



Diphtheria Cases

Morbidity Week 12 : January 1 - March 26, 2016

Epidemiology Bureau
Public Health Surveillance Division

Introduction

Diphtheria is an infectious disease spread (from person to person) by respiratory droplets through coughing and sneezing.

Diphtheria usually affects the tonsils, pharynx, larynx and occasionally other mucus membranes or skin.

The incubation period is usually 2 to 5 days (range 1-10 days).

Standard Case Definition:

• **Probable Case:**

- A person with an illness of the upper respiratory tract characterized by laryngitis or pharyngitis or tonsillitis, and adherent membranes on tonsils, pharynx and/or nose.

• **Confirmed Case:**

- A probable case that is laboratory confirmed or linked epidemiologically to a laboratory-confirmed case.

Note: Persons with positive *Corynebacterium diphtheriae* cultures who do not meet the clinical description (i.e. asymptomatic carriers) should not be reported as probable or confirmed diphtheria cases.

Trend in the Philippines

A total of **13** reported diphtheria cases nationwide from January 1 to March 26, 2016. Of these cases, **5** are probable, **4** are still for validation and **4** is laboratory-confirmed thru polymerase chain reaction (PCR) testing. The number of confirmed diphtheria cases is **75%** higher, compared to the same time period last year (**3**).

Geographic Distribution

The probable diphtheria cases were from: **Region IV-A** (Laguna), **Region VI** (Iloilo), **Region X** (Misamis Occidental), **Region XI** (Davao City) and **NCR** (Metro Manila). The suspected diphtheria case came from **Region IV-A** (Laguna and Rizal). While the confirmed diphtheria case came from **Region IV-B** (Cavite) and **NCR** (Caloocan City, Mandaluyong City and Quezon City).

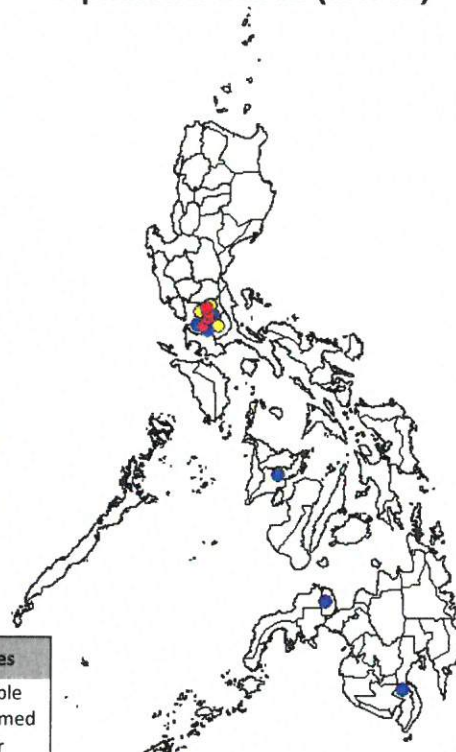
Profile of Cases

Majority of the probable diphtheria cases were **male** (80%). Whereas, the confirmed diphtheria cases are two 10 year old **females** from Mandaluyong and Cavite, one 10 year old **male** from Quezon City and one 5 year old **male** from Caloocan City. The case from Quezon City was admitted at Quezon City

Diphtheria Cases (MW12)

REGION	CASES
I	= 0
II	= 0
III	= 0
IVA	= 4
IVB	= 0
V	= 1
VI	= 1
VII	= 0
VIII	= 0
IX	= 0
X	= 1
XI	= 1
XII	= 0
ARMM	= 0
CAR	= 0
CRG	= 0
NCR	= 5
PHL	= 13

Legend	Cases
1 blue dot	= 1 Probable
1 red dot	= 1 Confirmed
1 yellow dot	= 1 still for validation





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General Hospital and the cases from Mandaluyong City and Caloocan City were admitted at San Lazaro Hospital. The case from Cavite was reported by the Research Institute for Tropical Medicine who eventually died of diphtheria. Two of the confirmed cases died. (CFR = 50%)

**Fig. 1 Reported Diphtheria Cases by Morbidity Week, Philippines, as of March 26, 2016
2016* vs 2015 (N= 13)**

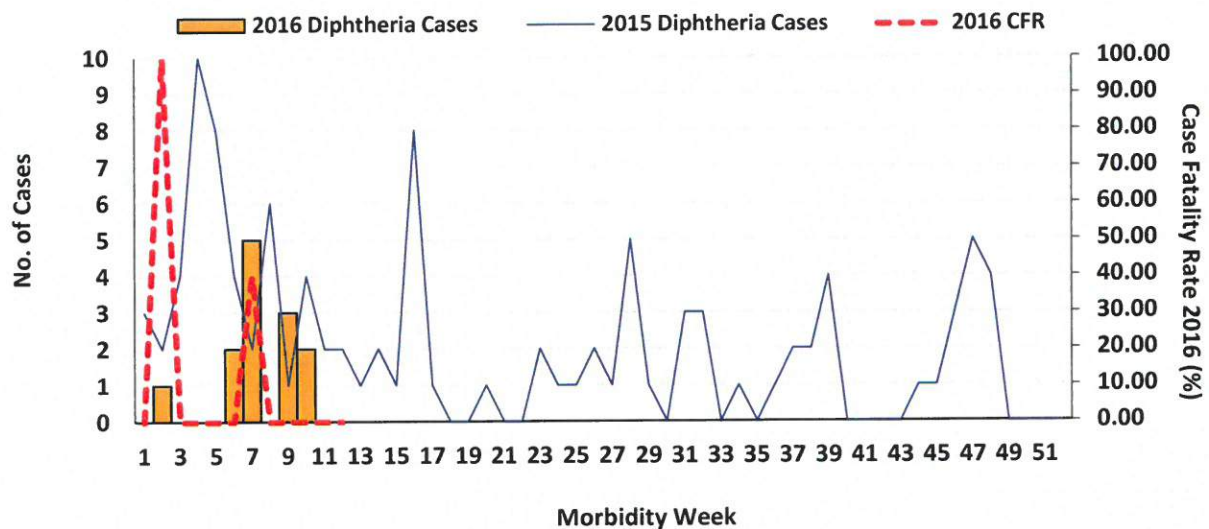
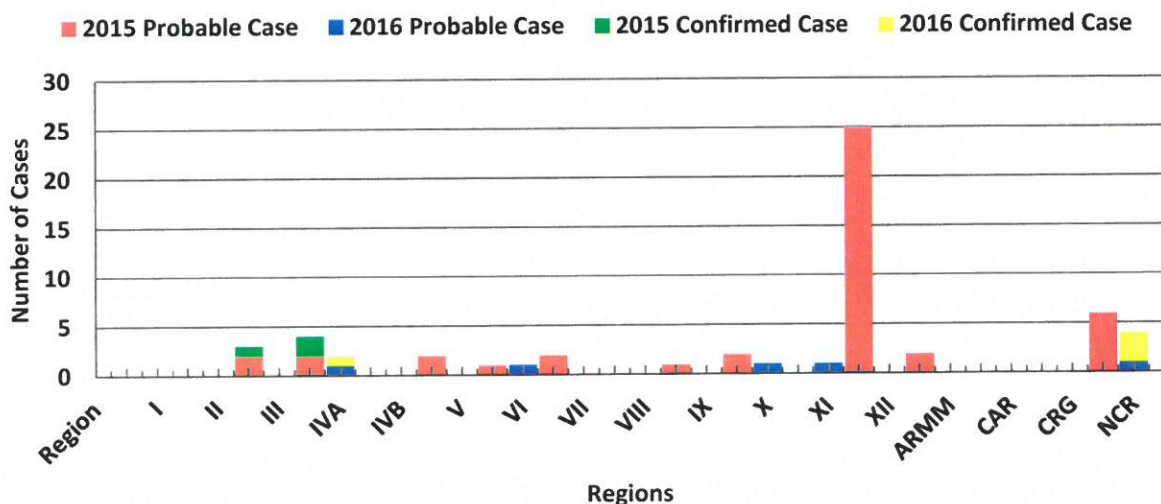


Fig. 2 Reported Diphtheria Cases by Region Philippines, 2016 vs 2015

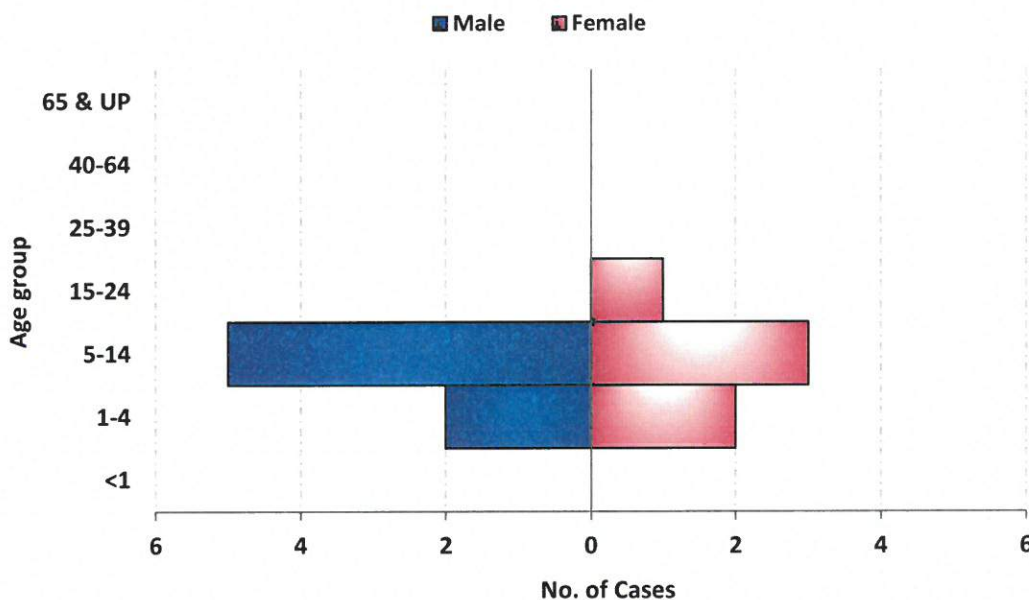




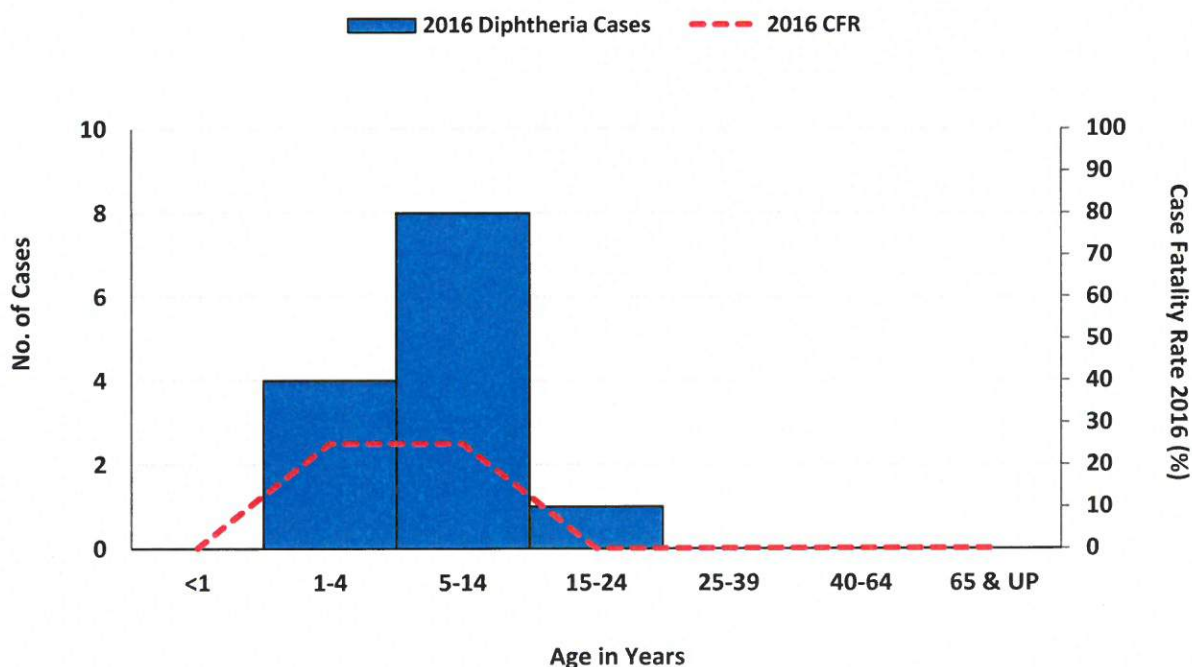
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**Fig.3 Reported Diphtheria Cases by Age Group and Sex
Philippines, as of March 26, 2016 (N= 13)**



**Fig. 4 Reported Diphtheria Case Fatality Rate (CFR) by Age Group
Philippines, as of March 26, 2016 (N=13)**





**Table 1 Reported Diphtheria Cases and Deaths by Region
 Philippines, January 1 - March 26, 2016**

Region	Probable							Confirmed						
	Cases			Deaths				Cases			Deaths			
	2016	2015	%Change	2016	CFR	2015	CFR	2016	2015	%Change	2016	CFR	2015	CFR
I	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0
II	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0
III	0	2	-100.00	0	0	0	0	0	1	-100.00	0	0	0	0
IVA	1	2	-50.00	0	0	0	0	1	2	-50.00	1	100	2	100
IVB	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0
V	0	2	-100.00	0	0	2	100	0	0	0.00	0	0	0	0
VI	1	1	0.00	0	0	0	0	0	0	0.00	0	0	0	0
VII	0	2	-100.00	0	0	2	100	0	0	0.00	0	0	0	0
VIII	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0
IX	0	1	-100.00	0	0	0	0	0	0	0.00	0	0	0	0
X	1	2	-50.00	0	0	0	0	0	0	0.00	0	0	0	0
XI	1	0	-	0	0	0	0	0	0	0.00	0	0	0	0
XII	0	25	-100.00	0	0	0	0	0	0	0.00	0	0	0	0
ARMM	0	2	-100.00	0	0	0	0	0	0	0.00	0	0	0	0
CAR	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0
CRG	0	0	0.00	0	0	0	0	0	0	0.00	0	0	0	0
NCR	1	6	-83.33	0	0	2	33	3	0	-	1	33	0	0
PHL	5	45	-88.89	0	0	6	13	4	3	33.33	2	50	2	67

Treatment for Diphtheria

- During outbreaks, clinical diagnosis based on typical pseudomembranous pharyngitis is quite reliable.
- Although laboratory investigation of suspected cases is strongly recommended, treatment should not be delayed while waiting for the laboratory results.
- Urgent treatment of diphtheria is mandatory to reduce complications and mortality.
- **The mainstay of treatment is intramuscular or intravenous administration of diphtheria antitoxin (DAT).** Antitoxin only neutralizes circulating toxin that has not yet been taken up intracellularly.
- Antibiotics are given to stop infection and toxin production, and to eradicate *C. diphtheriae* carriage and on-going transmission. Both penicillin and erythromycin are usually effective. Treatment should be given parentally until the patient can swallow with ease.

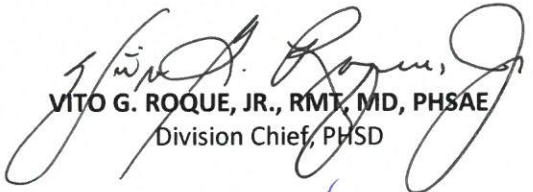


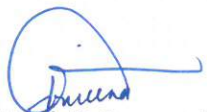
Diphtheria Antitoxin (DAT) Treatment protocol:


- Diphtheria antitoxin is made from the serum of horses that were hyperimmunized with diphtheria toxoid. **Sensitivity testing must be performed prior to DAT administration.**
- If diphtheria is strongly suspected, treatment with DAT should be given immediately without waiting for laboratory results.
- DAT should be injected in the early stage.
- The recommended DAT dose depends on the site, extent and duration of disease, varying from 20,000–100,000 units in a single intravenous (IV) or intramuscular (IM) dose.
- DAT is the passive antibody existing only for a short time. The combination of antitoxin and vaccine is recommended and they should be injected in different sites.


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