

# **Communicable disease update & Typhoid fever cluster- November 2015**

Ministry of Public Health  
Epidemiological Surveillance Program  
Bekaa office

# Communicable disease update, Bekaa, November 2015 (up to Nov25)

- 2 cases of measles in Baalback
  - Lebanese
  - Samples collected
- 9 cases of brucellosis
- 17 cases of hepatitis A
- 24 cases of typhoid fever

# Typhoid fever

# Typhoid fever

- Bacterial disease
- Symptoms:
  - Insidious onset of sustained fever, headache, malaise, anorexia, relative bradycardia, splenomegaly, nonproductive cough in the early stage of the illness
  - Rose spots on the trunk in 25% of white-skinned patients
  - Constipation more often than diarrhea in adults

# Typhoid fever

- Clinical picture varies:
  - From mild illness with low-grade fever
  - to severe clinical disease with abdominal discomfort and multiple complications
    - e.g. intestinal hemorrhage or perforation (about 1% of cases) especially late in untreated cases
- Case fatality rate:
  - 10-20% in the pre-antibiotic era
  - 1% with prompt antimicrobial therapy

# Typhoid fever

- Mode of transmission:
  - Ingestion of food and water contaminated by feces and urine of patients and carriers
  - Person-to-person transmission
- Incubation period:
  - 3 days to over 60 days
  - Usual range 8-14 days

# Typhoid fever: Preventive measures

- Promoting hand washing, good food handling practices
- Dispose of human feces safely
- Provide safe drinking water

# Typhoid fever: Diagnosis

- The causal agent can be isolated from blood, stool and bone marrow.
- Serological tests based on agglutinating antibodies (Widal) are generally of little diagnostic value because of limited sensitivity and specificity

# Typhoid fever: Reporting in Lebanon

- Typhoid fever is a mandatory notifiable disease
- To be reported to the Ministry of Public Health
- Following the case definitions
- Using an individual data form
- Lab test results to be specified or provided with the reporting form

# Reporting form

**الجمهورية اللبنانية**  
**وزارة الصحة العامة**

**إستمارة إبلاغ عن مرض إنتقالي**

**اسم المريض (اسم التلاقي)، اسم الأب، اسم الشهرة:**  
.....

**الجنسية:**  مقيم  زائر

**تاريخ الولادة:** .....

**الجنس:**  ذكر  أنثى

**الوضع التحصيني:** (للمرض المبلغ عنه)  
 ملقح  غير ملقح

**عدد الجرعات:** .....

**البلدة/الحي:** .....

**المحافظة/الفضاء:** .....

**رقم الهاتف:** .....

**تاريخ ظهور عوارض المرض:** .....

**تاريخ تشخيص المرض:** .....

**هل دخل المريض المستشفى:**  لا  نعم

**اسم المستشفى:** .....

**تاريخ دخول المستشفى:** .....

**هل من تشخيص مخبري:**  لا  نعم

**إذا نعم، حدد:** .....

**وجود حالات مماثلة في محيط العريض:**  لا  نعم

**يمارس المريض مهنة طبية/صحية:**  لا  نعم

**اسم المستشفى/المركز الصحي/المختبر/عيادة خاصة/غيره:**  
.....

**العنوان:** .....

**الهاتف:** .....

**اسم وصفة المبلغ:** .....

**التاريخ:** / / **التوقيع**

في الحالات التي تبلغ فوراً إضافة إلى ملء الوثيقة يجب الإتصال مباشرة وخلال 24 ساعة ببرامج الترصد الوبائي في بيروت والمناطق.  
هاتف 01/614194 فاكس 01/610920

**الأمراض التي تبلغ فوراً / Immediately Reportable Cases**  
**Clinical cases should be reported within 24 hours**

الشلل الرخو الحاد / Acute Flaccid Paralysis  
Polio myelitis, Guillain Barre, Myelitis, Myositis, Neuritis ...

الجذام / Anthrax

الكوليرا / Cholera

الخانوق / Diphtheria

تسمم غذائي / Food Poisoning

الحميات النزفية / Hemorrhagic Fevers  
Ebola-Marburg, Dengue, Crimean Congo HF, Lassa, Yellow fever ...

إنفلونزا ناجمة عن نميط جديد / Influenza new virus subtypes  
Avian influenza A(H5N1), A(H7N9) ...

Invasive Coronavirus infection:  
SARS, MERS/nCoV

Invasive Meningococcal disease

الحصبة / Measles

التهاب السحايا / Meningitis (All agents)  
Including West Nile fever ...

أبو كعب / Mumps

الشاهوق / Pertussis

الطاعون / Plague

الكلب - السعار / Rabies

الحصبة الألمانية / Rubella

الكزاز الوليدي / Neonatal Tetanus

الكزاز / Tetanus

حدث غير عادي أو غير متوقع / Unusual or unexpected event  
Specify:

**الأمراض التي تبلغ أسبوعياً / Weekly Reportable Cases**  
**Laboratory-confirmed**

بلهارسيا / Bilharzia

الحمى المالطية / Brucellosis

كروتسفيلد-جاكوب / Creutzfeldt-Jacob Disease

السيلان / Gonorrhoea

التهاب الكبد الفيروسي / Hepatitis A, B, C, D, E

الكيسيات المعانية / Hydatid Cyst

التهاب معوي / Intestinal Infection  
Amoebiasis, Campylobacter, E. coli, Giardiasis, Rotavirus, Salmonellosis, Shigellosis ...

داء الفئالقة / Legionellosis

داء البشمانيات / Leishmaniasis

الجذام / Leprosy

الملاريا / Malaria

السيلان / Syphilis

الحميات التيفية / Typhoid fever

إن حالات السل أو التدرن / Tuberculosis تبلغ على وثيقة خاصة وترسل إلى البرنامج الوطني لمكافحة التدرن

إن حالات السيدا / HIV تبلغ على وثائق خاصة وترسل في ظرف محتوم مباشرة إلى البرنامج الوطني لمكافحة السيدا.

# Reporting

- Cases to be reported to the MOPH-  
Epidemiological Surveillance Program
- Individual cases to be reported on a weekly basis
- Cluster of cases to be reported immediately
- Forms to be sent
  - To caza offices by hand or by fax:
    - Zahle: 08/809147
    - Baalback: 08/372309
    - West Bekaa: 08/663021
    - Rashaya: 08/592451
    - Hermel: 08/201340
  - Or by email: [mophesubekaa@gmail.com](mailto:mophesubekaa@gmail.com)

# Typhoid fever: MOPH case definitions

- **Suspected case:** A clinically compatible case as reported by a physician. The clinical presentation may vary from a mild illness with low-grade fever and malaise to a severe picture of sustained fever, diarrhoea or constipation, malaise, anorexia, severe headache, splenomegaly and relative bradycardia. Intestinal ulceration can produce intestinal haemorrhage or perforations.
- **Probable case:** Case with acute fever (at least 38° C) during 3 days or more with positive serodiagnostic or antigen detection test but without isolation of Salmonella enterica Typhi ou Paratyphi. Widal test is considered as positive if the titre is at least 1/160.
- **Confirmed case:** case with acute fever (at least 38° C) during 3 days or more with laboratory confirmation through isolation of Salmonella enterica serovar Typhi ou Paratyphi (new nomenclature) from clinical specimens: blood, bone marrow, stool...

# Typhoid fever: MOPH case definitions

- **Suspected case:**
  - A clinically compatible case as reported by a physician.
- **Probable case:**
  - Suspected case
  - with positive serodiagnostic or antigen detection test but without isolation of *Salmonella enterica* Typhi ou Paratyphi. Widal test is considered as positive if the title is at least 1/160.
- **Confirmed case:**
  - Suspected or probable case
  - with laboratory confirmation through isolation of *Salmonella enterica* serovar Typhi ou Paratyphi (new nomenclature) from clinical specimens: blood, bone marrow, stool...

# Case definitions

- Available for all diseases
- Published on the ministry website

# Case definitions

The image shows a screenshot of the Ministry of Public Health (MOPH) website. The browser address bar shows the URL [www.moph.gov.lb/pages/home.aspx](http://www.moph.gov.lb/pages/home.aspx). The website has a blue header with three main sections: "SEARCH OUR WEBSITE", "HOSPITAL ACCREDITATION", and "ADMINISTRATIVE SERVICES". A left sidebar contains a navigation menu with items like "Home", "About Us", "Laws and Regulations", "Medical Care", "Prevention", "e-Services Center", "Drugs", "Media Center", "E-Health", "Awareness Campaigns", "Statistics", "Publications", "Job Opportunities", "Site Map", "Contact Us", and "Licenses Granted by MOPH". The "Prevention" item is circled in green. A dropdown menu is open under "Prevention", listing various health programs and surveillance categories. The "Surveillance" item is circled in green, and a sub-menu is open below it, listing categories such as "Current Year", "Past Years", "Poliomyelitis", "Meningitis", "Measles", "Rubella", "Avian Influenza", "Rabies Exposure", "Cancer", "Sentinel", "Absenteeism", "Sessions & References", "Dispensary-based", "ICU surveillance", "Novel Coronavirus (MERS-CoV)", and "Hospital Mortality Surveillance". A red arrow points to the "Sessions & References" item in this sub-menu. At the bottom, there are banners for the "NATIONAL CANCER REGISTRY" and "DOCTORS' FEES".

www.moph.gov.lb/pages/home.aspx

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NATIONAL CANCER REGISTRY

DOCTORS' FEES

Surveillance

Current Year

Past Years

Poliomyelitis

Meningitis

Measles

Rubella

Avian Influenza

Rabies Exposure

Cancer

Sentinel

Absenteeism

Sessions & References

Dispensary-based

ICU surveillance

Novel Coronavirus (MERS-CoV)

Hospital Mortality Surveillance

Minister Abou Faour Cancelled Contracts with six Artificial Intelligence

Health Clinics" in Ashrafieh

# Case definitions

Sessions & References



## Sessions and Seminars

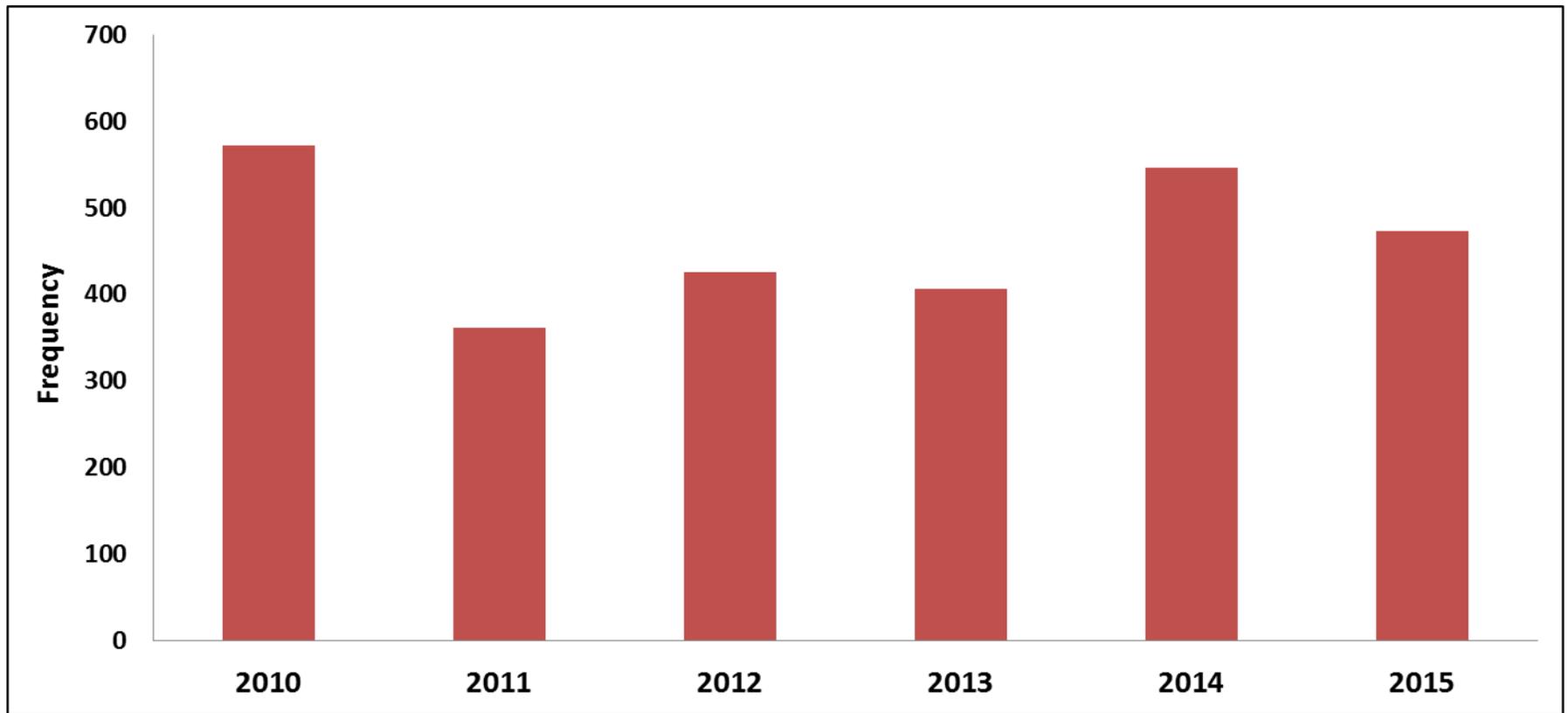
### Reporting Forms

- Communicable disease reporting form pdf, doc
- Hospital zero-reporting form
- Rash reporting form (measles and rubella)
- Meningitis reporting form
- Dispensary reporting form ( pdf, doc)
- Hospital ICU reporting form
- Hospital causes of deaths reporting form
- School absenteeism reporting form
- Polio / acute flaccid paralysis reporting form
- Polio / acute flaccid paralysis follow up form
- Laboratory surveillance weekly form
- Chemical incident release - patient reporting form
- Rapid Survey on Antidotes Form

### Case Definitions

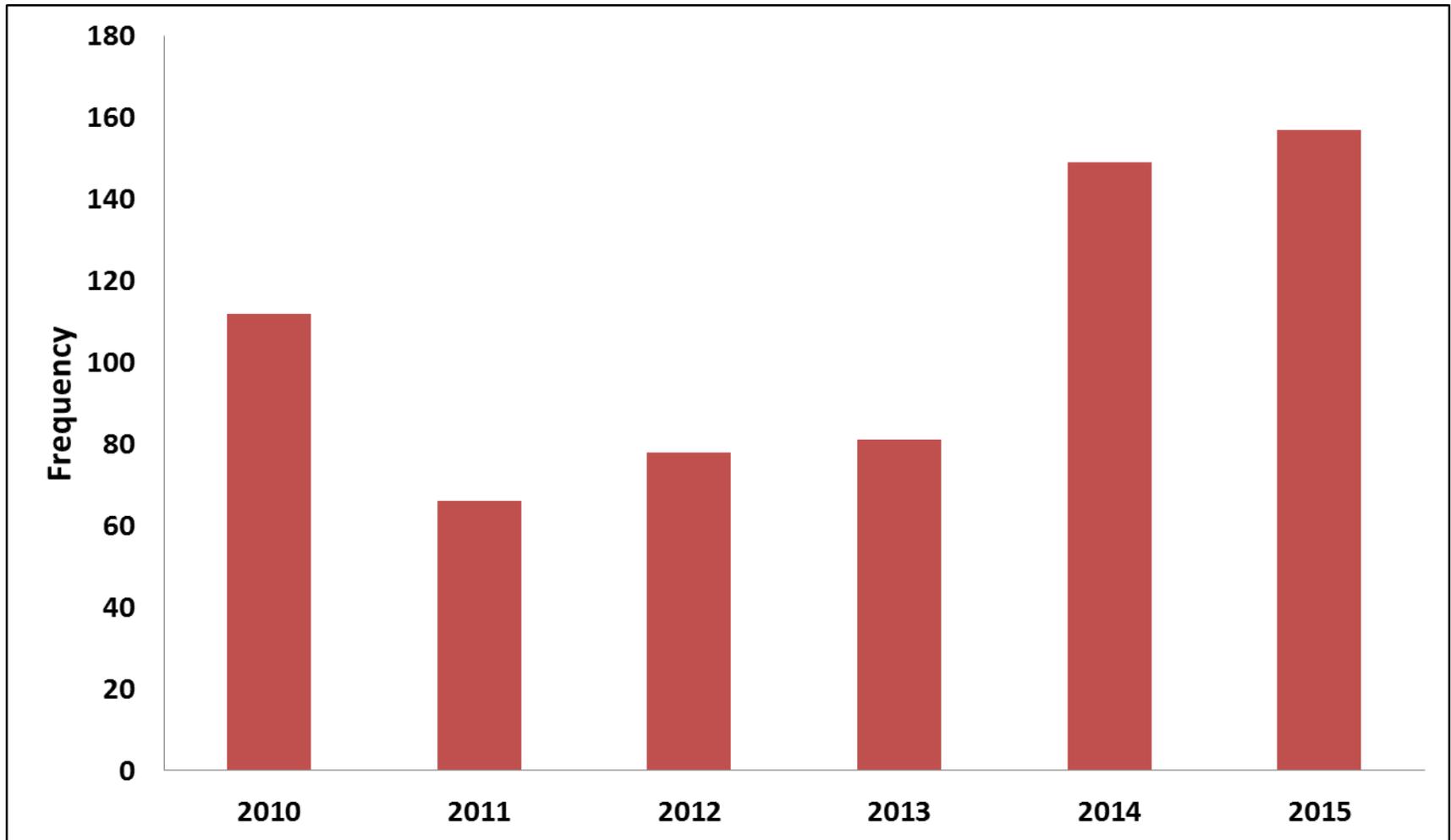
- Acute poliomyelitis
- Bilharziasis
- Brucellosis
- Cholera
- Creutzfeld Jakob Disease
- Creutzfeld Jakob Disease, new variant
- Diphtheria
- Dysentery
- Hemorrhagic fever
- Hemorrhagic fever: Ebola
- Leishmaniasis: cutaneous
- Leishmaniasis: visceral
- Leprosy
- Measles
- Meningitis
- Meningitis: Haemophilus influenza b
- Meningitis: Neisseria meningitidis
- Mumps
- Pertussis
- Plague
- Rubella
- Rubella, Congenital Rubella Syndrome
- Tetanus
- Tetanus neonatorum
- Trichiniasis
- Tuberculosis
- Typhoid fever
- Viral hepatitis A
- Viral hepatitis B
- Viral hepatitis C
- Viral hepatitis D
- Viral hepatitis E
- Yellow fever

# Reported typhoid fever cases, Lebanon, Jan 2010-Nov 2015

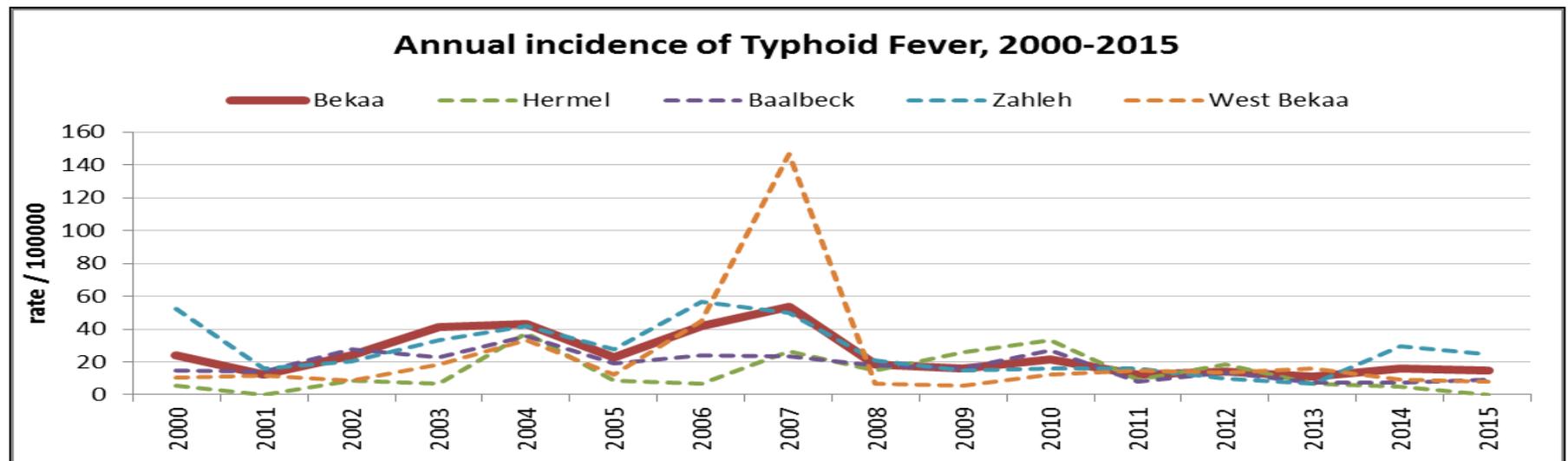
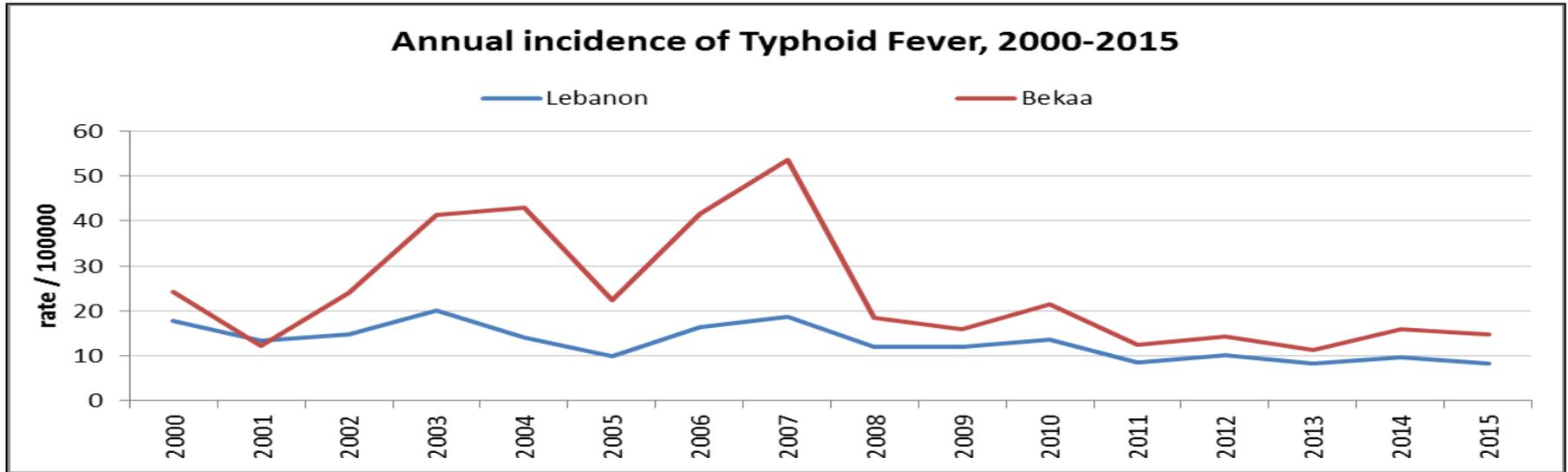


- Typhoid fever is endemic in Lebanon

# Reported typhoid fever cases, Bekaa, Jan 2010-Nov 2015



# Incidence rate of typhoid fever, Bekaa, Jan 2010-Nov 2015

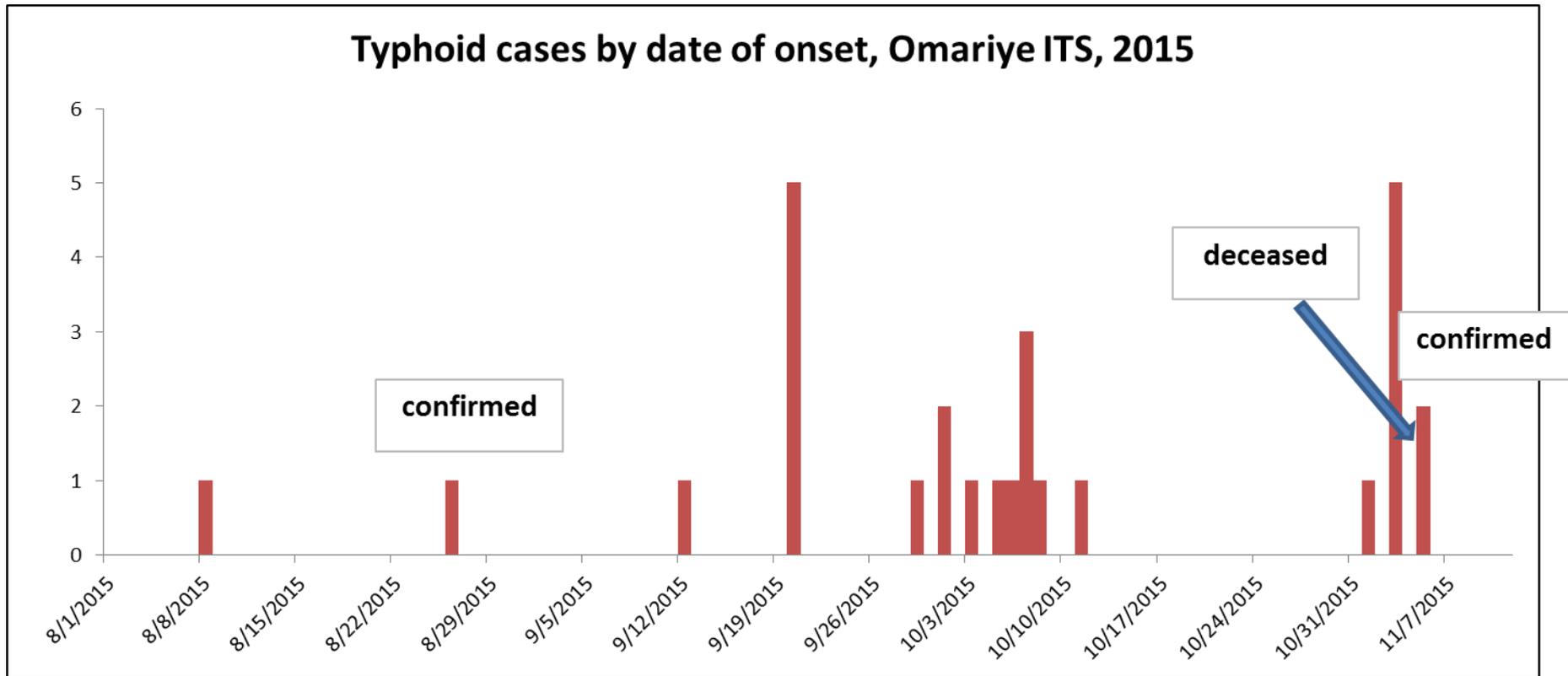


# Reported typhoid fever cases, Bekaa, January -Nov 2015

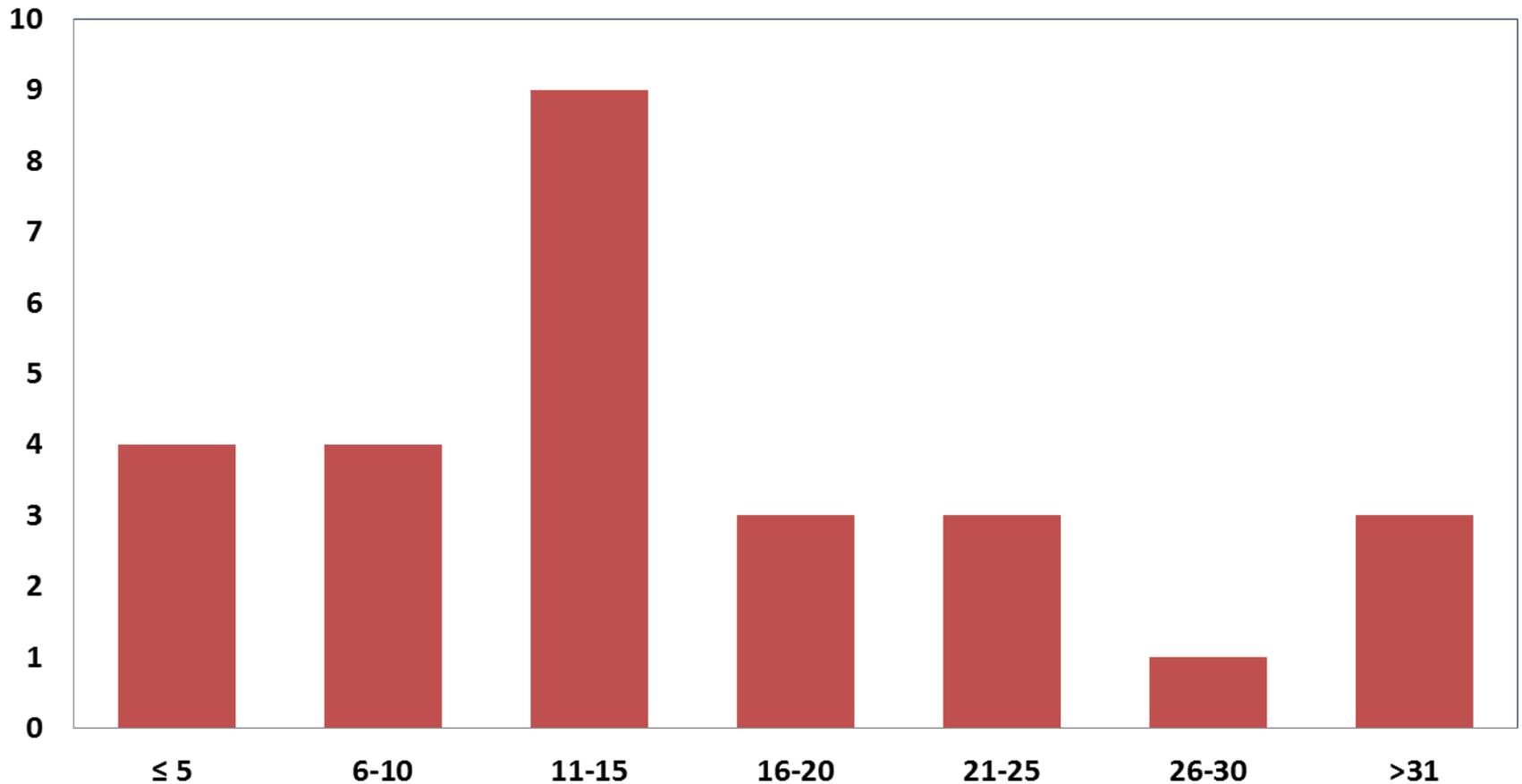
- 157 cases:
  - 27% Syrian
  - 62% in Zahleh
- A cluster of probable typhoid fever
  - Place: Omariye ITS 008-Zahle
  - Time: August-November 2015
  - Complication: one death of a girl with typhoid (cause of death unclear)
- A cluster of suspected typhoid fever
  - Place: in Mouhamad Rached ITS 055-Zahle
  - Time: June 2015

# Typhoid fever cluster, Omariye ITS 008, 2015

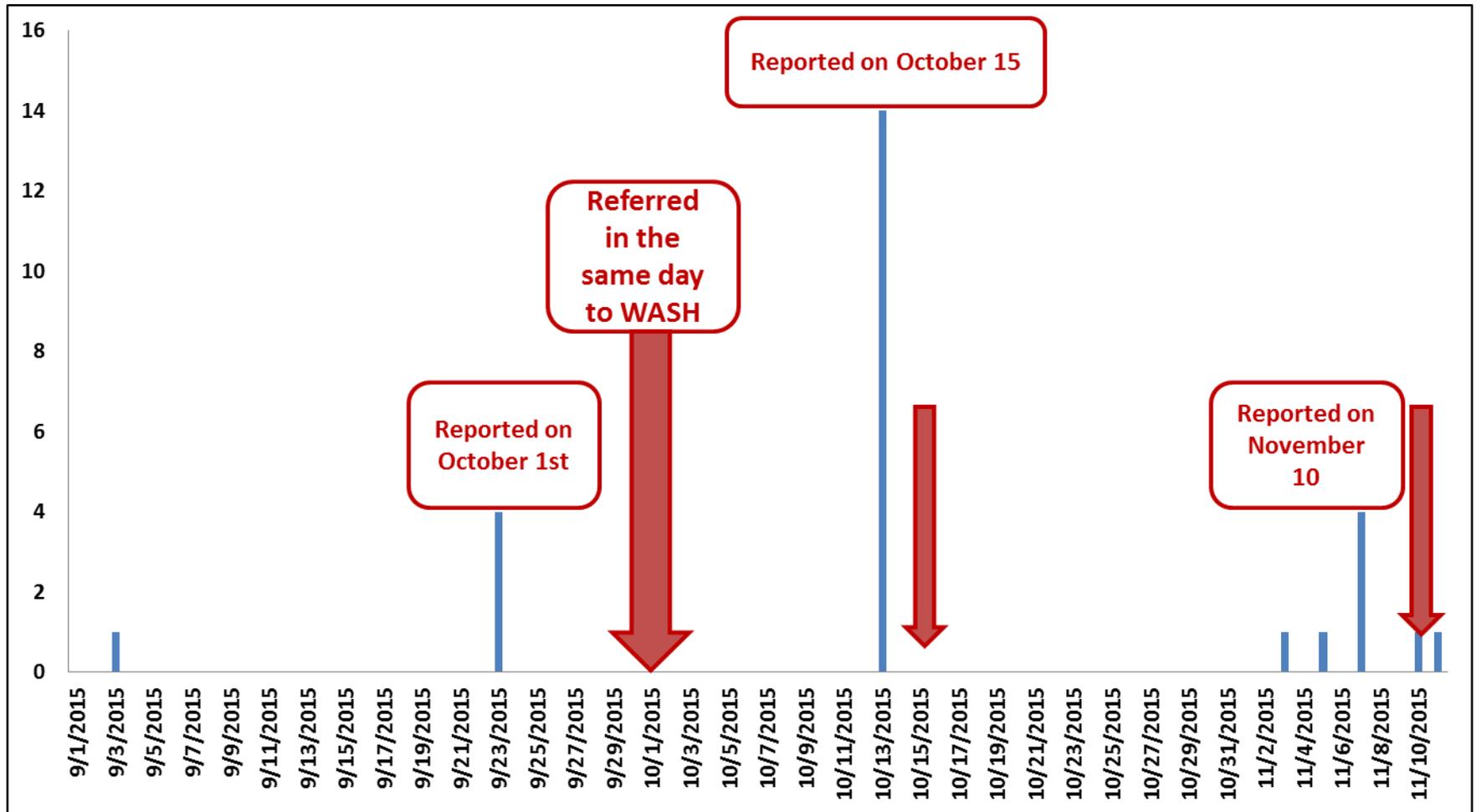
- 27 cases: 2 confirmed, 25 probable
- One death: date of onset unknown (reporting date was used)



# Distribution of typhoid fever cases by age group, Omariye 008, 2015

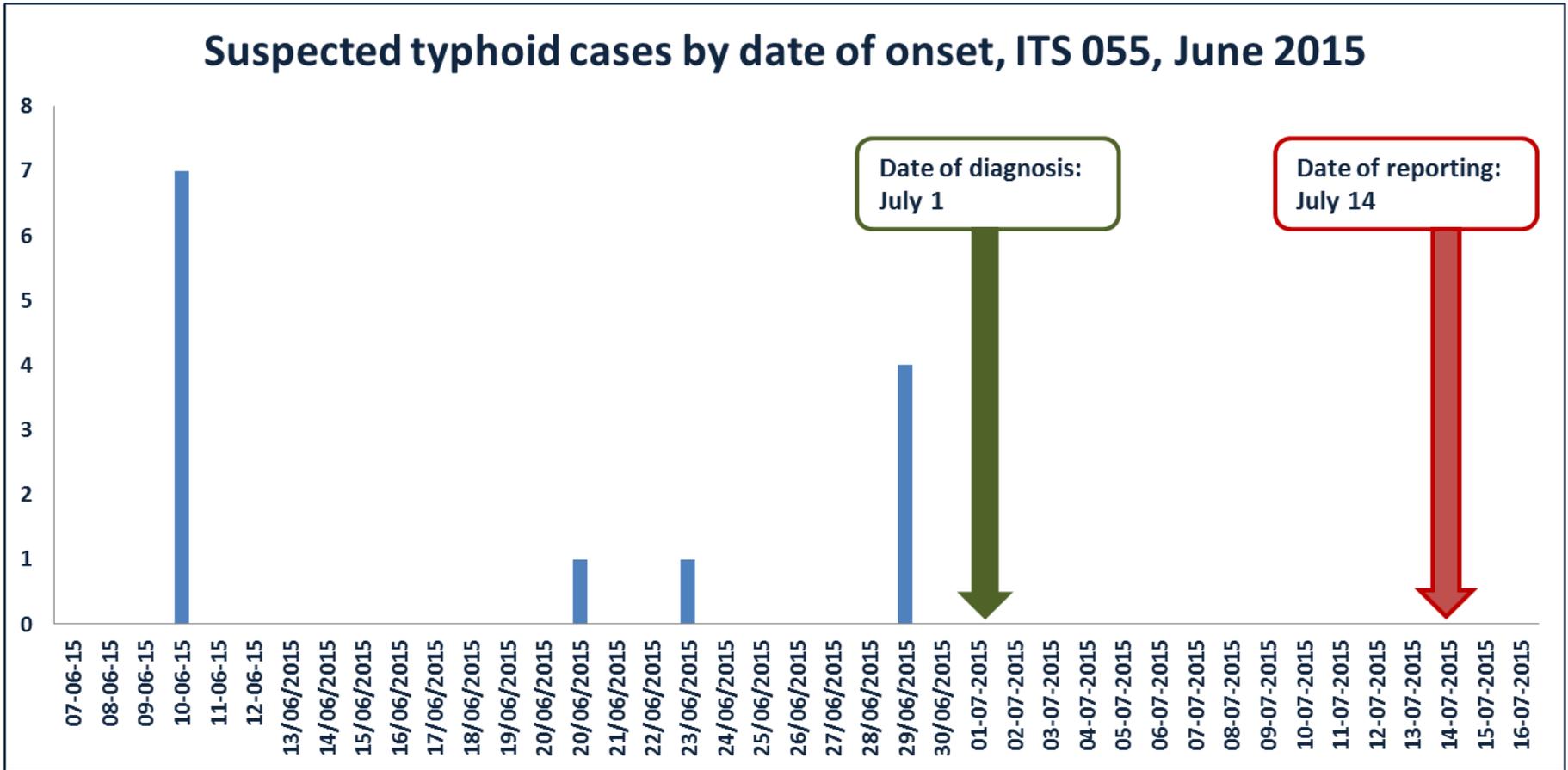


# Typhoid fever cases by diagnosis date, Omariye ITS 008, Zahle, 2015



# Suspected typhoid fever cases, ITS 055, June 2015

- 13 suspected cases reported by an MMU



- Lab tests were requested but no tests were performed

# Suspected typhoid fever cases, ITS 055, June 2015

- No lab confirmation
- A relation between the 2 clusters??
- Information needed from WASH:
  - Is the sewage system in ITS 055 related to 008?

# Lessons learned

<b>Actions</b>	<b>Responsibility</b>
Timely reporting	MMU/PHC
Importance of lab confirmation	MMU
Rapid and efficient interventions	WASH
Communication with UNHCR/Health & WASH even if suspected cases	ESU
To provide regular feedback	ESU
Coordination between the different partners	All
Get reliable information from the sources Take actions based on evidence	All
Training sessions on reporting procedures for MMU staff	MOPH & UNHCR/Health

# **Field Medical Units surveillance**

# FMU surveillance system

- Objective: to collect data on communicable diseases from medical units providing health services mainly for Syrian refugees
- Using an aggregated data form

# FMU surveillance system: reporting form

الجمهورية اللبنانية  
وزارة الصحة العامة

امتدادة الترصد الوبائي عن الأمراض والوفيات الخاصة بالمستشفيات والمراكز الصحية

(١) عن المستوصف والأسبوع

المحافظة	القضاء	البلدة	اسم المستوصف
التاريخ	من الاثنين	لغاية الأحد	رقم الامتدادة

(٢) عن الأمراض

ملاحظات	الحالات		الأمراض المشمولة بالترصد
	أقل من ٥ سنوات	٥ سنوات أو أكثر	
			<b>(١) امراض مناعية / vaccine preventable diseases</b>
			شلل رخو حاد / paralyse flasque aigue/acute flaccid paralysis
			حصبة / rougeole / measles
			حصبة ألمانية / rubecole / rubella
			السعال الديكي او الشاهوق / coqueluche / pertussis or whooping cough
			الكاف او أبو كعب / oreillons / mumps
			<b>(٢) امراض تنقلية اخرى / other communicable diseases</b>
			إسهال حاد / diarrhée aigue/ acute diarrhea
			إسهال دموي مخاطي / bloody diarrhea
			حالة يرقان حادة أو صفيرة / ictere / jaundice
			التان تنفسي حاد والزركام / acute respiratory infection & flu
			حمى غير مشخصة / unexplained fever
			الجرب / gale / pediculosis or scabies
			داء الليشمانيات / leishmaniasis
			امراض تنقلية اخرى واجب الإبلاغ عنها ** / other notifiable diseases
			حالات تفشي وباء / épidémie/ outbreak
			<b>(٤) غيره / others</b>
			ربو / asthma / asthma
			الحوادث والجروح / accident / injury
			معيّنات اخرى / autres consultations/ other consultations

(٣) عن الحالات التي استعدت الاستشفاء

#	الاسم	العمر	الجنس	بلدة الإقامة	اسم المستشفى	سبب الاستشفاء
١						
٢						

(٤) عن حالات الوفيات

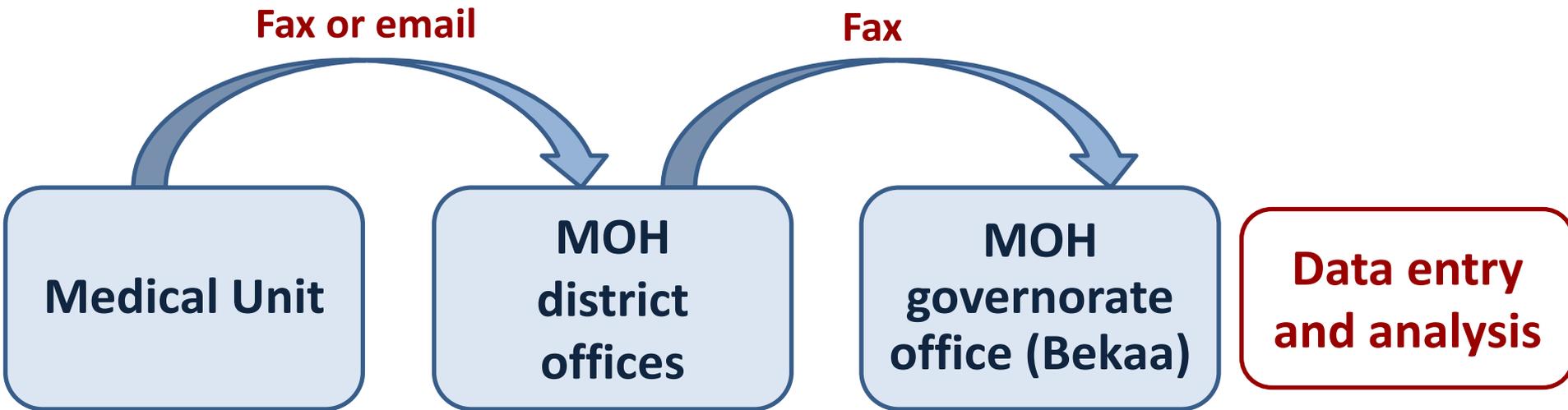
#	الاسم	العمر	الجنس	بلدة الإقامة	سبب الوفاة
١					
٢					

الاسم، التوقيع: رقم الهاتف:

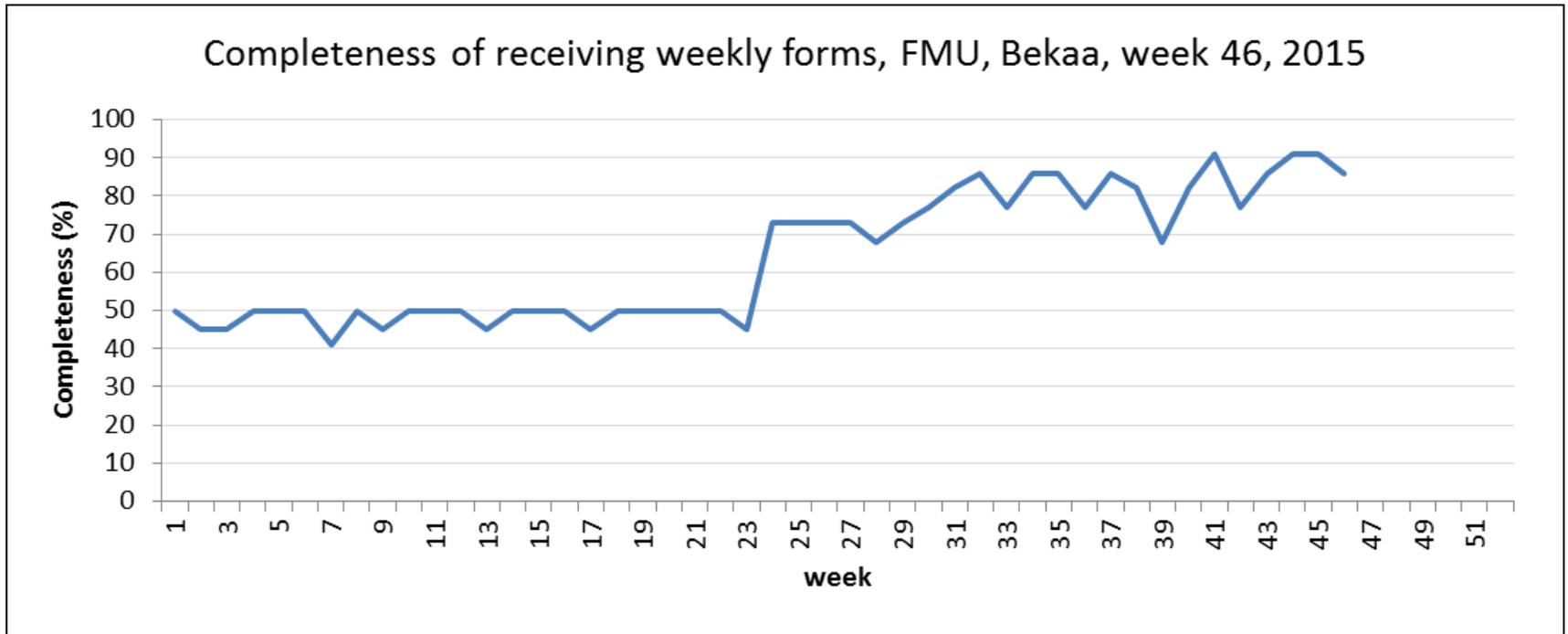
\*\* وحدة الأمراض إنتقالية الواجب الإبلاغ عنها فور تشخيصها أو الشك فيها: شلل الرخو الحاد و شلل الأطفال، الكوليرا، الخناق، التسمم الغذائي، الملاريا، التهاب السحايا، الكزاز الويدي، الكلب / السعار، انفلونزا الطيور، كروتيفلدا جنوبي، الحمى النزفية، الملاريا، حمى التيفوس، الحمى الصفراء  
\*\* وحدة الأمراض إنتقالية الواجب الإبلاغ عنها أسبوعيا: بثور مياه، الحمى المالطية، التهاب الكبد الفيروسي A, B, C, D, E ، الكيسات المائية، السيلان، الجذام، الملص، التريشوز، المل الرئوي، المل أشكال أخرى، الحموات التيفية

تعميم وزارة الصحة العامة رقم ٥ تاريخ ١١ شباط ٢٠١٣

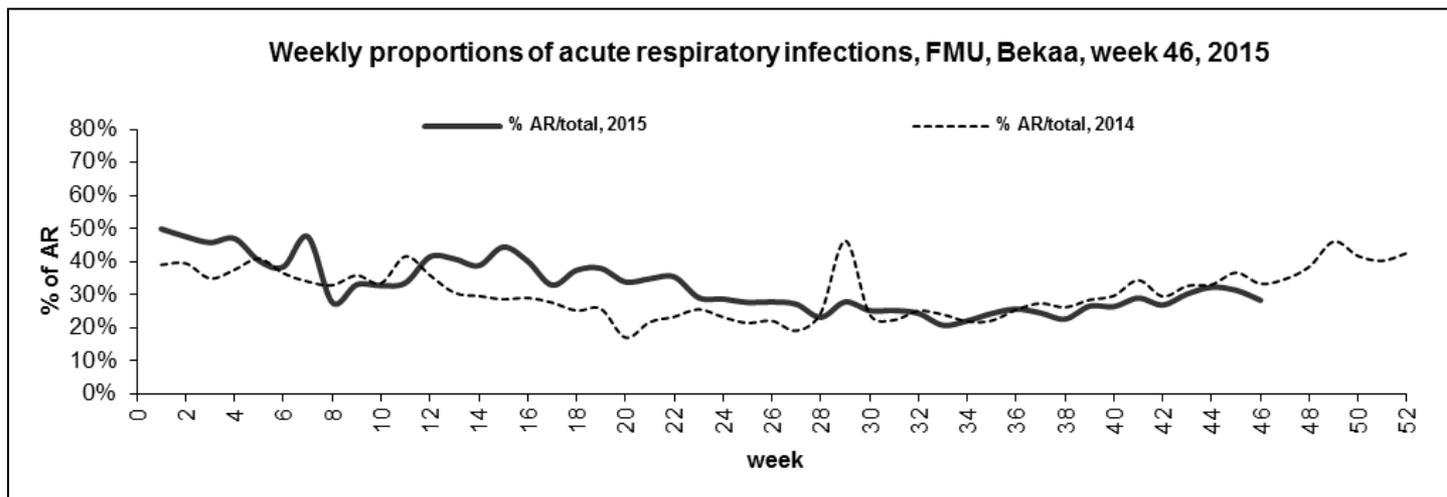
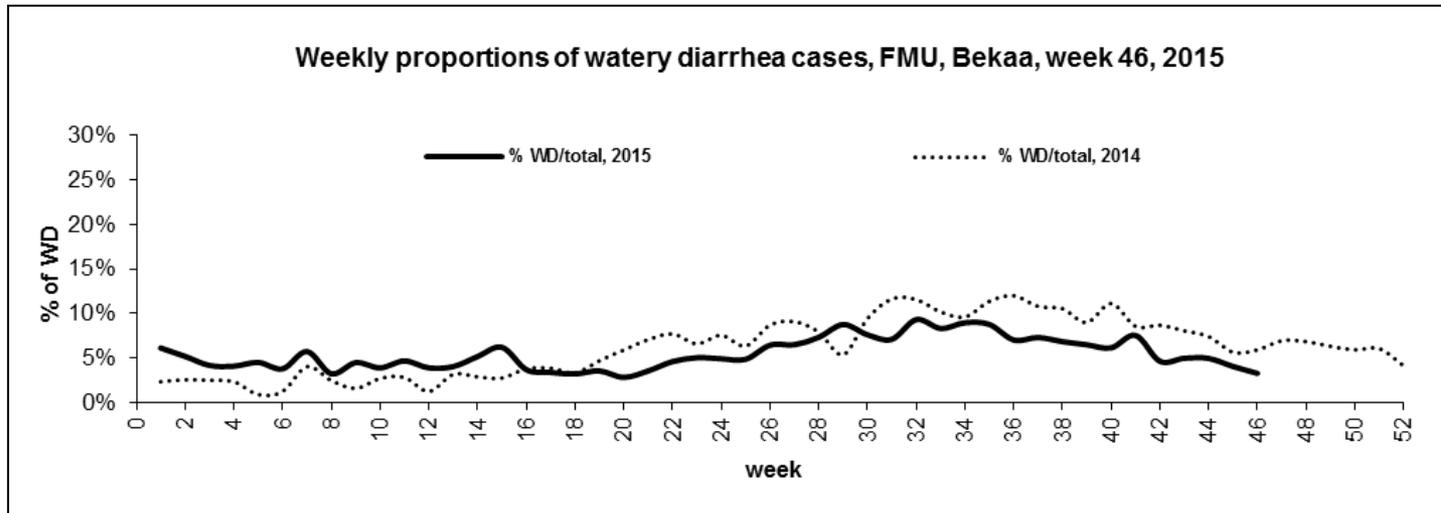
# Methods : Data Flow



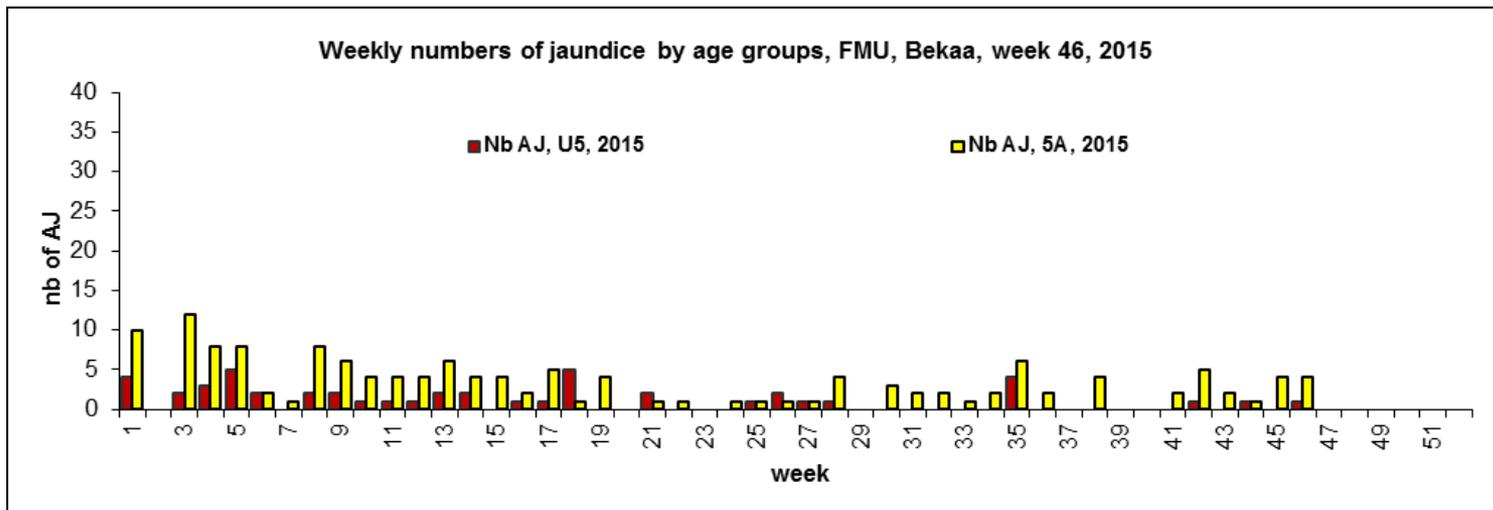
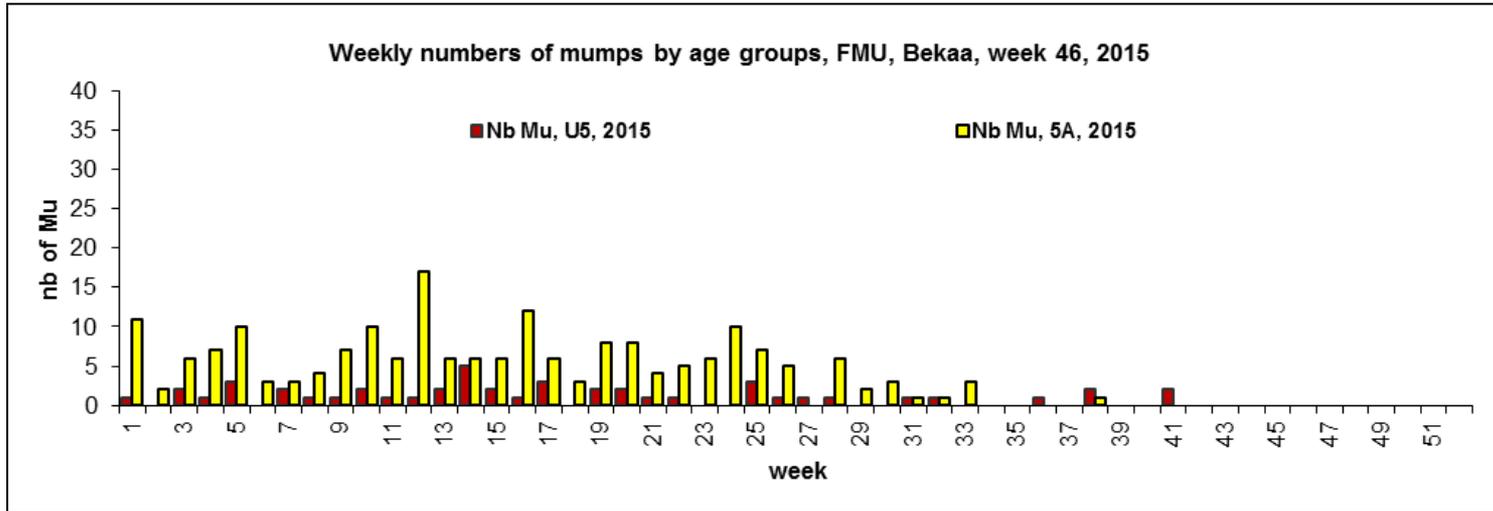
# FMU surveillance system: Results



# FMU surveillance system: Results



# FMU surveillance system: Results



# FMU surveillance system : Guideline

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NATIONAL CANCER REGISTRY

DOCTORS' FEES

Surveillance

ICU surveillance

# FMU surveillance system : Guideline

HOSPITAL ACCREDITATION  
--Select--

ADMINISTRATIVE SERVICES  
معاملات إدارية  
--Select--

Ministry of Public Health » Prevention » Surveillance » Dispensary-based

## Dispensary-based

Dispensary-based surveillance

In 2002, the Ministry of Public Health has issued a circular mandating all dispensaries in both the public and philanthropic sectors to report on monthly basis certain infectious diseases.

In 2006, with the WHO support, an early warning surveillance system based on dispensary and medical center reporting was implemented on weekly basis in the regions with war conflicts.

In 2009, the Ministry asqued all dispensaries and medical centers all over Lebanon to participate in such surveillance system.

The objectives are:

- To ensure timely detection and response of outbreaks at local level
- To monitor trend of communicable diseases
- To complement the national communicable diseases surveillance database in order to have a more comprehensive overview about the current public health situation.

Please find below some materials:

- Weekly Form
- Official texts
- Power Point Presentation
- Guideline for medical center, dispensary, field medical unit based surveillance (Arabic)
- Guideline for medical center, dispensary, field medical unit based surveillance (English)

Please find below last available buiretin for 2013:

- National summary

# FMU surveillance system: challenges

- Improving the completeness
- Timely reporting
- Separate forms for each locality
- Lab confirmation
  - Lab referral
  - MMU collecting specimens (ex: measles cases)
- Getting contact numbers for cases and detailed address (p-codes?)

# Cholera

# Cholera

- An acute bacterial disease
- Characterized in its severe form by sudden onset, watery-stools (rice-water stool), nausea, profuse vomiting
- Can lead to dehydration and death
- Transmitted through contaminated water, food and person to person
- Prevention: safe drinking water and food, hygiene

# Cholera

- **No cases in Lebanon BUT we are at risk**
- Case definition of a suspected cholera case:
  - Severe dehydration or
  - Death from acute watery diarrhea
- Suspected cases to be reported immediately:  
samples to be collected from the contacts
- Patients with dehydration to be referred to the hospital

# Cluster of communicable diseases detected by a non medical teams

- Cluster of cases: a group of individuals having the same symptoms in the same place and time
- If cluster of cases detected by non medical teams
  - Referral to health center **AND**
  - Phone call or email to MOPH-ESU and UNHCR/Health

# Summary

- Communicable diseases to be diagnosed by a physician (MMU or referred to a health center)
- All communicable diseases to be reported to MOPH-ESU using reporting forms
  - Weekly reportable diseases
  - Immediately reportable diseases & cluster of cases
- MOPH-ESU to coordinate with the Health/WASH UNHCR regarding any issue related to communicable diseases
- Official information on communicable diseases and outbreaks to be published by MOPH-ESU

# References

- Control of Communicable Diseases Manual, 19th Edition Edited by David L. Heymann  
Washington, DC: American Public Health Association, 2008.