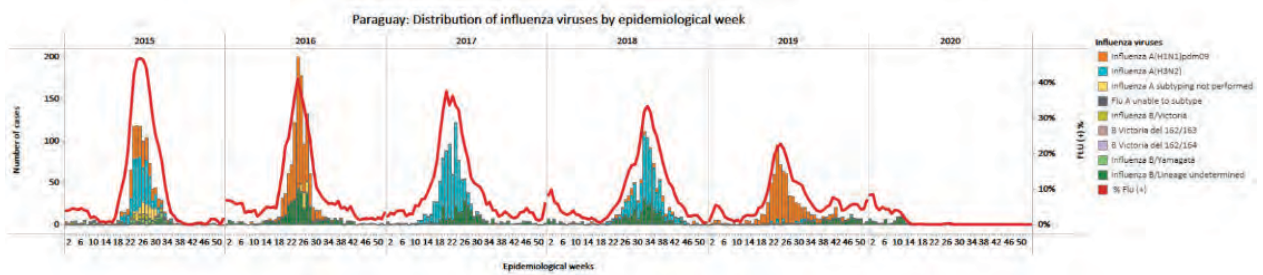
- **SARI Hospitals (N=10)**
  - Hospital Central Instituto Previsión Social (Asunción)
  - Hospital General de Barrio Obrero (Asunción)
  - Instituto Nacional de Enfermedades Respiratorias y del Ambiente (Asunción)
  - Instituto de Medicina Tropical (Asunción)
  - Hospital Nacional de Itauguá (Itauguá)
  - Hospital General Pediátrico Niños de Acosta Ñu (San Lorenzo)
  - Hospital Regional de Coronel Oviedo (Coronel Oviedo)
  - Hospital Regional de Encarnación (Encarnación)
  - Hospital Regional de Ciudad del Este (Ciudad del Este)
  - Hospital Regional de Pedro Juan Caballero (Pedro Juan Caballero)
- **ILI Centers (N=5)**
  - Hospital General de Barrio Obrero (Asunción – Capital)
  - Hospital Regional de Coronel Oviedo (Coronel Oviedo)
  - Hospital Regional de Encarnación (Encarnación – Itapúa)
  - Hospital Regional de Ciudad del Este (Ciudad del Este – Alto Paraná)
  - Hospital Regional de Pedro Juan Caballero (Pedro Juan Caballero – Amambay)
- ◆ **National Influenza Centers (N=1)**
  - Laboratorio Central de la Salud Pública  
– Technical capacity: IF, RT-PCR, viral isolation
- ▲ **Laboratories with PCR capacity (N=3)**
  - Instituto de Medicina Tropical (Asunción)
  - Hospital Nacional de Itauguá (Itauguá)
  - Hospital General Pediátrico Niños de Acosta Ñu (San Lorenzo)
- △ **Laboratories with IF capacity (N=1)**
  - Laboratorio Hospital Pediátrico de San Lorenzo

\* The data in the sentinel surveillance map are updated as of September 2021.  
 Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

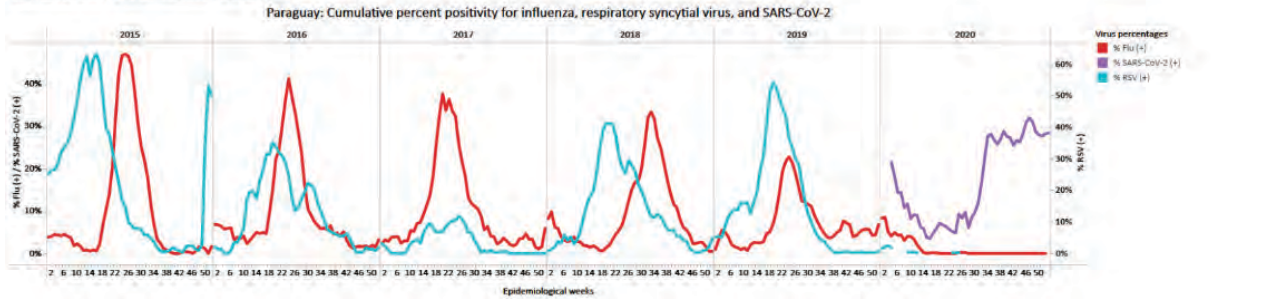
\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data

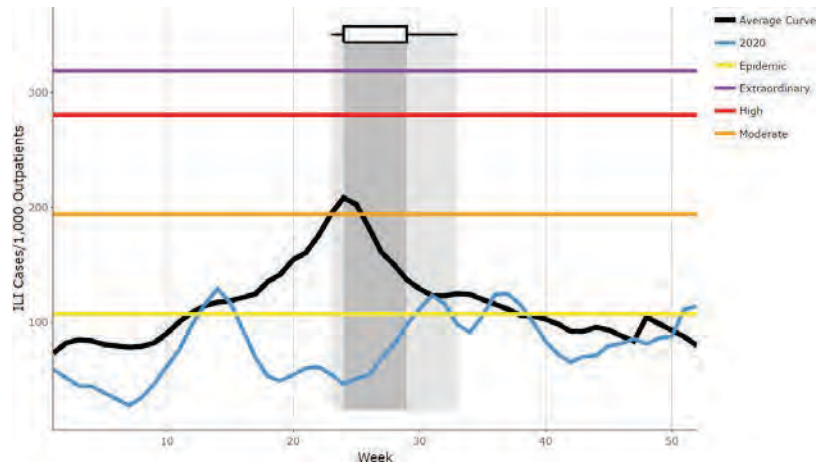


Please note that the Flu (%) line is computed with a 3 week average



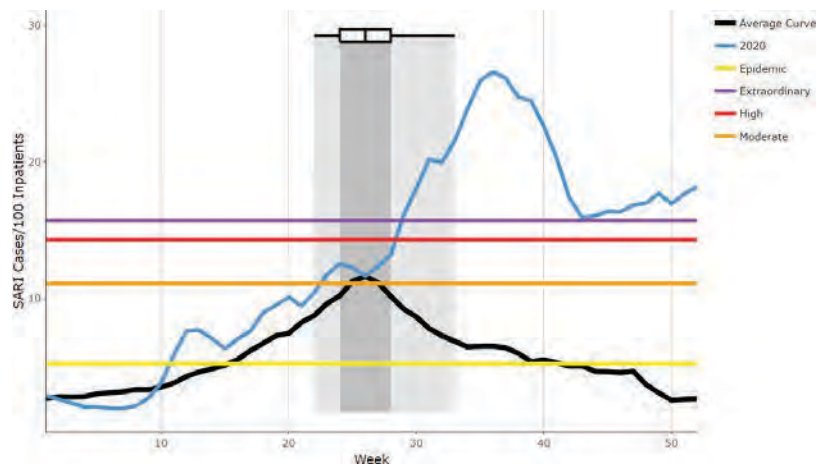
## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	No
Year of original publication	2011
Year of last revision/update	2019
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	No
Simulations	Yes
Drills	No

Influenza Vaccine <sup>7</sup>	Response
Composition	Southern Hemisphere Trivalent
Month of vaccine administration	April
Percentage of older adults vaccinated	47% (≥ 60 years)
Percentage of children under 5 vaccinated	23% (6-36 months)
Percentage of pregnant women vaccinated	16%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	Yes*
Participation in studies evaluating influenza vaccine effectiveness	Yes
Participation in studies evaluating the impact of influenza vaccination campaign	Yes

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	12,353
Number of samples analyzed for SARS-CoV-2 during 2020	167,205
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV-Sentinel, adenovirus, parainfluenza 1, 2, 3, metapneumovirus,

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca, Beijing CNBG, Sputnik V, Bharat-Covaxin, Juhphar, Moderna, Pfizer, Sinovac
Completed schedules per 100 people	28.51
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	Yes
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Influenza Disease Burden	Response
Estimation of medical burden for influenza	Yes
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: Yes
PISA indicators	Seriousness of disease: Yes
	Impact: Yes

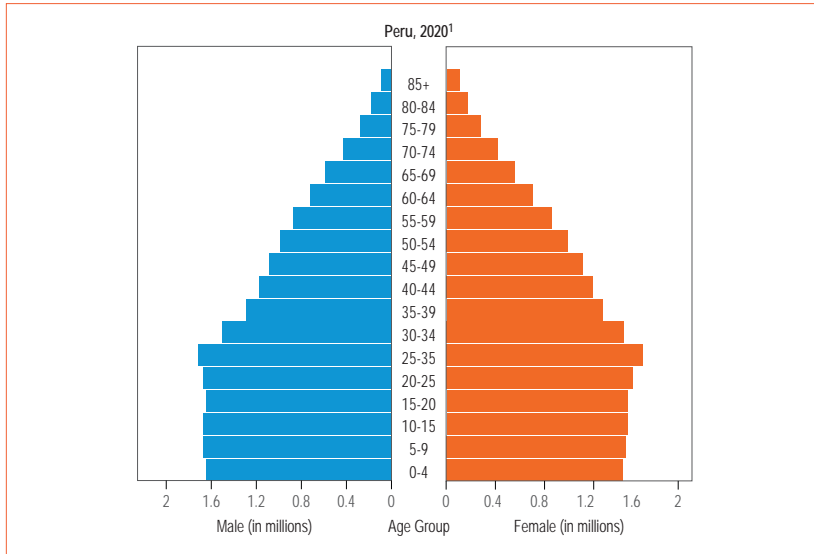
COVID-19 Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: Yes
PISA indicators	Seriousness of disease: Yes
	Impact: Yes
PISA tool used to adapt PHSM during COVID-19 pandemic	No

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=PA](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=PA)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Peru



POPULATION
Population (thousands) <sup>2</sup> : 32,972
Population density (per km <sup>2</sup> ) <sup>3</sup> : 25.7
Percentage of population < 5 years <sup>2</sup> : 8.6%
Percentage of population ≥ 65 years <sup>2</sup> : 8.7%

MORTALITY
Gross mortality rate (per 1,000 population) <sup>2</sup> : 4.2
Mortality rate from all causes at < 5 years of age (per 1,000 live births) <sup>2</sup> : 13.2
Mortality rate due to communicable diseases (per 100,000 population) <sup>2</sup> : 73.5

PUBLIC HEALTH
Number of medical doctors working in the public system (per 10,000 population) <sup>2</sup> : 14.0
Current health expenditure per capita, PPP* (current international \$) <sup>4</sup> : 766.6
National health expenditure as % of GDP 2016 <sup>5</sup> : 3.3

Event	SURVEILLANCE SYSTEM CHARACTERISTICS					INFORMATION SYSTEM			
	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Only report
SARI	Yes	Sentinel	100	1	Yes	7	NotiWeb - Influenza	NA	No
ILI	Yes	Sentinel	6	1	Yes	21	NotiWeb - Influenza	NA	No
ARI	Yes	National	NA	None	None	NA	NotiWeb	NA	No
PNEUMONIA	No*	National	NA	NA	Yes	None	NotiWeb	NA	No
INFLUENZA MORTALITY	NA	NA	Yes	NA	NA	NA	NA	SIEPI-Flu	No

\*Pneumonia in children under 5 years old: All cases in children under 5 years of age who, in addition to having a cough, fever, or runny nose, have rapid breathing and/or respiratory distress. In more complex health facilities, in addition to clinical signs, the diagnosis can be confirmed or ruled out by radiological evidence of an acute pulmonary infiltrate compatible with pneumonia. Severe pneumonia in children under 5 years of age: Any episode of pneumonia in children under 5 years of age, which also presents some warning sign (severe respiratory distress, presence of subcostal retractions, stridor or wheezing, central cyanosis, inability to feed or drink, persistent vomiting, seizures, lethargy, or coma) or any complications. In children under 2 months of age, any case of pneumonia will be considered a serious case. Pneumonia in people 5 years and older: All patients 5 years of age and older with a clinical and/or radiological diagnosis of community-acquired pneumonia, with an illness time of less than 15 days.

- SARI Hospitals (N=7)**
  - Hospital Docente Las Mercedes (Lambayeque)
  - Hospital Nacional Arzobispo Loayza (Lima)
  - Hospital Nacional Cayetano Heredia (Lima)
  - Hospital Iquitos César Garayay García (Loreto)
  - Hospital Carlos Monge Medrano de Juliaca (Puno)
  - Hospital de Apoyo Departamental Hipólito Unanue de Tacna (Tacna)
  - Hospital Regional de Cusco (Cusco)
- ILI Centers (N=21)**
  - Hospital Víctor Ramos Guardia (Huaraz)
  - C.S. Maritza Campos (Zamacoila)
  - Hospital Regional Ayacucho (Ayacucho)
  - Hospital Regional Cajamarca (Cajamarca)
  - Manuel Bonilla (Callao)
  - C.S. Tío (Cusco)
  - Hospital Departamental de Huancavelica (Huancavelica)
  - Hospital El Carmen (Junín)
  - C.S. José Olaya (Lambayeque)
  - Hospital Dos de Mayo (Lima)
  - Hospital San Bartolomé (Lima)
  - Hospital Emergencias Pediátricas (Lima)
  - José Agurto Tello (Lima)

- Hospital María Auxiliadora (Lima)
- C.S.M.I. Manuel Barreto (Lima)
- Hospital de Chancay (Lima)
- E.S.I-3 San José (Piura)
- C.S. Simón Bolívar (Puno)
- C.S. San Francisco (Tacna)
- C.S. Zarumilla (Tumbes)
- Hospital Apoyo Yarinacocha (Ucayali)

- Laboratories with IF capacity (N= 11)**  
Arequipa, Ayacucho, Cajamarca, Huancavelica, Junín, Lambayeque, Piura, Puno, Tacna, Tumbes, Ucayali  
– Technical capacity: IF
- Laboratories with PCR capacity (N=2)**
  - Laboratorio Hospital Regional de Cusco (Cusco)
  - Laboratorio Hospital Iquitos Cesar Garayay García (Loreto)  
– Technical capacity: IF, RT-PCR
- National Influenza Centers (N=1)**
  - National Center for Public Health, National Health Institute (Lima)  
– Technical capacity: IF, RT-PCR, viral isolation, sequencing

\* The data in the sentinel surveillance map are updated as of September 2021.  
Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

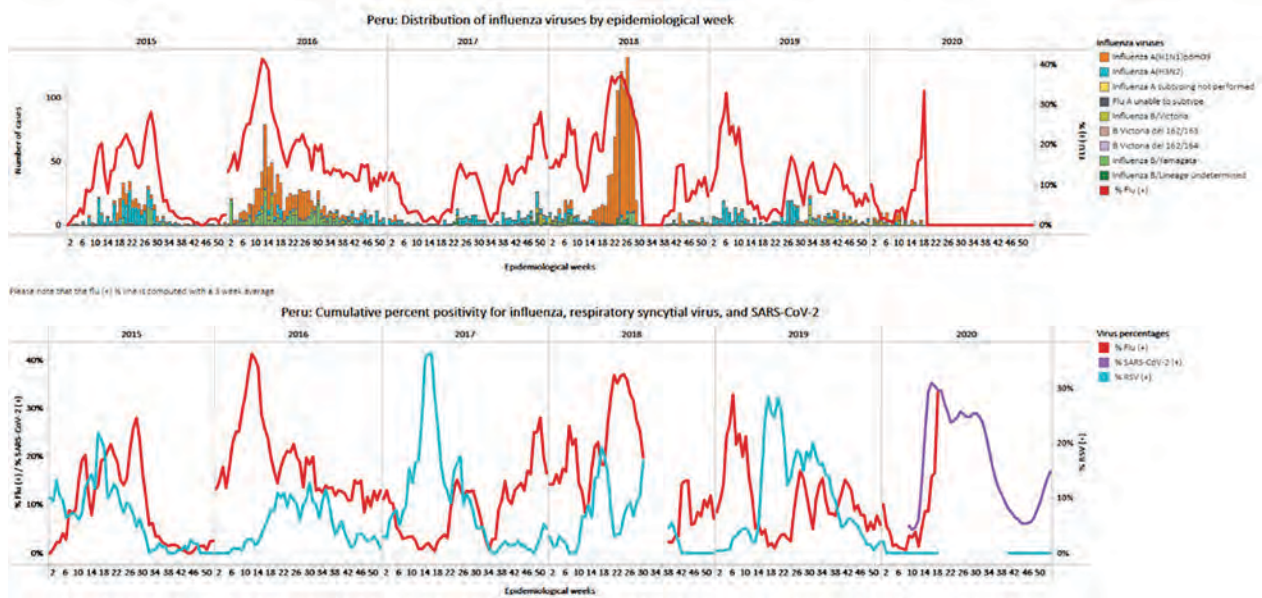
Sociodemographic Indicators

Surveillance Systems

\*Map Influenza Surveillance Capacity

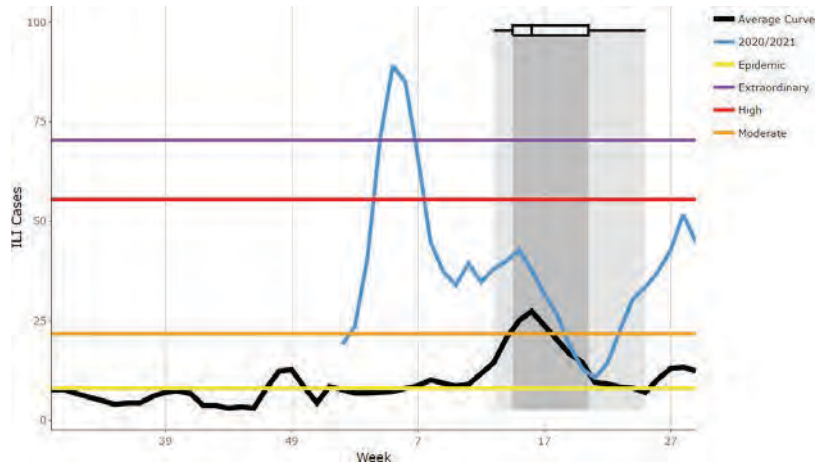
# Influenza and Respiratory Syncytial Virus

## Virologic data



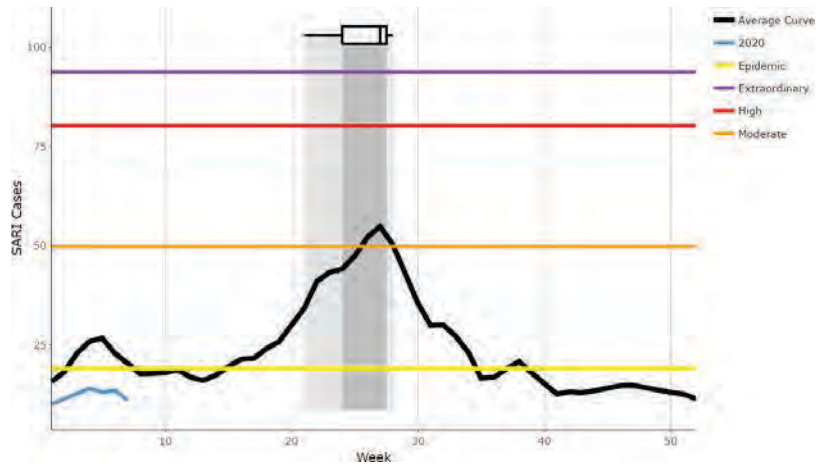
## Influenza-Like Illness (ILI)

### Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

### Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2006
Year of last revision/update	2014/2015
<b>COVID-19</b>	
Plan available	No
Part of an all-hazards plan	No
<b>Simulations</b>	
	Yes
<b>Drills</b>	
	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	Southern Hemisphere Trivalent
Month of vaccine administration	May
Percentage of older adults vaccinated	69% (> 60 years)
Percentage of children under 5 vaccinated	81%
Percentage of pregnant women vaccinated	44%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	Yes*
Participation in studies evaluating influenza vaccine effectiveness	No
Participation in studies evaluating the impact of influenza vaccination campaign	No

\*Yes - influenza vaccination recommended.

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	4,076
Number of samples analyzed for SARS-CoV-2 during 2020	1,343,343
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV-Sentinel, adenovirus, metapneumovirus, rhinovirus

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca, Beijing CNBG, Pfizer
Completed schedules per 100 people	40.73
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	No
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	Yes

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	In progress
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

Influenza Disease Burden	Response
Estimation of medical burden for influenza	Yes
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	<a href="#">Online</a>

COVID-19 Surveillance	Response
Type of surveillance	Sentinel
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	No

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=PE](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=PE)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. Pan American Health Organization. Immunization in the Americas: 2021 Summary [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 4]. Available from: <https://www.paho.org/en/documents/immunization-americas-2021-summary>
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Saint Lucia

### POPULATION

Population (thousands)<sup>2</sup>: 184.4  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 301.0  
 Percentage of population < 5 years<sup>2</sup>: 0.1%  
 Percentage of population ≥ 65 years<sup>2</sup>: 0.1%

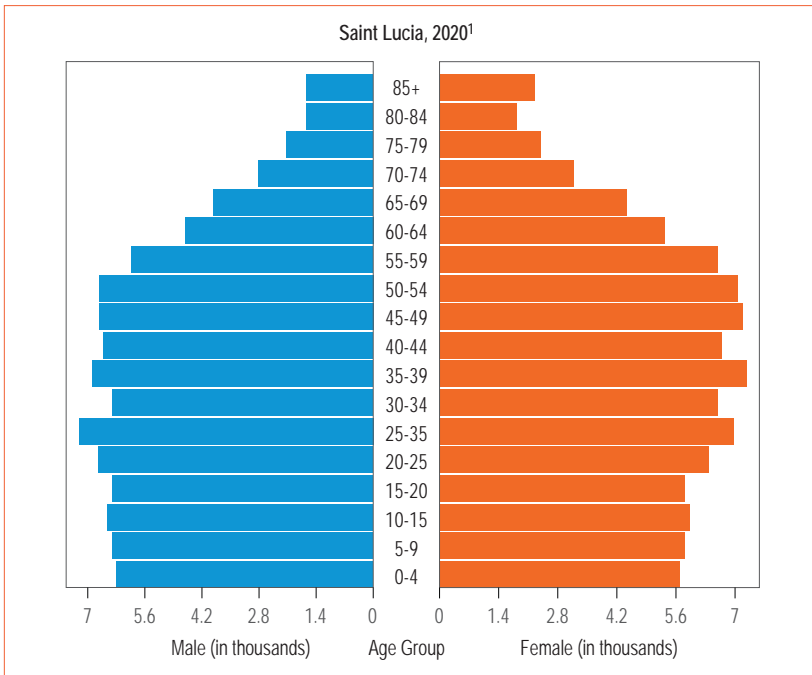
### MORTALITY

Gross mortality rate (per 1,000 population)<sup>2</sup>: 6.5  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 17.4  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 61.7

### PUBLIC HEALTH

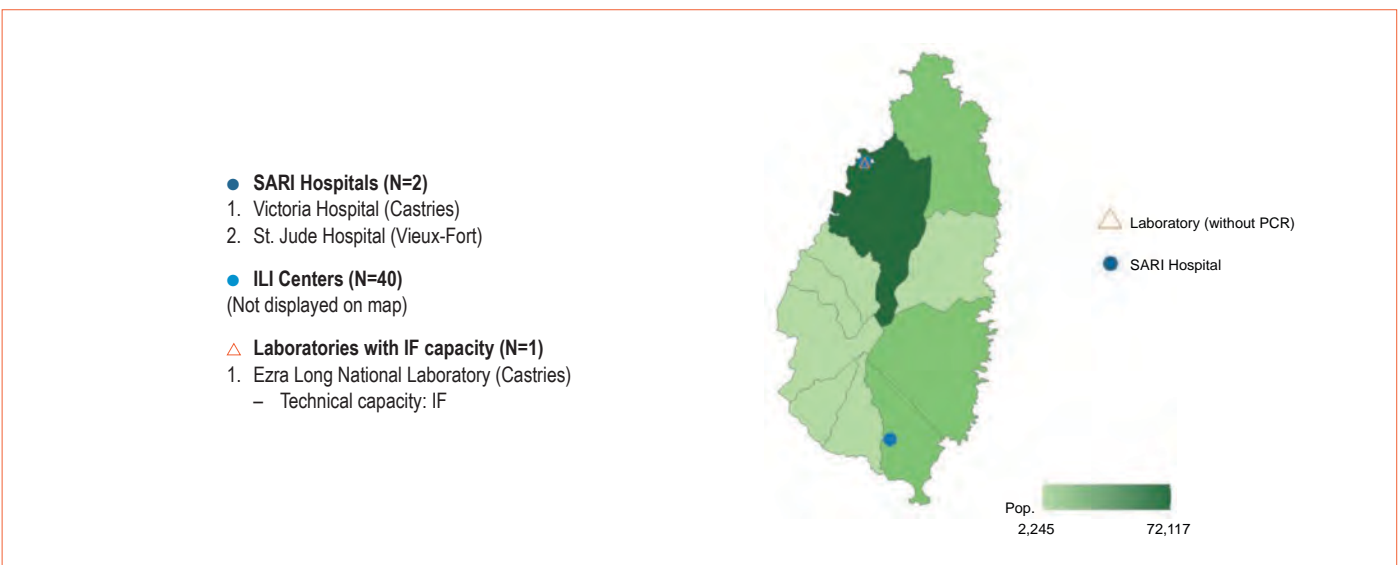
Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 20.0  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 610.5  
 National health expenditure as % of GDP 2016<sup>5</sup>: 2.1

Sociodemographic Indicators



Event	SURVEILLANCE SYSTEM CHARACTERISTICS					INFORMATION SYSTEM			
	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	100%	Weekly	NA	2	PAHOFlu	NA	No
ILI	Yes	Sentinel	0	Weekly	No	40	Saint Lucia Health Information System (SLU-HIS)	NA	No
ARI	Yes	Sentinel	NA	None	No	40	NA	NA	No
INFLUENZA	NA	Sentinel	NA	Weekly	NA	2	PAHOFlu	Yes	No

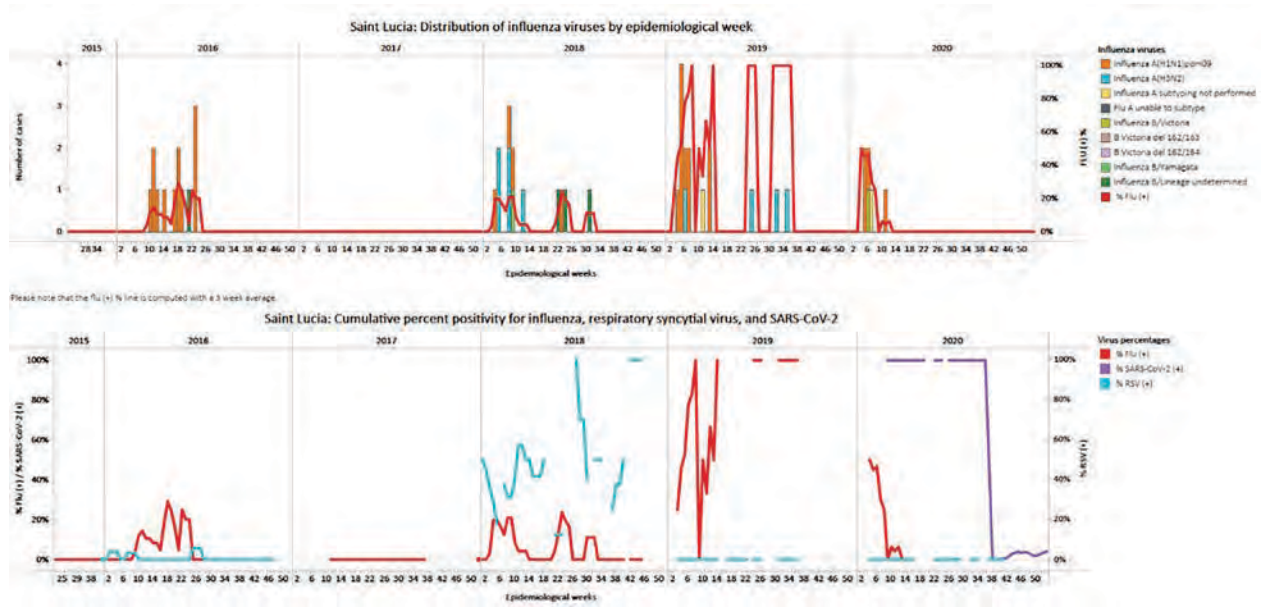
Surveillance Systems



\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data



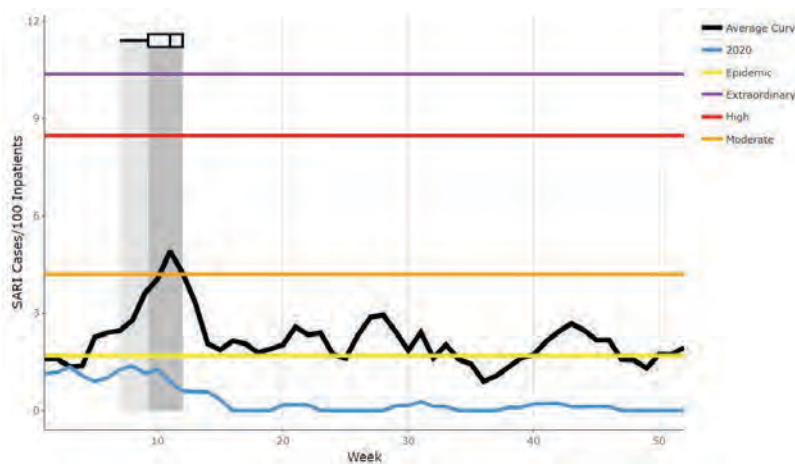
## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>

Not applicable

## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	NA
Part of an all-hazards plan	NA
Year of original publication	NA
Year of last revision/update	NA
<b>COVID-19</b>	
Plan available	NA
Part of an all-hazards plan	NA
<b>Simulations</b>	
	NA
<b>Drills</b>	
	NA

Influenza Vaccine <sup>7</sup>	Response
Composition	NA
Month of vaccine administration	NA
Percentage of older adults vaccinated	NA
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	Yes*
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	Yes*
Participation in studies evaluating influenza vaccine effectiveness	NA
Participation in studies evaluating the impact of influenza vaccination campaign	NA

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	NA
Information sharing between sectors	NA
Surveillance of unusual respiratory cases with exposure to animals	NA

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	NA
Samples sent to WHO Collaborating Center	NA
Number of samples analyzed for influenza during 2020	34
Number of samples analyzed for SARS-CoV-2 during 2020	13,227
Specimens tested for other respiratory viruses (ORV)	NA
Other respiratory viruses identified	NA

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca, Pfizer, SII-Covishield
Completed schedules per 100 people	19.84
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	NA
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	NA
Participation in studies evaluating the impact of COVID-19 vaccination campaign	NA

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	In progress
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

COVID-19 Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	NA

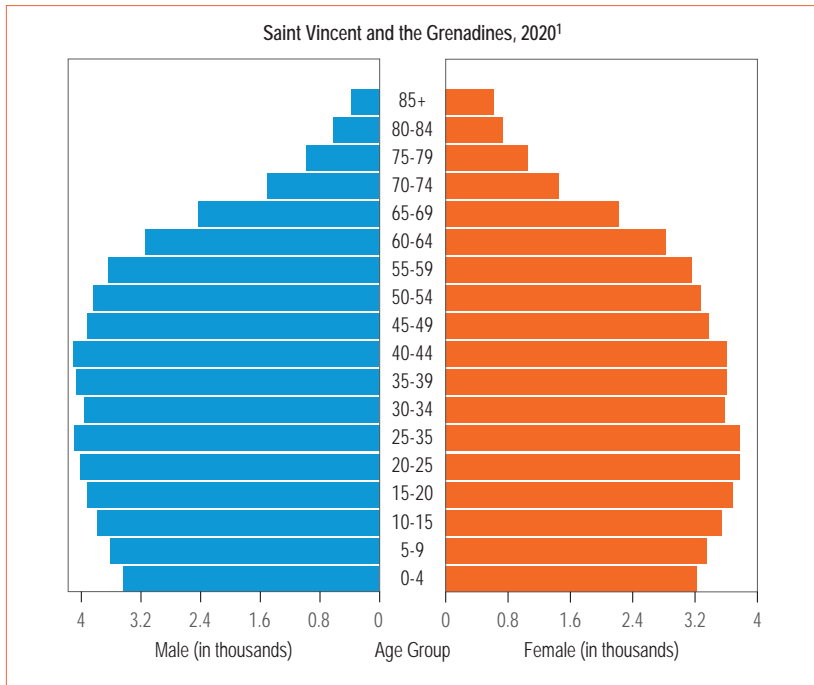
Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=ST](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=ST)
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3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
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6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)





# Saint Vincent and the Grenadines



**POPULATION**

Population (thousands)<sup>2</sup>: 111.3  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 284.41  
 Percentage of population < 5 years<sup>2</sup>: 0.1%  
 Percentage of population ≥ 65 years<sup>2</sup>: 0.1%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 6.9  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 14.6  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 94.2

**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 10.0  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 549.6  
 National health expenditure as % of GDP 2016<sup>5</sup>: 3.1

Sociodemographic Indicators

Event	SURVEILLANCE SYSTEM CHARACTERISTICS					INFORMATION SYSTEM			
	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	100%	Varies	Weekly	2	NA	NA	No
ILI	Yes	Sentinel	Quota (6 samples/week)	Varies	Annually	2	Lab Information System and Health Information System (HIS)	No	No
INFLUENZA	NA	Sentinel	NA	Varies	NA	2	NA	NA	No

Surveillance Systems

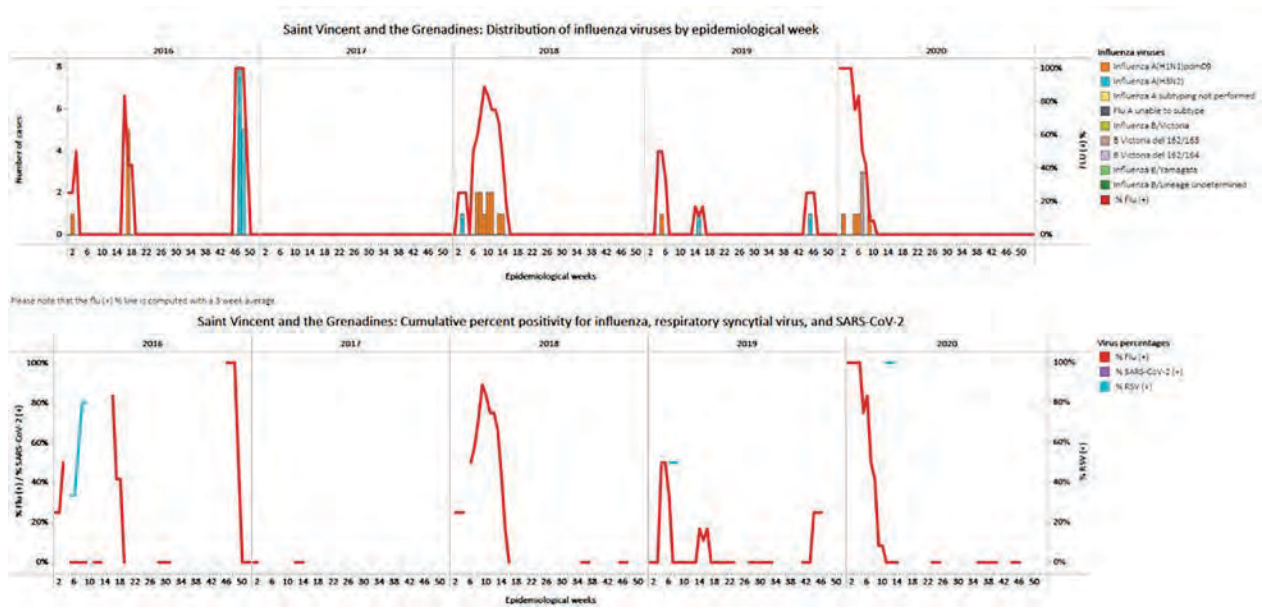


\* The data in the sentinel surveillance map are updated as of January 2019  
 Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

\*Map Influenza Surveillance Capacity

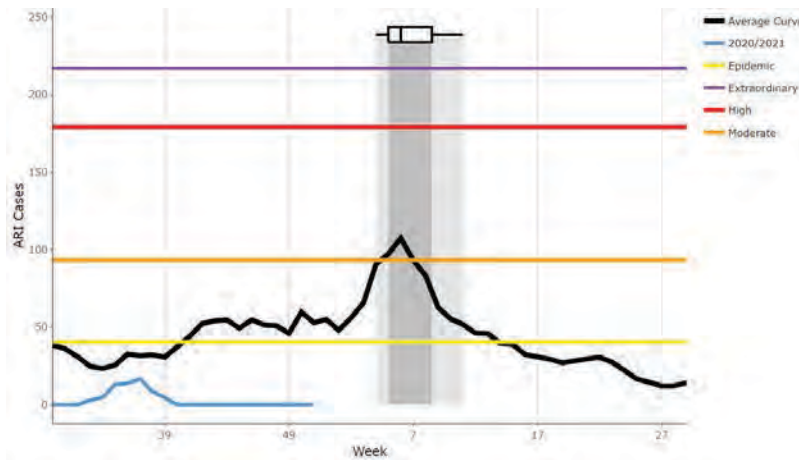
# Influenza and Respiratory Syncytial Virus

## Virologic data



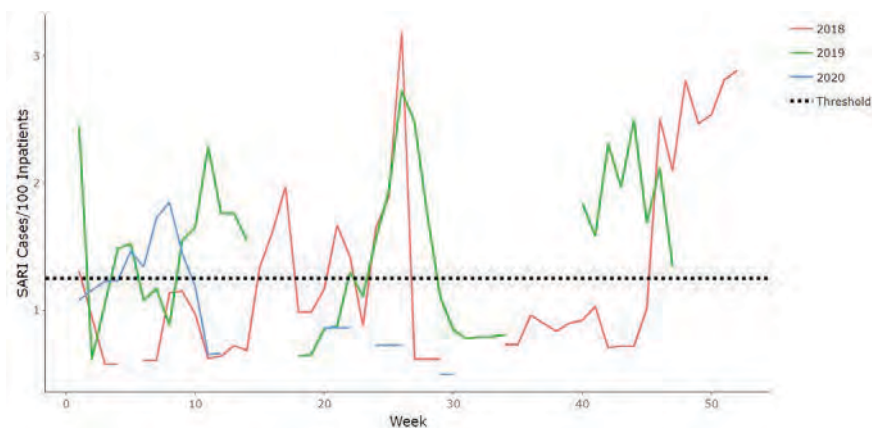
## Influenza-Like Illness (ILI)

### Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

### Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	No
Year of original publication	2009
Year of last revision/update	2009
<b>COVID-19</b>	
Plan available	NA
Part of an all-hazards plan	NA
<b>Simulations</b>	
	No
<b>Drills</b>	
	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	NA
Month of vaccine administration	NA
Percentage of older adults vaccinated	NA
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	Yes*
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	Yes*
Participation in studies evaluating influenza vaccine effectiveness	NA
Participation in studies evaluating the impact of influenza vaccination campaign	NA

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	In progress

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	NA
Samples sent to WHO Collaborating Center	NA
Number of samples analyzed for influenza during 2020	32
Number of samples analyzed for SARS-CoV-2 during 2020	NA
Specimens tested for other respiratory viruses (ORV)	NA
Other respiratory viruses identified	RSV, adenovirus, parainfluenza 1, 2, 3

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca, Sputnik V, Pfizer, SII-Covishield
Completed schedules per 100 people	13.09
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	NA
Participation in studies evaluating the impact of COVID-19 vaccination campaign	NA

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID Reported > 33%	Yes
Reported to WHO in 2020	Yes
Report	Yes
FluNet Reported > 33%	Yes
Reported to WHO in 2020	Yes
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

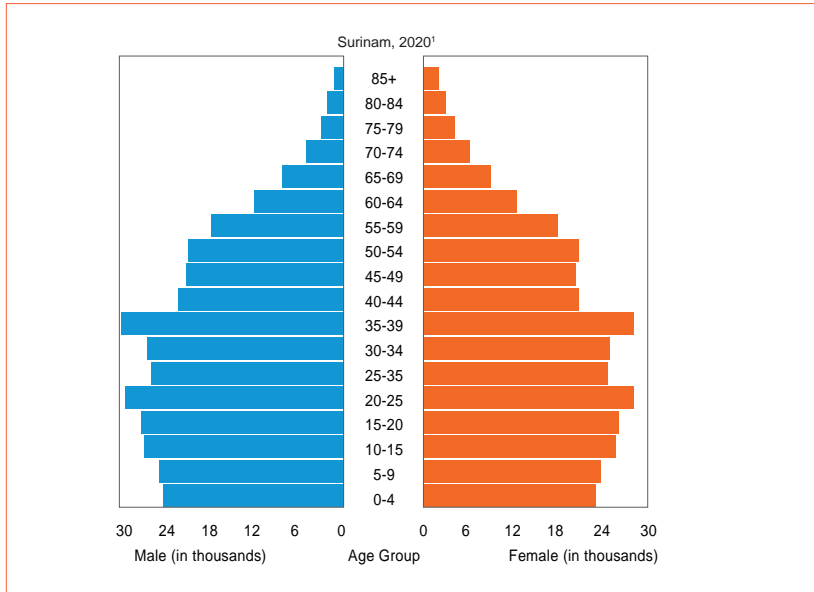
COVID-19 Surveillance	Response
Type of surveillance	NA
Report	In progress
FluID Reported > 33%	In progress
Reported to WHO in 2020	In progress
Report	In progress
FluNet Reported > 33%	In progress
Reported to WHO in 2020	In progress
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	NA

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=VC](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=VC)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. Pan American Health Organization. Immunization in the Americas: 2021 Summary [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 4]. Available from: <https://www.paho.org/en/documents/immunization-americas-2021-summary>
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Suriname



### POPULATION

Population (thousands)<sup>2</sup>: 587  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 3.7  
 Percentage of population < 5 years<sup>2</sup>: 8.9%  
 Percentage of population ≥ 65 years<sup>2</sup>: 7.1%

### MORTALITY

Gross mortality rate (per 1,000 population)<sup>2</sup>: 8.4  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 18  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 95.3

### PUBLIC HEALTH

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 11.0  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 1,179.6  
 National health expenditure as % of GDP 2016<sup>5</sup>: 5.3

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	100%	2	Yes	3		NA	NA
ILI	Yes	Sentinel	100%	2	Yes	2	PAHOFlu	NA	NA
ARI	Yes	Sentinel	No	None	None	90		NA	NA
PNEUMONIA		National	NA	NA	No	None		NA	NA
INFLUENZA	NA	Sentinel	Quota (1-10 samples/week)	2/week	NA	5	PAHOFlu	Yes	NA

Surveillance Systems

- **SARI Hospitals (N=3)**
  1. Drs. Lachmipersad Mungra Medical Center (MMC) (Nickerie)
  2. s'Lands Hospitaal (LH) (Paramaribo)
  3. Academisch Ziekenhuis Paramaribo (AZP) (Paramaribo)
- **ILI Centers (N=2)**
  1. GROPAVO (Paramaribo)
  2. RGD Corantijn (Nickerie)
- ◆ **National Influenza Centers (N=1)**
  1. Bureau voor Openbare Gezondheidszorg (BOG Central Laboratory) (Paramaribo)
    - Technical capacity: IF, RT-PCR, viral isolation
- ▲ **Laboratories with PCR capacity (N=2)**
  1. Medisch Wetenschappelijk Instituut (MWI) (Paramaribo)
  2. Academisch Ziekenhuis (AZP) (Paramaribo)

● ILI Center  
 ▲ Laboratory with PCR capacity  
 ◆ National Influenza Center  
 ● SARI Hospital

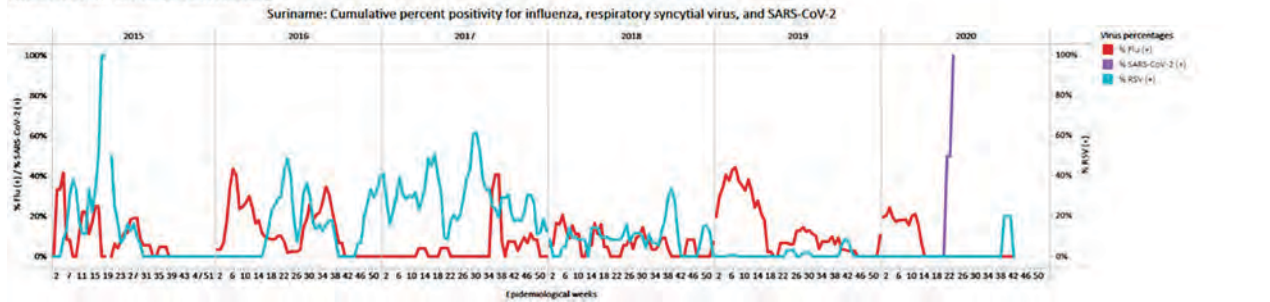
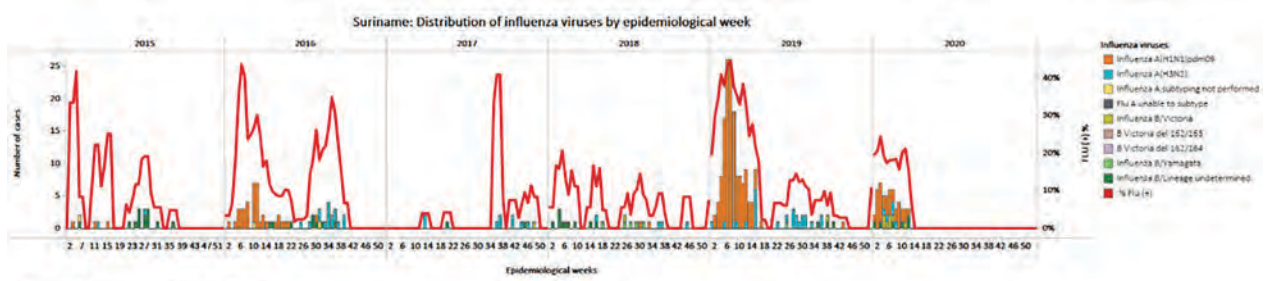
Pop. 3,705 263,236

\* The data in the sentinel surveillance map are updated as of September 2021.  
 Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

\*Map Influenza Surveillance Capacity

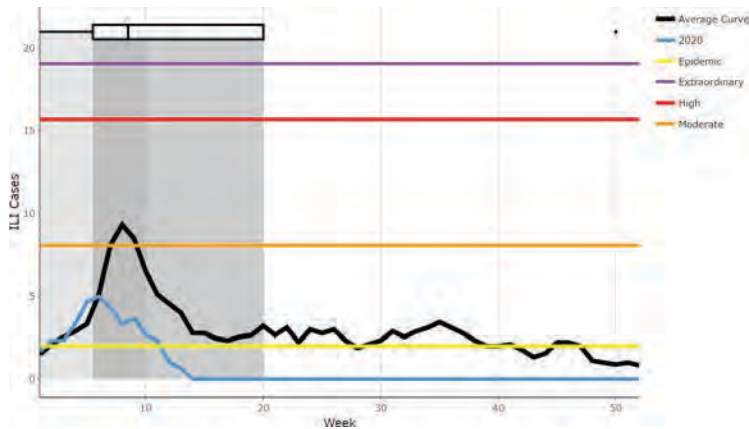
# Influenza and Respiratory Syncytial Virus

## Virologic data



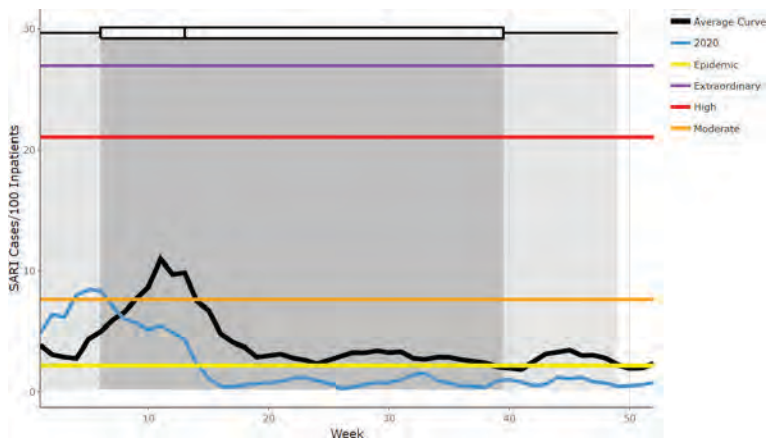
## Influenza-Like Illness (ILI)

### Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

### Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	No
Year of original publication	2009
Year of last revision/update	2009
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	No
Simulations	No
Drills	No

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	324
Number of samples analyzed for SARS-CoV-2 during 2020	NA
Specimens tested for other respiratory viruses (ORV)	No
Other respiratory viruses identified	NA

Influenza Vaccine <sup>7</sup>	Response
Composition	Northern Hemisphere Trivalent
Month of vaccine administration	October
Percentage of older adults vaccinated	NA
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	Yes*
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	Yes*
Participation in studies evaluating influenza vaccine effectiveness	No
Participation in studies evaluating the impact of influenza vaccination campaign	No

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca, Beijing CNBG, Moderna, Pfizer, SII-Covishield
Completed schedules per 100 people	30.93
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	No
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	No
Participation in studies evaluating the impact of COVID-19 vaccination campaign	No

\* Yes - influenza vaccination recommended.

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	In progress

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	Sentinel
Report	Yes
FluID	Reported > 33%
	Reported to WHO in 2020
Report	Yes
FluNet	Reported > 33%
	Reported to WHO in 2020
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

COVID-19 Surveillance	Response
Type of surveillance	NA
Report	Yes
FluID	Reported > 33%
	Reported to WHO in 2020
Report	Yes
FluNet	Reported > 33%
	Reported to WHO in 2020
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	No

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=NS](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=NS)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. Pan American Health Organization. Immunization in the Americas: 2021 Summary [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 4]. Available from: <https://www.paho.org/en/documents/immunization-americas-2021-summary>
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)





# Trinidad and Tobago



### POPULATION

Population (thousands)<sup>2</sup>: 1,399.0  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 272.8  
 Percentage of population < 5 years<sup>2</sup>: 6.3%  
 Percentage of population ≥ 65 years<sup>2</sup>: 11.5%

### MORTALITY

Gross mortality rate (per 1,000 population)<sup>2</sup>: 5.5  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 17.5  
 Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 46.8

### PUBLIC HEALTH

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 46.8  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 2,099.6  
 National health expenditure as % of GDP 2016<sup>5</sup>: 3.4

Sociodemographic Indicators

Event	SURVEILLANCE SYSTEM CHARACTERISTICS					INFORMATION SYSTEM			
	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	Varies	Varies	No	3		NA	No
ILI	Yes	National	Varies	Varies	No	NA		No	No
ARI	No; ICD-10 codes (J00-J06) and (J20-J22)	National	Quota	No	NA	NA	NA	NA	No
INFLUENZA	NA	National	Varies	Varies	NA	NA		NA	No

Surveillance Systems

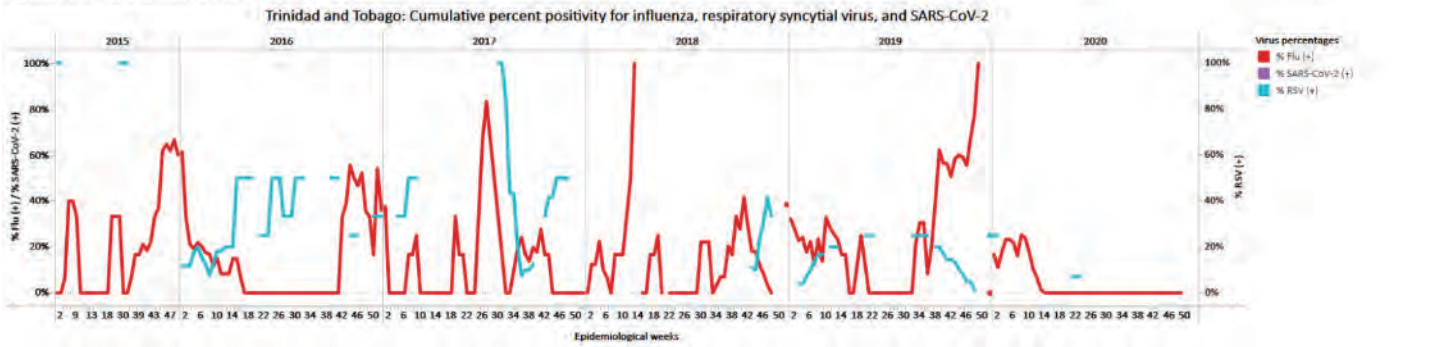
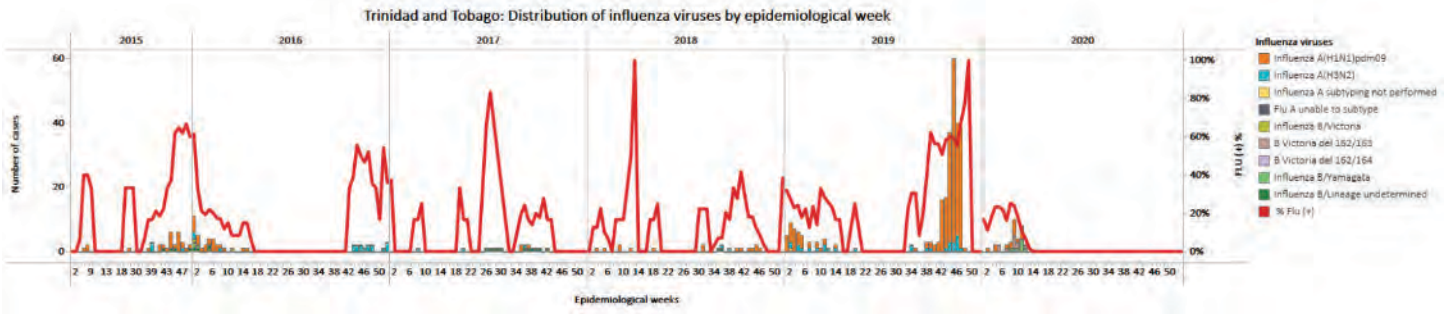
- **SARI Hospitals (N=3)**
  1. Eric Williams Medical Sciences Complex (Mt. Hope, Trinidad)
  2. San Fernando General Hospital (San Fernando)
  3. Scarborough General Hospital (Signal Hill, Tobago)
- ◆ **National Influenza Centers (N=1)**
  1. The Caribbean Public Health Agency (CARPHA) Laboratory (Port of Spain)
    - Technical capacity: IF, RT-PCR, viral isolation

\* The data in the sentinel surveillance map are updated as of January 2019

\*Map Influenza Surveillance Capacity

# Influenza and Respiratory Syncytial Virus

## Virologic data



## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>

Not applicable

## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>

Not applicable

Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	2009
Year of last revision/update	NA
<b>COVID-19</b>	
Plan available	NA
Part of an all-hazards plan	NA
Simulations	Yes
Drills	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	NA
Month of vaccine administration	NA
Percentage of older adults vaccinated	NA
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	NA
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	NA
Participation in studies evaluating influenza vaccine effectiveness	NA
Participation in studies evaluating the impact of influenza vaccination campaign	NA

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	In progress

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	No
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	652
Number of samples analyzed for SARS-CoV-2 during 2020	NA
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV, adenovirus, parainfluenza 1, 2, 3; metapneumovirus

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	AstraZeneca, Beijing CNBG, Janssen, Pfizer, SII-Covishield
Completed schedules per 100 people	39.89
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	NA
Participation in studies evaluating the impact of COVID-19 vaccination campaign	NA

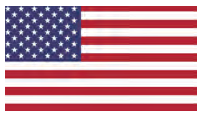
Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	NA
Publication of influenza burden of disease	NA

Influenza Surveillance		Response
Type of surveillance		Sentinel
Report		Yes
FluID	Reported > 33%	In progress
Reported to WHO in 2020		Yes
Report		Yes
FluNet	Reported > 33%	Yes
Reported to WHO in 2020		Yes
		Transmissibility: In progress
PISA indicators		Seriousness of disease: In progress
		Impact: In progress

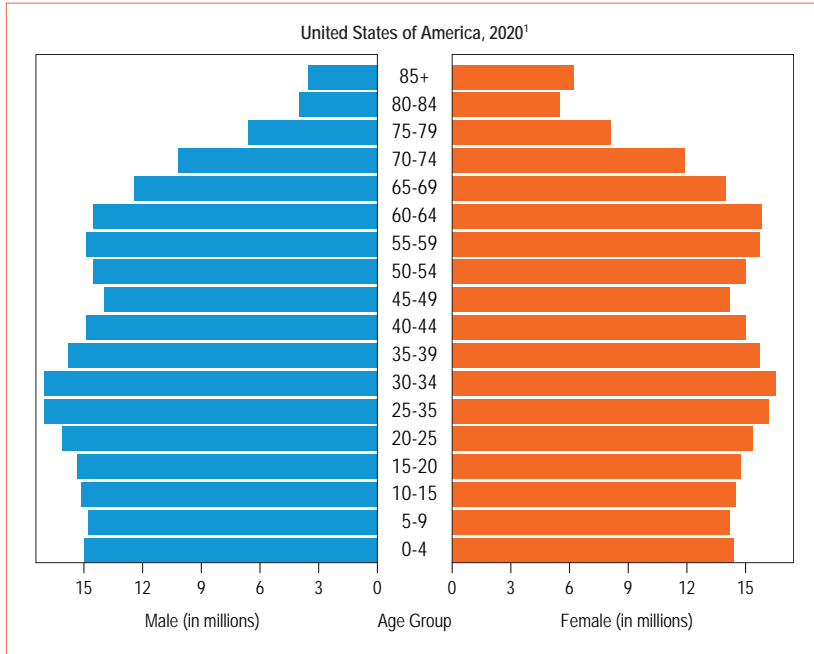
COVID-19 Surveillance		Response
Type of surveillance		NA
Report		In progress
FluID	Reported > 33%	In progress
Reported to WHO in 2020		In progress
Report		In progress
FluNet	Reported > 33%	In progress
Reported to WHO in 2020		In progress
		Transmissibility: In progress
PISA indicators		Seriousness of disease: In progress
		Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic		NA

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=TD](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=TD)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# United States of America



### POPULATION

Population (thousands)<sup>2</sup>: 329,484  
 Population density (per km<sup>2</sup>)<sup>3</sup>: 303.6  
 Percentage of population < 5 years<sup>2</sup>: 6%  
 Percentage of population ≥ 65 years<sup>2</sup>: 16.7%

### MORTALITY

Gross mortality rate (per 1,000 population)<sup>2</sup>: 4.8  
 Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 6.7  
 Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 28.3

### PUBLIC HEALTH

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 26.0  
 Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 10,623.9  
 National health expenditure as % of GDP 2016<sup>5</sup>: 8.5

Sociodemographic Indicators

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases sentinel	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online
ILI	No*	Sentinel	NA	NA	Monthly <sup>†</sup>	3,000	NA	NA	<a href="#">Online</a>
INFLUENZA <sup>‡</sup>	NA	Varies	Varies	NA	Monthly <sup>†</sup>	Varies	NA	NA	<a href="#">Online</a>

\* Fever plus cough or sore throat. † Each state health department performs this function. ‡Influenza surveillance system detailed information: <https://www.cdc.gov/flu/weekly/overview.htm>

Surveillance Systems

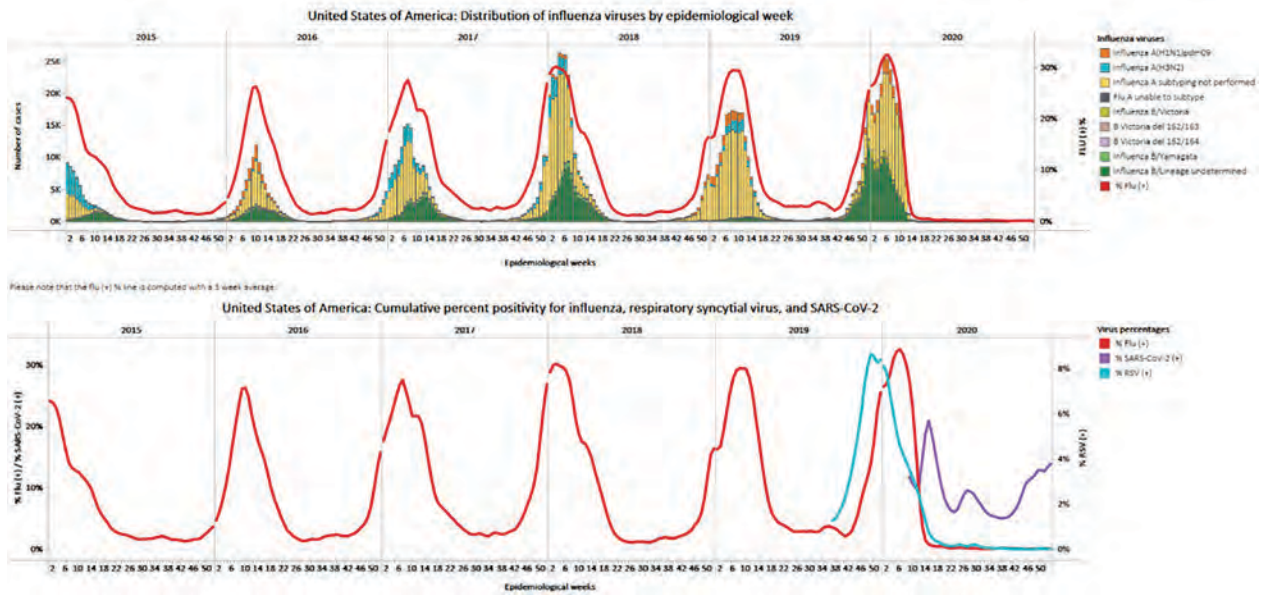
- **ILI Centers (N=3,000)**  
(Not displayed on map)  
Includes health centers in all 50 states, Puerto Rico, and the District of Columbia.
- ◆ **National Influenza Centers (N=1)**  
1. Centers for Disease Control and Prevention (Atlanta, GA)  
– Technical capacity: RT-PCR, viral isolation, whole-genome sequencing

\* The data in the sentinel surveillance map are updated as of September 2021.  
 Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

\*Map Influenza Surveillance Capacity

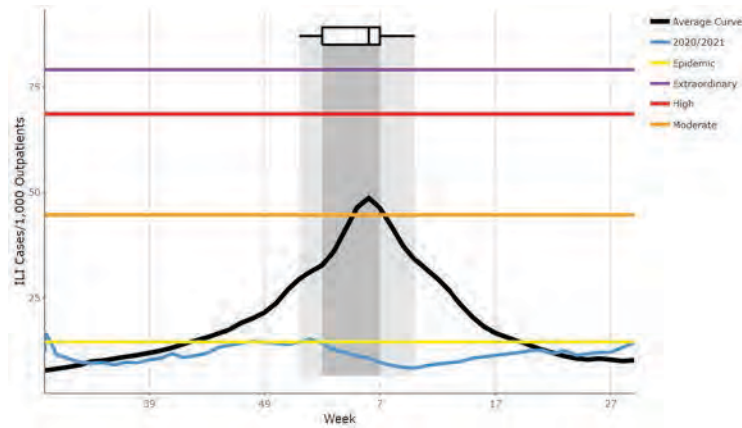
# Influenza and Respiratory Syncytial Virus

## Virologic data



## Influenza-Like Illness (ILI)

### Data from ambulatory cases<sup>6</sup>



## Severe Acute Respiratory Infection (SARI)

### Data from severe cases<sup>6</sup>

Not applicable

Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Year of original publication	1997
Year of last revision/update	2017
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	Yes
Simulations	Yes
Drills	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	Northern Hemisphere Quadrivalent Trivalent
Month of vaccine administration	March
Percentage of older adults vaccinated	70% (≥ 65 years)
Percentage of children under 5 vaccinated	64% (≥ 6 months-17 years)
Percentage of pregnant women vaccinated	66%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	81%
Participation in studies evaluating influenza vaccine effectiveness	Yes
Participation in studies evaluating the impact of influenza vaccination campaign	Yes

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	1,852
Number of samples analyzed for influenza during 2020	301,706
Number of samples analyzed for SARS-CoV-2 during 2020	12,294,307
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	RSV-sentinel and non-sentinel, adenovirus, parainfluenza 1, 2, 3, metapneumovirus, bocavirus, rhinovirus

COVID-19 Vaccine <sup>8</sup>	Response
Vaccines currently available in the country	Pfizer, Moderna, Janssen
Completed schedules per 100 people	57.34
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	Yes
Participation in studies evaluating the impact of COVID-19 vaccination campaign	Yes

Influenza Disease Burden	Response
Estimation of medical burden for influenza	Yes
Estimation of economic burden for influenza	Yes
Publication of influenza burden of disease	<a href="#">Online</a>

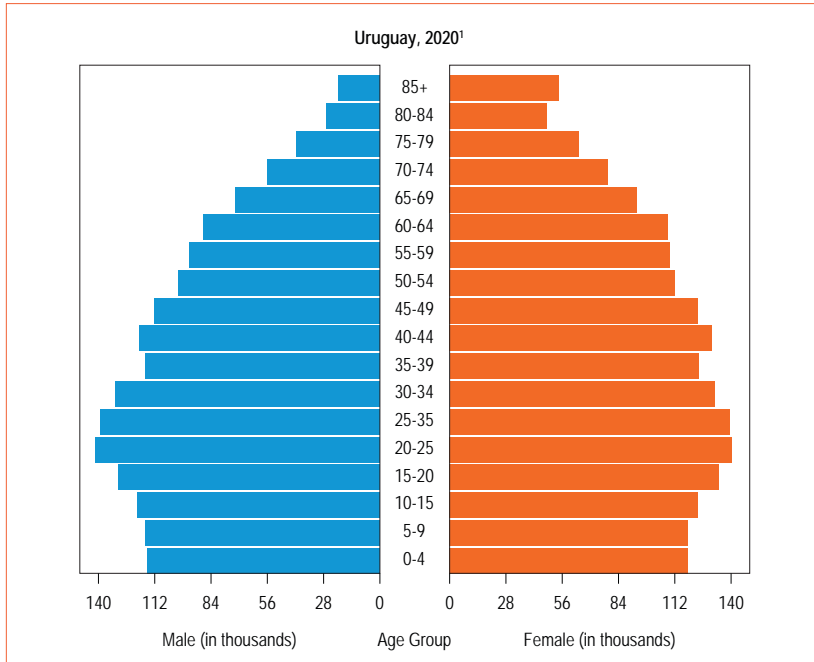
Influenza Surveillance		Response
Type of surveillance		Sentinel
Report		Yes
FluID	Reported > 33%	Yes
Reported to WHO in 2020		Yes
Report		Yes
FluNet	Reported > 33%	Yes
Reported to WHO in 2020		Yes
		Transmissibility: In progress
PISA indicators		Seriousness of disease: In progress
		Impact: In progress

COVID-19 Surveillance		Response
Type of surveillance		Sentinel, non-sentinel
Report		Yes
FluID	Reported > 33%	Yes
Reported to WHO in 2020		Yes
Report		Yes
FluNet	Reported > 33%	Yes
Reported to WHO in 2020		Yes
		Transmissibility: In progress
PISA indicators		Seriousness of disease: In progress
		Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic		No

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=US](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=US)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)





**POPULATION**

Population (thousands)<sup>2</sup>: 3,474

Population density (per km<sup>2</sup>)<sup>3</sup>: 19.8

Percentage of population < 5 years<sup>2</sup>: 6.8%

Percentage of population ≥ 65 years<sup>2</sup>: 15.1%

**MORTALITY**

Gross mortality rate (per 1,000 population)<sup>2</sup>: 5.5

Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 6.9

Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 40.1

**PUBLIC HEALTH**

Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 53.0

Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 2,169.3

National health expenditure as % of GDP 2016<sup>5</sup>: 6.7

SURVEILLANCE SYSTEM CHARACTERISTICS						INFORMATION SYSTEM			
Event	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	Sentinel	100	5	No	7	Sistema Nacional de Vigilancia de las Infecciones Hospitalarias	NA	<a href="#">Online</a>
ILI	Yes	Sentinel	0	2	No	7		NA	Yes
INFLUENZA	NA	Sentinel	100	NA	NA	6	NA	NA	Yes

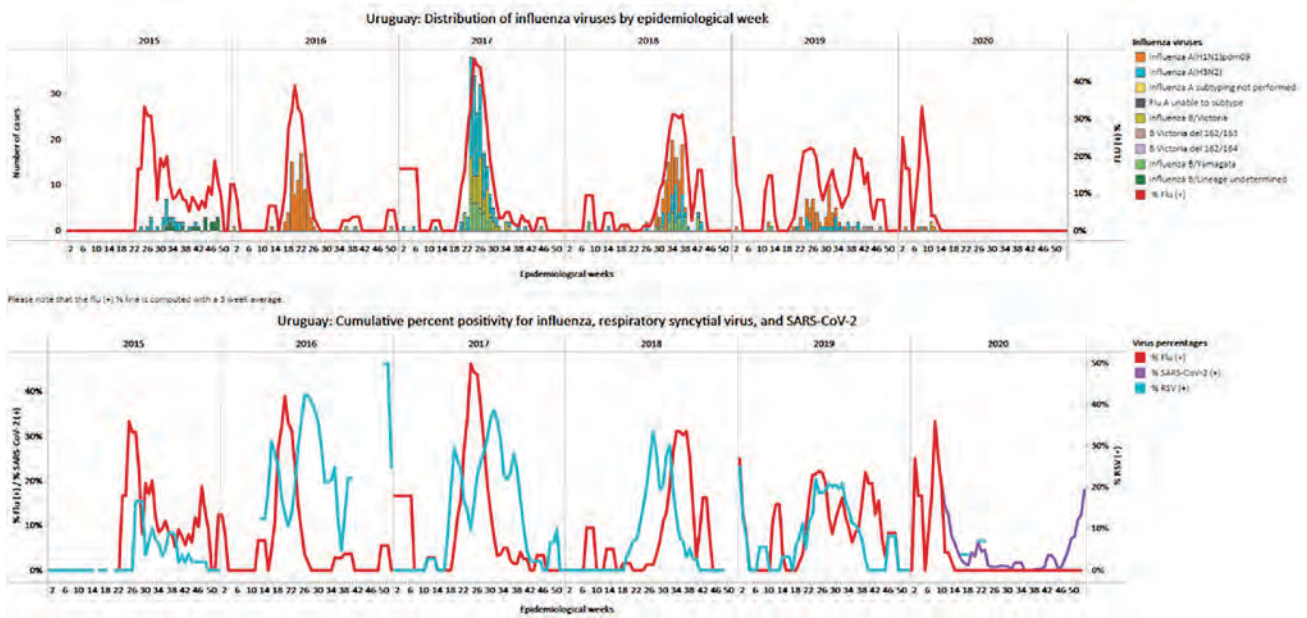
- **SARI Hospitals (N=7)**
  1. SEMM Mautone (Maldonado)
  2. Hospital Policial (Montevideo)
  3. Hospital Británico (Montevideo)
  4. Hospital Pediátrico (Montevideo)
  5. CAMS Mercedes (Soriano)
  6. Hospital de las Piedras (Canelones)
  7. Hospital de Paysandú (Paysandú)
- **ILI Centers (N=6)**
  1. SEMM Mautone (Maldonado)
  2. Hospital Policial (Montevideo)
  3. CAMS Mercedes (Soriano)
  4. Hospital de las Piedras (Canelones)
  5. Hospital Británico (Montevideo)
  6. Hospital Pediátrico CHPR (Montevideo)

- ◆ **National Influenza Centers (N=1)**
  1. Departamento de Laboratorio Salud Pública
    - Technical capacity: IF, RT-PCR, viral isolation

\* The data in the sentinel surveillance map are updated as of September 2021.  
Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

# Influenza and Respiratory Syncytial Virus

## Virologic data



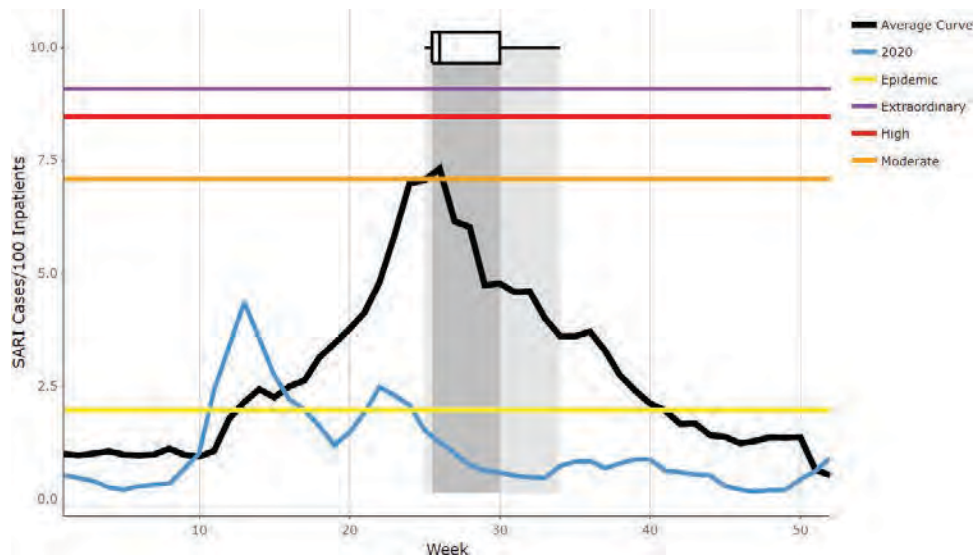
## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>

Not applicable

## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>



Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	No
Year of original publication	2006
Year of last revision/update	2007
<b>COVID-19</b>	
Plan available	Yes
Part of an all-hazards plan	No
<b>Simulations</b>	
Drills	Yes

Influenza Vaccine <sup>7</sup>	Response
Composition	Southern Hemisphere Trivalent
Month of vaccine administration	March
Percentage of older adults vaccinated	52% (≥ 65 years)
Percentage of children under 5 vaccinated	7% (6-59 months)
Percentage of pregnant women vaccinated	55%
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	100%
Participation in studies evaluating influenza vaccine effectiveness	Yes
Participation in studies evaluating the impact of influenza vaccination campaign	Yes

Human-Animal Interface for Influenza	Response
Intersectoral meetings	Yes
Information sharing between sectors	Yes
Surveillance of unusual respiratory cases with exposure to animals	Yes

Laboratory Capacity	Response
Virologic surveillance	Yes
Participation in the latest WHO External Quality Assessment Program (EQAP)	Yes
Samples sent to WHO Collaborating Center	Yes
Number of samples analyzed for influenza during 2020	921
Number of samples analyzed for SARS-CoV-2 during 2020	6,014
Specimens tested for other respiratory viruses (ORV)	Yes
Other respiratory viruses identified	Adenovirus, metapneumovirus,

COVID-19 Vaccine	Response
Vaccines currently available in the country	AstraZeneca, Pfizer, Sinovac
Completed schedules per 100 people	74.68
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	Yes
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	Yes
Participation in studies evaluating the impact of COVID-19 vaccination campaign	Yes

Influenza Disease Burden	Response
Estimation of medical burden for influenza	No
Estimation of economic burden for influenza	No
Publication of influenza burden of disease	NA

Influenza Surveillance		Response
Type of surveillance		Sentinel
Report		Yes
FluID	Reported > 33%	Yes
Reported to WHO in 2020		Yes
Report		Yes
FluNet	Reported > 33%	Yes
Reported to WHO in 2020		Yes
		Transmissibility: In progress
PISA indicators		Seriousness of disease: In progress
		Impact: In progress

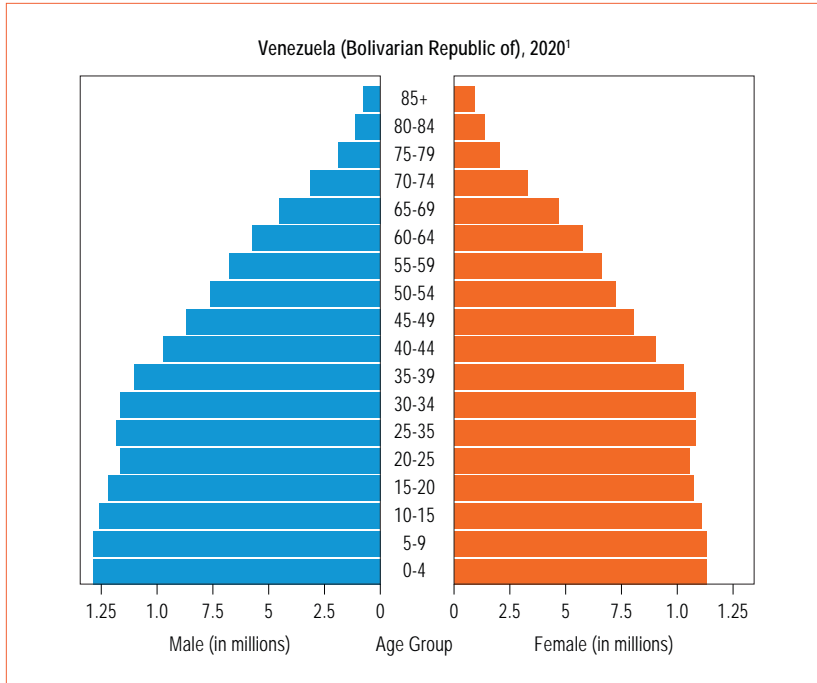
COVID-19 Surveillance		Response
Type of surveillance		
Report		Yes
FluID	Reported > 33%	Yes
Reported to WHO in 2020		Yes
Report		Yes
FluNet	Reported > 33%	Yes
Reported to WHO in 2020		Yes
		Transmissibility: In progress
PISA indicators		Seriousness of disease: In progress
		Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic		No

Unless otherwise specified, all data were collected by the PAHO/WHO Influenza Surveillance Team from one or more of the following sources: PAHO online surveys completed by epidemiology or laboratory experts, influenza bulletins published/shared by the countries, country presentations in regional influenza meetings, consultation with country influenza surveillance experts. The document was approved by the relevant national authority.

1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=UY](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=UY)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
5. Estimates of national health expenditure: Data compiled by PAHO/WHO, Department of Health Systems and Services, from: World Health Organization [Internet]. Geneva: WHO; 2021 [cited 2021 Jul]. Global Health Expenditure Database. Available from: <https://www.who.int/health-accounts/ghed/en/>. Data as of July 2021.
6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC).
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Venezuela (Bolivarian Republic of)



**POPULATION**

- Population (thousands)<sup>2</sup>: 28,435
- Population density (per km<sup>2</sup>)<sup>3</sup>: 32.2
- Percentage of population < 5 years<sup>2</sup>: 8.8%
- Percentage of population ≥ 65 years<sup>2</sup>: 7.3%

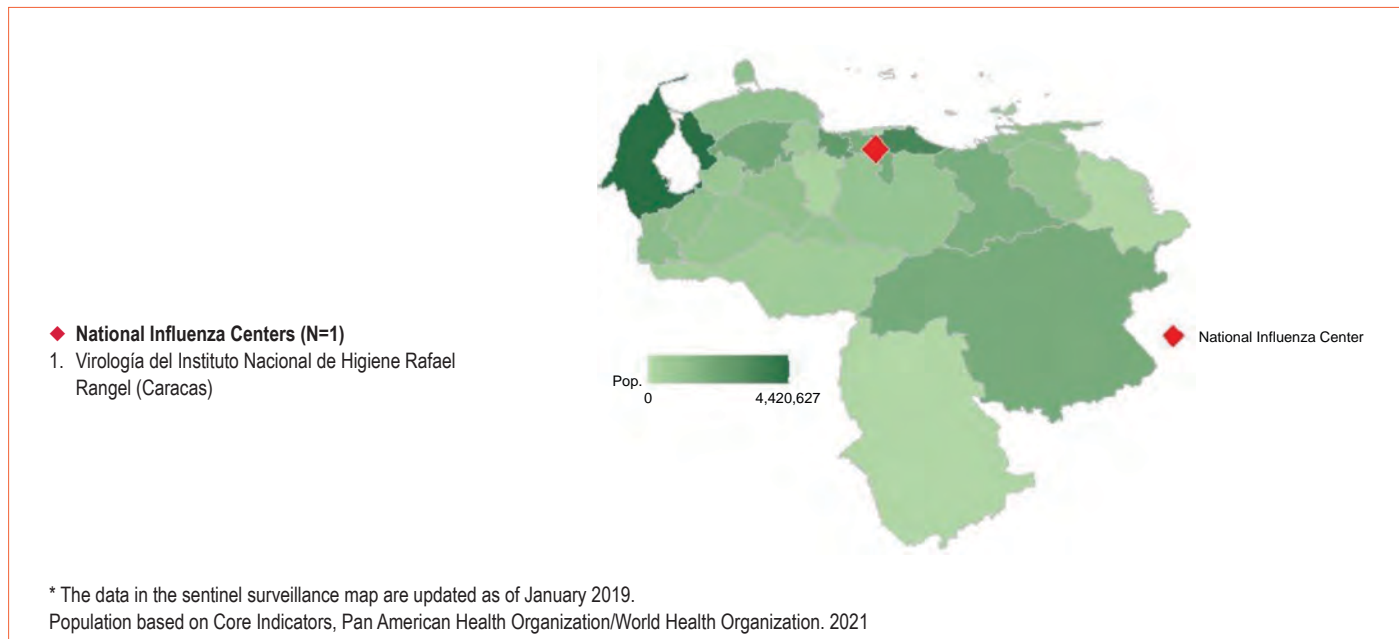
**MORTALITY**

- Gross mortality rate (per 1,000 population)<sup>2</sup>: 6.3
- Mortality rate from all causes at < 5 years of age (per 1,000 live births)<sup>2</sup>: 24.2
- Mortality rate due to communicable diseases (per 100,000 population)<sup>2</sup>: 96.9

**PUBLIC HEALTH**

- Number of medical doctors working in the public system (per 10,000 population)<sup>2</sup>: 18.0
- Current health expenditure per capita, PPP\* (current international \$)<sup>4</sup>: 383.5
- National health expenditure as % of GDP 2016<sup>5</sup>: 1.7

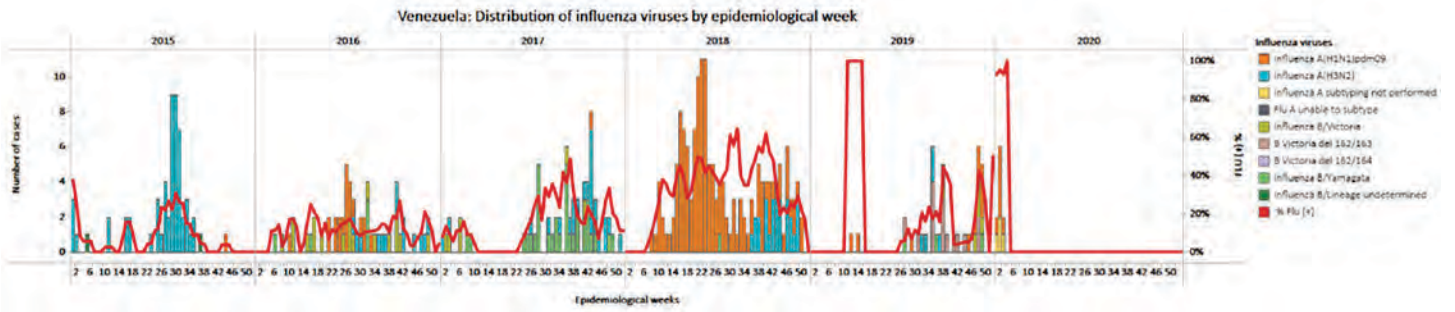
Event	SURVEILLANCE SYSTEM CHARACTERISTICS					INFORMATION SYSTEM			
	WHO case definition used	Surveillance strategy	Clinical samples collected from cases	Shipment of samples to NIC or laboratory	Evaluation of surveillance sites	Number of sites	Name	Laboratory and epidemiology integration	Online report
SARI	Yes	NA	NA	NA	NA	NA	NA	NA	NA
PNEUMONIA	No; ICD-10 codes (J09-J18, J20-J22X)	National	NA	NA	NA	NA	NA	NA	NA



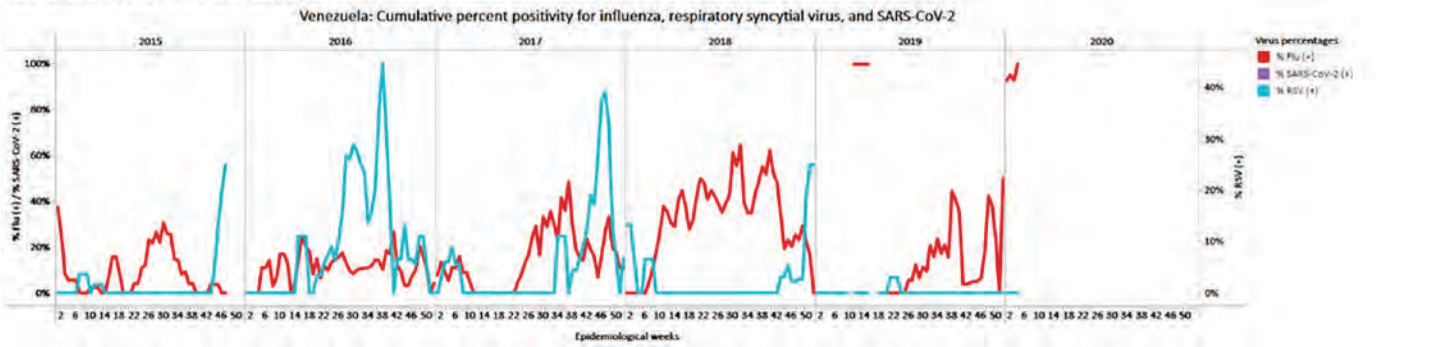
\* The data in the sentinel surveillance map are updated as of January 2019. Population based on Core Indicators, Pan American Health Organization/World Health Organization. 2021

# Influenza and Respiratory Syncytial Virus

## Virologic data



Please note that the Flu (+) % line is computed with a 3 week average



## Influenza-Like Illness (ILI)

Data from ambulatory cases<sup>6</sup>

Not applicable

## Severe Acute Respiratory Infection (SARI)

Data from severe cases<sup>6</sup>

Not applicable

Pandemic Planning	Response
<b>Influenza</b>	
Plan available	Yes
Part of an all-hazards plan	No
Year of original publication	2017
Year of last revision/update	2017
<b>COVID-19</b>	
Plan available	NA
Part of an all-hazards plan	NA
Simulations	NA
Drills	NA
Drills	NA

Influenza Vaccine <sup>7</sup>	Response
Composition	Northern Hemisphere Trivalent
Month of vaccine administration	April
Percentage of older adults vaccinated	11% (≥ 65 years)
Percentage of children under 5 vaccinated	NA
Percentage of pregnant women vaccinated	NA
Percentage of people at higher risk for influenza-related complications vaccinated	NA
Percentage of health care workers vaccinated	NA
Participation in studies evaluating influenza vaccine effectiveness	NA
Participation in studies evaluating the impact of influenza vaccination campaign	NA

Human-Animal Interface for Influenza	Response
Intersectoral meetings	NA
Information sharing between sectors	NA
Surveillance of unusual respiratory cases with exposure to animals	NA

Laboratory Capacity	Response
Virologic surveillance	NA
Participation in the latest WHO External Quality Assessment Program (EQAP)	NA
Samples sent to WHO Collaborating Center	NA
Number of samples analyzed for influenza during 2020	11
Number of samples analyzed for SARS-CoV-2 during 2020	NA
Specimens tested for other respiratory viruses (ORV)	NA
Other respiratory viruses identified	NA

COVID-19 Vaccine	Response
Vaccines currently available in the country	Beijing CNBG, Abdala, Gamaleya
Completed schedules per 100 people	21.57
Vaccination policy for older adults (≥ 65 years)	Yes
Vaccination policy for adults (18-64 years)	Yes
Vaccination policy for children (<18 years)	No
Vaccination policy for pregnant women	Yes
Vaccination policy for people at higher risk for COVID-19-related complications	Yes
Vaccination policy for health care workers	Yes
Participation in studies evaluating the COVID-19 vaccine effectiveness	NA
Participation in studies evaluating the impact of COVID-19 vaccination campaign	NA

Influenza Disease Burden	Response
Estimation of medical burden for influenza	NA
Estimation of economic burden for influenza	NA
Publication of influenza burden of disease	NA

Influenza Surveillance	Response
Type of surveillance	
Report	In progress
FluID	Reported > 33%
	Reported to WHO in 2020
	Report
FluNet	Reported > 33%
	Reported to WHO in 2020
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress

COVID-19 Surveillance	Response
Type of surveillance	
Report	In progress
FluID	Reported > 33%
	Reported to WHO in 2020
	Report
FluNet	Reported > 33%
	Reported to WHO in 2020
	Transmissibility: In progress
PISA indicators	Seriousness of disease: In progress
	Impact: In progress
PISA tool used to adapt PHSM during COVID-19 pandemic	NA

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1. U.S. Census Bureau [Internet]. Suitland, MD: USCB; 2021. International Database. Population Pyramid, 2021. Available from: [https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY\\_YR\\_ANIM=2021&FIPS\\_SINGLE=VE](https://www.census.gov/data-tools/demo/idb/#/country?COUNTRY_YR_ANIM=2021&FIPS_SINGLE=VE)
2. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 Sep 20 [cited 2021 Oct 5]. Core Indicators, 2021. Available from: <https://opendata.paho.org/en/core-indicators>
3. United Nations, Department of Economic and Social Affairs, Population Division [Internet]. New York: UN; 2019 [cited 2021 Sep 13]. World Population Prospects 2019. Online Edition, Rev. 1. Available from: <https://population.un.org/wpp/Download/Standard/Population/>
4. World Bank [Internet]. Washington, DC: World Bank Group; 2021 [cited 5 Oct 2021]. Current health expenditure per capita, PPP (current international \$). Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD>
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6. World Health Organization. WHO Average Curves software, Version 0.3 (9 Oct 2019), © WHO. Geneva: WHO; 2021.
7. Pan American Health Organization. Immunization in the Americas: 2021 Summary [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 4]. Available from: <https://www.paho.org/en/documents/immunization-americas-2021-summary>
8. Pan American Health Organization [Internet]. Washington, DC: PAHO; 2021 [cited 2021 Oct 8]. COVID-19 Vaccination in the Americas. Available from: [https://ais.paho.org/imm/IM\\_DosisAdmin-Vacunacion.asp](https://ais.paho.org/imm/IM_DosisAdmin-Vacunacion.asp)



# Technical Note

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## Average Curves

Average curves for influenza-like illness (ILI), acute respiratory infection (ARI), pneumonia, and severe acute respiratory infection (SARI) were generated using the WHO Average Curve App.

In the country profile, the average curve is shown in black and the ongoing season is shown in blue. The average curve shows a typical season in terms of both timing and intensity. The distribution of past seasonal peaks is shown with a boxplot and vertical shading. Thresholds depicting the intensity of activity are shown with colored lines.<sup>1</sup>

When comparing it to the same period in previous years, the current influenza surveillance data should be interpreted in light of the ongoing COVID-19 pandemic, which may have influenced, to differing extents, health-seeking behaviors, staffing/routines in sentinel sites, and testing capacities in the Member States. The various social and physical distancing measures implemented by the Member States to reduce SARS-CoV2 virus transmission may also have played a role in substantially lowering or even completely eliminating influenza virus transmission.

1. World Health Organization. WHO Average Curves App, Guidance & Documentation, Version 0.3 (9 Oct 2019), Test Version – Guidance in Draft Form. © WHO. Geneva: WHO; 2021.

Would you like to know more about the respiratory viruses surveillance and information systems in the Americas?

The fourth edition of the landscape analysis of *Influenza and Other Respiratory Viruses: Surveillance in the Americas 2021* is now available. This document depicts the intricacies of respiratory virus surveillance and it features differences in countries' capacities.

This year, in addition to regional trends in the first section, we introduced SARS-COV-2 disease (COVID-19) trends data and COVID-19 vaccination indicators. The following section, as usual, provides a variety of country-specific information from sociodemographic indicators to improvements in influenza at the human-animal interface.

Understanding current surveillance capacities of respiratory viruses in the Region of the Americas provides a perspective to identify areas for action and guide cooperative efforts to bolster surveillance and impact evaluations. We hope that this compilation will provide information to drive the resources allocated to improve respiratory virus surveillance systems sustainably.

For more information about influenza surveillance in the Americas, please visit the PAHO influenza page at [www.paho.org/influenza](http://www.paho.org/influenza), or the Severe Acute Respiratory Infection network at [www.SARInet.org](http://www.SARInet.org).

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