

**Μετεκπαιδευτικό
Σεμινάριο Λοιμώξεων**
Με Διεθνή Συμμετοχή
**10-11 ΜΑΪΟΥ
2019**

**Ενιαία Υγεία
και Λοιμώξεις
στη Λεκάνη της Μεσογείου
Οστικό Έλλειμμα και
Λοίμωξη**

**The One Day
Symposium and Course on
"Infected Bone Loss Treatment
As a Means of Scientific
Improvisation, Innovation
and Creativity"**

**Ξενοδοχείο
Royal Olympic
Αθήνα**

Κοιτώνται 13 μόρια Συνεχιζόμενης Ιατρικής Εκπαίδευσης
Κλινικά Φροντιστήρια / Workshops
ΣΥΜΜΕΤΟΧΗ 30 ΑΤΟΜΩΝ

Διοργάνωση:
**Μεσογειακό Ινστιτούτο Μελέτης και
Εκπαίδευσης στις Λοιμώξεις**

Σε συνεργασία με την: **Ορθοπαιδική Κλινική ΓΝΑ «ΛΑΪΚΟ»**

Λοιμώδη αίτια Αναπνευστικής ανεπάρκειας/ARDS στον επιστρέφοντα ταξιδιώτη

Σωτήριος Τσιόδρας
10 Μαΐου 2019

Λοιμώδη αίτια σοβαρής αναπνευστικής νόσου, ARDS

- **Βακτηριακή πνευμονία**
 - π.χ. *S. pneumo*, **Legionnaire's**
 - Sepsis w other bacteria e.g. *S. aureus*
- **Γρίπη & ζωνοτική γρίπη (AH5N1, AH7N9), RSV**
- **Ελονοσία, Tbc**
- **MERS-CoV, (SARS)**

Mass gatherings & risk

Hajj 2018



- *S. pneumoniae* most common cause of pneumonia & ICU admission
- 65% eligible - only 5% vaccinated

Σπανιότερα λοιμώδη αίτια σοβαρής αναπνευστικής νόσου

- Λεπτοσπείρωση
- Τυφοειδής
- Πανώλης
- Τουλαραιμία
- Πυρετός Q
- **Scrub typhus**
- Μελιοείδωση
- Histoplasmosis
- Coccidioidomycosis
- Stongyloidiasis
- Paragonimiasis
- Schistosomiasis
- **Hantavirus**

Πνευμονία ταξιδιώτη

Γεωγραφικός προορισμός αλλά & t επώασης

Table 2 Incubation periods of pulmonary infections

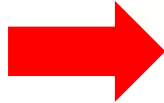
Incubation Period	Infection
Short (<10 days)	Viral: influenza, SARS, MERS, Nipah Bacterial: common organisms causing pneumonia (<i>Streptococcus pneumoniae</i> , <i>Haemophilus influenzae</i>), melioidosis, Legionellosis, plague, pertussis, diphtheria Fungal: histoplasmosis
Medium (10–21 days)	Viral: MERS, Nipah, hantavirus Bacterial: pertussis, melioidosis Fungal: histoplasmosis, coccidioidomycosis Eosinophilic: ascariasis, hookworm, strongyloides, toxocariasis
Long (>21 days)	Bacterial: Q fever, TB Eosinophilic: schistosomiasis, hydatidosis, dirofilariasis, paragonomiasis, <i>Wucheria bancrofti</i> , <i>Brugia malayi</i>

Παγκόσμιος εχθρός Γρίπη σε ταξιδιώτη

November–April



year-round



April–November



CDC, 2018-19 flu season

activity ↓ nationally, season wrapping up

CDC estimates that, from **October 1, 2018**, through **April 27, 2019**, there have been:

37.2 million – 42.7 million
flu **illnesses**



17.2 million – 20 million
flu **medical visits**



524,000 – 637,000
flu **hospitalizations**



36,100 – 59,600
flu **deaths**

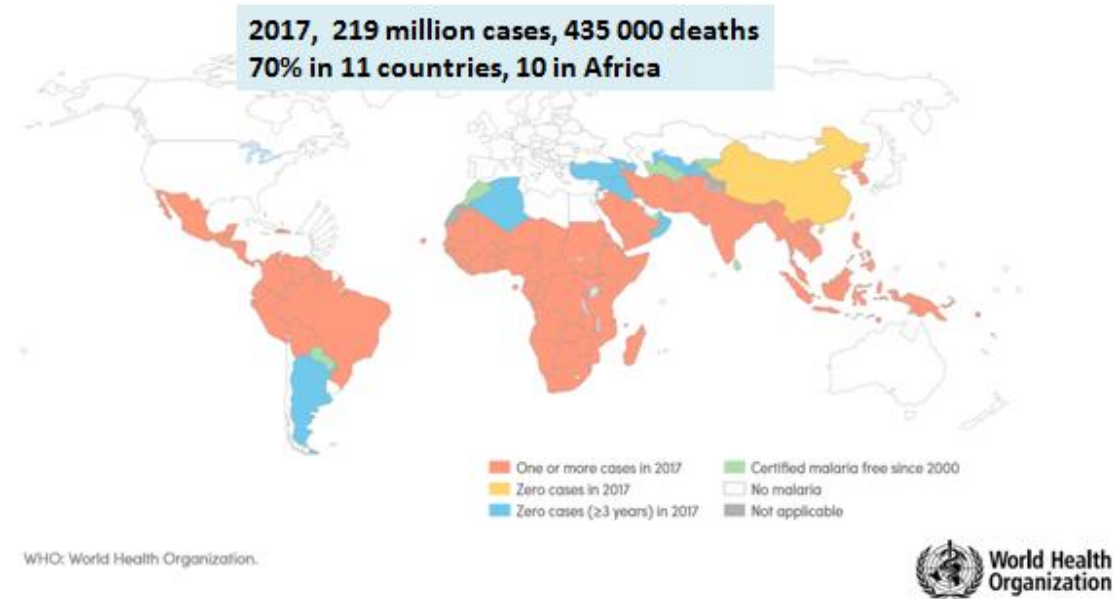


Αφρική & ελονοσία

Σοβαρή νόσος σε ΜΕΘ, n=59, κυρίως σε naive

• Male	79.6%	• Liver dysfunction	45.7%
• Parasitemia \geq 2%	97.9%	• Acidemia	38.9%
• \downarrow PLT	91.5%	• Cerebral dysfunction	37.2%
• DIC	11.8%	• Hypoglycemia	30.5%
• Renal failure	52.5%	• \geq 5 dysfunctions	49.1%
• Shock	49.1%		
• Pulmonary edema/ARDS 37.2%		• CFR 15.2%, SAPS II/WHO score	

World malaria report 2018



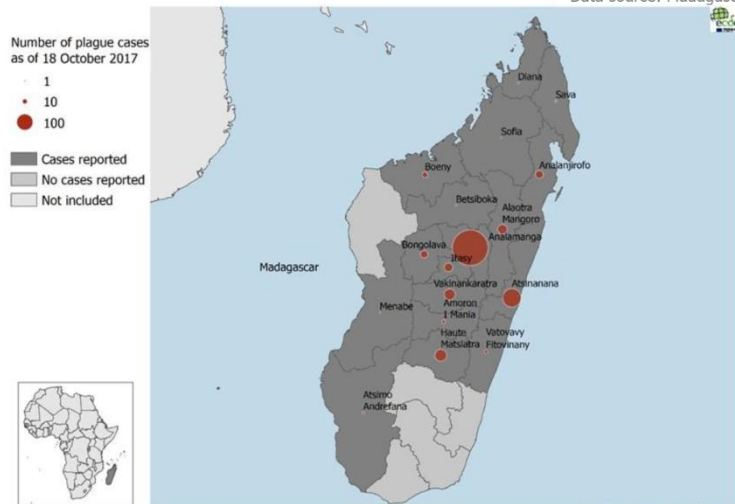
Άλλες επιδημίες & Αφρική

Plague Madagascar, Aug-Oct 2017, n=1801, CFR 7.1%

1801 cases, 127 deaths, CFR 7.1%

Plague cases from 1 August 2017 to 18 October 2017 in Madagascar

Data source: Madagascar MoH



Seychelles
News Agency

Air Seychelles suspends flights to Madagascar after plague outbreak

Victoria, Seychelles | October 6, 2017, Friday @ 14:06 in National • GENERAL | By: Betymie Bonnelame | Views: 34470



Seychellois basketball coach dies while at tournament in Madagascar

Victoria, Seychelles | September 26, 2017, Thursday @ 13:42 in National • SPORT | By: Betymie Bonnelame | Views: 4720



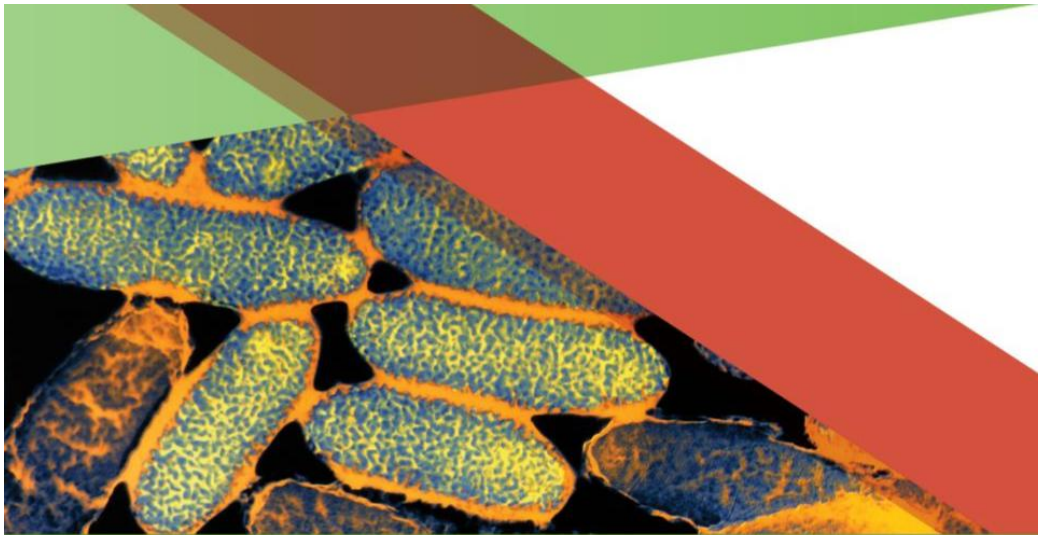
Plague - Clinical clues

- Travel history
- Rapid onset
 - ✓ hrs from Asx to fever/cough/hemoptysis
 - ✓ Pulmonary form -> contagious
- Bilateral pneumonia



Ευρώπη & Legionnaires' dz

ECDC last epi report (2017), 30% ↑ in cases



SURVEILLANCE REPORT

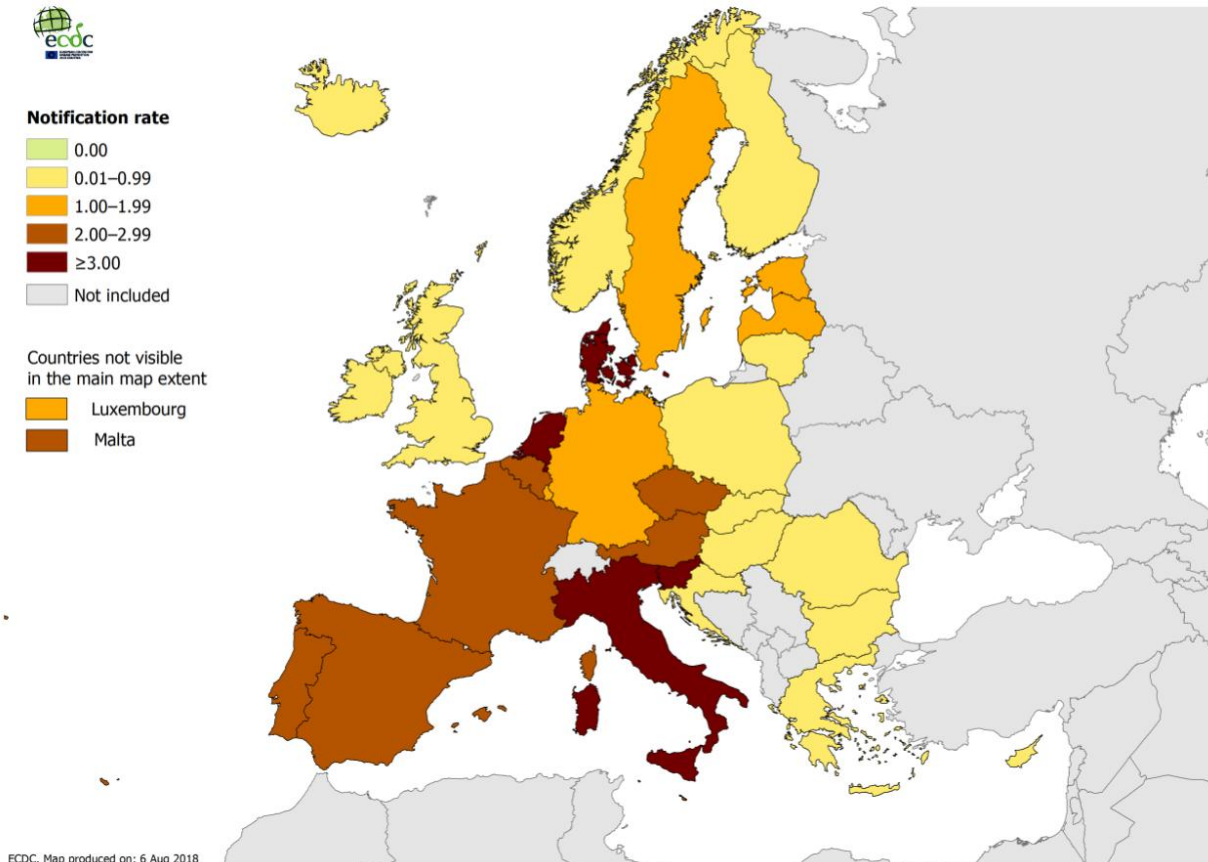
Legionnaires' disease

Annual Epidemiological Report for 2017

Legionnaires' dz

ECDC last epi report (2017)

Figure 1. Distribution of Legionnaires' disease cases per 100 000 population by country, EU/EEA, 2017



Legionnaires' dz

ECDC last epi report (2017)

Figure 3. Distribution of Legionnaires' disease cases by month, EU/EEA, 2017 and 2013–2016

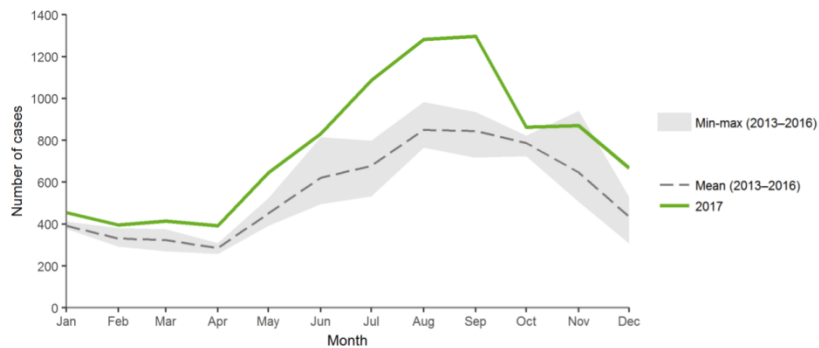
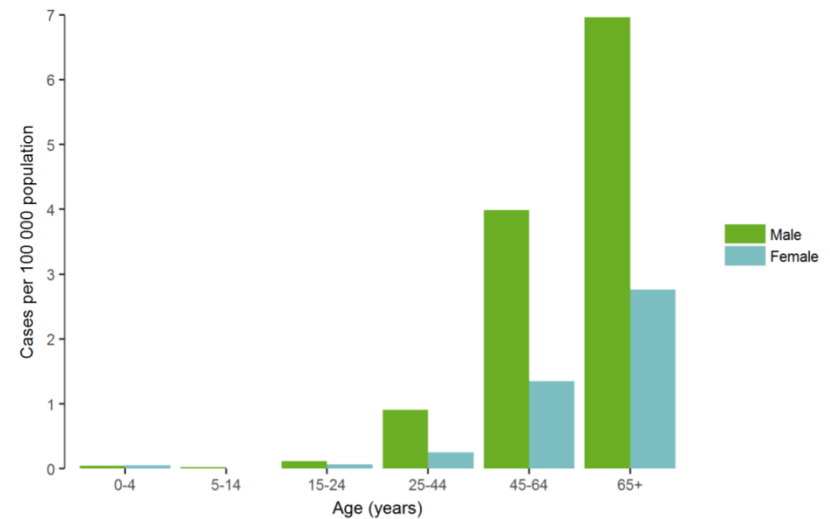


Figure 4. Distribution of Legionnaires' disease cases per 100 000 population by age and gender, EU/EEA, 2017



Ελλάδα 2018

ΥΓΕΙΑ

Νόσος των Λεγεωνάριων: Τα 9 συμπτώματα που πρέπει να προσέχουμε

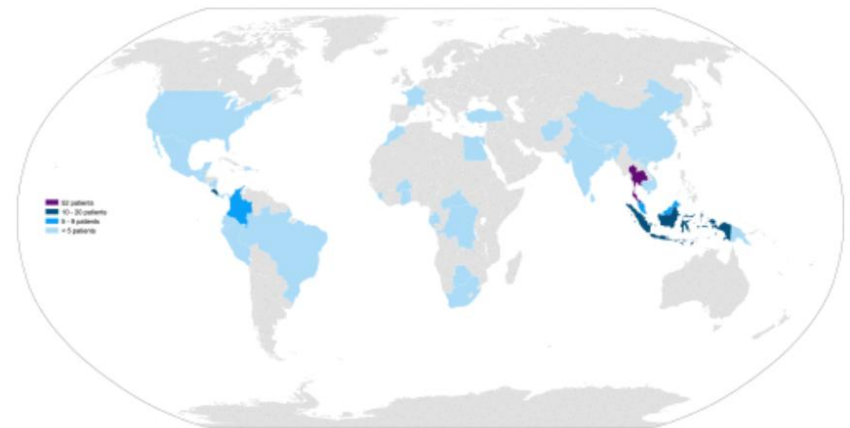
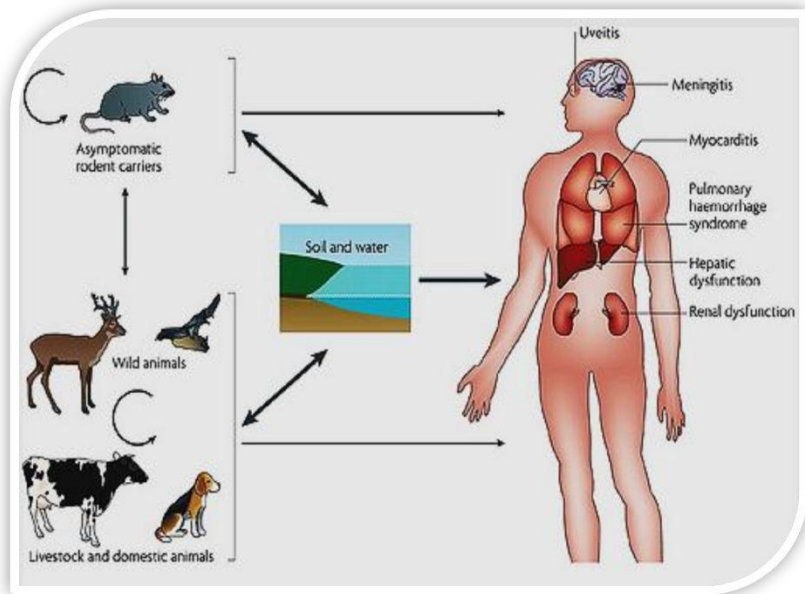


Στο νοσοκομείο με νόσο των λεγεωνάριων ο Άκης Σακελλαρίου



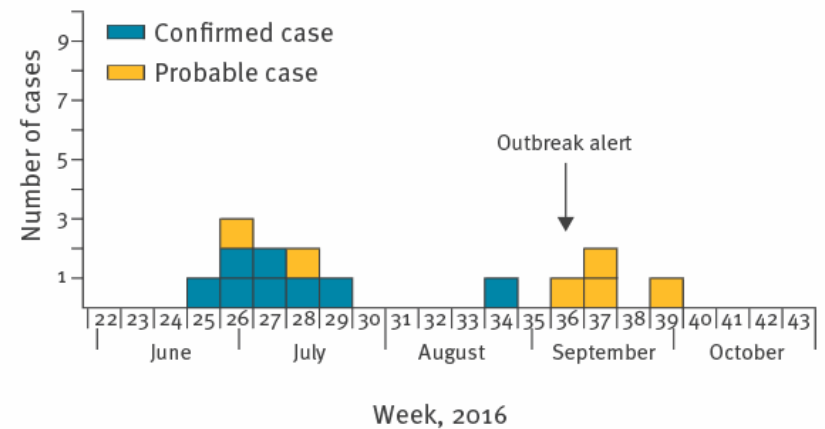
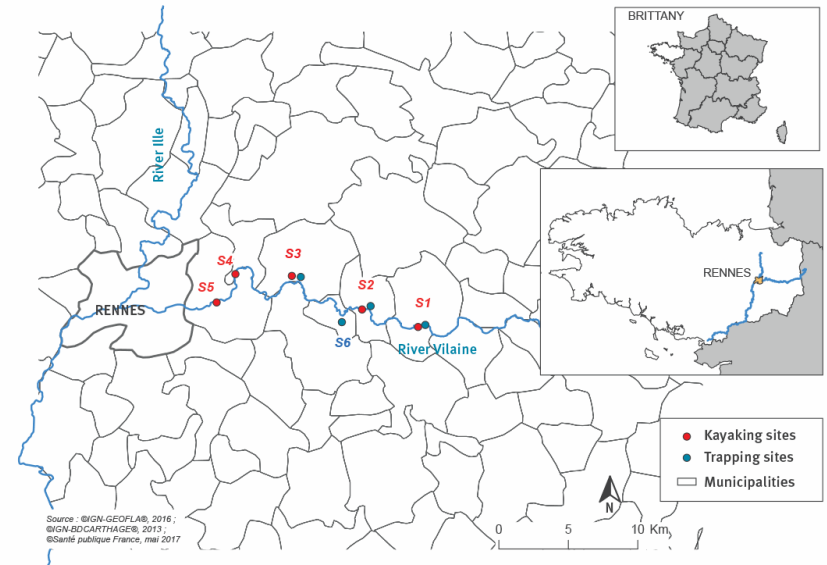
At risk: individuals w comorbidities, the elderly, smokers and the immunosuppressed

Leptospirosis in travellers



- ↑↑ Incidence up to 10x in the tropics
 - 1mil cases / yr, 60k deaths

Triathlon, Kayak & leptospirosis



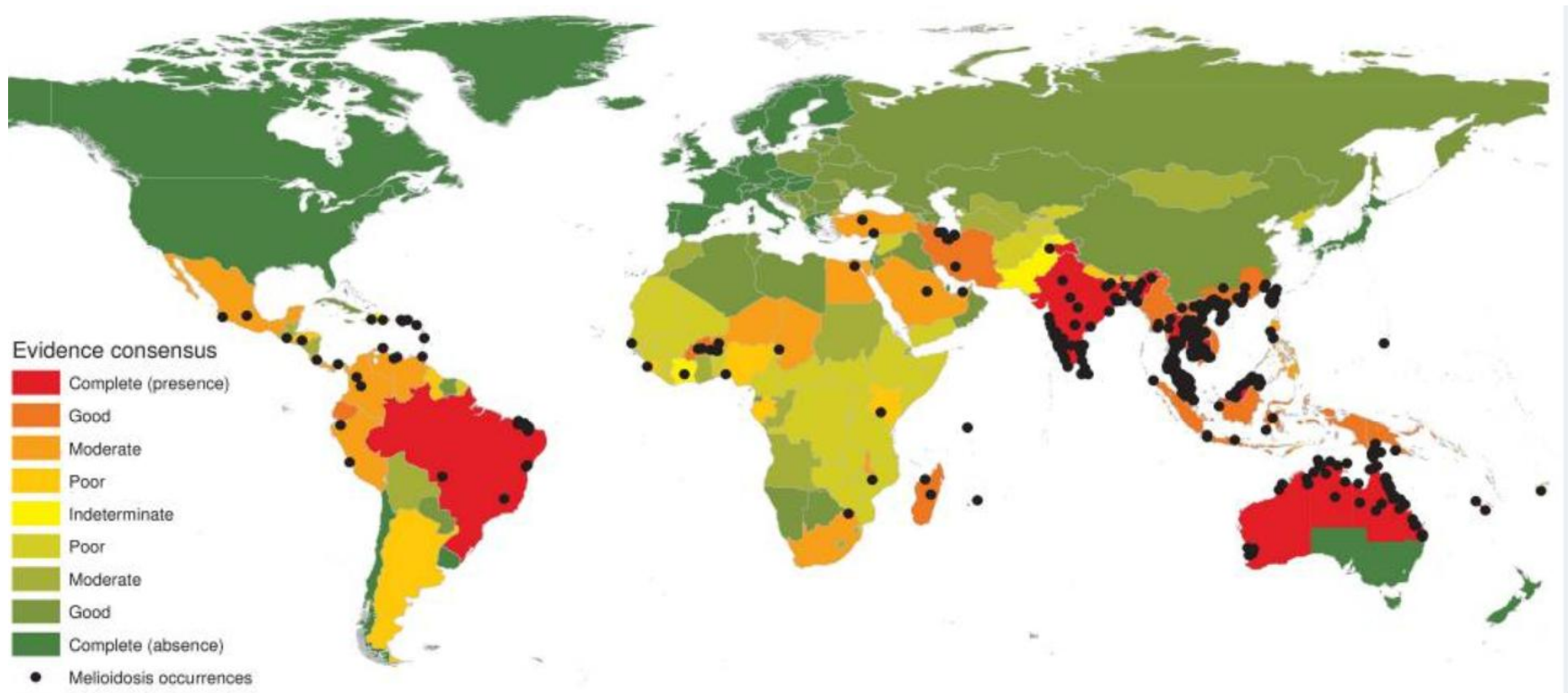
Leptospirosis & SPHS

κλινική υποψία & PCR, Αβχ εντός 3d, PCN, CFTX, Doxy



- 29-yo male travelled to Sumatra, Indonesia, for 3 wks
- trekking in the rainforest & swimming in fresh water pools

Melioidosis & ταχεία εξέλιξη σε MODS occurrence 1910-2014, & late onset Tb-like dz



Avian influenza


Sporadic human A(H7N9), A(H5N6) & A(H9N2)

Influenza (Flu)

- Avian Influenza** Information on Avian Influenza
 - Bird Flu Basics + [f](#) [t](#) [+](#)
 - Current Situation Avian influenza refers to the disease caused by infection with avian (bird) influenza (flu) Type A viruses. These viruses occur naturally among wild aquatic birds worldwide and can infect domestic poultry and other bird and animal species. Avian flu viruses do not normally infect humans. However, sporadic human infections with avian flu viruses have occurred. The links below offer more information about avian influenza.
 - Specific Avian Flu Viruses +
 - Past Outbreaks +
 - Health Care & Laboratorian Guidance +
 - What CDC Does +
 - Avian Influenza Related Links
- Get Email Updates**

To receive weekly email updates about Seasonal Flu, enter your email address:

Bird Flu Basics




Avian Influenza Type A Viruses

Bird Flu in Birds

Bird Flu in People Prevention and Treatment

Bird Flu Updates




Current Situation

Specific Avian Flu Viruses

Past Outbreaks

[More >](#)

Health Care & Laboratorian Guidance



Case Definitions

Testing, Reporting & Lab Information

Infection Control

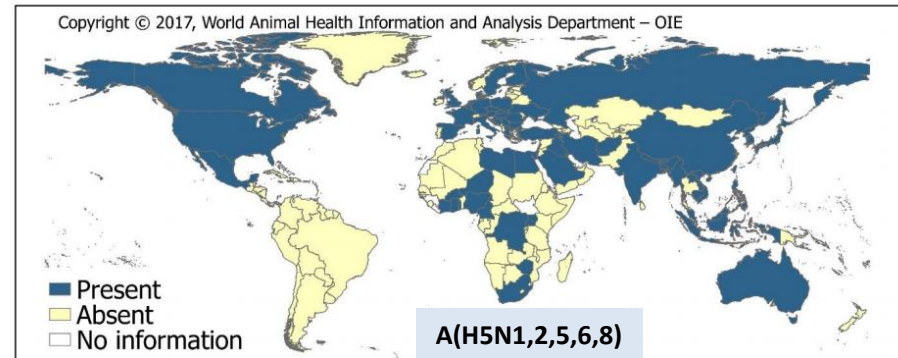


Figure 1. Countries and territories affected at least once by HPAI outbreaks in domestic birds, January 2013 - August 2018.

Zoonotic influenza - Annual Epidemiological Report for 2018

Surveillance report

3 May 2019

Publication series: Annual Epidemiological Report on Communicable Diseases in Europe

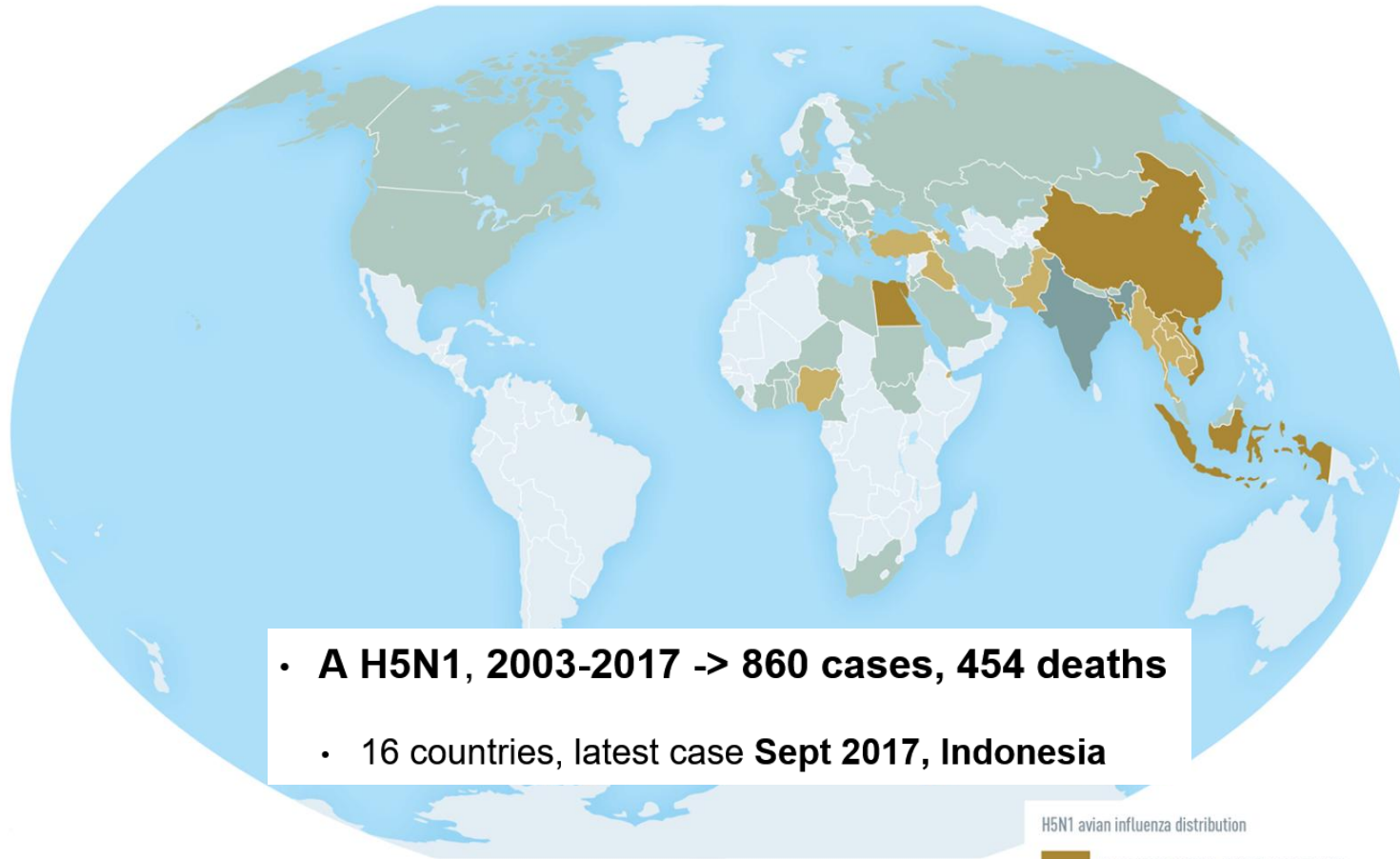
Time period covered: This report is based on data for 2018 retrieved on 3 April 2019.

Cite: 

[t](#) [f](#) [in](#) [e](#)

No human cases of avian influenza were reported in the EU/EEA. Only two human A(H7N9) infections were reported from China, a significant decrease compared with 2017. Sporadic human cases of avian influenza A(H5N6) and A(H9N2) were reported from China. In 2018, outbreaks and detections of highly pathogenic avian influenza viruses such as A(H5N1), A(H5N2), A(H5N5), A(H5N6) or A(H5N8) continued to affect poultry and wild and captured birds worldwide, but on a lower scale than in 2017. Influenza viruses A(H1N2)v and A(H3N2)v of swine origin caused human cases in Australia and the United States.

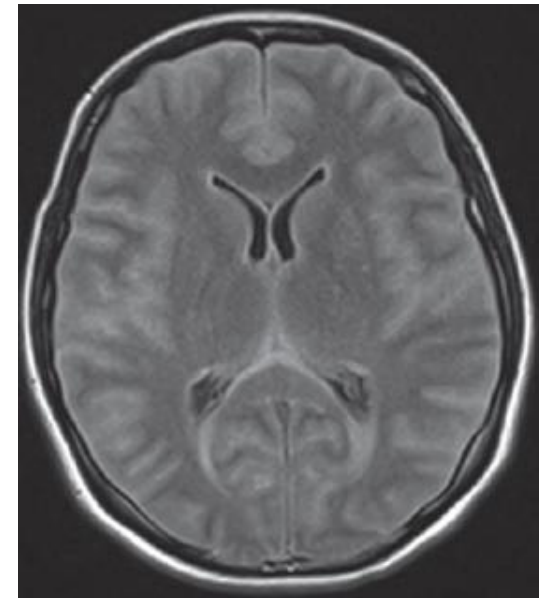
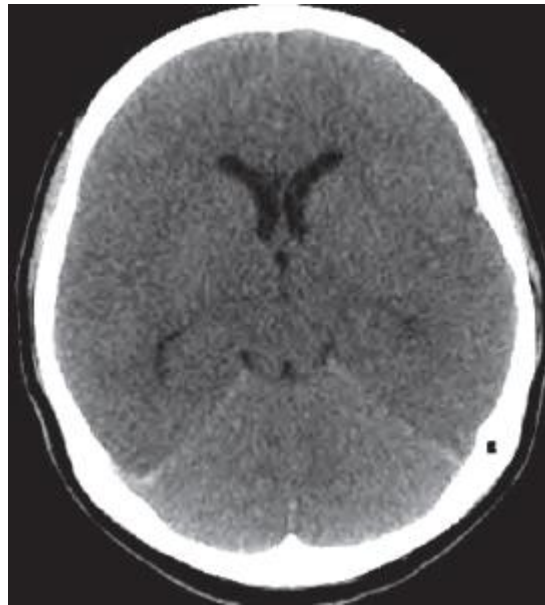
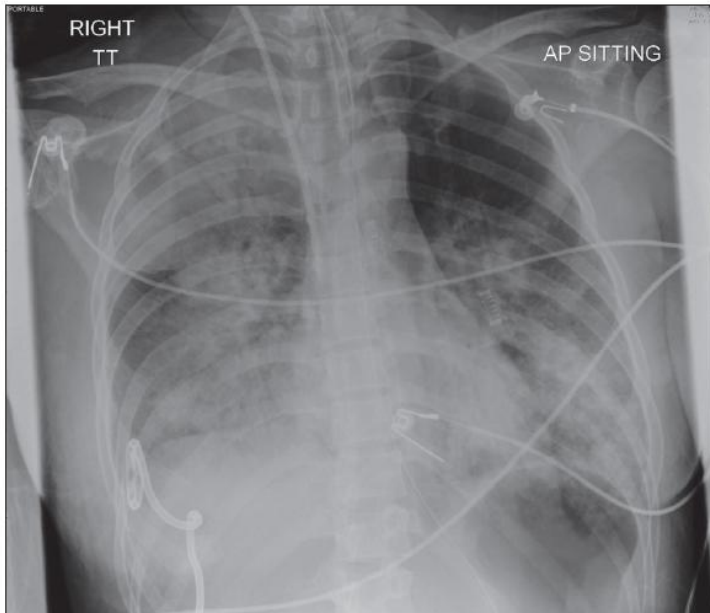
Avian influenza, AH5N1



Avian influenza

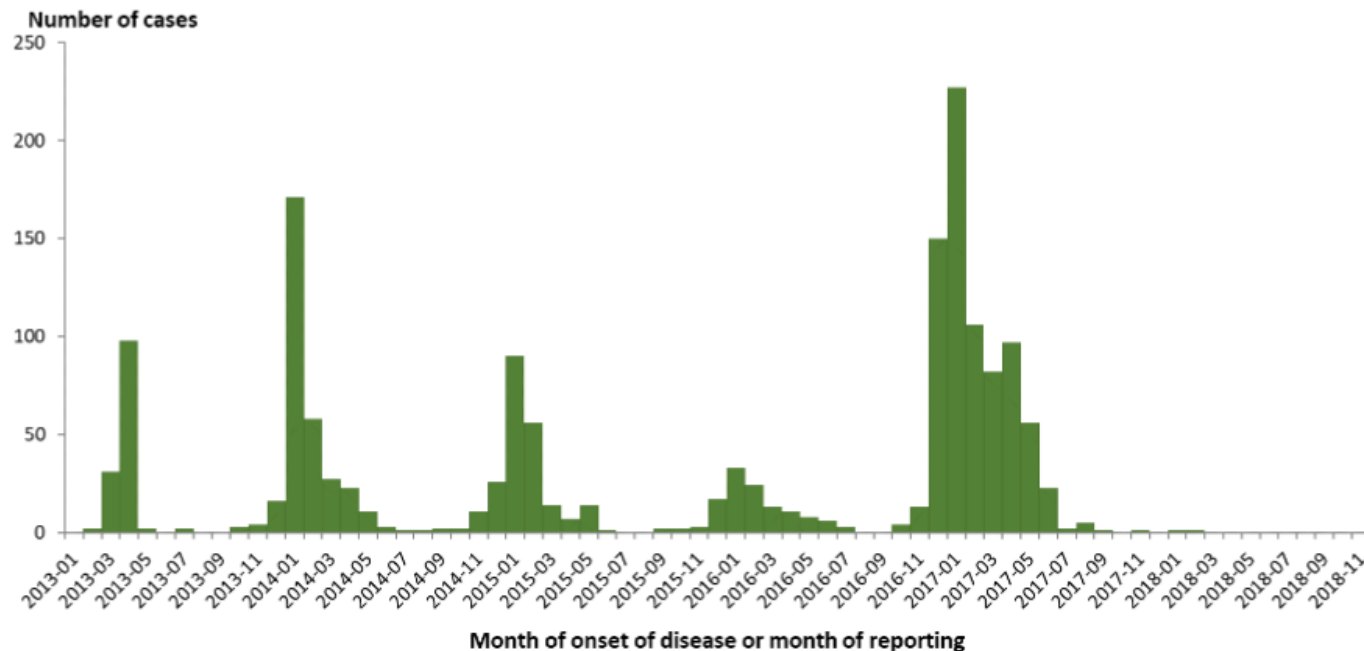
Avian influenza A (H5N1) infection with respiratory failure and meningoencephalitis in a Canadian traveller

Naheed Rajabali MD¹, Thomas Lim MD², Colleen Sokolowski MD², Jason D Prevost MD², Edward Z Lee MD²



A H7N9, 2013-18

n=1567 human cases, at least 615 (39%) deaths



Data Source: WHO and Centre for Health Protection Hong Kong (CHP, 2018b; WHO, 2018a, online-a).

Figure 15: Distribution of confirmed human cases of A(H7N9) by month of disease onset or month of reporting, February 2013 – 15 November 2018 (n= 1 567)

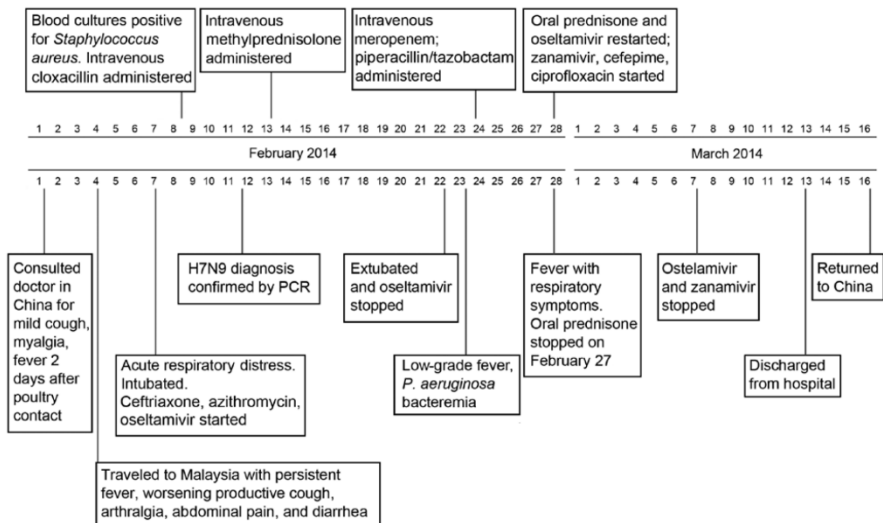
rapidly progressive pneumonia, pulmonary failure & ARDS

A(H7N9) China

also in travelers, Canada (2), Malaysia (1)

Distribution of confirmed cases of A(H7N9) by season, February 2013 to 28 February 2018

ECDC, WHO, Hong Kong



Pandemic influenza – 100 yrs after



Home Health Topics Countries News Emergencies About Us

Influenza

Pandemic Influenza: an Evolving Challenge

2018 marks the 100th anniversary of one of the largest public health crises in modern history, the 1918 influenza pandemic known colloquially as "Spanish flu." The intensity and speed with which it struck were almost unimaginable – infecting one-third of the earth's population, which at the time was about 500 million people. By the time it subsided in 1920, tens of millions of people are thought to have died.

Although influenza has been with humankind for millennia, the global spread and impact is in many respects a function accelerated in modern times. Urbanization, mass migration, global transport and trade accelerate the spread of pandemics.

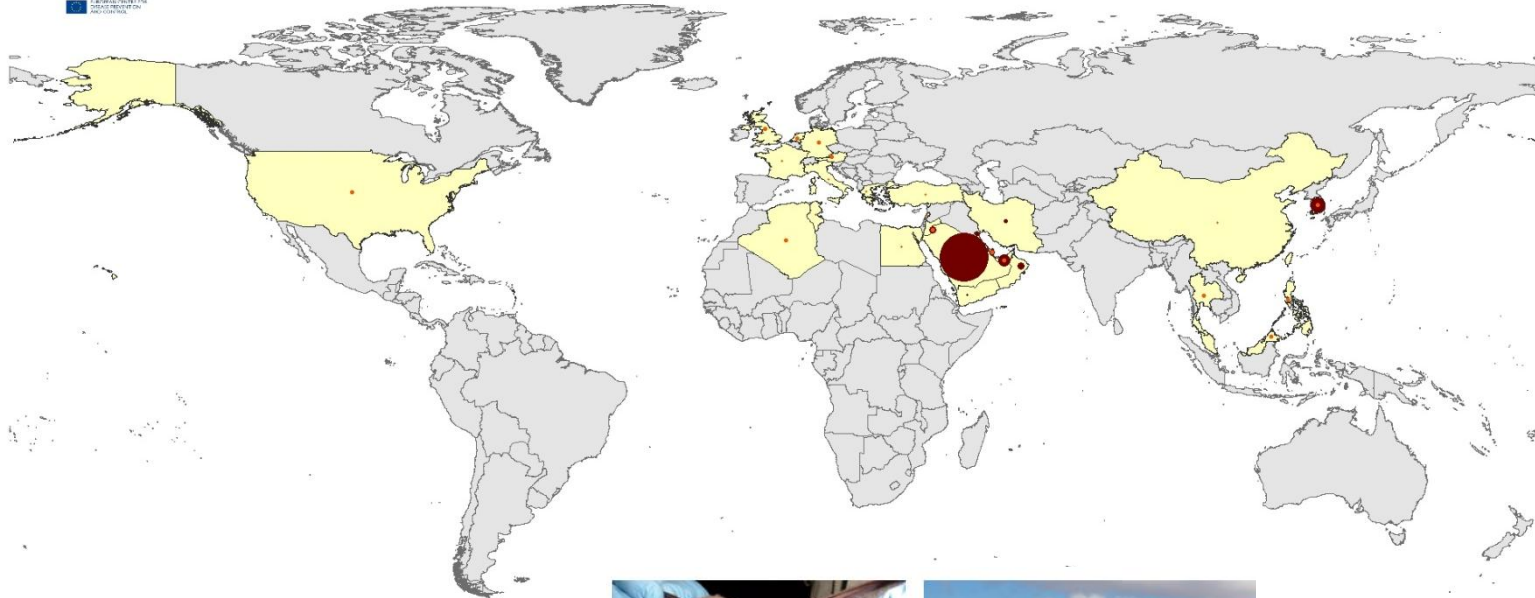


WHO/SEARO/J.Perugia

Predictably unpredictable

MERS-CoV

S. Arabia=epicenter



Imported MERS cases	
•	3
Autochthonous MERS cases	
•	1
•	10
•	1,000
■	Countries reporting MERS cases

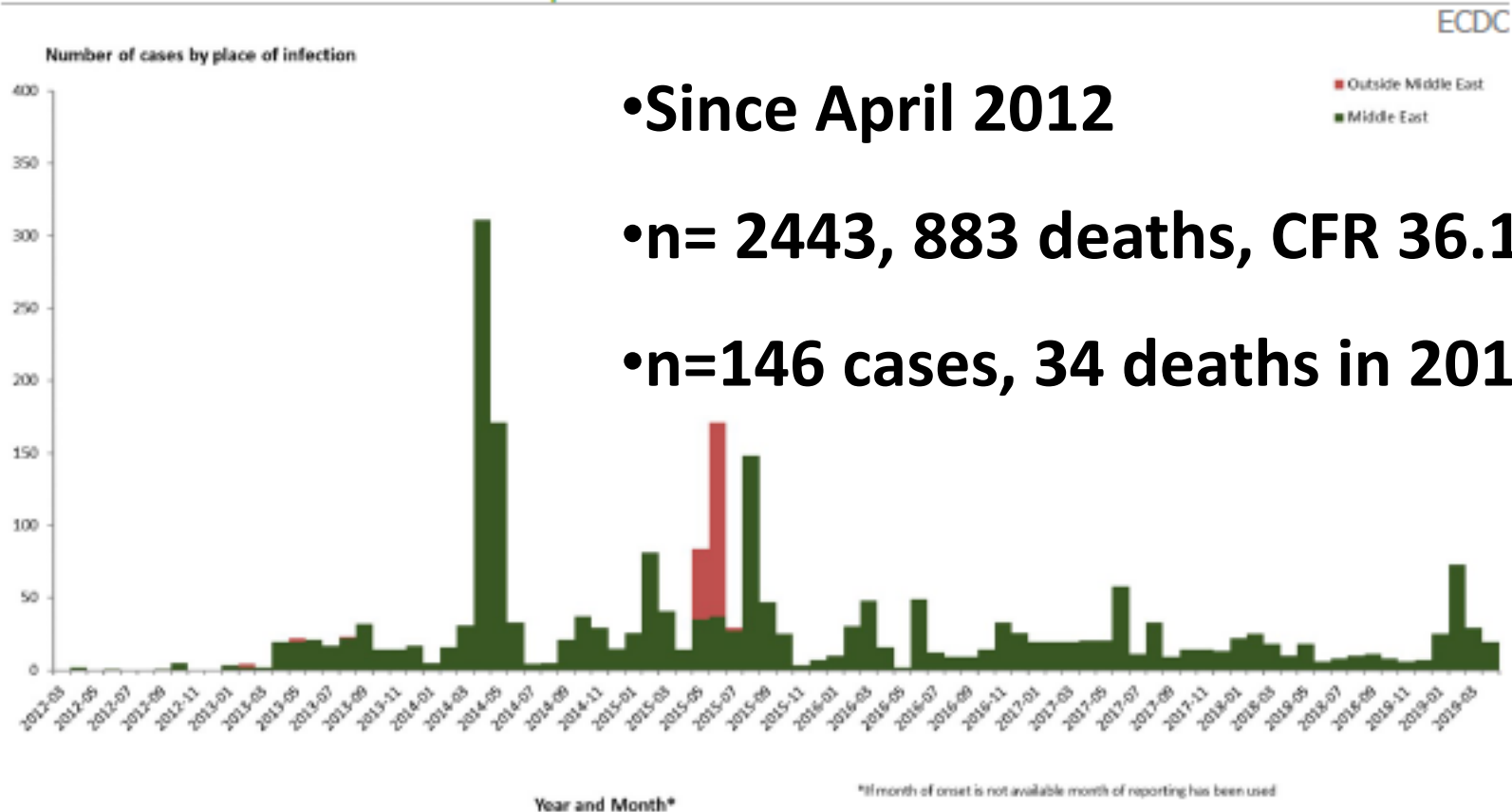


Date of production: 29/04/2019

MERS-CoV, 2012-2019

n > 2400, 27 countries affected

Distribution of confirmed cases of MERS-CoV by place of infection and month of onset, from March 2012 and as of 29 April 2019



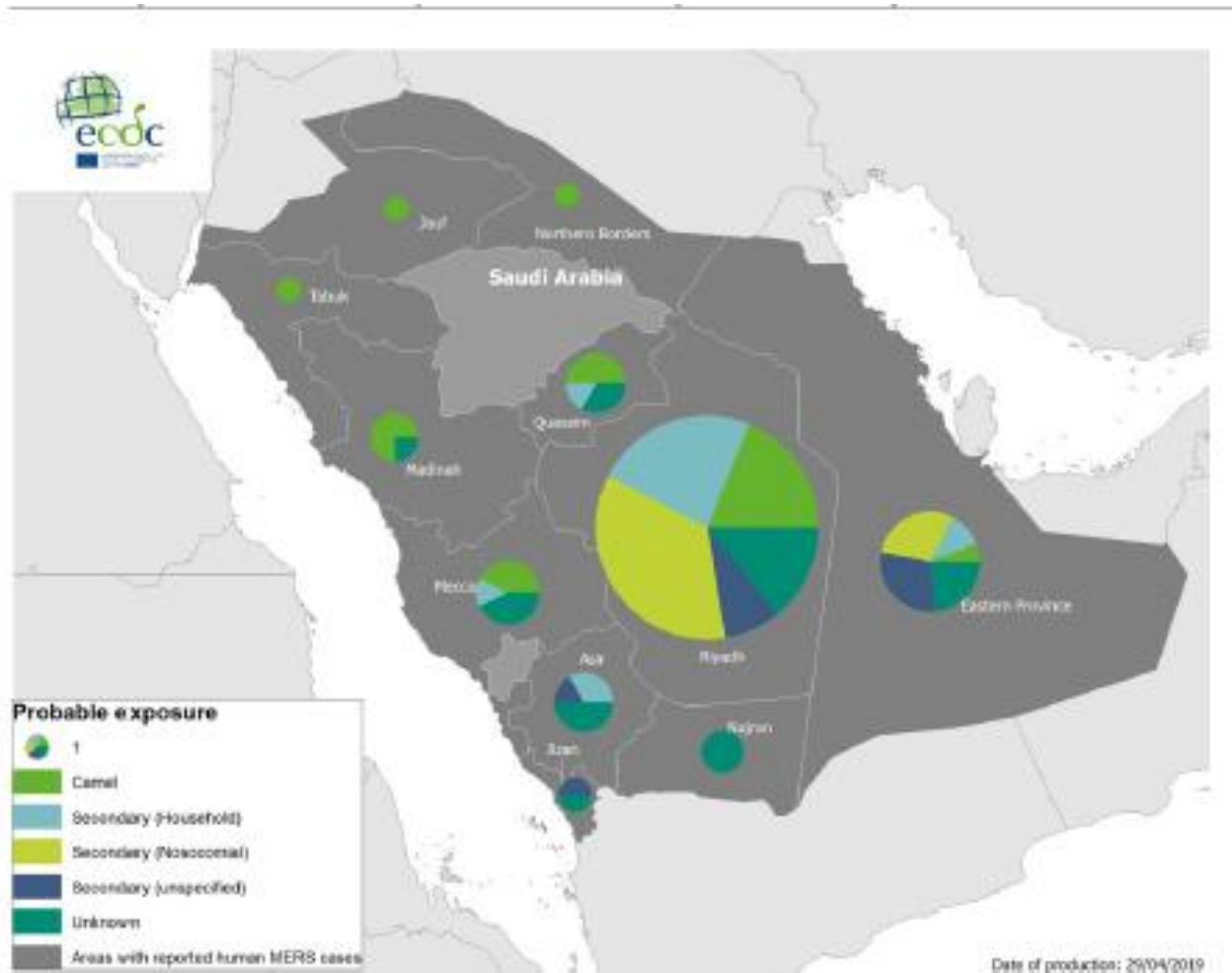
• Since April 2012

• n= 2443, 883 deaths, CFR 36.1%

• n=146 cases, 34 deaths in 2019

MERS-CoV, 2012-2019

by region of infection, 2 regions w cases last 7 days



ΛΟΥΚΕΤΟ ΣΕ ΝΟΣΟΚΟΜΕΙΑ!!!



The image shows a screenshot of the Ministry of Health Portal website. The header includes the logo of the Ministry of Health (Ministry of Health, Kingdom of Saudi Arabia) and the text "Ministry of Health Portal Kingdom of Saudi Arabia". The main navigation menu includes "MOH Portal", "The Ministry", "Media Center", and "Ministry News". The "Media Center Summary" sidebar lists categories: "Ministry News", "Announcements", "Announcements on Private Sector Performance", "Events and Activities", "MOH Publications", and "Health Conferences and". The main content area features a "Ministry News" section with the headline "MOH Closes a Private Hospital for non-Compliance with Infection Control Guidelines". The article is dated "23 February 2015" and states that the Ministry of Health (MOH), represented by the Command and Control Center (CCC) of Riyadh Health Affairs General Directorate, closed a private hospital in Riyadh after failing to comply with infection control guidelines. An image shows a man in a white thobe and ghutra placing a sign that says "إغلاق" (Closure) on a glass door.

Ministry of Health Portal
Kingdom of Saudi Arabia

▶ [MOH Portal](#) ▶ [The Ministry](#) ▶ [Media Center](#) ▶ [Ministry News](#)

Ministry News

MOH Closes a Private Hospital for non-Compliance with Infection Control Guidelines

23 February 2015

The Ministry of Health (MOH), represented by the Command and Control Center (CCC) of Riyadh Health Affairs General Directorate, closed a private hospital in Riyadh after failing to comply with infection control guidelines issued by the CCC to prevent the spread of infectious diseases.

The Director General of Riyadh Health Affairs, Dr. Adnan Al-Abdulkarim, said, "This nonstop step comes under direct supervision of His Excellency the Minister of Health Mr. Ahmad bin Aqeel Al-Khateeb, and in coordination with the MOH's Command and Control Center, in order to preserve health and safety of citizens and residents."

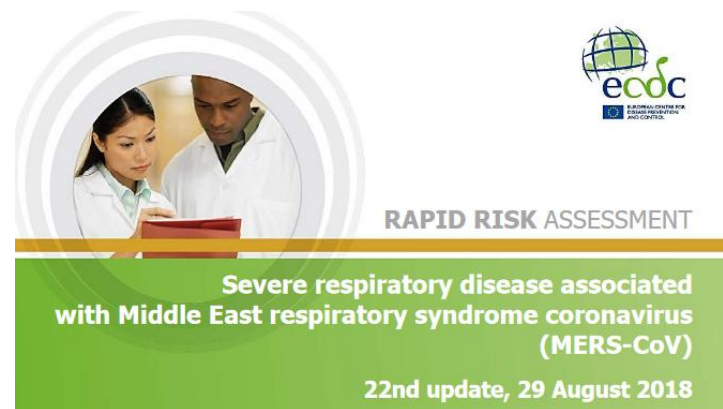


> 50% of lab confirmed cases in HC settings

MERS-CoV, 2019

ECDC risk assessment

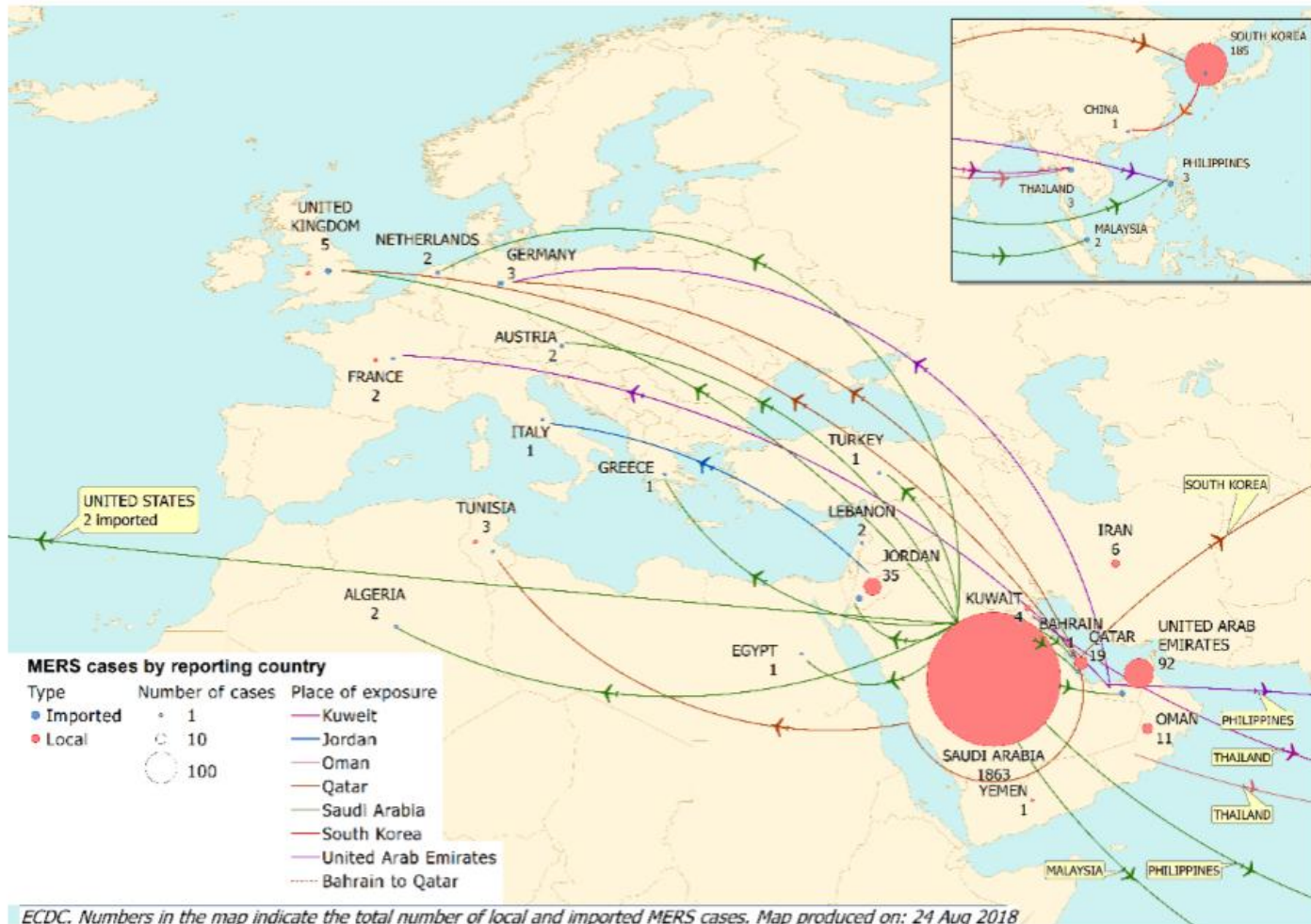
- Risk of sustained H-H transmission -> **very low**
- **MERS-CoV outbreak -> low risk to the EU**
- **Last case in Europe – Aug 2018, UK**



MERS-CoV

27 countries

Figure 2. Distribution of confirmed MERS cases by place of probable infection, as of 24 August 2018 (n=2 253)



...για να μην γίνει της Κορέας!!!

2015, n=185, 36 deaths, Sept 2018 n=1, no spread



SECTIONS

HOME | WORLD

Wedding Photo Becomes Symbol of South Korea MERS Scare

World | Agence France-Presse | Updated: June 09, 2015 13:50 IST

TRENDING



Movies: Koffee With Karan: Kangana Ranaut Stole The Show Just By Being Herself



Profit: Indian IT To See Big Unemployment In Middle To Senior Level: Capgemini



EMAIL



PRINT



COMMENTS



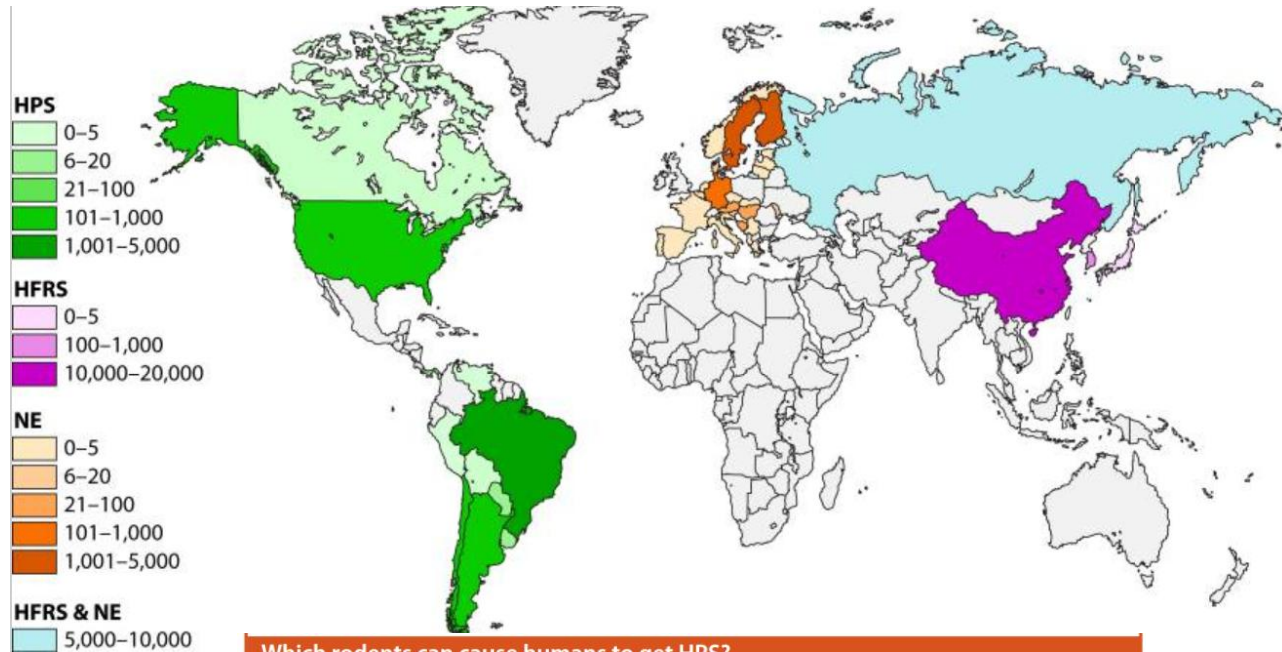
This picture was tweeted by @HeyyItsJmo

Ασία, Λ. Αμερική

Pulmonary-renal syndrome

- Falciparum malaria
- Leptospirosis
- **Hantavirus infection**
- Scrub typhus
- Severe pneumonia

Αμερική & Hanta virus, HPS



Which rodents can cause humans to get HPS?

Rodents known to carry hantavirus include:



Deer Mouse



Cotton Rat



Rice Rat



White-Footed Mouse

Not all rodents carry hantavirus and there is usually no way to tell when a rodent has the virus. So, it is wise to avoid all contact with rodents when possible.

National Center for Emerging and Zoonotic Infectious Diseases
Division of High-Consequence Pathogens and Pathology



Hanta virus, HPS

the Yosemite outbreak 2012

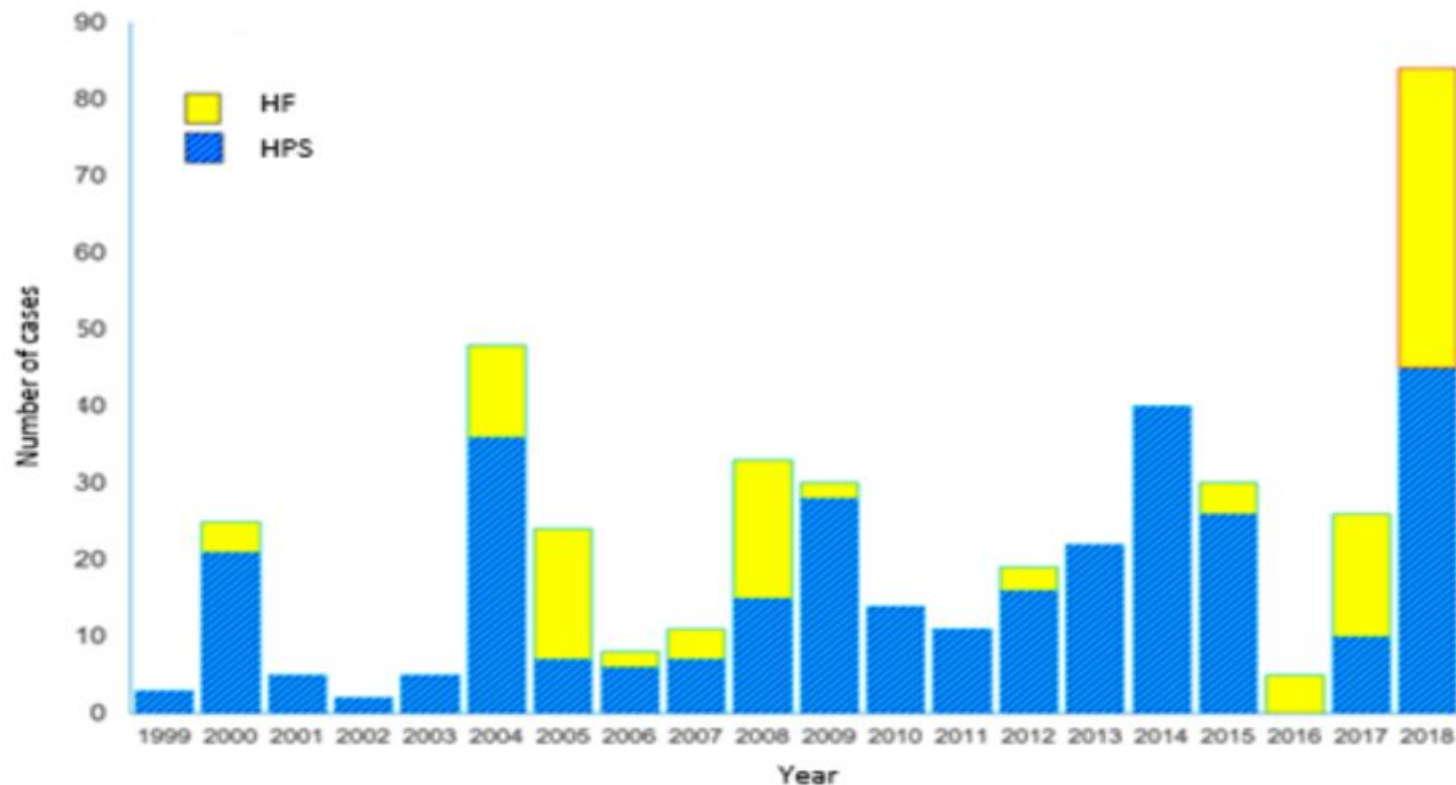


Canada, Argentina, Bolivia, Brazil, Chile, Panama, Paraguay, Uruguay

Hanta virus, HPS

Panama 1999-2018

Figure 1. Distribution of HF and HPS cases by year, Republic of Panama, 1999-2018 (as of November).



Άλλα...πέρα πολλά αίτια!

Usually no ARDS, watch immune compromised!

- Bacteria
 - GNR, AMR issues (NDM, KPC etc)
 - aspiration in the elderly
 - **Q fever, tularemia (Martha's vineyard)**
 - VPDs eg diphtheria, pertussis, **measles**
 - Tuberculosis
 - Africa 1.5% in Sudan require intubation!
- Viruses
 - **Dengue 2% Acute resp failure**
 - Nipah, SE Asia, Bangladesh outbreaks w LRTI
- Fungi
 - Endemic mycoses, eg **Histo (spelunkers), cocci (SW USA)**
- Parasites
 - Filaria -> Loeffler's, Schistosoma -> Katayama, Paragonimus, toxocara, dirofilariasis, Echinococcosis



DDx-Μη λοιμώδη αίτια...

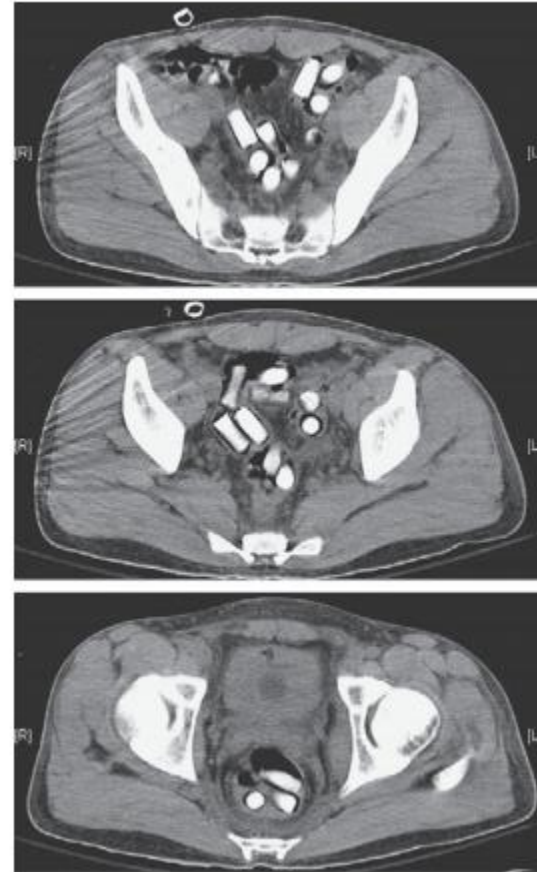
- cardiogenic pulmonary oedema,
- inflammatory pulmonary diseases
 - cryptogenic organising pneumonia (COP) and fibrosis
 - alveolar haemorrhage
 - (including idiopathic granulomatous polyangiitis, lupus, and vasculitis)
- ARDS from conditions such as
 - eosinophilic pneumonia
 - Pancreatitis
 - inhalational injury, and trauma.

Think “out of the box” as well...

- 21 γο ταξιδιώτης, αεροδρόμιο Taiwan
- Προοδευτική αναπνευστική ανεπάρκεια
- Διασωλήνωση, pinpoint pupils
- Α/α με πνευμονικό οίδημα
- Εργαστηριακά: ↑ WBC, ↑ LFTs

Body packing???

Urine toxicology (+) for morphine



Chang CW Intern Med 2011;50: 2691

Traub S et al. N Engl J Med 2003.349: 2519-26

Risk of infection-συμβουλή προ ταξιδίου

1ry reasons for not obtaining pre-travel advice

- **unaware of need (47.5%), already knew what to do (34.5%).**

- **Adults** **OR 2.8, 95% CI 1.4-5.5**

- **Males** **OR 1.8, 95% CI 1.1-3.0**

- **Planning time < 2 wks** **OR 4.8, 95% CI 1.5-15.9**

- **Travel duration < 7 days** **OR 7.9, 95% CI 3.0-20.9**

Key points, ταξιδιώτης με ARF/ARDS

- **Διαγνωστικό δίλημμα**
 - wide array of causative agents
- **Ταξιδιωτικό Ηx -> θεμέλιος λίθος για**
 - epidemiological-based approach to therapy
- **Σκεφθείτε αίτια που απαιτούν ταχεία Rx**
 - π.χ. γρίπη, ελονοσία, λεπτοσπείρωση

Key points, ταξιδιώτης με ARF/ARDS

- Σκεφθείτε έλεγχο λοιμώξεων
 - Αεροσταγονίδια & επαφή

- Πιθανή απομόνωση
 - Έως την διάγνωση

Η κοτόσουπα & η ίωση...



ΣΑΣ ΕΥΧΑΡΙΣΤΩ!!!