WEEKLY EPIDEMIOLOGY BULLETIN NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

Biological Weapons: Series 9 of 10: Botulism

Overview: Botulism is a rare but serious illness caused by a toxin that attacks the body's nerves. Symptoms of botulism usually start with weakness of the muscles that control the eyes, face, mouth, and throat. This weakness may spread to the neck, arms, torso, and legs. Botulism also can weaken the muscles involved in breathing, which can lead to difficulty breathing and even death.

About Botulism: Botulism ("BOT-choo-liz-um") is a rare but serious illness caused by a toxin that attacks the body's nerves and causes difficulty breathing, muscle paralysis, and even death. This toxin is made by Clostridium botulinum and sometimes Clostridium butyricum and Clostridium baratii bacteria. These bacteria can be spread by food and sometimes by other means. The bacteria that make botulinum toxin are found naturally in many places, but it's rare for them to make people sick. These bacteria make spores, which act like protective coatings. Spores help the bacteria survive in the environment, even in extreme conditions. The spores usually do not cause people to become sick, even when they're eaten. But under certain conditions, these spores can grow and make one of the most lethal toxins known. The conditions in which the spores can grow and make toxin are: 1. Low-oxygen or no oxygen (anaerobic) environment. 2. Low acidLow sugar. 3. Low salt. 4. A certain temperature range. 5. A certain amount of water.

Types of Botulism: The five main kinds of botulism are: **1. Foodborne botulism** can happen by eating foods that have been contaminated with botulinum toxin. Common sources of foodborne botulism are homemade foods that have been improperly canned, preserved, or fermented. Though uncommon, store-bought foods also can be contaminated with botulinum toxin. **2. Wound botulism** can happen if the spores of the bacteria get into a wound and make a toxin. People who inject drugs have a greater chance of getting wound botulism. Wound botulism has also occurred in people after a traumatic injury, such as a motorcycle accident, or surgery. **3. Infant botulism** can happen if the spores of the bacteria get into an infant's intestines. The spores grow and produce the toxin which causes illness. **4. Adult intestinal toxemia** (also known as adult intestinal colonization) botulism is a very rare kind of botulism that can happen if the spores of the bacteria get into an infant botulism). Although we don't know why people get this kind of botulism, people who have serious health conditions that affect the gut may be more likely to get sick. **5. latrogenic botulism** can happen if too much botulinum toxin is injected for cosmetic reasons, such as for wrinkles, or medical reasons, such as for migraine headaches.





Released May 11, 2021

SENTINEL SYNDROMIC SURVEILLANCE Sentinel Surveillance in



Map representing the **Timeliness of Weekly Sentinel Surveillance Parish Reports for the Four Most Recent Epidemiological Weeks -**12 2021 to 15 of 2021

Parish health departments submit reports weekly by 3 p.m. on Tuesdays. **Reports submitted after 3** p.m. are considered late.

A syndromic surveillance system is good for early detection of and response to public health events.

Sentinel surveillance occurs when selected health facilities (sentinel sites) form a network that reports on certain health conditions on a regular basis, for example, weekly. Reporting is mandatory whether or not there are cases to report.

Jamaica's sentinel surveillance system concentrates on visits to sentinel sites for health events and syndromes of national importance which are reported weekly (see pages 2 -4). There are seventy-eight (78) reporting sentinel sites (hospitals and health centres) across Jamaica.



REPORTS FOR SYNDROMIC SURVEILLANCE

FEVER

Temperature of >38°C /100.4^oF (or recent history of fever) with or without an obvious diagnosis or focus of infection.



KEY VARIATIONS OF **BLUE** SHOW CURRENT WEEK





sites

2 NOTIFICATIONS-All clinical

INVESTIGATION REPORTS- Detailed Follow up for all Class One Events

1400



HOSPITAL ACTIVE SURVEILLANCE-30 sites. Actively pursued



Released May 11, 2021

FEVER AND NEUROLOGICAL

Temperature of >38°C /100.4^oF (or recent history of fever) in a previously healthy person with or without headache and vomiting. The person must also have meningeal irritation, convulsions, altered consciousness, altered sensory manifestations or paralysis (except AFP).



Weekly visits to Sentinel Sites for Fever and Haemorrhagic 2020 and 2021 vs Weekly Threshold; Jamaica





FEVER AND HAEMORRHAGIC

Temperature of >38°C $/100.4^{\circ}F$ (or recent history of fever) in a previously healthy person presenting with at least one haemorrhagic (bleeding) manifestation with or without jaundice.



FEVER AND JAUNDICE

Temperature of >38°C /100.4°F (or recent history of fever) in a previously healthy person presenting with jaundice.

The epidemic threshold is used to confirm the emergence of an epidemic in order to implement control measures. It is calculated using the mean reported cases per week plus 2 standard deviations.

All clinical

sites





INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



HOSPITAL ACTIVE SURVEILLANCE-30 sites. Actively pursued





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CLASS ONE NOTIFIABLE EVENTS

| CLASS ONE NOTIFIABLE EVENTS | | | | | Comments |
|--------------------------------------------------|---------------------------------------------------------|---------|--------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | Confirmed YTD^{α} | | AFP Field Guides |
| | CLASS 1 EVENTS | | CURRENT YEAR 2021 | PREVIOUS YEAR 2020 | from WHO indicate that for an effective |
| NATIONAL /INTERNATIONAL INTEREST | Accidental Poisoning | | Οβ | 37 | detection rates for AFP should be 1/100,000 population under 15 years old (6 to 7) cases annually. |
| | Cholera | | 0 | 0 | |
| | Dengue Hemorrhagic Fever ^{γ} | | See Dengue page below | See Dengue page below | |
| | Hansen's Disease (Leprosy) | | 0 | 0 | |
| | Hepatitis B | | 0 | 0 | Pertussis-like syndrome and Tetanus are clinically confirmed classifications. ⁷ Dengue Hemorrhagic Fever data include Dengue related deaths; |
| | Hepatitis C | | 0 | 0 | |
| | HIV/AIDS | | NA | NA | |
| | Malaria (Imported) | | 0 | 0 | |
| | Meningitis (Clinically confirmed) | | 0 | 1 | |
| EXOTIC/ UNUSUAL | Plague | | 0 | 0 | |
| H IGH MORBIDITY/ MORTALITY | Meningococcal Meningitis | | 0 | 0 | $^{\delta}$ Figures include all deaths associated with pregnancy reported for the period. |
| | Neonatal Tetanus | | 0 | 0 | |
| | Typhoid Fever | | 0 | 0 | |
| | Meningitis H/Flu | | 0 | 0 | |
| SPECIAL PROGRAMMES | AFP/Polio | | 0 | 0 | ^ε CHIKV IgM |
| | Congenital Rubella Syndrome | | 0 | 0 | positive cases ^θ Zika PCR positive cases |
| | Congenital Syphilis | | 0 | 0 | |
| | Fever and Rash | Measles | 0 | 0 | $^{\beta}$ Updates made to prior weeks in 2020. |
| | | Rubella | 0 | 0 | |
| | Maternal Deaths ^{δ} | | 7 | 12 | ^α Figures are cumulative totals for all epidemiological weeks year to date. |
| | Ophthalmia Neonatorum | | 0 | 38 | |
| | Pertussis-like syndrome | | 0 | 0 | |
| | Rheumatic Fever | | 0 | 0 | |
| | Tetanus | | 0 | 0 | |
| | Tuberculosis | | 0 | 12 | |
| | Yellow Fever | | 0 | 0 | |
| | Chikungunya ^ɛ | | 0 | 0 | |
| | Zika Virus ^θ | | 0 | 0 | NA- Not Available |
| 5 NOTIFICATIONS- INVESTIGATION HOSPITAL SENTINEL | | | | | |

All clinical

sites



REPORTS- Detailed Follow up for all Class One Events



ACTIVE SURVEILLANCE-30 sites. Actively pursued

REPORT- 78 sites. Automatic reporting

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NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

EW 15

April 11, 2021 – April 17, 2021 Epidemiological Week 15



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NOTIFICATIONS-All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



HOSPITAL ACTIVE SURVEILLANCE-30 sites. Actively pursued



Dengue Bulletin

April 11, 2020 – April 17, 2021 Epidemiological Week 15

Epidemiological Week 15







600

Suspected dengue cases for 2020 and 2021 versus monthly mean, alert, and epidemic thresholds (2007-2020)

Points to note:

- *Figure as at April 16, 2021
- Only PCR positive dengue cases are reported as confirmed.
- IgM positive cases are classified as presumed dengue.





7 NOTIFICATIONS-All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events HOSPITAL ACTIVE SURVEILLANCE-30 sites. Actively pursued



RESEARCH PAPER

ABSTRACT

Risk Factors Associated with Glaucoma and Cataract among Patients Attending an Eye Clinic in Jamaica

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Objectives:

To determine association between demographic, medical and social variables and glaucoma and cataract in a Jamaican patient population.

Methods:

A descriptive cross-sectional study was done at the University Hospital of the West Indies Eye Clinic, where data was extracted from 370 randomly selected files of patients who attended the clinic between January and March 2017. Data extracted included demographic data and patient medical history. Ethical approval was obtained from the UHWI/UWI/FMS Ethics Committee. Statistical analyses were performed using SPSS Statistics software. To determine association between variables, Chi-squared tests and Spearman's correlation analyses were done, p<0.05 indicating statistical significance.

Results:

Glaucoma (45.4%) and cataract (33.8%) were the most frequently reported chronic ocular diseases, and the cases increased with age (p<0.001). More females than males presented with glaucoma and cataract. Statistically significant associations were found between glaucoma and a patient history of cataract or pterygium (p<0.007); while cataract was significantly associated with a patient history of physical trauma or retinopathy (p<0.047). In relation to coexisting non-ocular conditions, cataract was significantly associated with hypertension, diabetes mellitus and hypercholesterolemia (p<0.001); while glaucoma was associated with hypertension (p<0.001). Family histories of hypertension, sickle cell disease, glaucoma or blindness were significantly associated with the presence of glaucoma (p<0.05), but not with cataract (p>0.1). Glaucoma and cataract were not significantly associated with alcohol drinking or smoking.

Conclusion: A significant association was found between presence of glaucoma and presence of cataract. Hypertension was significantly associated with glaucoma and cataract; higher frequencies being associated with glaucoma and cataract.



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All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



HOSPITAL ACTIVE SURVEILLANCE-30 sites. Actively pursued

