

ΑΝΑΔΥΟΜΕΝΑ ΛΟΙΜΩΔΗ ΝΟΣΗΜΑΤΑ

Σωτήρης Τσιόδρας
Παθολόγος – Λοιμωξιολόγος
ΔΠΠΚ «ΑΤΤΙΚΟΝ»

Ιατρικός Σύλλογος Αθηνών
07 Νοεμβρίου 2012

Progress in the Control of Infectious Diseases

- **Recognition that microbes causes many serious diseases**
- **Improvements in sanitation, hygiene, vector control**
- **Discovery and development of antimicrobials**
- **Development of vaccines and implementation of vaccination programs**
- **Advances in detecting and monitoring infectious diseases**

A. Fauci, NIH

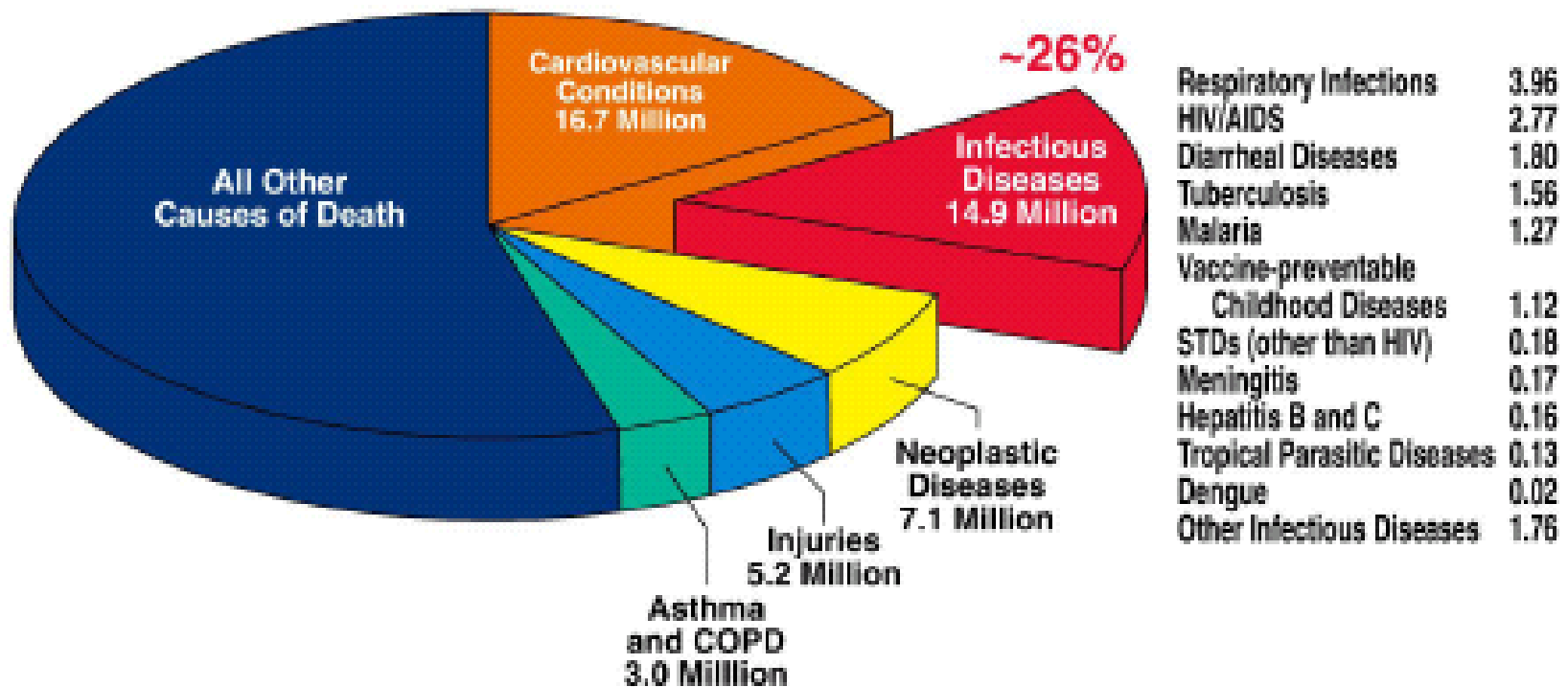
A Premature Declaration of Victory Over Infectious Diseases

"We can look forward with confidence to a considerable degree of freedom from infectious diseases at a time not too far in the future. Indeed... it seems reasonable to anticipate that within some measurable time... all the major infections will have disappeared."

- Aidan Cockburn, *The Evolution and Eradication of Infectious Diseases*, 1963.

A. Fauci, NIH

Leading Causes of Death, Worldwide (2002 Estimates)

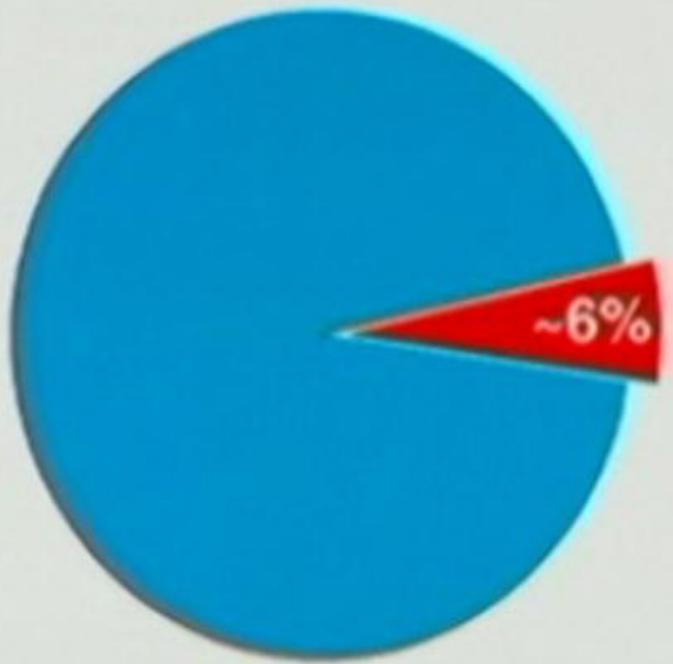


Total Deaths: ~57 Million

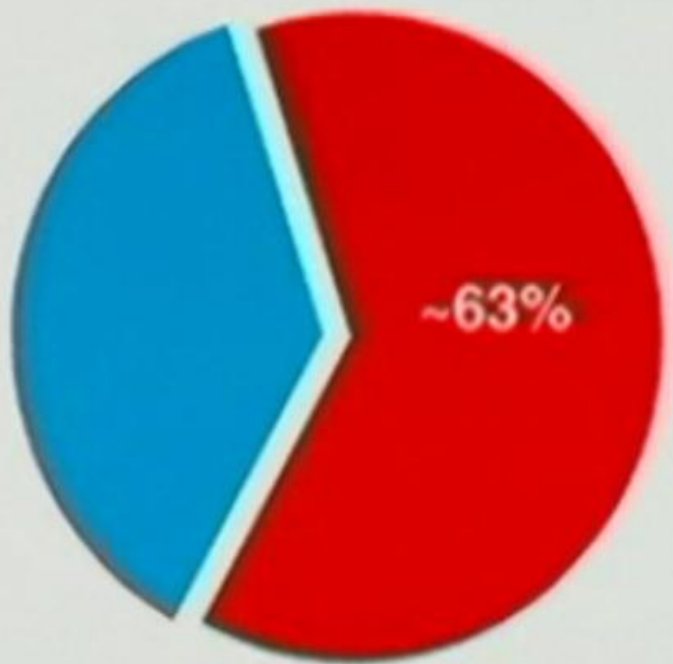
Source: WHO, World Health Report, 2004

Proportion of Deaths Due to Infectious Diseases

High-Income Countries



Sub-Saharan Africa



Selected Established Infectious Diseases of Global Public Health Importance

	<u>Estimated Annual Deaths</u>
Respiratory Infections	4.0 million
HIV/AIDS	2.0 million
Diarrheal Diseases	1.8 million
Tuberculosis	1.8 million
Vaccine Preventable Childhood Diseases (measles, pertussis, tetanus, etc.)	1.1 million
Malaria	863,000
“Neglected” Tropical Diseases (schistosomiasis, hookworm infection, leishmaniasis, trypanosomiasis, etc.)	534,000

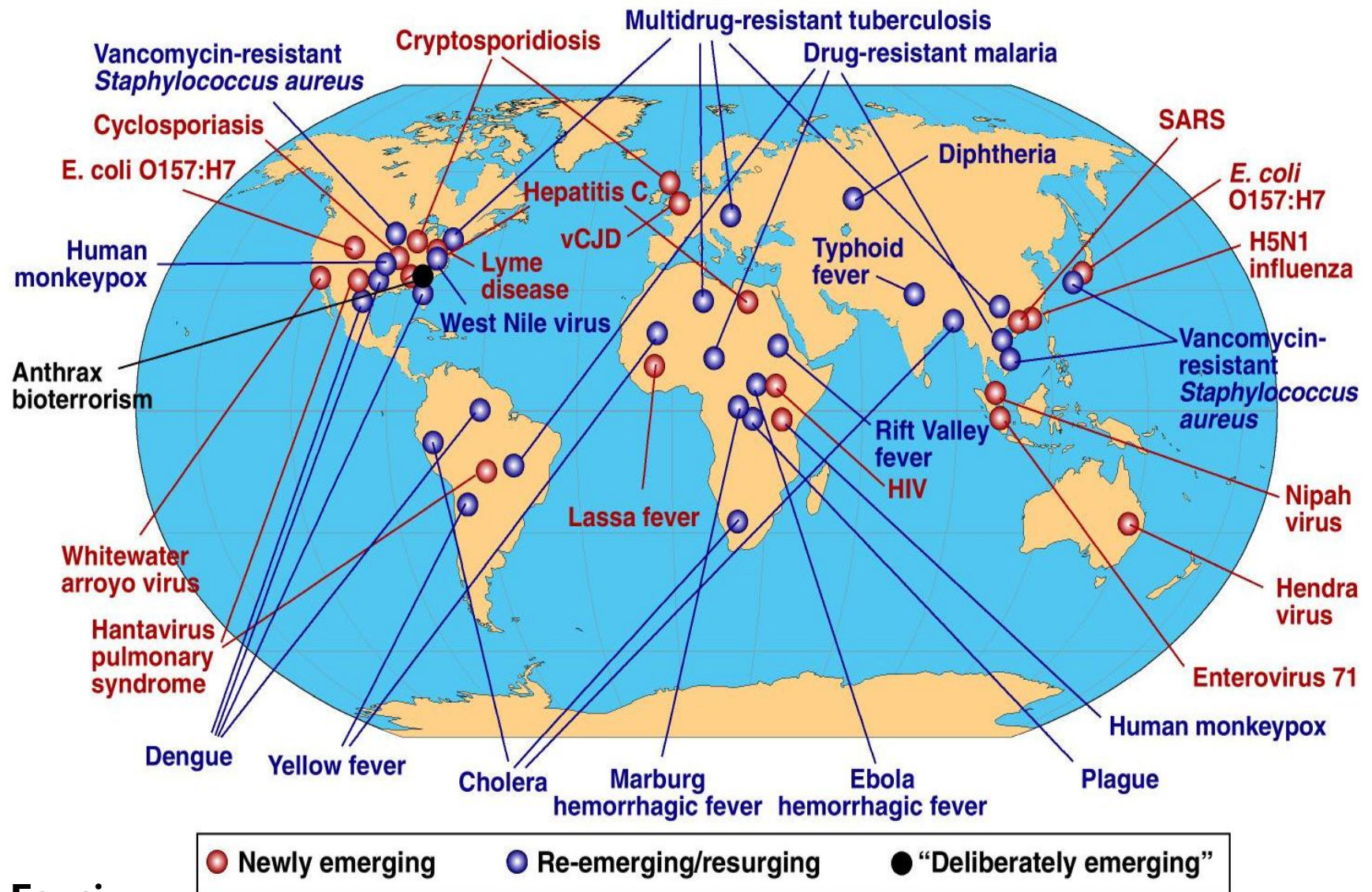
Sources: WHO; Hotez, 2009

A. Fauci, NIH

EMERGING INFECTIOUS DISEASES SINCE 1973

- 1973 - Rotavirus
- 1975 - Parvovirus B-19
- 1976 - Cryptosporidium
- **1977** - Ebola
- 1977 - *L. pneumophila*
- 1977 - Hantaan virus
- 1977 - *C. jejuni*
- 1980 - HTLV-1
- 1981 - *S. aureus* - TSS
- 1982 - *E. coli* O157:H7
- 1982 - HTLV-2
- 1982 - *B. burgdorferi*
- **1983 - HIV**
- 1983 - *H. pylori*
- 1986 – *C. cayatanensis*
- 1988 - HHV-6
- 1988 - Hepatitis E
- 1989 - *Erlichia chafeensis*
- 1989 - Hepatitis C
- 1991 - Guanarito virus
- 1991 - Babesia species
- 1992 - *Vibrio cholerae* O139
- 1992 - *Bartonella henselae*
- 1993 - Sin nombre virus
- 1993 – *Enc.cuniculi*
- 1994 - Sabia virus
- 1995 - HHV-8
- 1995 – Vcjd
-

GLOBAL EXAMPLES OF EMERGING AND RE-EMERGING INFECTIOUS DISEASES



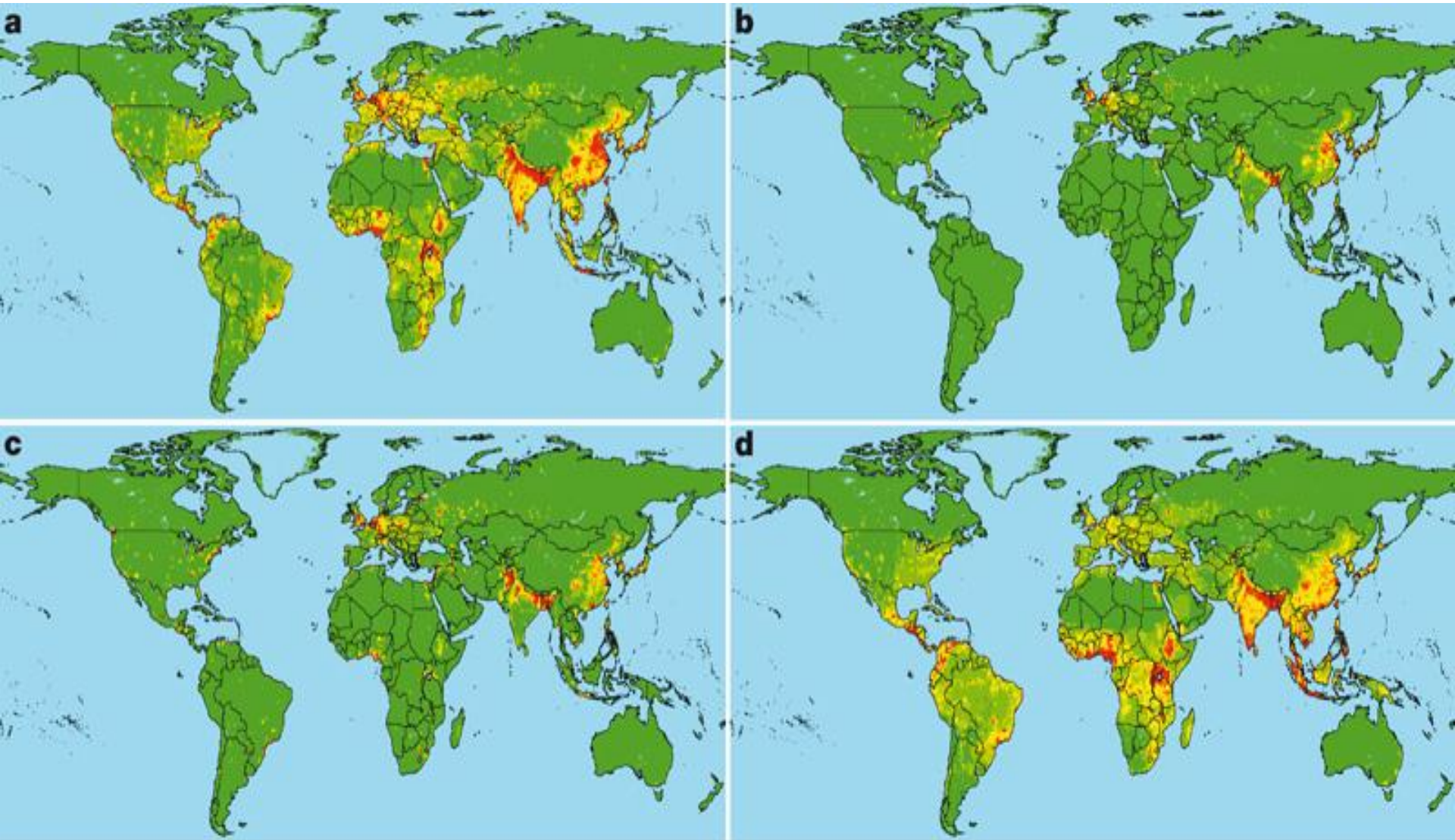
Nature 451, 990-993 (2008).

- 335 αναδυόμενες λοιμώδη νόσοι
- 1940 to 2004

- 4 πλασιασμός των επιδημιών

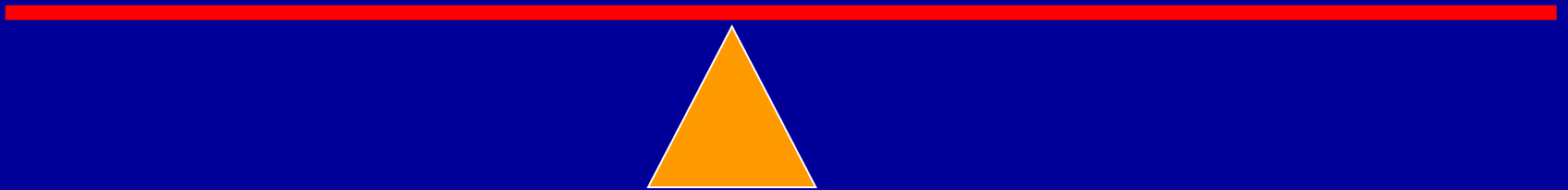
- 60% των εξάρσεων – πηγή τα ζώα
– Κυρίως άγρια ζώα

Jones, K. E. et al. Global Trends in Emerging Infectious Diseases. Nature 451, 990-993 (2008).



Λεπτή ισοροπία

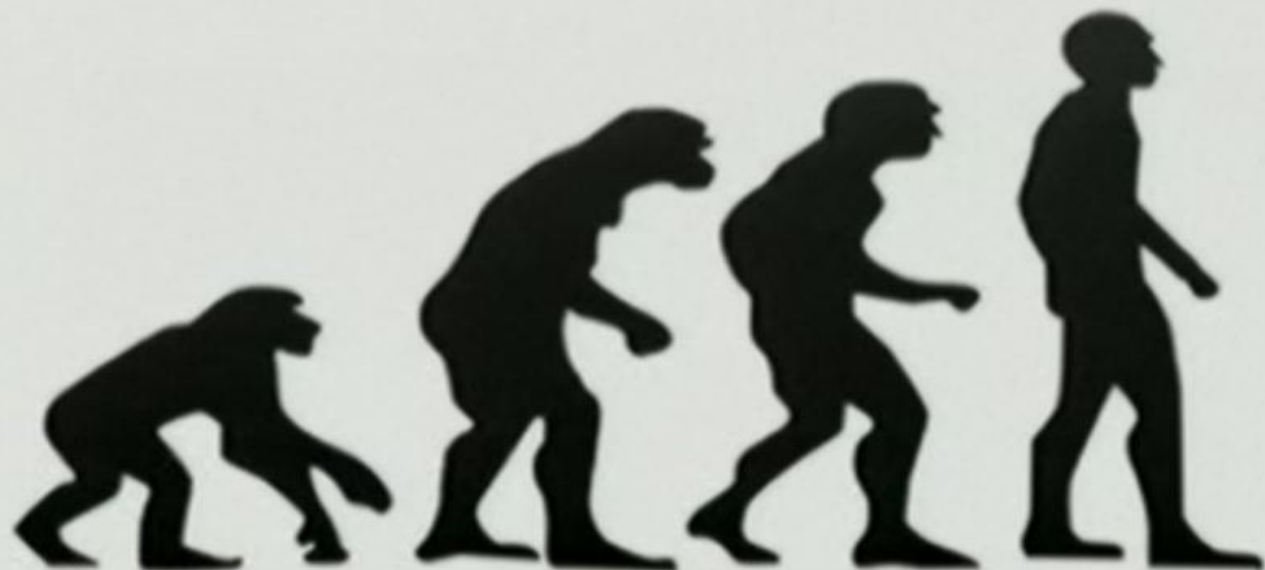
- Η απίστευτη ικανότητα των παθογόνων να
 - επιμένουν
 - αναδύονται και
 - επαν-αναδύονται
- Μέτρα Δημόσιας Υγείας
- Βιοιατρική έρευνα
- Τεχνολογικές εξελίξεις



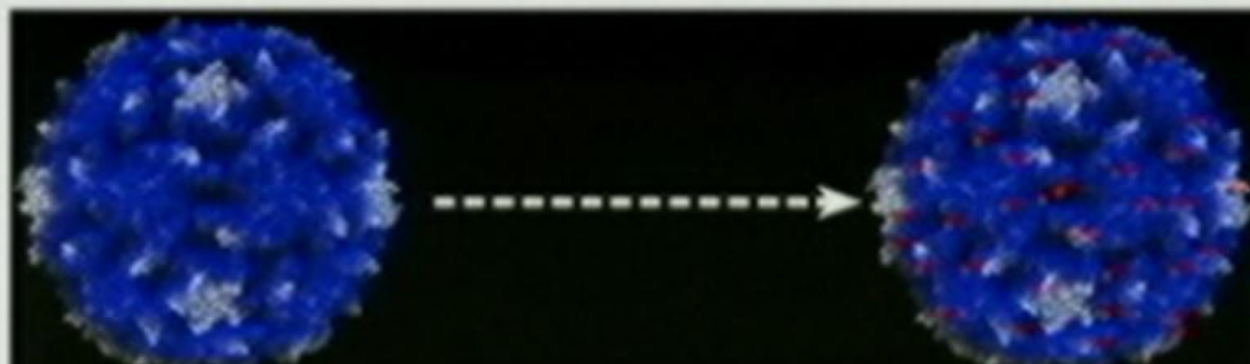
Παράγοντες που συνεισφέρουν

- Δημογραφικοί και ανθρώπινη συμπεριφορά
- Τεχνολογία – Βιομηχανία
- Οικονομική ανάπτυξη – χρήση γης
- Διεθνή ταξίδια – Εμπόριο
- Μικροβιακή προσαρμοστικότητα – αλλαγή
- Μη καλή εφαρμογή μέτρων δημόσιας υγείας
- Οικολογικοί - περιβαλλοντικοί

Microorganisms versus Man



Homo sapiens
~8 million years
2% genome change



Human virus
<one day
2% genome change

A. Fauci, NIH 2010

Αύξηση κ/ας ρυζιού σε ΝΑ Ασία



Αύξηση επαφής με ποντίκια αγρών

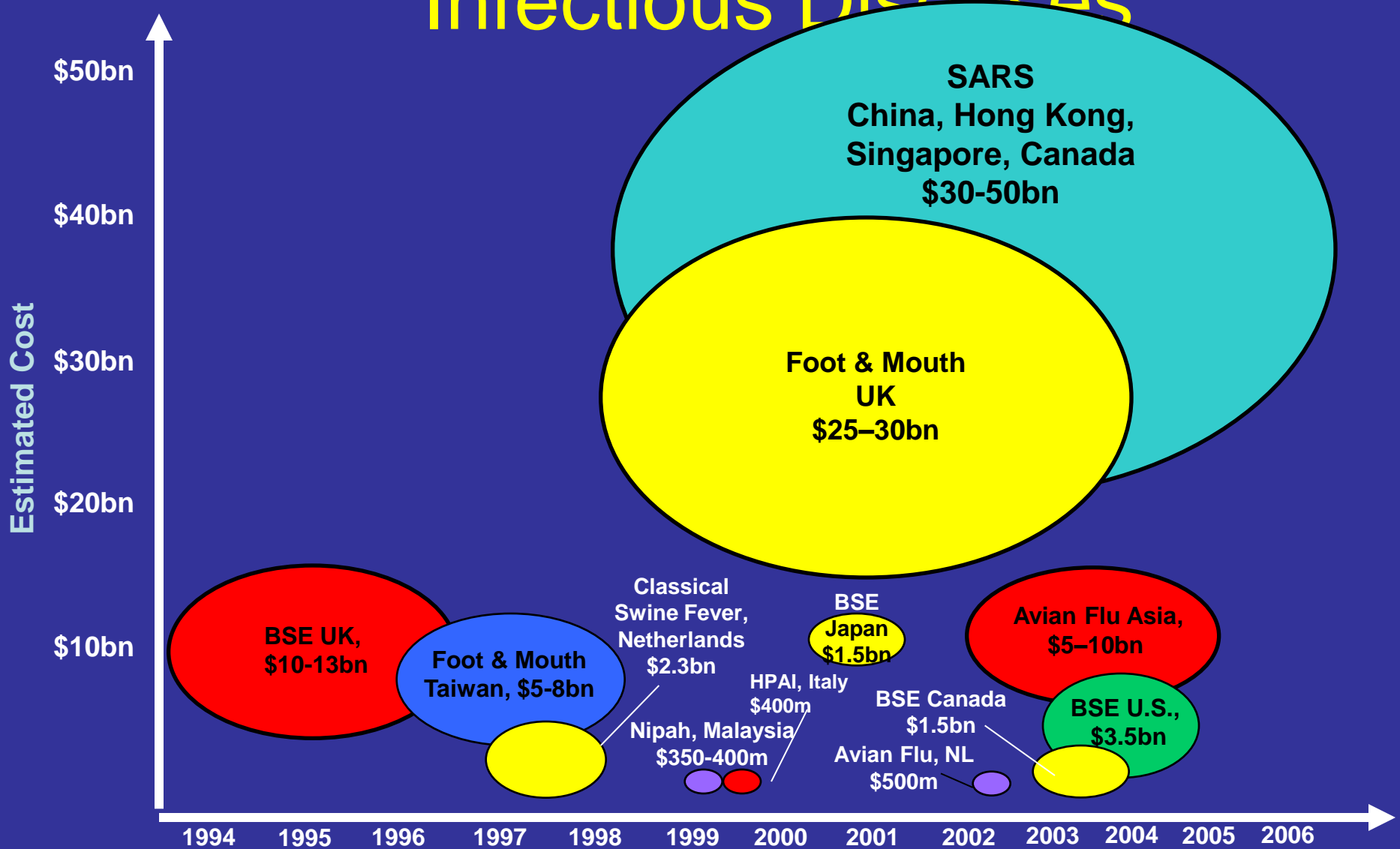


courtesy APHIS USDA

natural reservoir
of Hantaan virus

Εμφάνιση Korean haemorrhagic fever σε
ανθρώπους

Economic Impact of Selected Infectious Diseases



Figures are estimates and are presented as relative size.

ΤΑ ΜΕΙΖΟΝΑ

Στρατηγικός σχεδιασμός WHO

HIV, Ελονοσία, Φυματίωση

UNAIDS 2008 Global HIV/AIDS Estimates

- **People living with HIV**
 - ~50% are female
 - incl. 2.1 million children <15 years
- **New HIV infections in 2008**
 - incl. 430,000 children <15 years
- **Deaths due to AIDS in 2008**
 - incl. 280,000 children <15 years

09

AIDS epidemic update

33.4 million

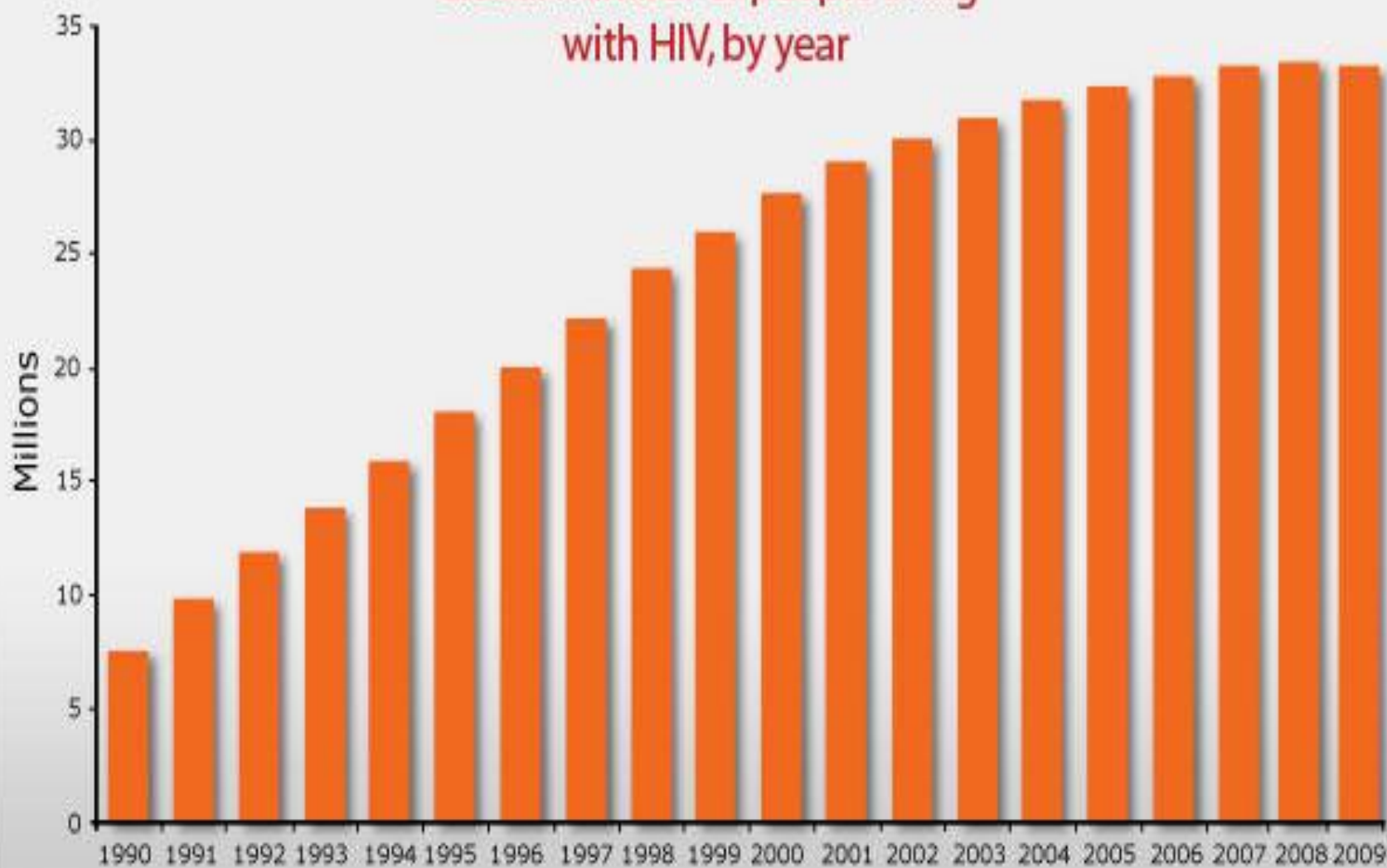
2.7 million

2.0 million

UNAIDS E.



Global number of people living with HIV, by year





Globally, less than one person in five at risk of HIV has access to basic HIV prevention services.

--World Health Organization

A. FAUCI, 2010

Selected HIV Prevention Strategies Under Development

- **Antiretroviral Drugs as Prevention**
 - Microbicides
 - Pre-Exposure Prophylaxis
 - Seek, Test, Link to Care, and Treat

- **Vaccines**



Φυματίωση

- 1/3 παγκόσμιου πληθυσμού μολυσμένο
 - 1 νέα λοίμωξη ανά “ παγκοσμίως
- 300,000 νέα περιστατικά ετησίως με MDR-Tbc
 - 79 % των περιστατικών με MDR-Tbc ανθεκτικά σε τουλάχιστον 3 από τα βασικά φάρμακα
 - HIV & ΑΛΛΗΛΕΠΙΔΡΑΣΗ ΤΩΝ 2 ΕΠΙΔΗΜΙΩΝ
 - ΑΦΡΙΚΗ

ΕΛΟΝΟΣΙΑ



- 1.5 – 2.7 εκατομ θάνατοι ετησίως
- 300 – 500 εκατομ. άνθρωποι μολυσμένοι
- Κάθε 30'' ένα παιδί πεθαίνει από ελονοσία

Ελονοσία στη Ελλάδα

➤ Έως και μέσα 20^{ου} αιώνα
– Ενδημική χώρα

➤ 1946-1960
– Εθνικό πρόγραμμα εκρίζωσης

➤ 1974
– WHO declares Greece malaria-free

Ελονοσία στη Ελλάδα 1974-2010

- Υποχρεωτικώς δηλούμενο νόσημα
- **1975-2010**
 - 30-50 εισαγόμενα κρούσματα / έτος
- **Σποραδικά αυτόχθονα κρούσματα**
 - 1991, 1999, 2000
- **2005-2010 ⇒ 78% των κρουσμάτων**
 - Μετανάστες από ενδημικές χώρες

Ελονοσία στη Ελλάδα 2008-2012

Έτος	Αυτόχθονα	Εισαγόμενα	Σύν.
2008	0	39	39
2009	8	43	51
2010	7	38	45
2011	40	23	63
2012	16	60	76

2011 - 30 ετερόχθονα – πλειοψηφία *P. falciparum*



Χάρτης ελονοσίας, Ελλάδα 2011



Χάρτης ελονοσίας στην Ελλάδα 2012 (26/10/2012)



Κλινική εικόνα

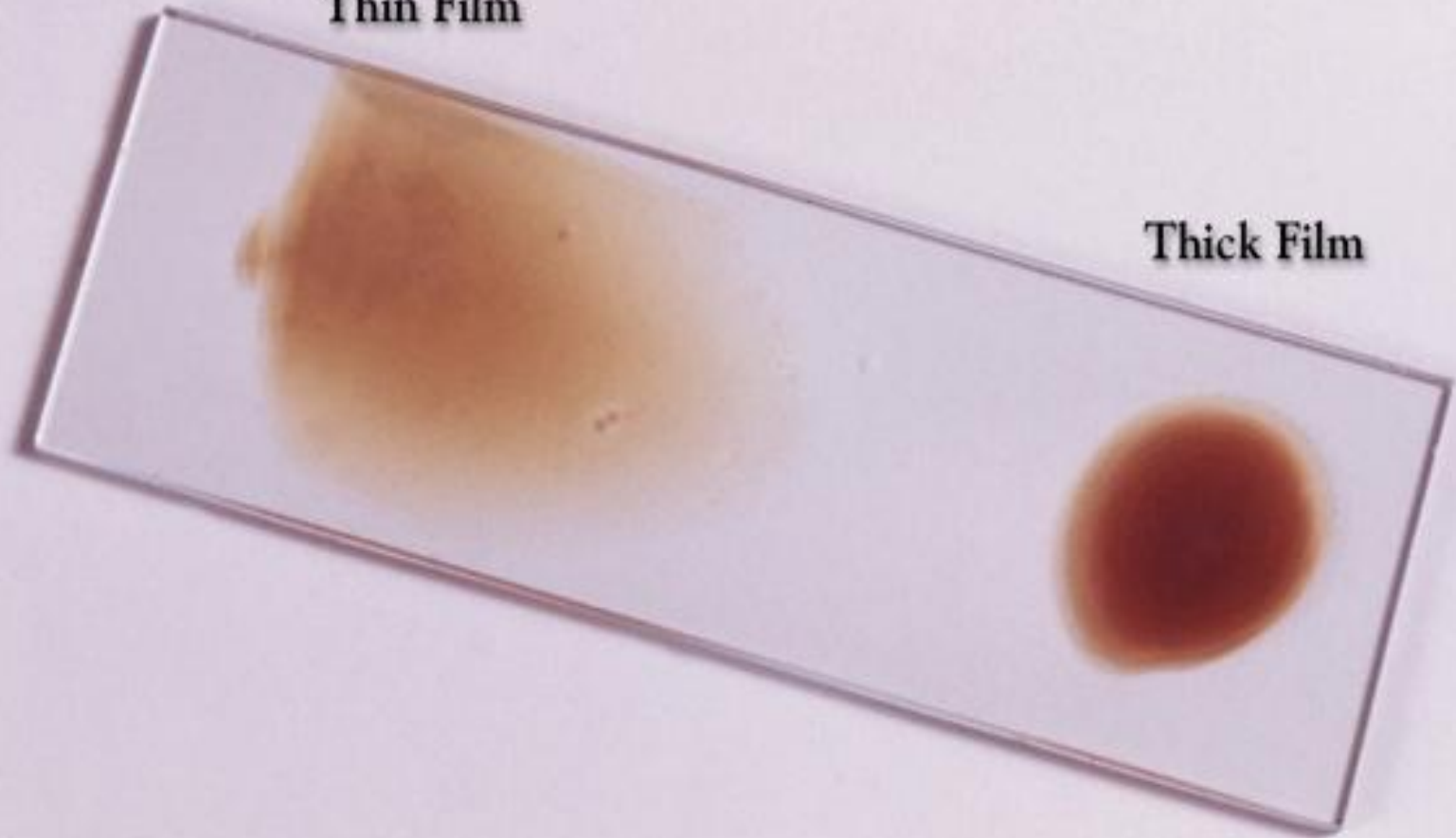
- ❖ Πυρετός, ρίγος, κακουχία, μυαλγίες, ίκτερος
- ❖ Ηπατο-**σπληνομεγαλία**
- ❖ **Αναιμία, Θρομβοπενία**
- ❖ ↑ LDH, ↑ ind bil,

Blood Films

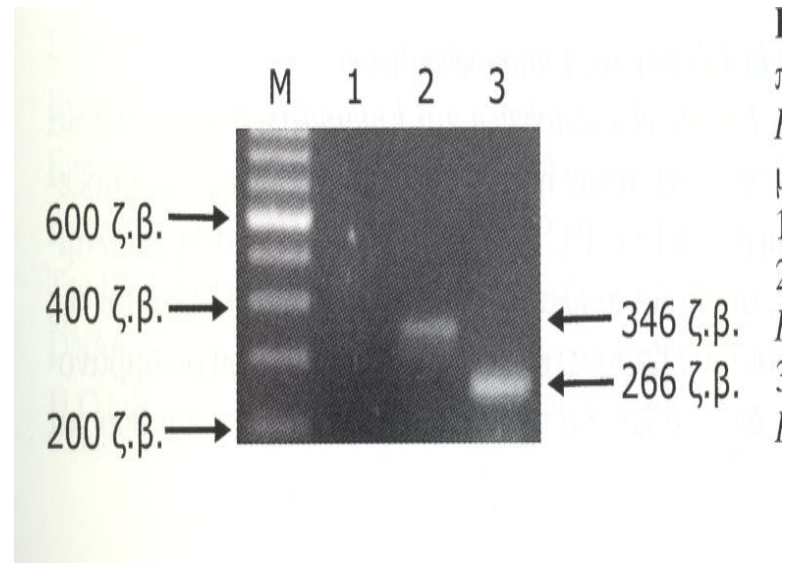
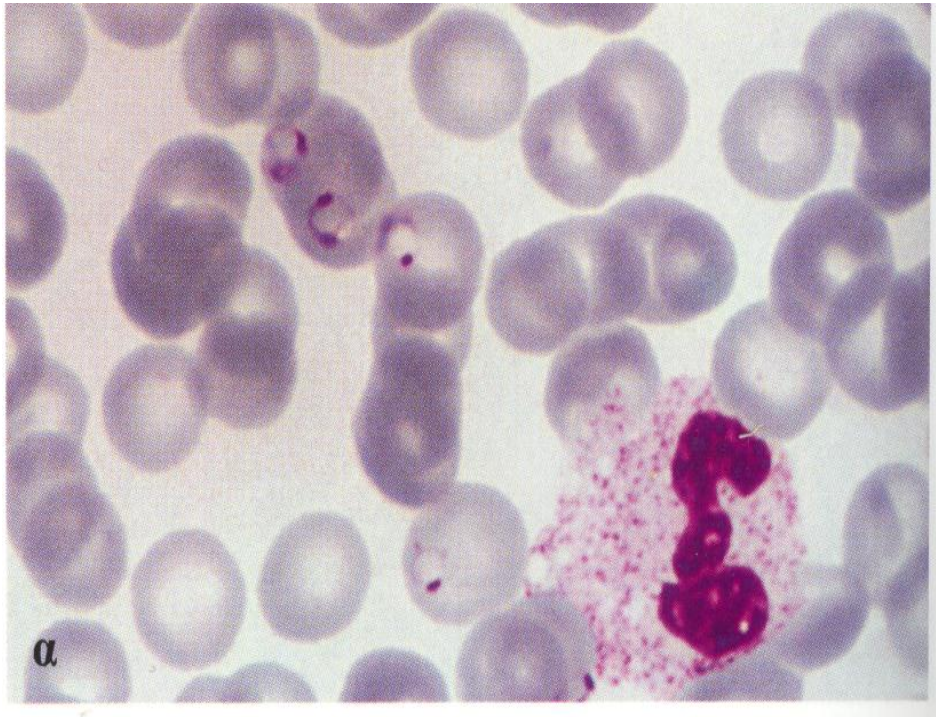
(for microscopic analysis)

Thin Film

Thick Film



Διάγνωση



Ν. Βακάλης, ΕΣΔΥ, Ελλάδα

ΘΕΡΑΠΕΙΑ - ΕΚΒΑΣΗ

➤ Θεραπεία

- ❖ Χλωροκίνη x 3 ημέρες

&

- ❖ Primaquine x 14 ημέρες

➤ ΜΕΘ

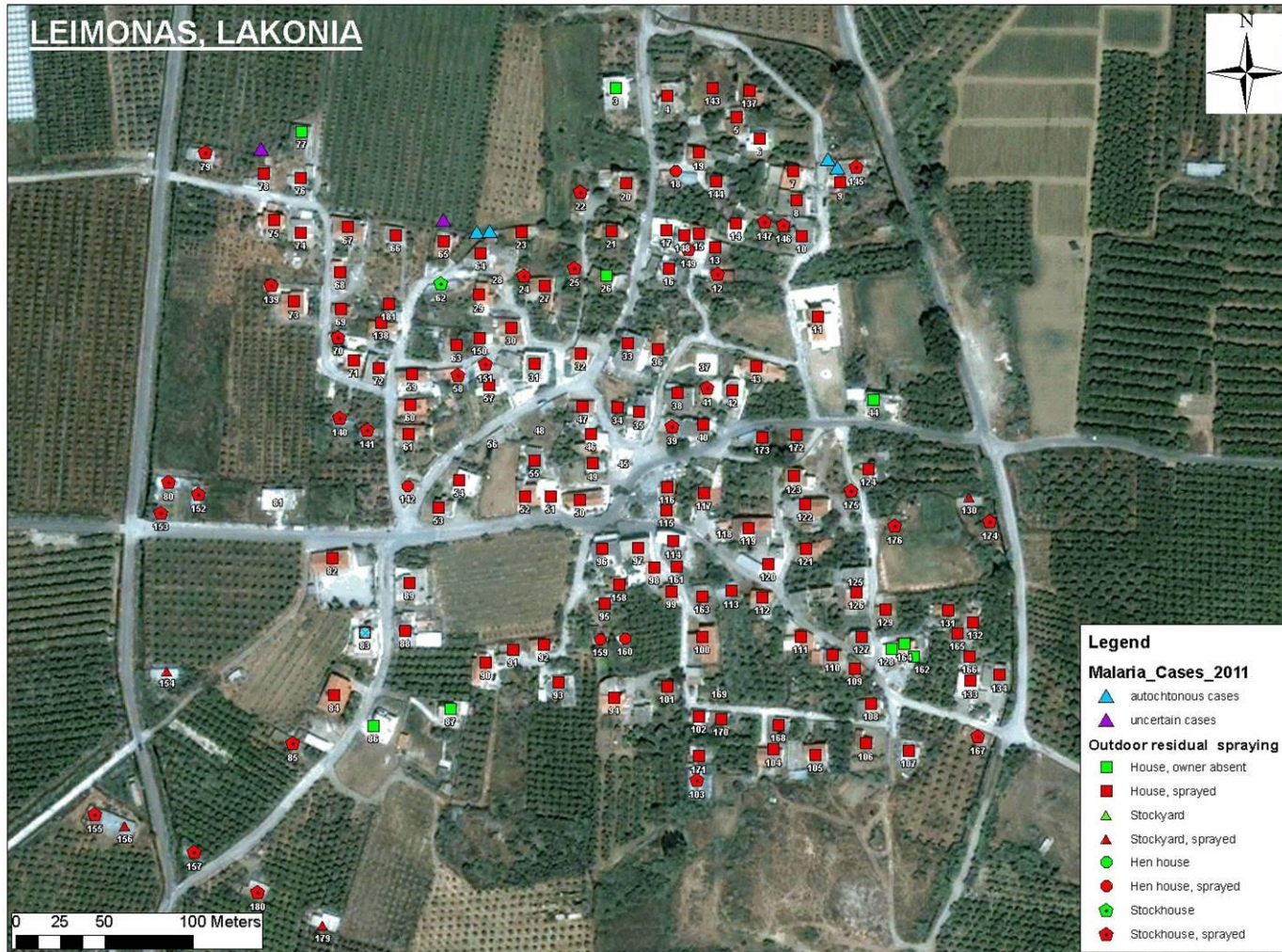
- ❖ 1 (1.6%)

➤ Θανατηφόρα περιστατικά

- ❖ 1 (1.6%)

- ❖ Αναπνευστική δυσχέρεια & υποκείμενο νόσημα

Ενεργός ανίχνευση κρουσμάτων



Εντομολογικές μελέτες



Ευρώτας - Οικολογία



Ευρώτας - Το ποτάμι !!!



Διαμονή στην ύπαιθρο



Κανάλι άρδευσης δίπλα σε πορτοκαλεώνα



ΕΠΙΚΟΙΝΩΝΙΑ-ΑΓΩΓΗ ΥΓΕΙΑΣ



How can we avoid mosquitoes at home?

- If possible, install window and door screens
- Spray with insecticides that contain permethrin (aerosol, tablets, evaporating solutions, spirals). Always follow instructions before use
- Use bed nets when all other means of protection should be avoided (such as in young infants), or in areas with dense populations of mosquitoes

- Avoid stagnant waters. Drain all standing water in your garden such as in rain barrels, flower pots, ponds, or small pools
- Keep the grass in your garden mowed and trim your bushes, as they may shelter adult mosquitoes
- The use of roof or floor fans and air-conditions minimizes mosquito bites
- Yellow outdoor lamps attract insects less

Department for Epidemiologic Surveillance and Intervention
www.keelpno.gr

210 5212054

Protection from Mosquitoes



MINISTRY OF HEALTH & SOCIAL SOLIDARITY
HELLENIC CENTER FOR DISEASE CONTROL & PREVENTION (H.C.D.C.P.)

MINISTRY OF HEALTH & SOCIAL SOLIDARITY
HELLENIC CENTER FOR DISEASE CONTROL & PREVENTION (H.C.D.C.P.)

Στα Πακιστανικά Βουλγαρικά, Ρουμανικά & Ρώσικα - **Βοήθεια από ECDC**



CDC 05 Σεπτ 2012

...recommends preventive antimalarial
drugs for travel to the agricultural areas
of Evrotas in the Laconia region...



WHO 2012 – Greece/malaria

...recommended prevention in risk
areas: I (mosquito bite prevention)

ORIGINAL ARTICLE

First Results of Phase 3 Trial of RTS,S/AS01 Malaria Vaccine in African Children

The RTS,S Clinical Trials Partnership*



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EDITORIAL

A Vaccine for Malaria

Nicholas J. White, F.R.S.

October 18, 2011 (10.1056/NEJMe1111777)

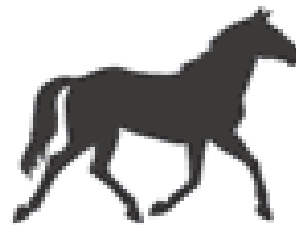
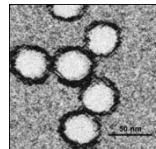
ΑΝΑΔΥΟΜΕΝΑ ΛΟΙΜΩΔΗ

Το νέο Millenium

- Nipah virus
- Hendra virus
- Lassa virus
- Ebola virus
- Cholera
- SARS virus
- Norovirus
- Άνθρακας
- Avian Influenza H5N1
- **Pandemic flu A(H1N1) 2009**
- Chikungunya virus
- **Dengue virus**
- Crimean – Congo virus
- **West Nile virus**
- Κοκκύτης, Ιλαρά
- Τοξικά στελέχη C. difficile

Εγκεφαλίτιδα από τον ιό Δ. Νείλου

ΑΝΘΡΩΠΟ ΖΩΟΝΟΣΟΣ



Maintenance vector mosquitoes

Primary enzootic cycle

Maintenance vector mosquitoes

"Incidental" hosts

Person to person
(blood transfusion,
organ transplantation,
transplacental transmission
possibly via breast milk)

Bridge vector mosquitoes

Κλινική Εικόνα

στόχος επιδ.
Επιτήρησης
ΚΕΕΛΠΝΟ



<1% συμπτώματα **ΚΝΣ**
(μηνιγγίτιδα ή
εγκεφαλίτιδα)

~20%
ήπια συμπτώματα (υψηλός
πυρετός, κεφαλαλγία, μυαλγίες)

80%
ασυμπτωματικοί

WNV in Europe 2011 – Human cases

(as of 03 Nov 11)

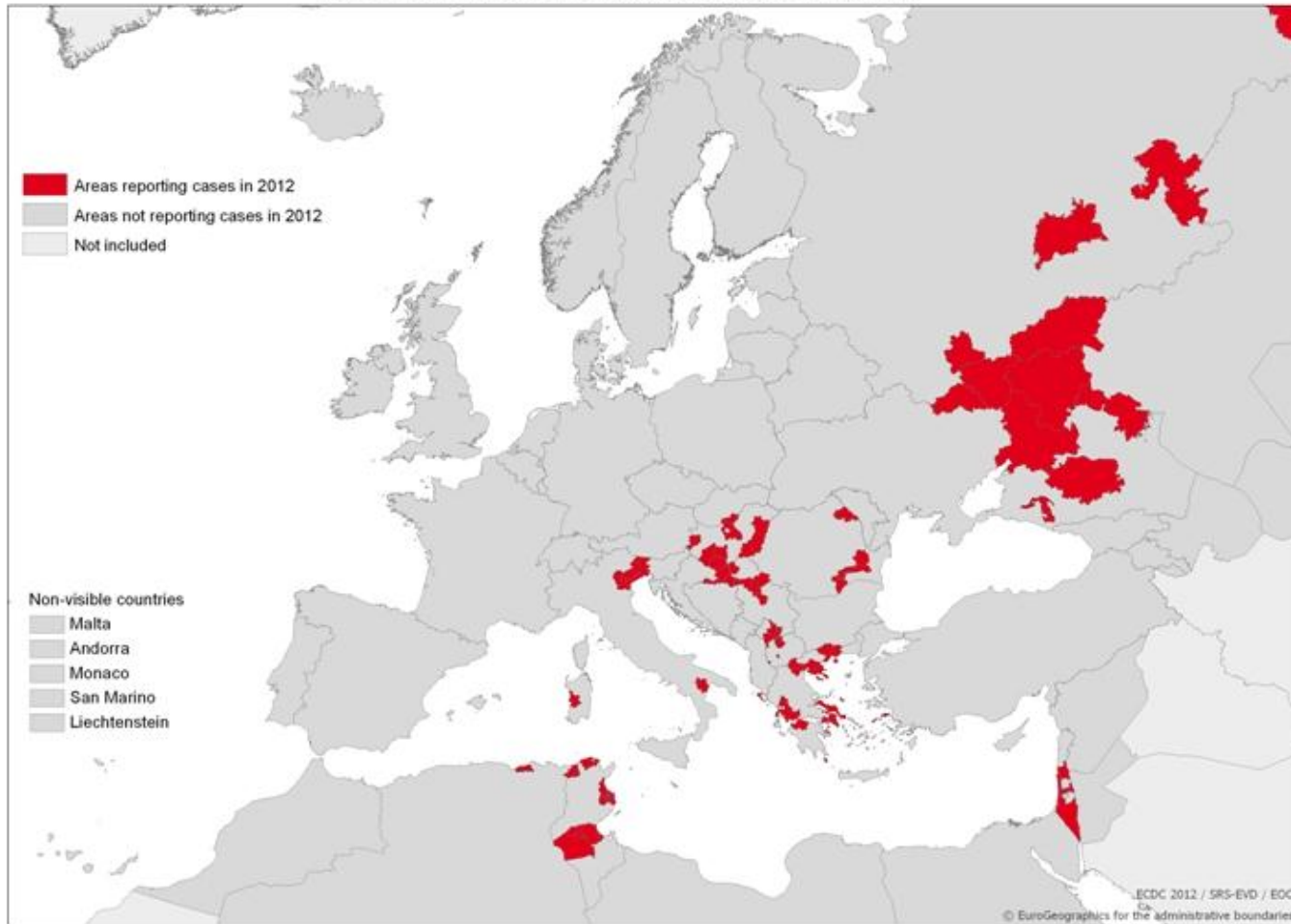
Reported cases of West Nile fever for the EU and neighbouring countries
Transmission season 2011; latest update: 03/11/2011



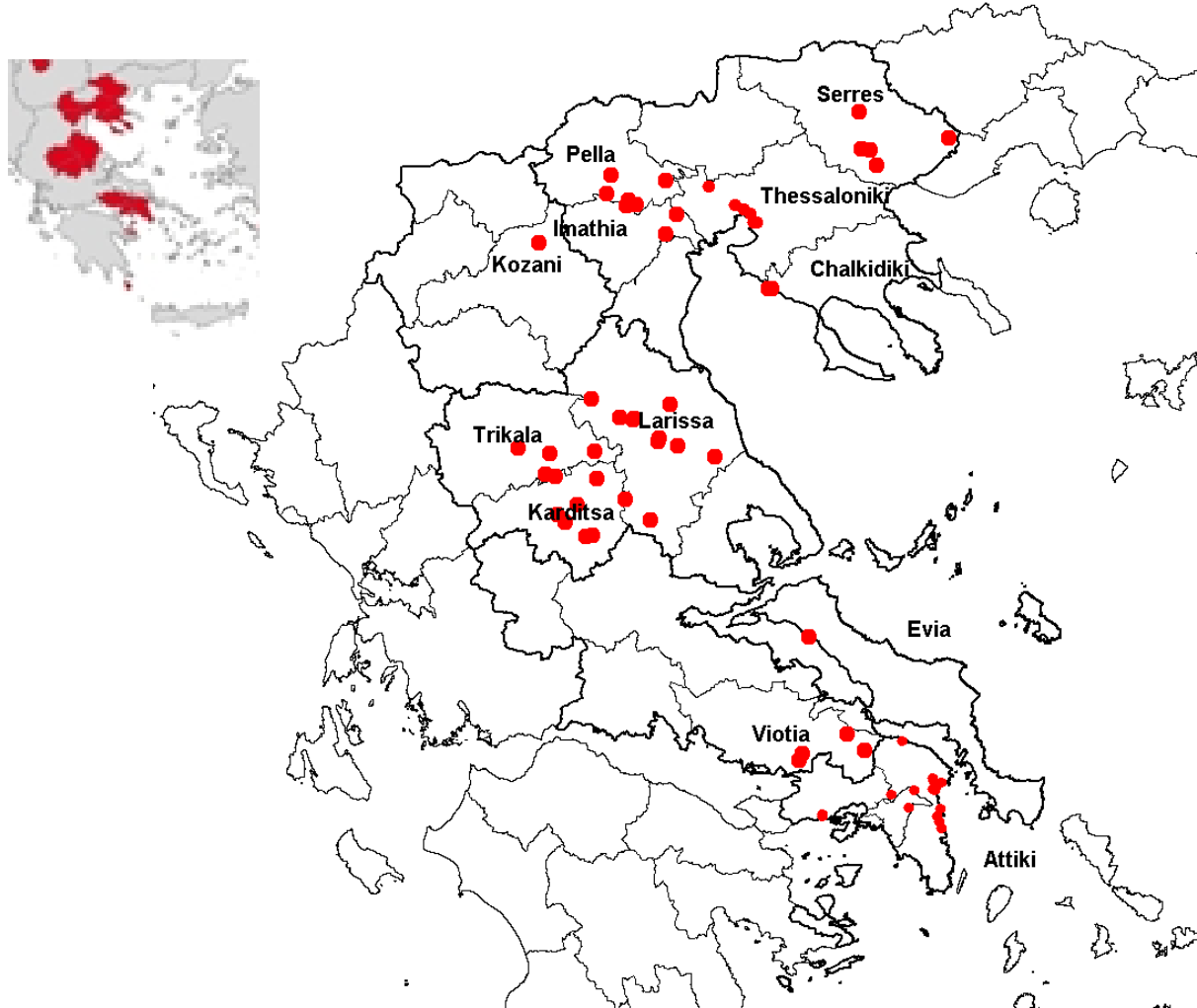
WNV in Europe 2012 – Human cases

(as of 31 Oct 2012)

Reported cases of West Nile fever for the EU and neighbouring countries
Transmission season 2012; latest update: 31/10/2012



WNND cases, 2011 (as of 04/10/2011)*

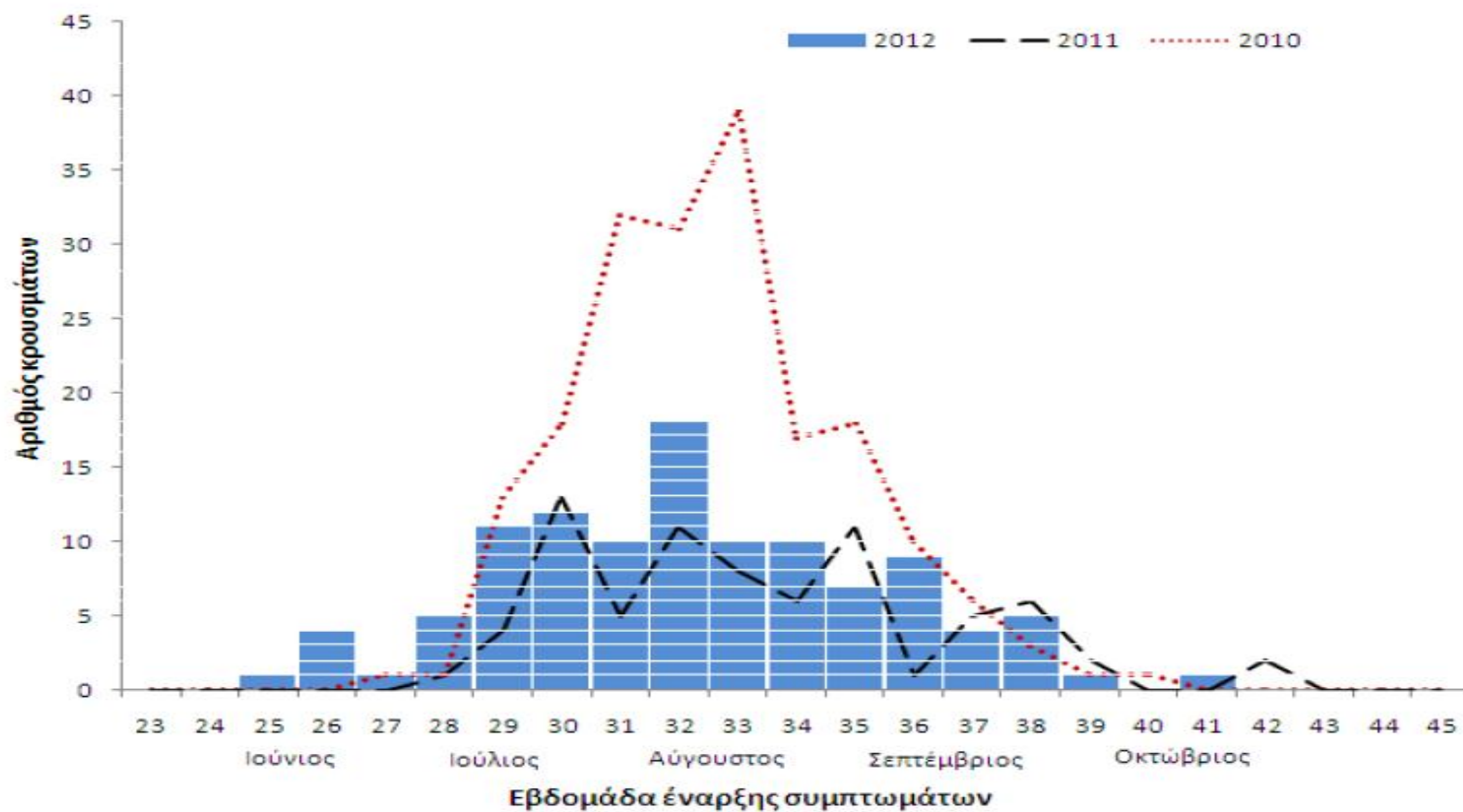


*Danis K, et al.. Euro Surveill. 2011 Aug 25;16(34)

WNND cases, 2012 (as of 18/10/2012)*

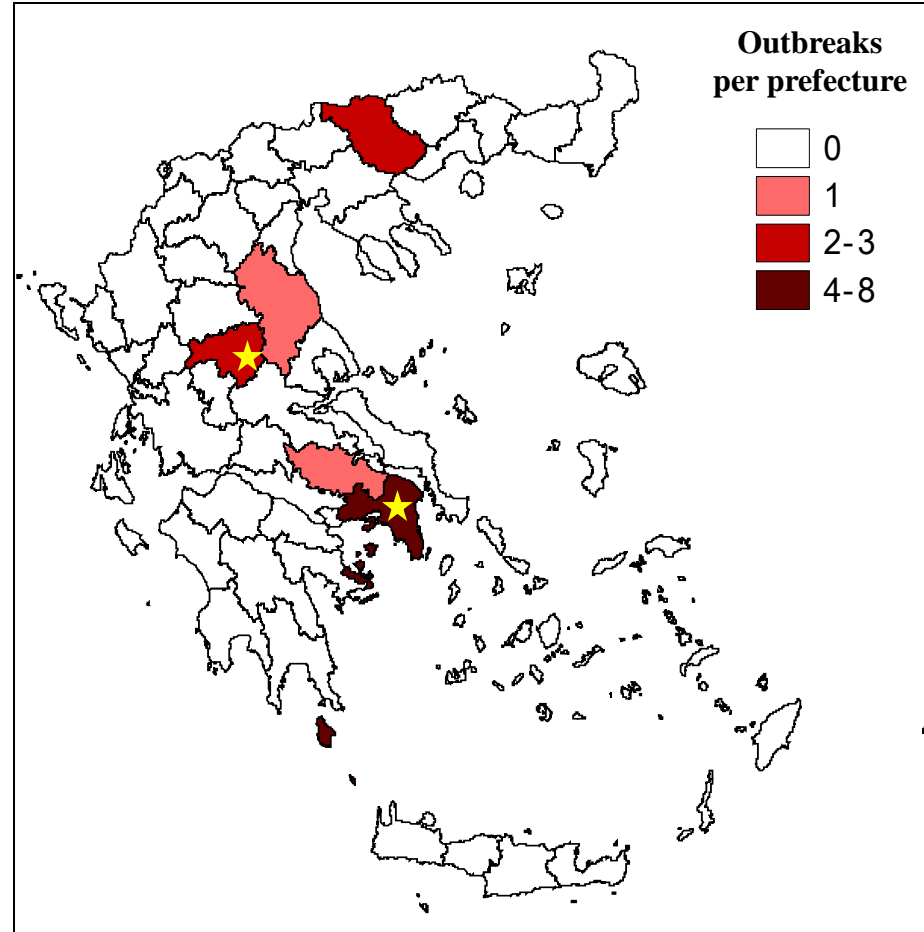


Δ. Νείλος Ελλάδα 2010-2012



WNV infections among equines, 2011

- 8 reported sick horses from areas where human cases occurred (0 deaths)
- The first two cases in horses identified before human cases had been reported in Attiki (early warning signal)
- 16 outbreaks detected in total, 8/16 affected horses were asymptomatic



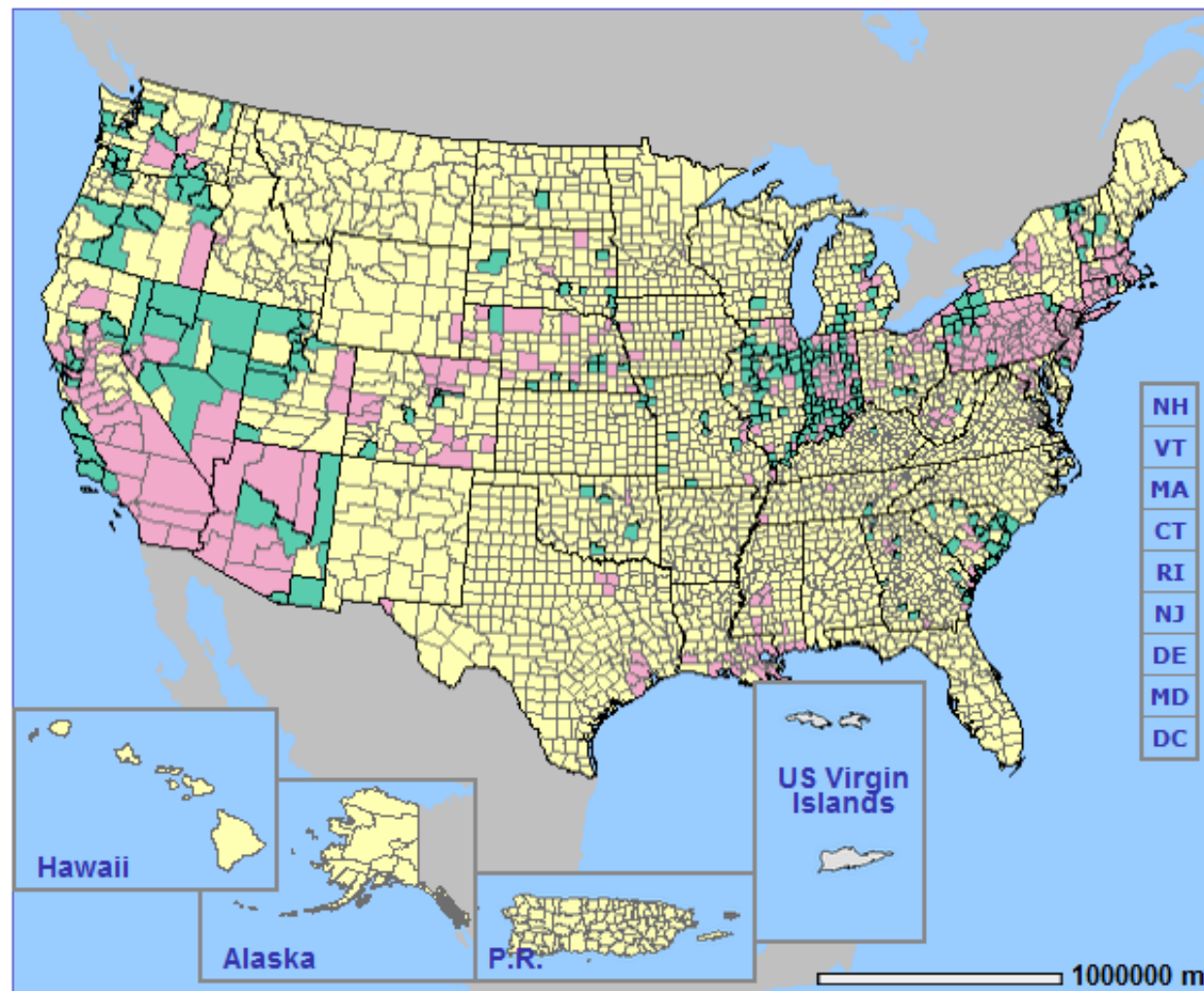
Yellow star= clinical cases (horses)

Μέτρα Δημόσιας Υγείας



ULV - ακμαιοκτονίες
από εδάφους

USA

[Background](#)[Historical Data](#)[FAQs](#)[Links](#)

Legend

- Positive Test Results*
- Samples Submitted
- No Positive Test Results**
- Historically Not Found

* States and counties in yellow either did or did not report any positive test results

Cumulative 2011 Data as of 3 am, Nov 01, 2011

These data are provisional and may be revised or adjusted in the future.

Γρίπη των πουλερικών (Avian influenza)



Γρίπη των πουλερικών H5N1 και πτηνά



<http://go.funpic.hu>

pip.rubberfeet.org



Confirmed human cases of avian influenza since 1997 sorted by subtypes (Data as of 19 January 2009)

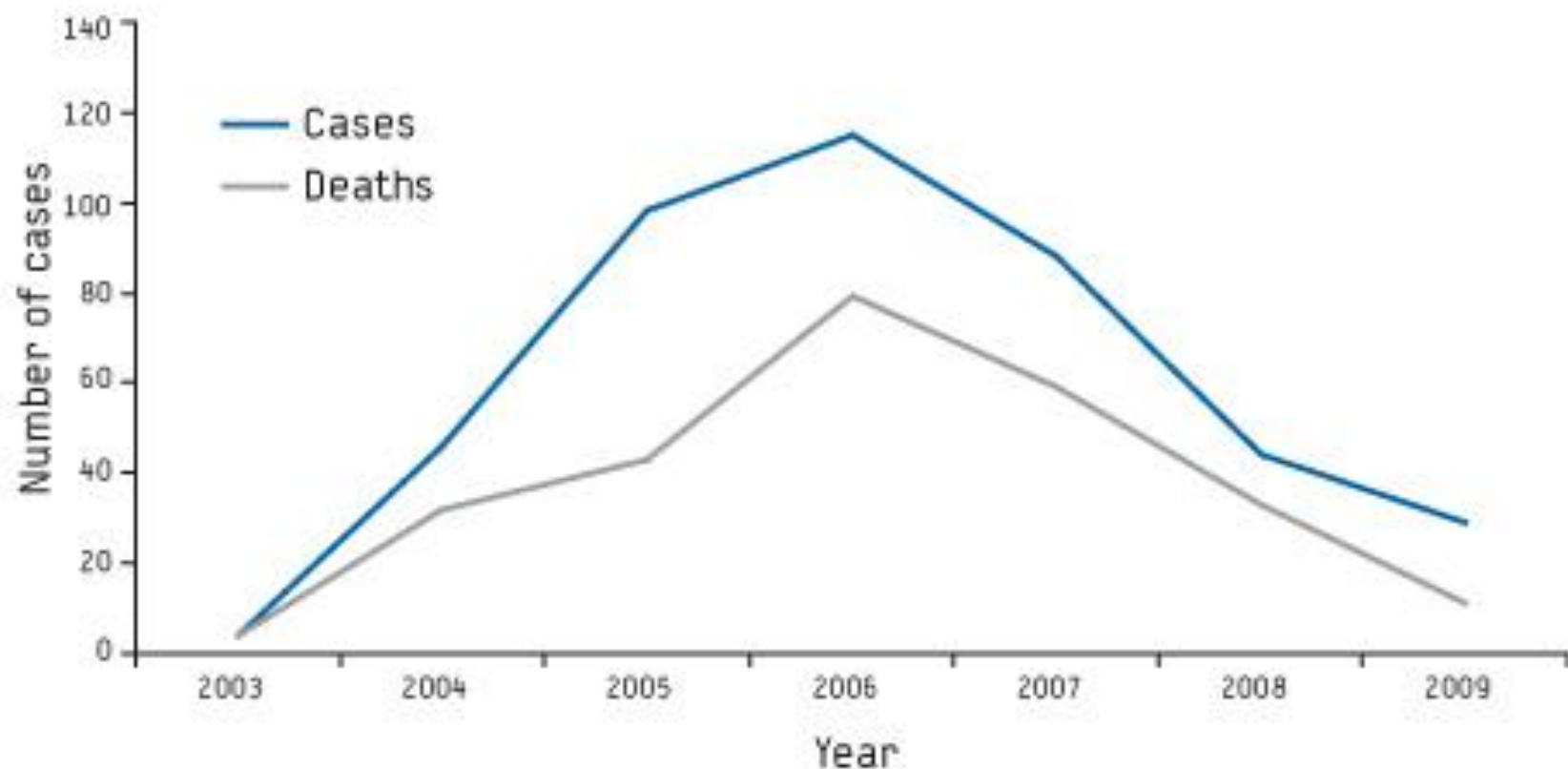


Table produced by the Health Threats Unit - Directorate General Health and Consumer Protection - European Commission

Source: WHO

FIGURE

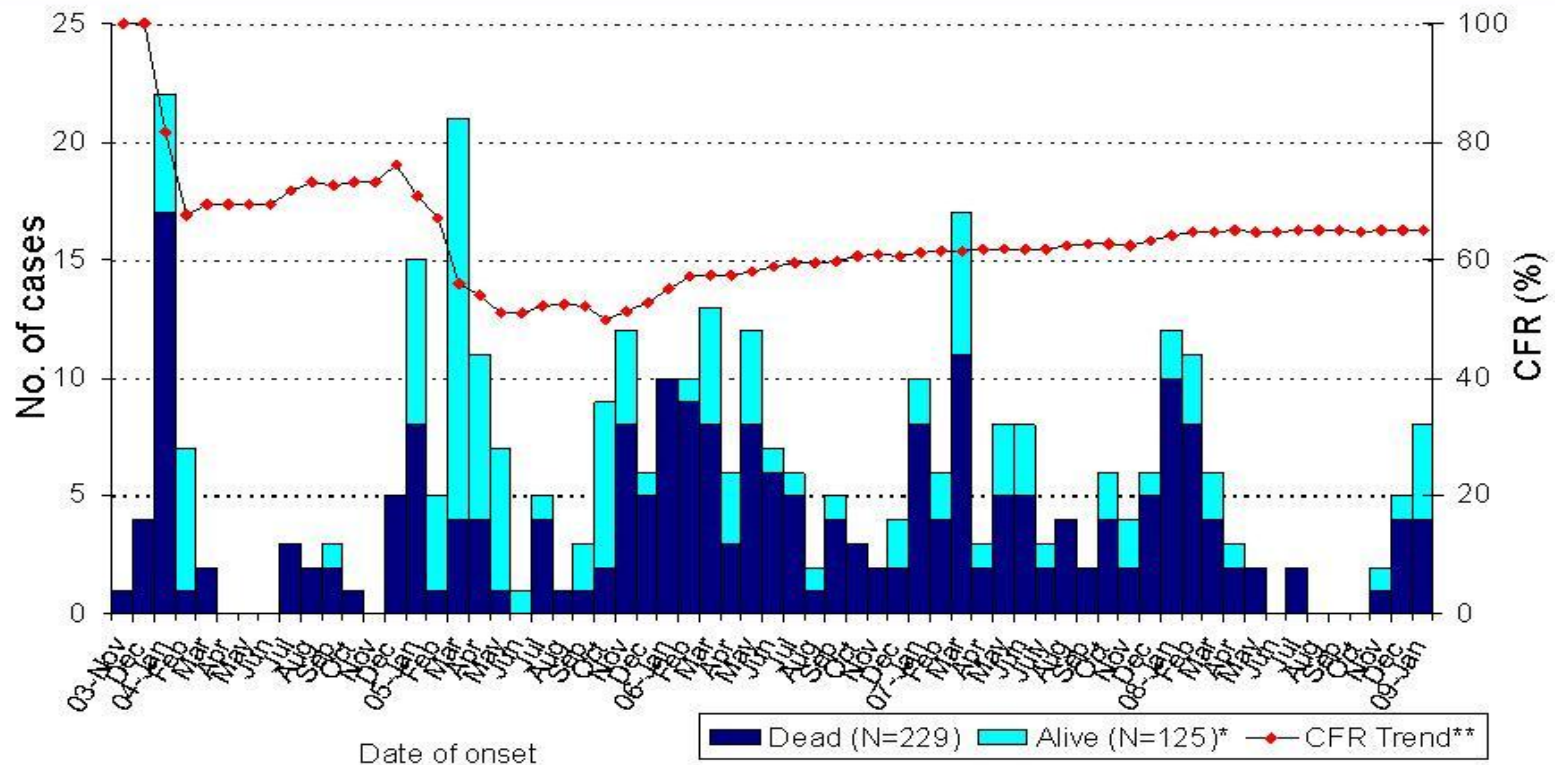
Human cases (n=424) and deaths (n=261) caused by influenza A(H5N1) virus infection, 2003-2009



Source: World Health Organization. Cumulative number of confirmed human cases of avian influenza A(H5N1) reported to WHO. 15 May 2009 [1].

ΓΡΙΠΗ ΠΟΥΛΕΡΙΚΩΝ

Human Avian Influenza A (H5N1) Cases by Onset Date and Outcome (n=354)
(as of 27 January 2009)



As of 28 January 2009, total of 403 cases were reported officially to WHO

* Excluded Cases due to missing onset date: 1 Viet Nam, 13 Indonesia, 3 Azerbaijan, 18 Egypt, 1 Iraq, 1 Nigeria
12 cases in Turkey are excluded

** CFR Trend: computed based on cumulative dead & total ***outcome unknown (n=11)





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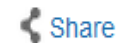
▶ [Notes for the media](#)

Public health, influenza experts agree H5N1 research critical, but extend delay

WHO to convene additional meeting to discuss next steps

News release

17 FEBRUARY 2012 | GENEVA - A small group of global public health and influenza experts at a WHO-convened meeting reached consensus on two urgent issues related to the newly created H5N1 influenza viruses: extending the temporary moratorium on research with new laboratory-modified H5N1 viruses and recognition that research on naturally-occurring H5N1 influenza virus must continue in order to protect public health.



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[List of participants](#)

[Technical consultation on H5N1 research issues](#)

[Technical consultation on H5N1 research issues - consensus points](#)

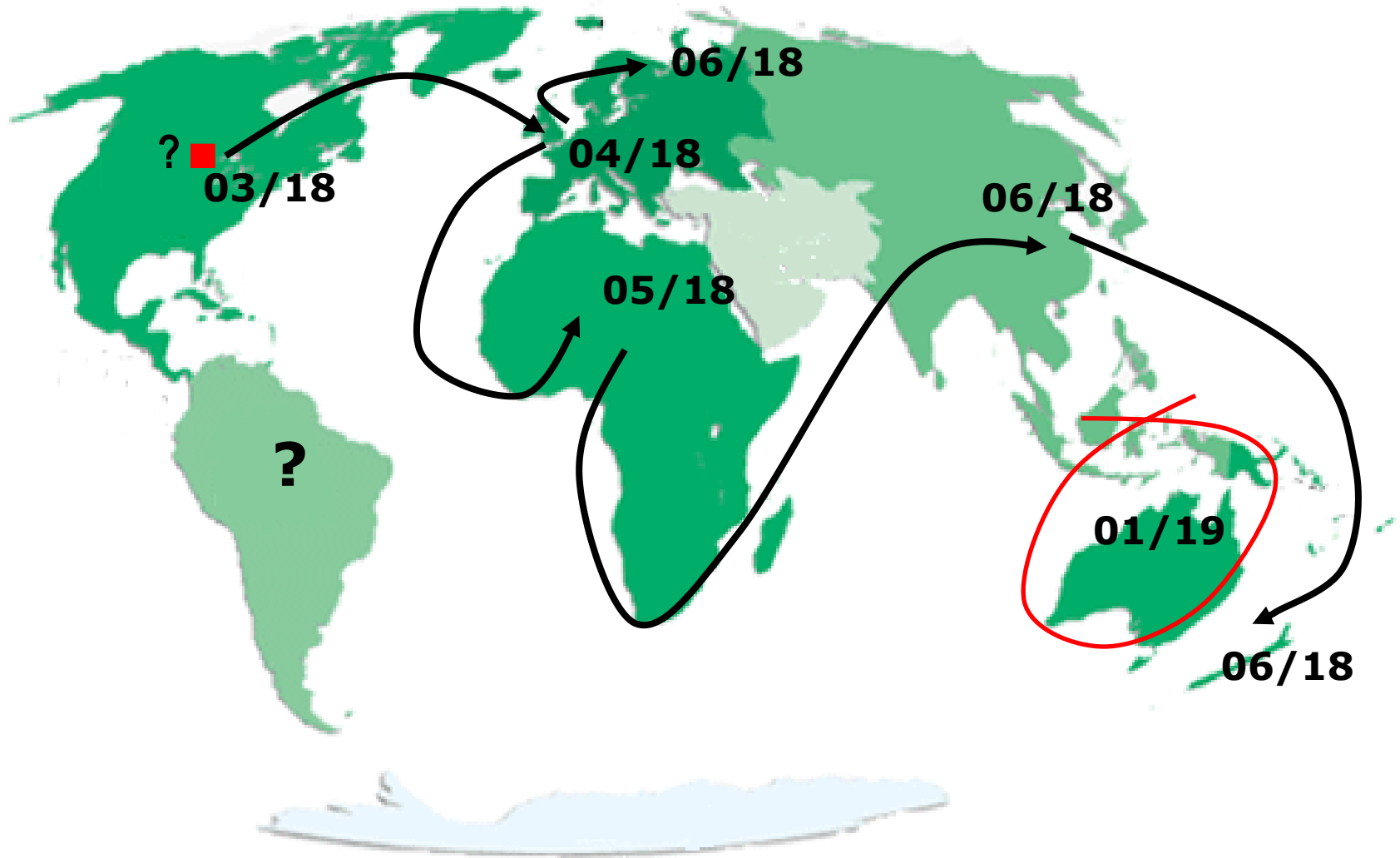
[Virtual press briefing](#)

Τι είναι επιδημία γρίπης;

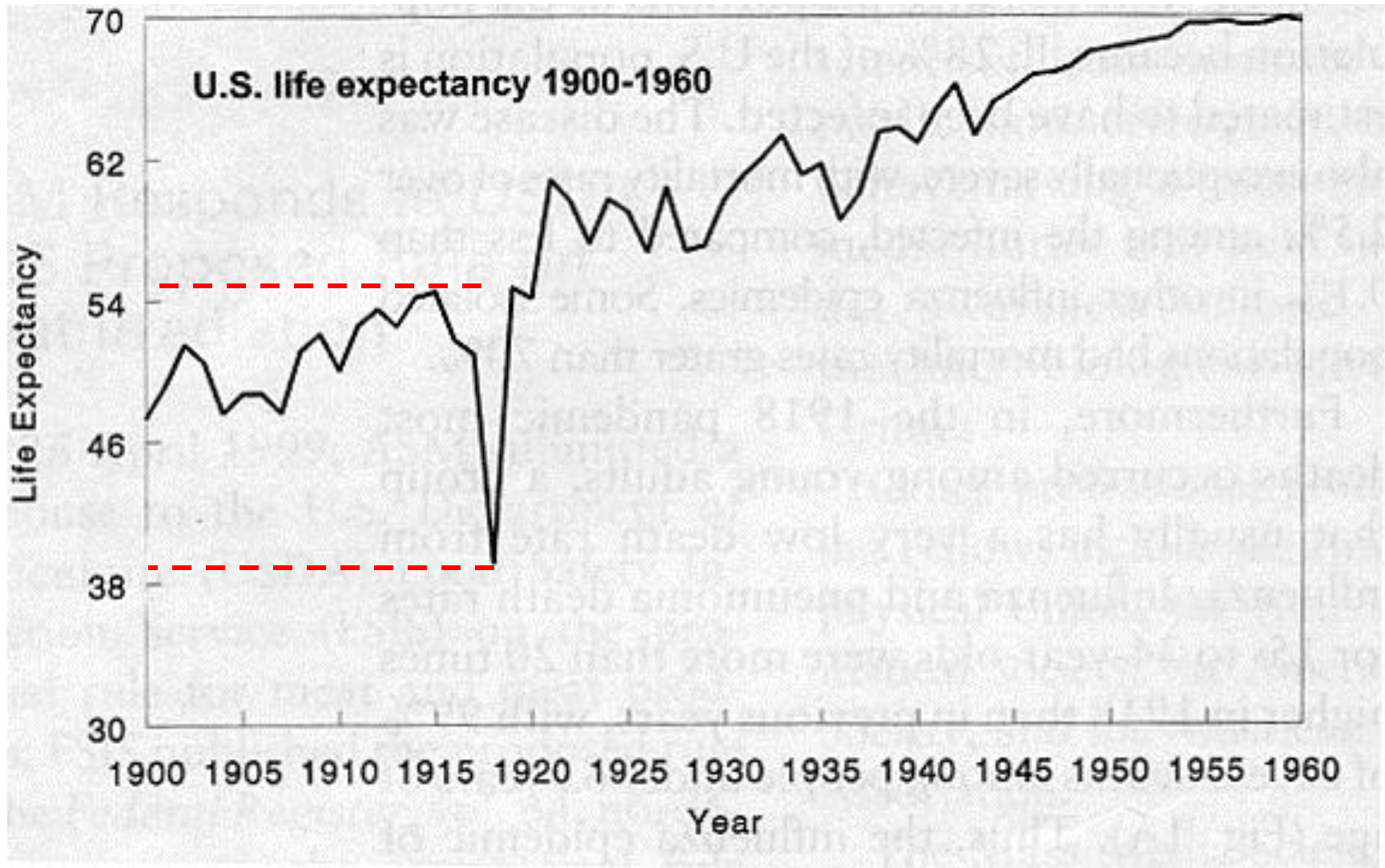
- Ετήσιες "εποχικές εξάρσεις" της γρίπης
 - Δεκέμβριος-Μάρτιος
 - 5-20% του πληθυσμού

- Φόβος πανδημίας

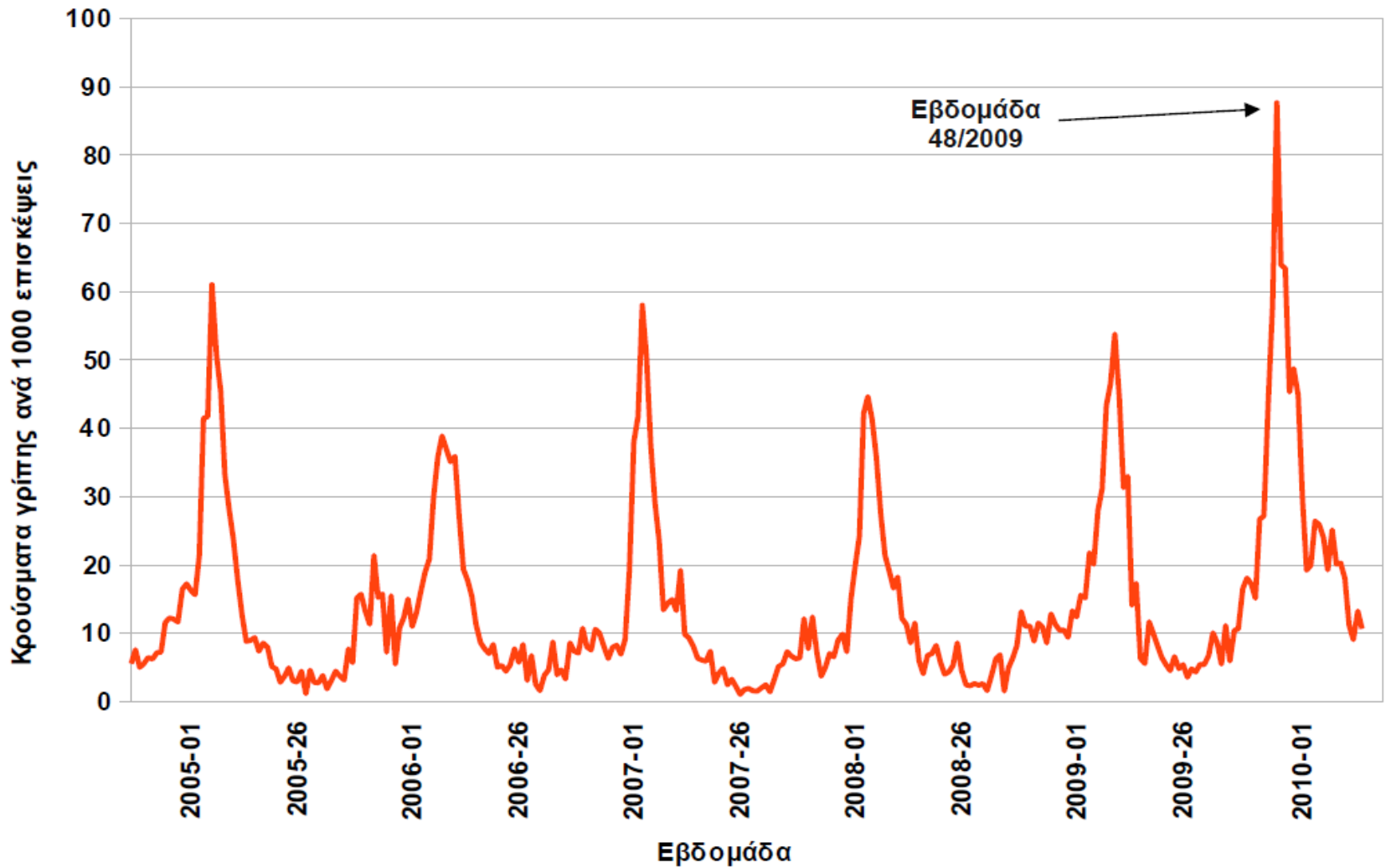
Geographic spread: 1918-19



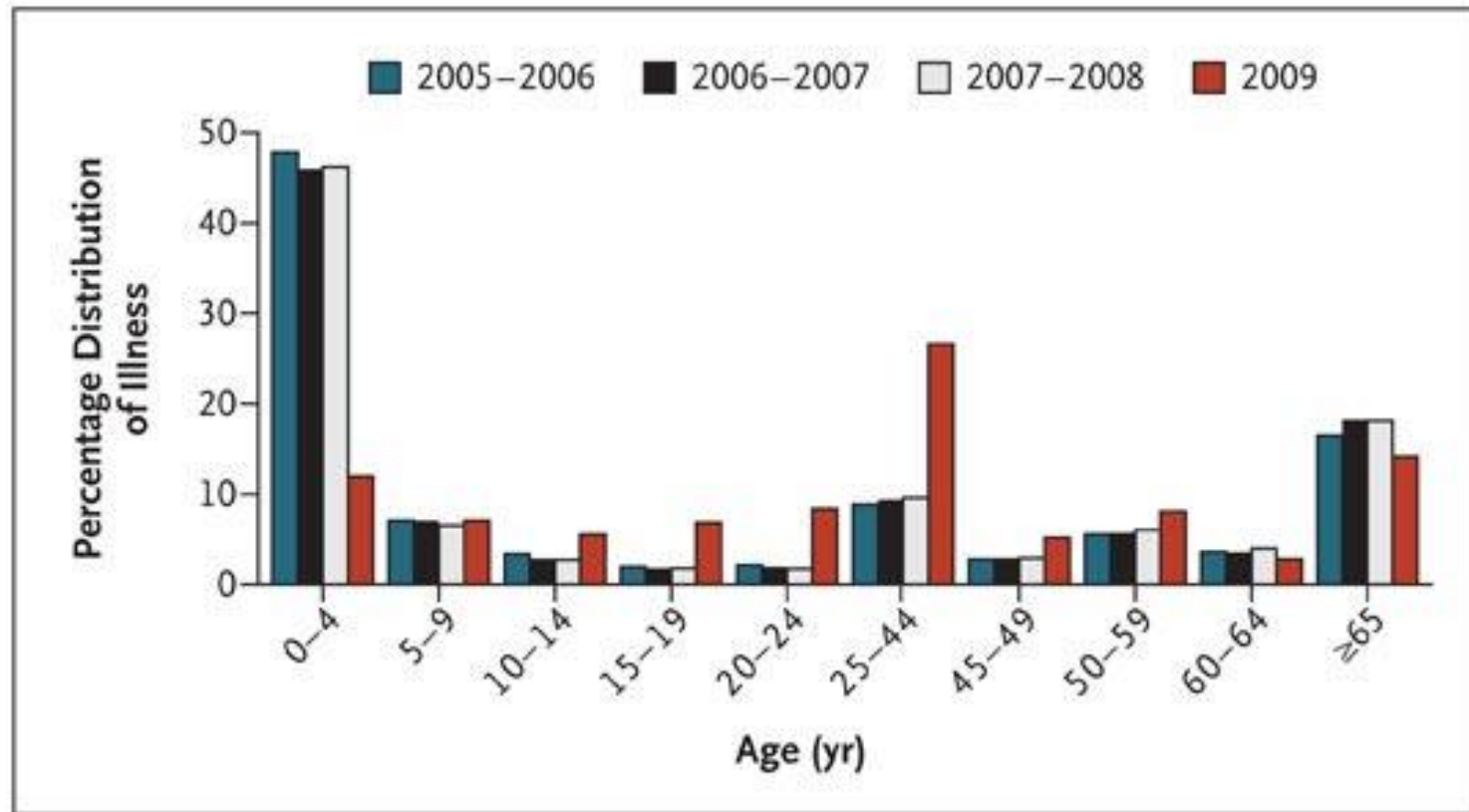
Η μεγάλη πανδημία του 1918



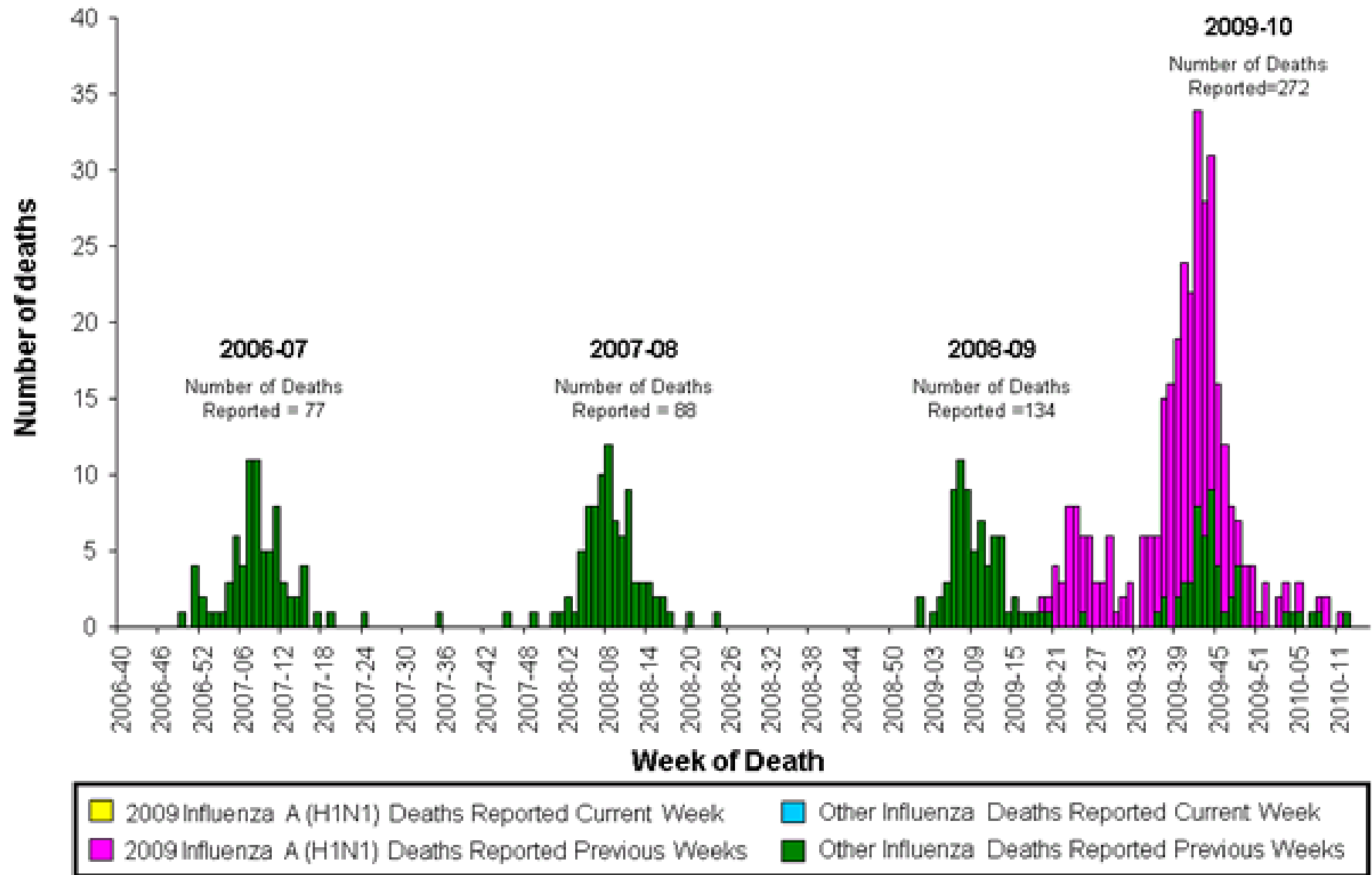
Η γρίπη κάθε χρόνο είναι εδώ !!!



Percentage Distribution of Severe Pneumonia

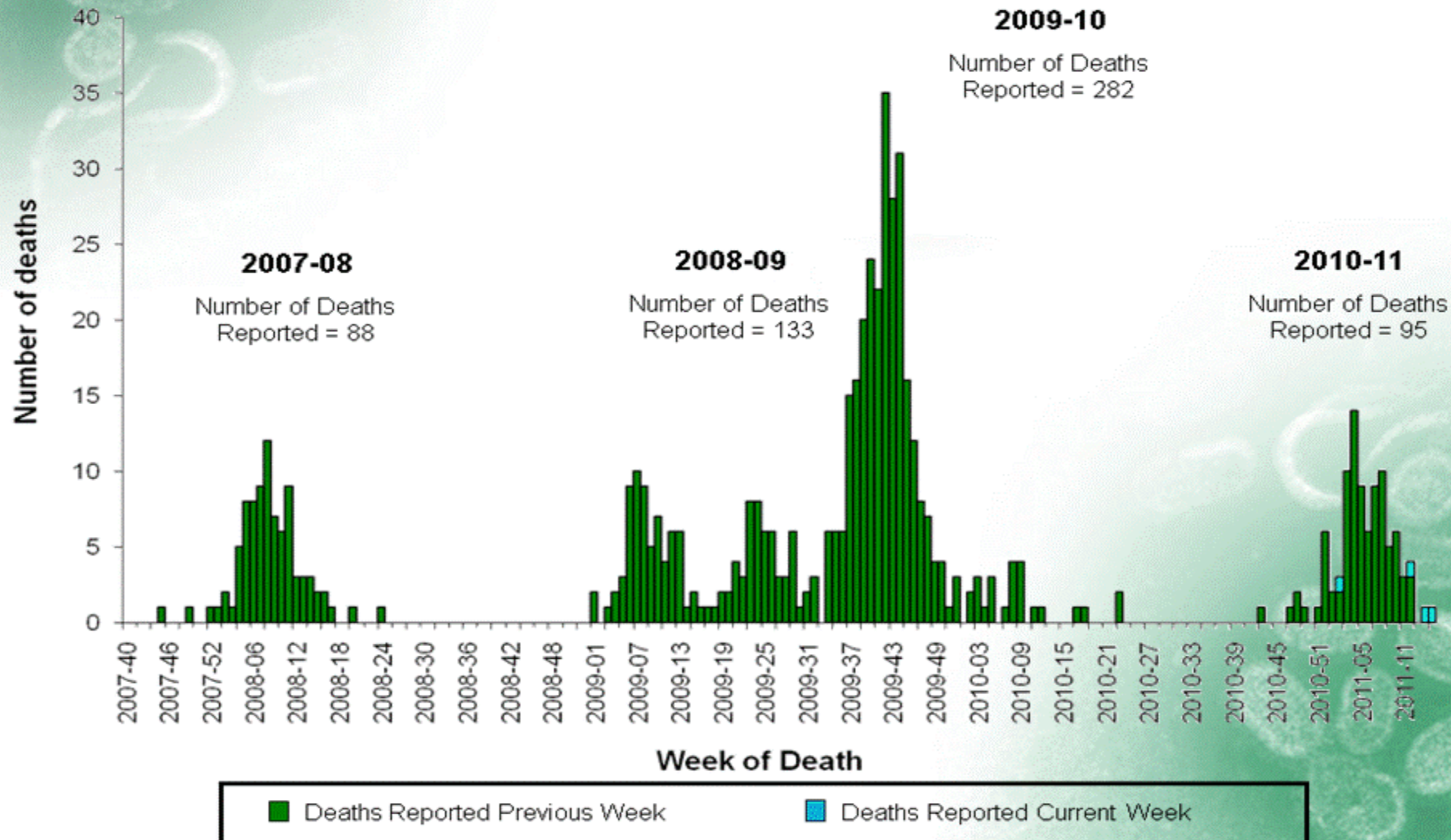


Number of Influenza-Associated Pediatric Deaths by Week of Death: 2006-07 season to present



A Weekly Influenza Surveillance Report Prepared by the Influenza Division

Number of Influenza-Associated Pediatric Deaths by Week of Death: 2007-08 season to present

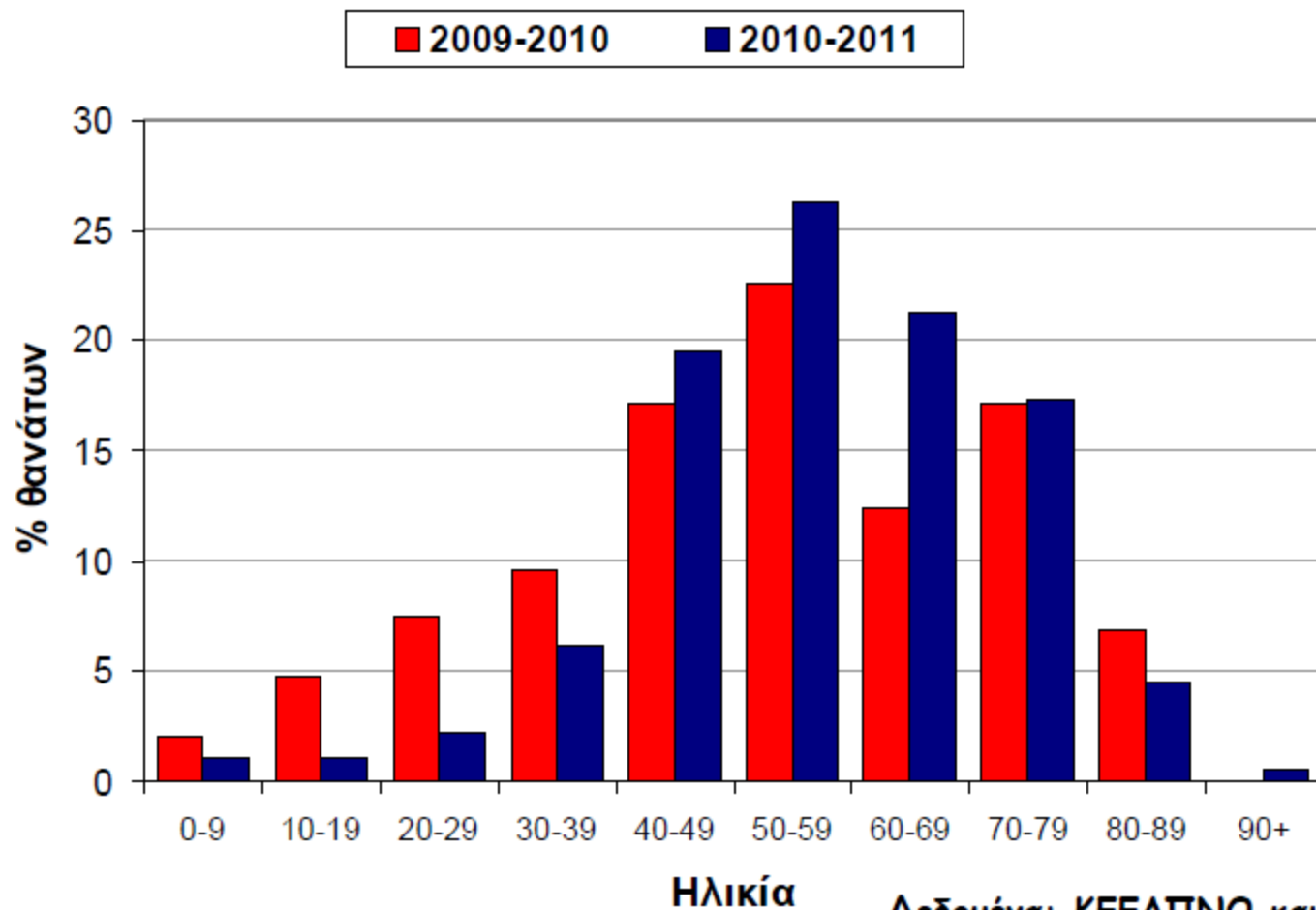


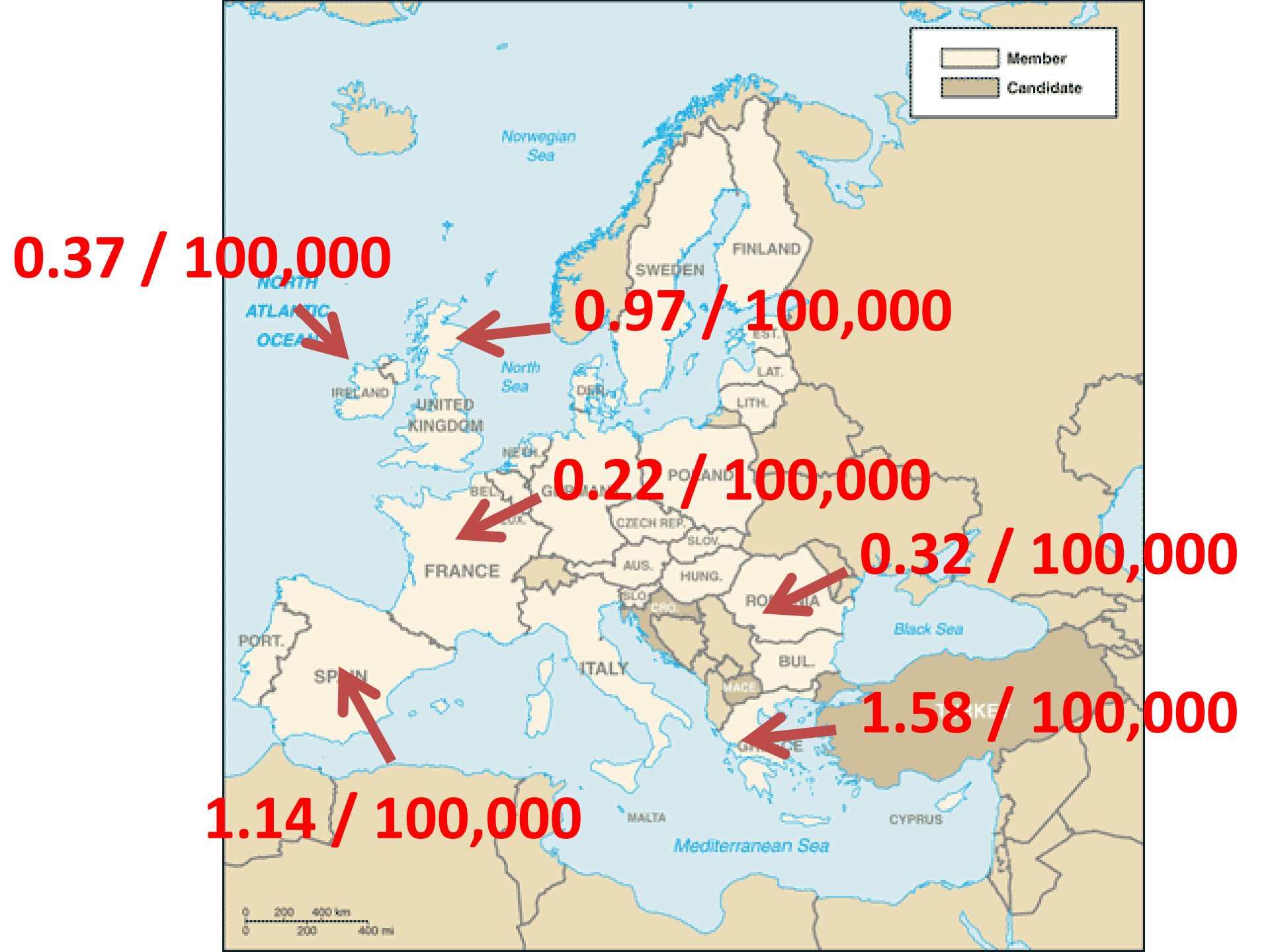
Δεδομένα (Εργ./ΜΕΘ/Θάνατοι)

Ελλάδα - 28 April 2011

	Total 2009-10	Total 2010-11	Clinical high risk groups 2010-11
Δείγματα που ελέγχθησαν	18230	13072	
ΜΕΘ - 28 Απριλίου 2011		8	
Σύνολο ΜΕΘ	294	368	239 (64.9%)
Ζήτηση κλινών ΜΕΘ - peak	70	127	
Σύνολο Θανάτων	149 (50.7)	179 (48.6)	144 (80.4%)

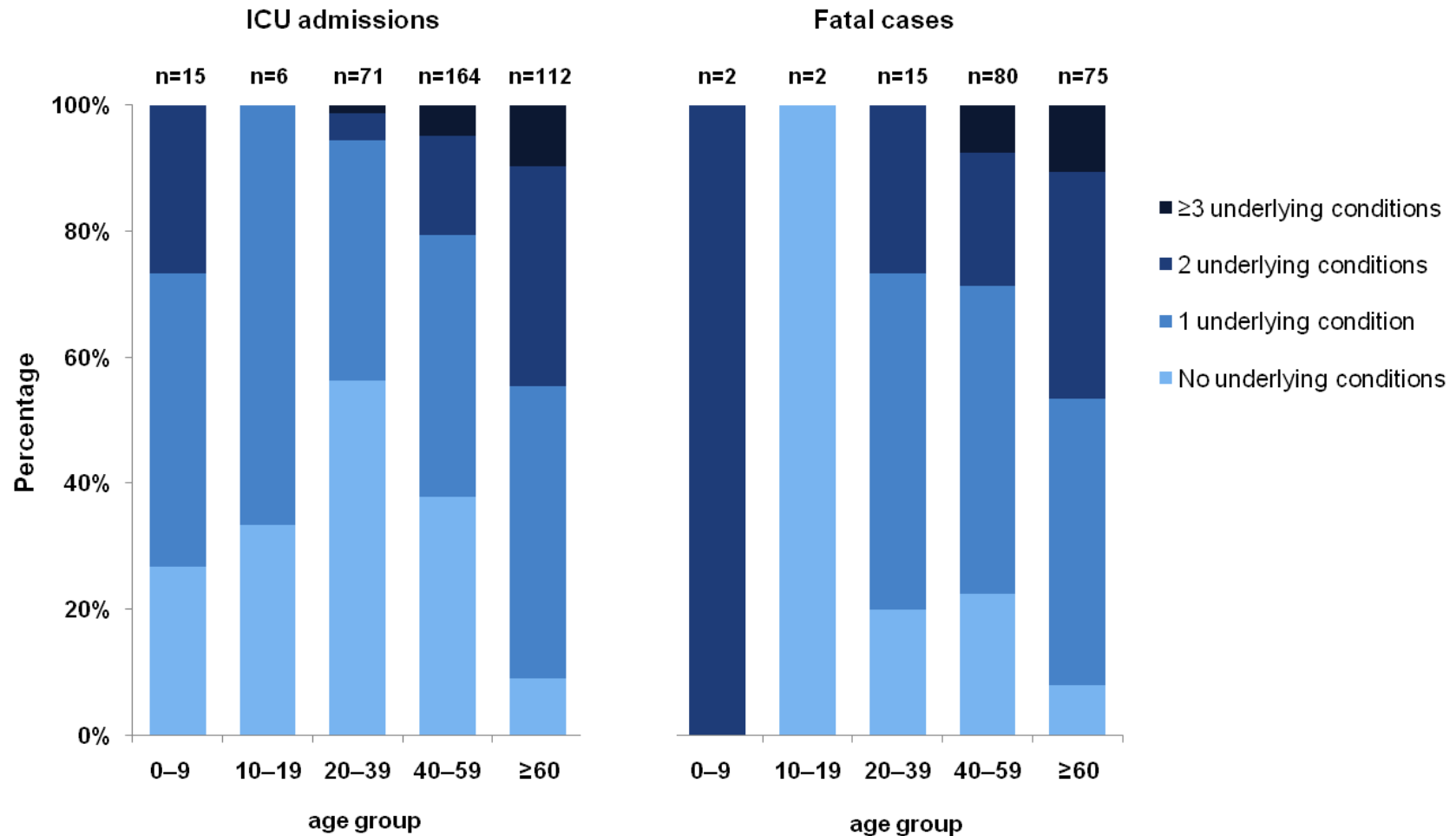
Ηλικιακή κατανομή ασθενών με γρίπη που απεβίωσαν τις περιόδους 2009-2010 και 2010-2011





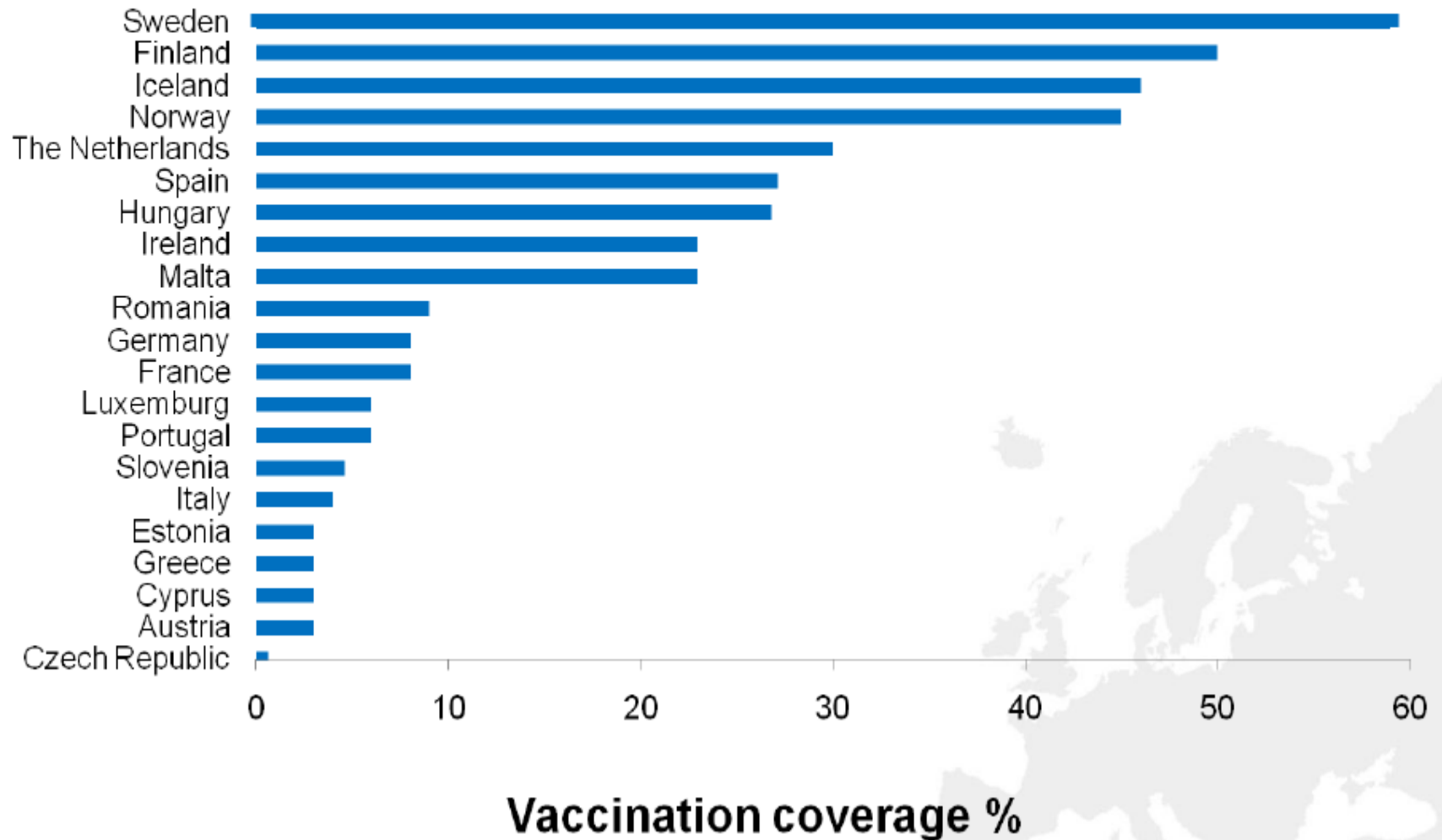
Ηλικιακή κατανομή-θάνατοι & ΜΕΘ

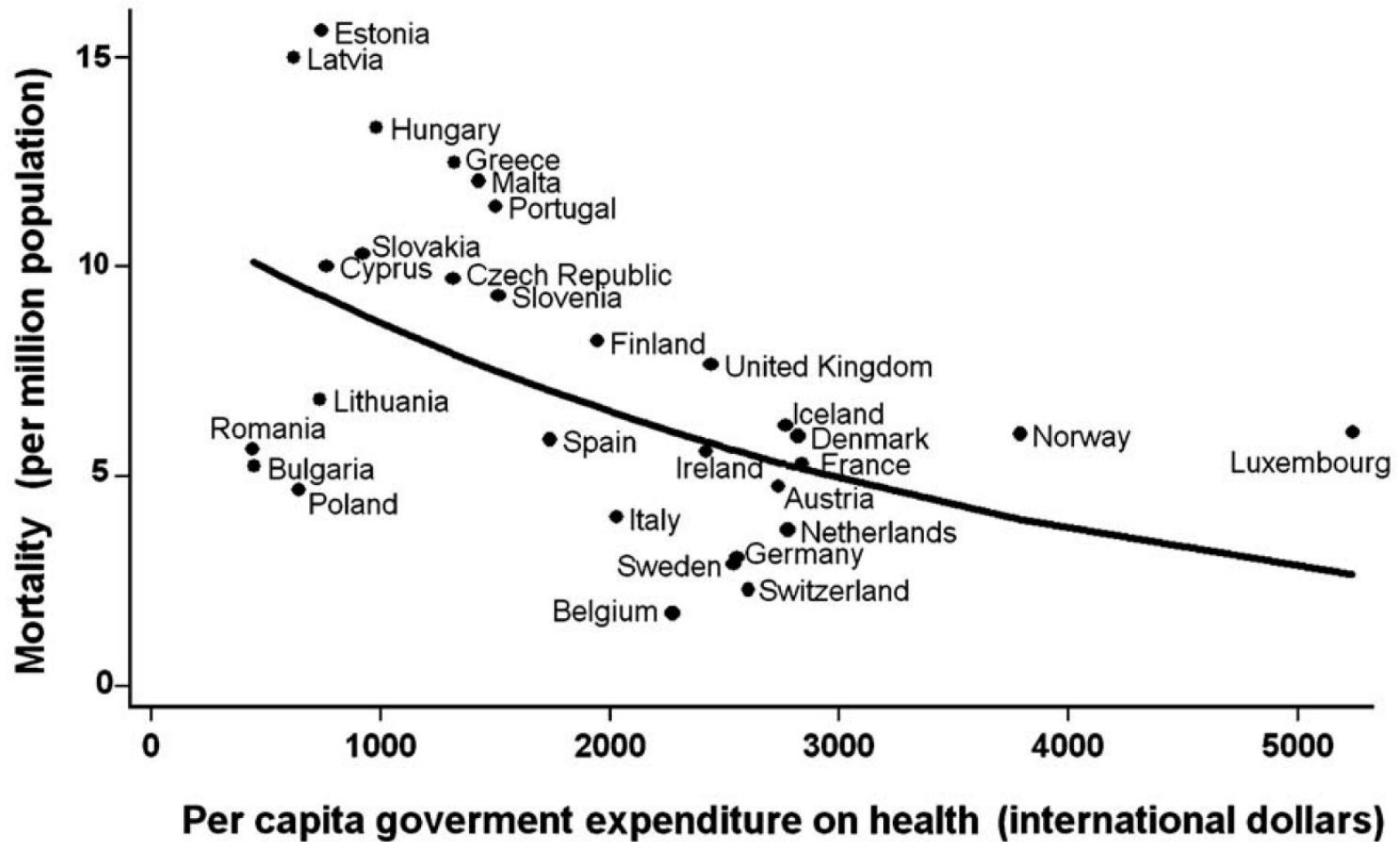
Υποκείμενα νοσήματα / 2010-11

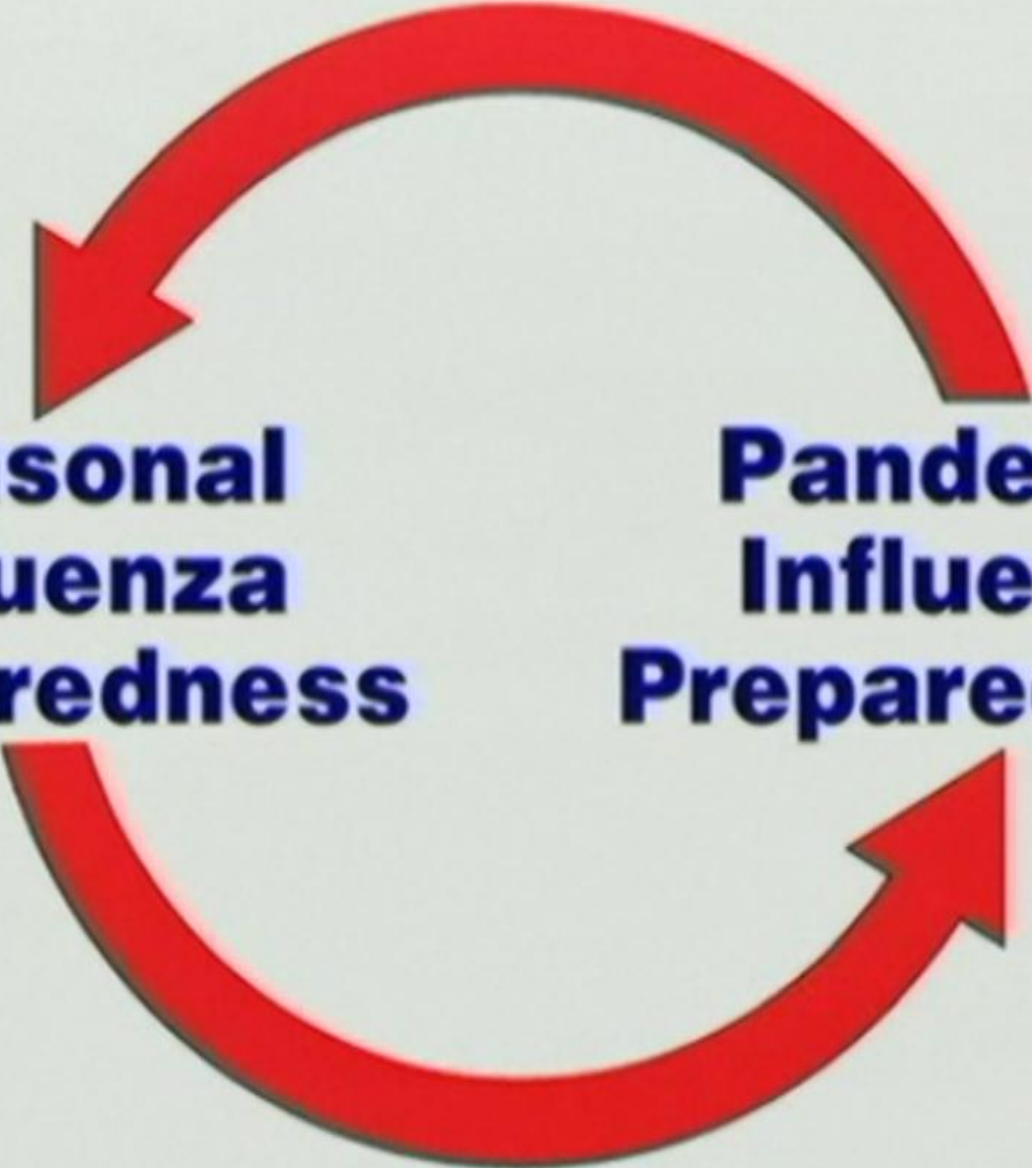




Estimated Pandemic vaccine coverage in entire populations 2009-10 (n=21)





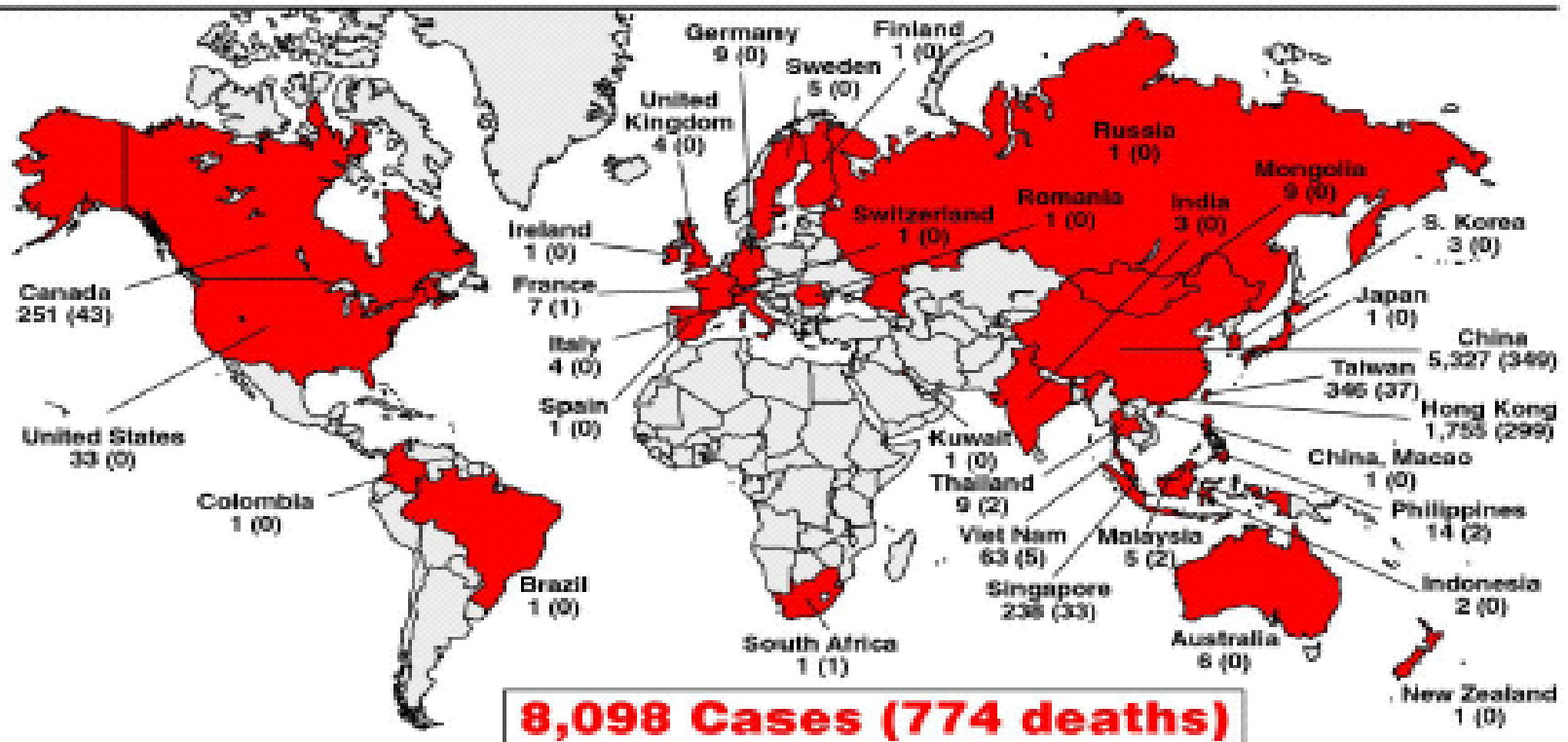


**Seasonal
Influenza
Preparedness**

**Pandemic
Influenza
Preparedness**

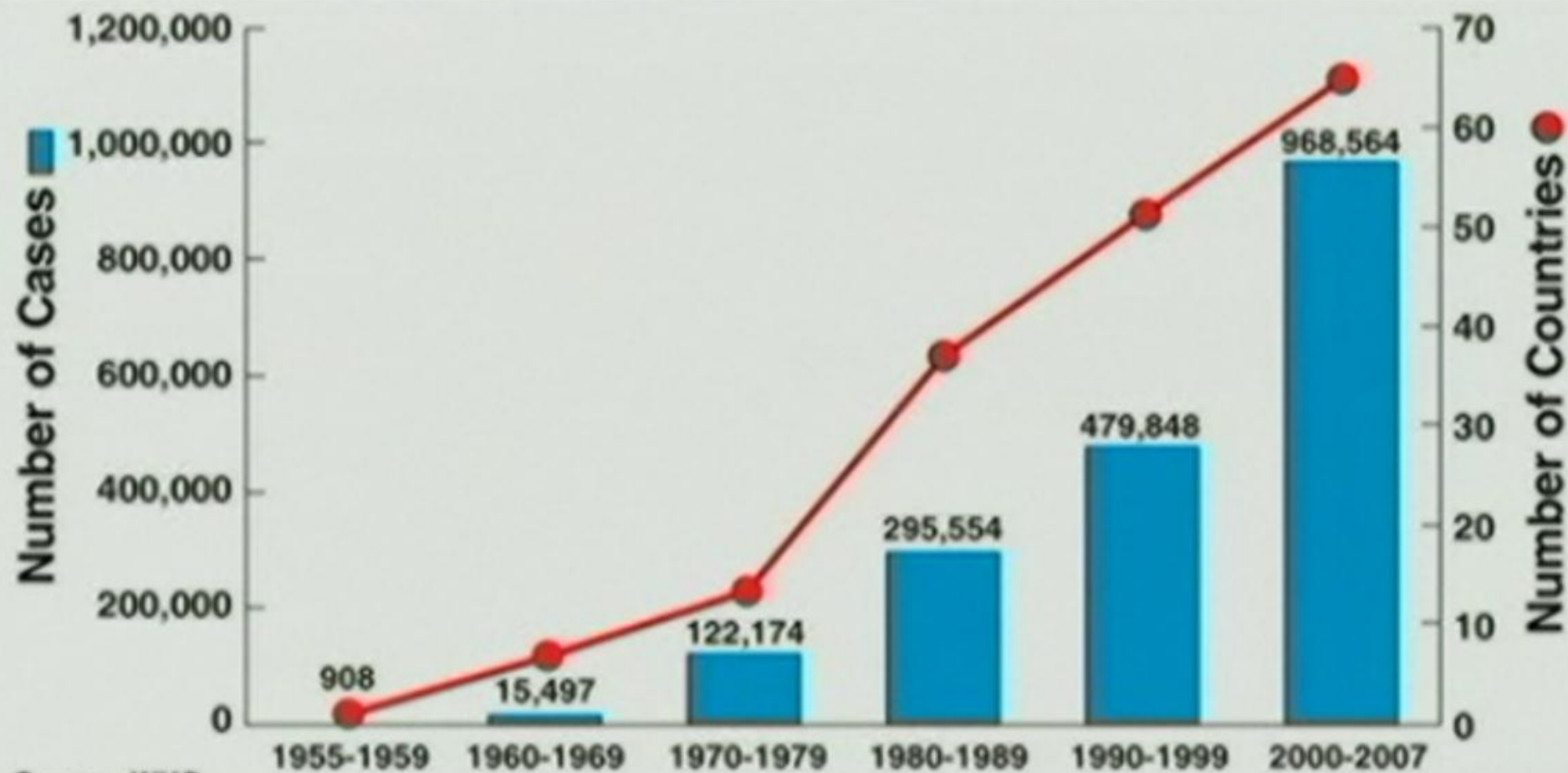
SARS

Cumulative Reported Cases of Severe Acute Respiratory Syndrome (SARS), Sept. 26, 2003



Source: WHO

Average Annual Number of Cases and Countries Reporting Dengue Fever and Dengue Hemorrhagic Fever

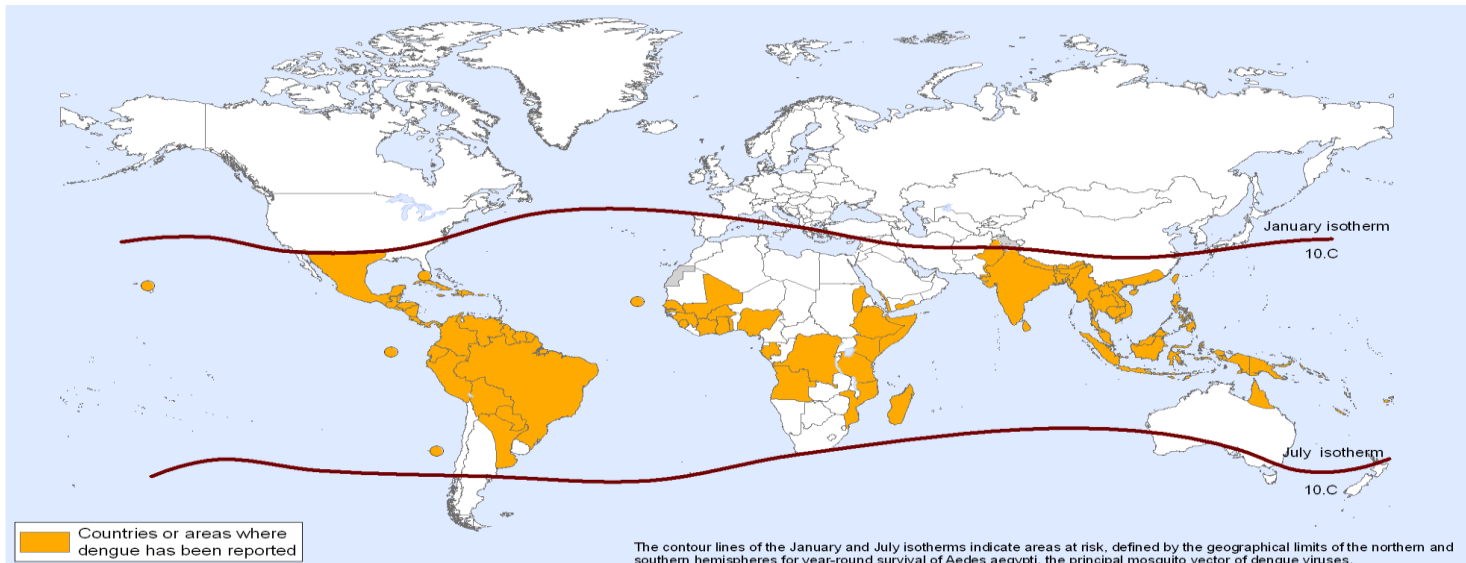


Source: WHO

Δάγγειος πυρετός - Επιδημιολογία

- 50-100 εκατομύρια περιπτώσεις ανά έτος
- 500.000 περιπτώσεις σοβαρής νόσου
- Κυρίως σε αστικές και ημιαστικές περιοχές
- Και σε ταξιδιώτες
- Η συχνότερη ιογενής νόσος που μεταδίδεται με κουνούπια

Dengue, countries or areas at risk, 2010



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: Public Health Information
and Geographic Information Systems (GIS)
World Health Organization



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Δάγγειος στην Ελλάδα

- Επιδημία 1927-28
- 650.000
- 1061 θάνατοι
- Ξεκίνησε από την περιοχή της Βάθης ή Βαθειάς και επεκτάθηκε προσβάλλοντας 80-90% του πληθυσμού Αθηνών και Πειραιά



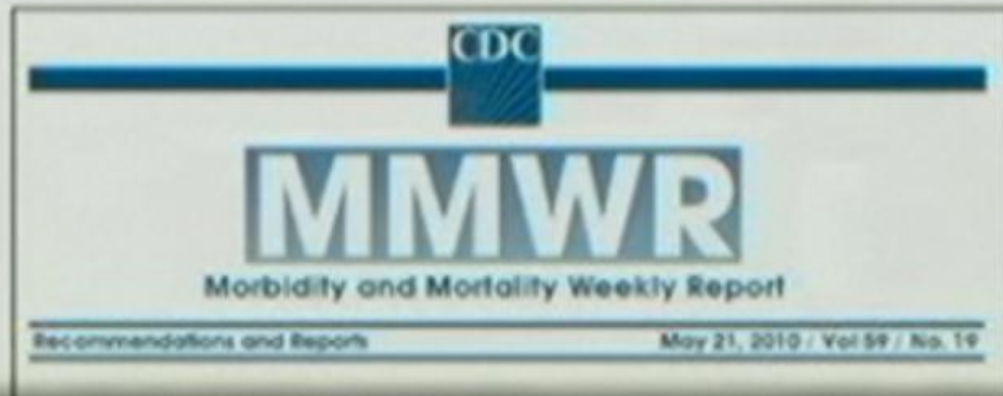
Δ. Πλαχούρας

Aedes albopictus στην Ελλάδα «Ασιατικό κουνούπι τίγρης»

- Εύκολη εξάπλωση σε νέους βιότοπους
- Μεταφορά μέσω μεταχειρισμένων ελαστικών
- ΝΑ Ασία → Βόρειος Αμερική (1985) → Αφρική → Αλβανία (1979) → Ιταλία (1990) → Γαλλία (1999), Βέλγιο, Ελβετία
- Ελλάδα 2004 Θεσπρωτία
- Αθήνα 2008 Ριζούπολη
- Διαβιβαστής
 - Δάγγειου
 - Chikungunya
 - West Nile
- Επιδημίες
 - Chikungunya Ραβέννα 2007
- Έλεγχος
 - Αντιμετώπιση θέσεων εκκόλαψης ωών



28 Cases of Locally Acquired Dengue in Key West, 2009-2010



Locally Acquired Dengue – Key West, Florida, 2009–2010

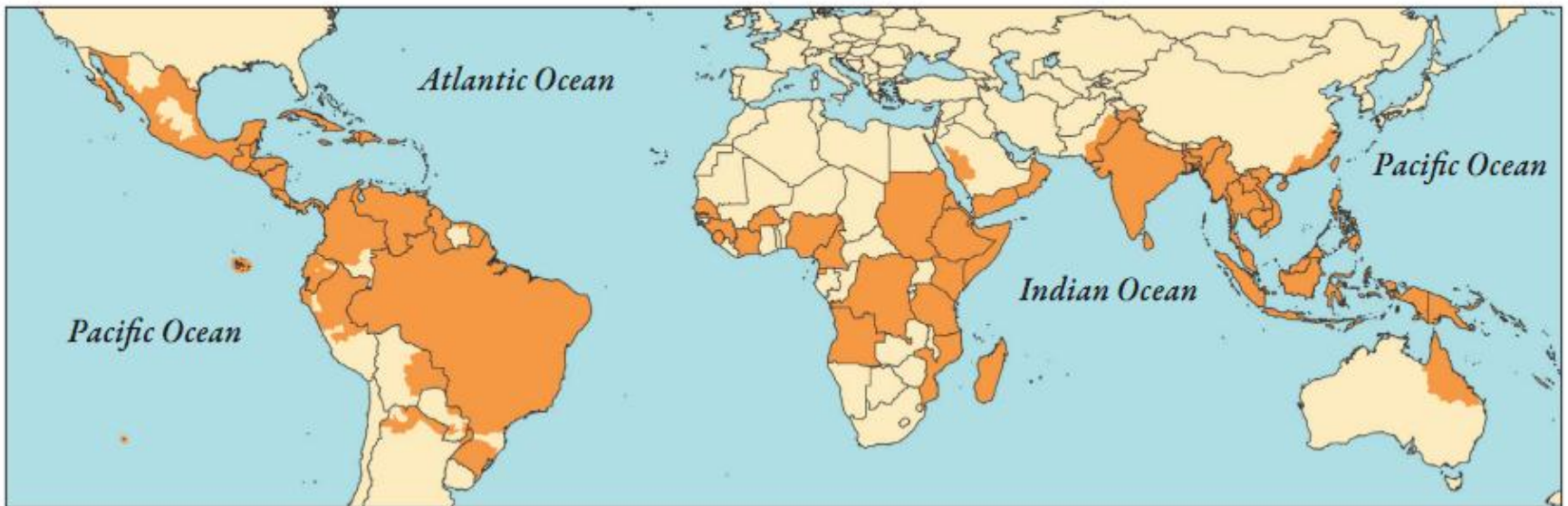
-- “Clinicians should include dengue in the differential diagnosis of acute febrile illnesses in patients who live in or have recently traveled to subtropical areas of the United States or to the tropics.”

<http://www.healthmap.org/dengue/index.php> 2011



WORLD DISTRIBUTION OF DENGUE, 2008

 Dengue Risk Areas  No Known Dengue Risk



LATEST: [Mitt Romney launches bid to be Republican US presidential candidate in 2012](#)

Outbreak is new form of E. coli



The E. coli outbreak in Germany is a new form of the bacterium, researchers and public health experts believe.

[Q&A: E. coli outbreak](#)

[Germany goes off salad](#)

[▶ 'E. coli cases may not have peaked'](#)

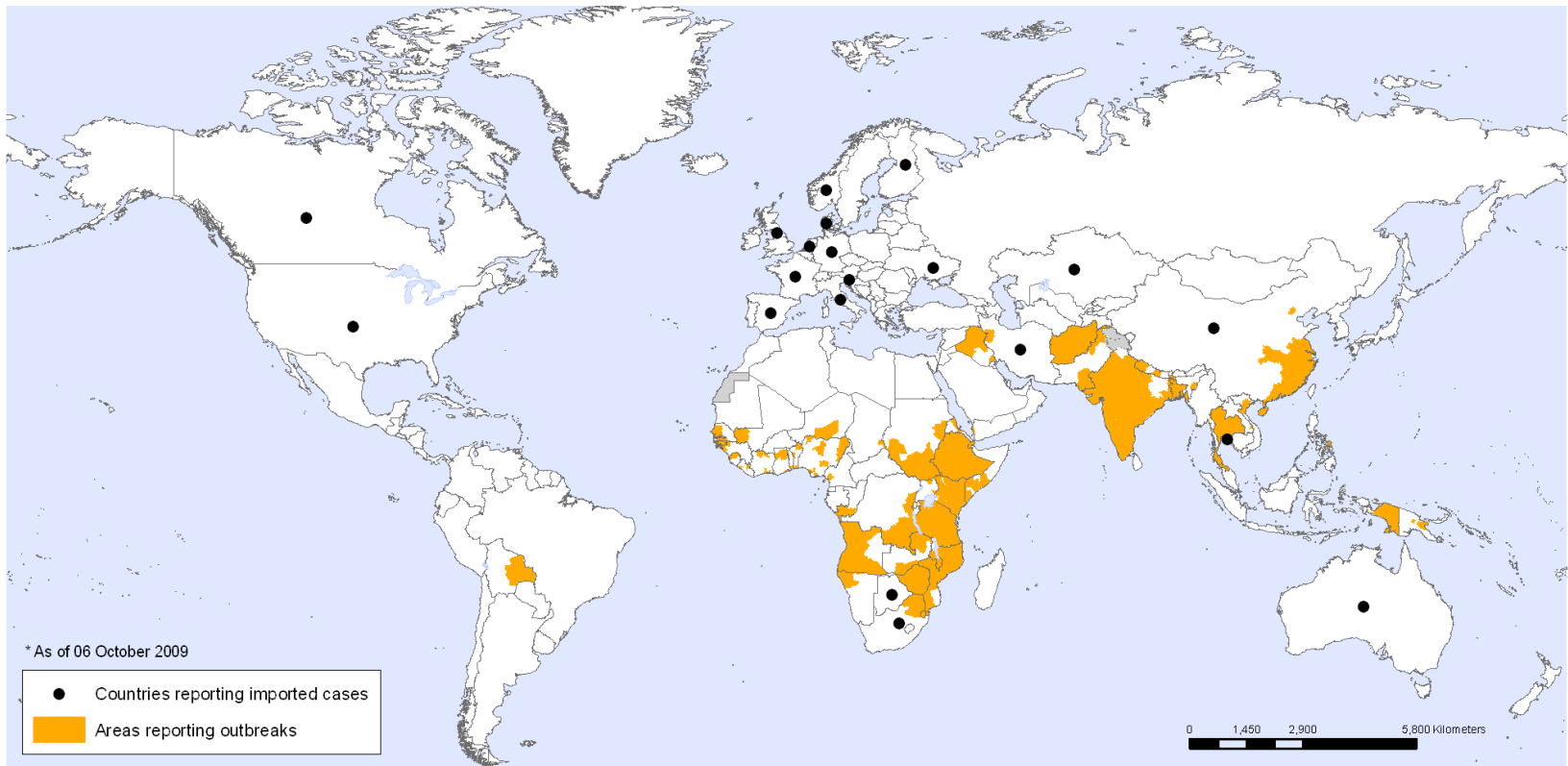
[E. coli: European comments](#) **NEW**

[E. coli: Russia bans EU imports](#)

[Mystery deepens over lethal E. coli strain](#)

Χολέρα

Cholera, areas reporting outbreaks, 2007–2009*



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

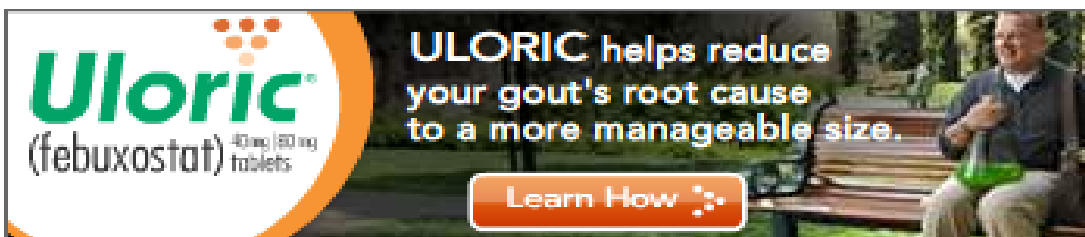
Data Source: World Health Organization
Map Production: Public Health Information
and Geographic Information Systems (GIS)
World Health Organization



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ΧΟΛΕΡΑ-ΑΪΤΗ Oct 20--Nov 13, 2010





Uloric[™]
(febuxostat) 40mg/50mg tablets

ULORIC helps reduce your gout's root cause to a more manageable size.

[Learn How](#)

Massachusetts man is diagnosed with cholera

By Stephen Smith

Globe Staff / January 28, 2011

[E-mail](#) | [Print](#) | [Reprints](#) | [Comments \(12\)](#)

Text size [-](#) [+](#)

A 30-year-old Massachusetts man who traveled to the Dominican Republic for a wedding has been diagnosed with cholera after returning to Boston, state disease trackers confirmed last night. The man is recovering, and doctors said there is no evidence he spread the intestinal infection to anyone in the state.

The patient, who was not identified because of confidentiality laws, went to the emergency room at Massachusetts General Hospital on Tuesday evening, although his main symptom — frequent bowel movements — had already begun to abate.

[Home](#) > [Health](#) > [Health](#)

Whooping Cough Still Epidemic in California

State Has Seen More Than 5,650 Confirmed, Probable, and Suspected cases

By **TODD NEALE**, [MedPage Today](#) Staff Writer

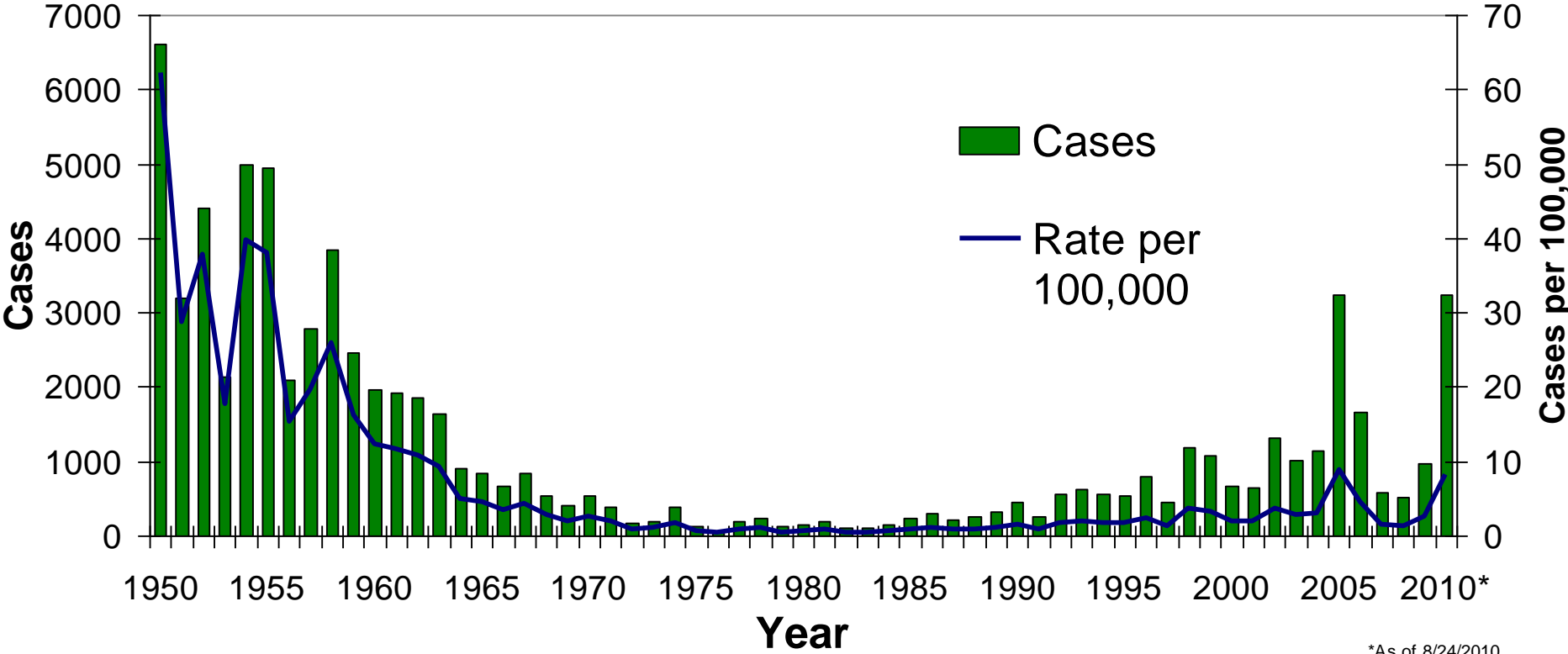
Oct. 17, 2010

The pertussis epidemic continues in California, which has seen 5,658 confirmed, probable, and suspected cases as of this week.

That is the most cases seen in the state since 1950, when there were 6,613, according to the California Department of Public Health (CDPH).

The rate of illness -- 14.5 per 100,000 population -- is the highest since 1959 (16.1 per 100,000).

Pertussis cases reported in California, 1950-2010



*As of 8/24/2010

Όλες οι ηλικίες ευάλωτες!

- Έφηβοι – ηλικιωμένοι:
 - Ηπιότερη νόσος
 - Μη αναγνωρίσιμη
 - Από το 2005: Tdap booster εμβόλιο διαθέσιμο
 - Χαμηλό Uptake: 53% εφήβους, ~6% ενήλικες

¹ NIS CA, 2009: www.cdc.gov/mmwr/preview/mmwrhtml/mm5932a3.htm

² cdc.confex.com/cdc/nic2010/webprogram/Paper22766.html

First-Hand Video Stories Online

www.ShotByShot.org



Ιλαρά

Map of priority countries (47)

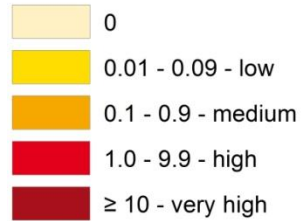


Source WHO/IVB database, 2006

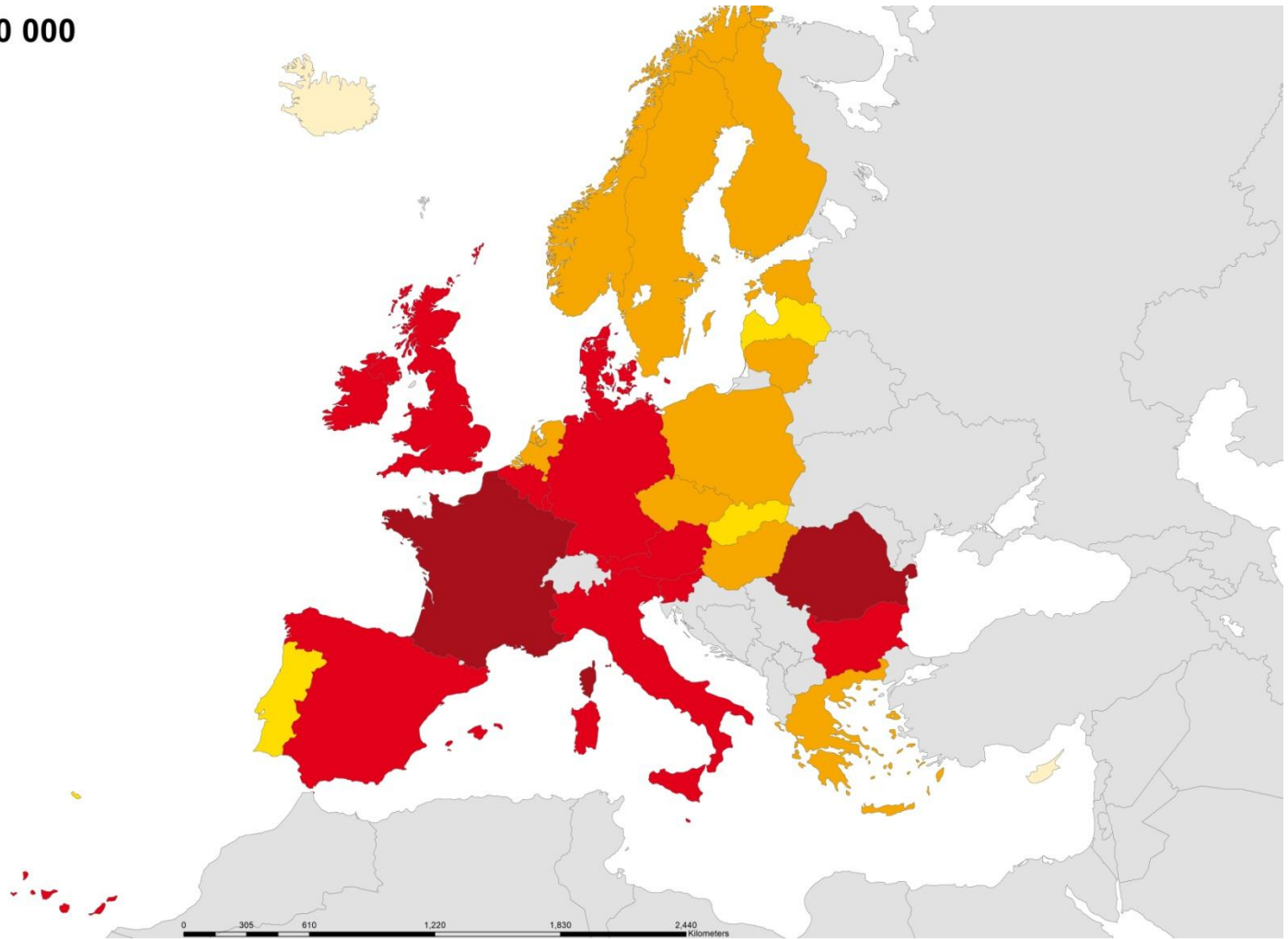
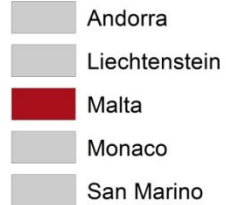
The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.
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Ιλαρά

Notification rate per 100 000



Non visible countries



«Ηθεληματικά αναδυόμενα» Deliberately-emerging

- Σχετιζόμενα με ηθελημένη απελευθέρωση βιολογικών ουσιών
 - Βιοτρομοκρατία



Σχέδιο ετοιμότητας για Οξέα Συμβάντα Δημόσιας Υγείας Οδηγίες ΚΕΕΛ ανά συγκεκριμένη νόσο ή παθογόνο

- Ευλογιά
- Άνθρακας
- Τοξίνη αλλαντιάσεως
- Πανώλη
- Τουλαραιμία
- Ιογ. Αιμοραγ. Πυρετοί

Αιμ. Πυρετοί-Marburg 2005

Marburg outbreak 2012 – Uganda

4 Νοεμβρίου 2012

14 περιστατικά – 7 θάνατοι

Kabale district

Ebola outbreak 2012 – Uganda

28 Ιουλίου 2012 – τέλος 04 Οκτωβρίου

24 περιστατικά – 17 θάνατοι

Kibaale district δίπλα στην Kabale

Ebola outbreak 2012 – DR Congo

27 Οκτωβρίου 2012

35 περιστατικά-12 Θάνατοι / (+42 ύποπτα / 24 θ)

Αιμορραγικό εξάνθημα από Crimean-Congo Hemorrhagic Fever



FIGURE

Map of Greece showing the area where a case of Crimean-Congo haemorrhagic fever was reported in June 2008



Papa A et al. Euro Surveill. 2008 Aug 14;13(33)

Antibiotic-Resistant Bugs in the 21st Century — A Clinical Super-Challenge

Cesar A. Arias, M.D., Ph.D., and Barbara E. Murray, M.D.

PERSPECTIVE

N ENGL J MED 360;5 NEJM.ORG JANUARY 29, 2009



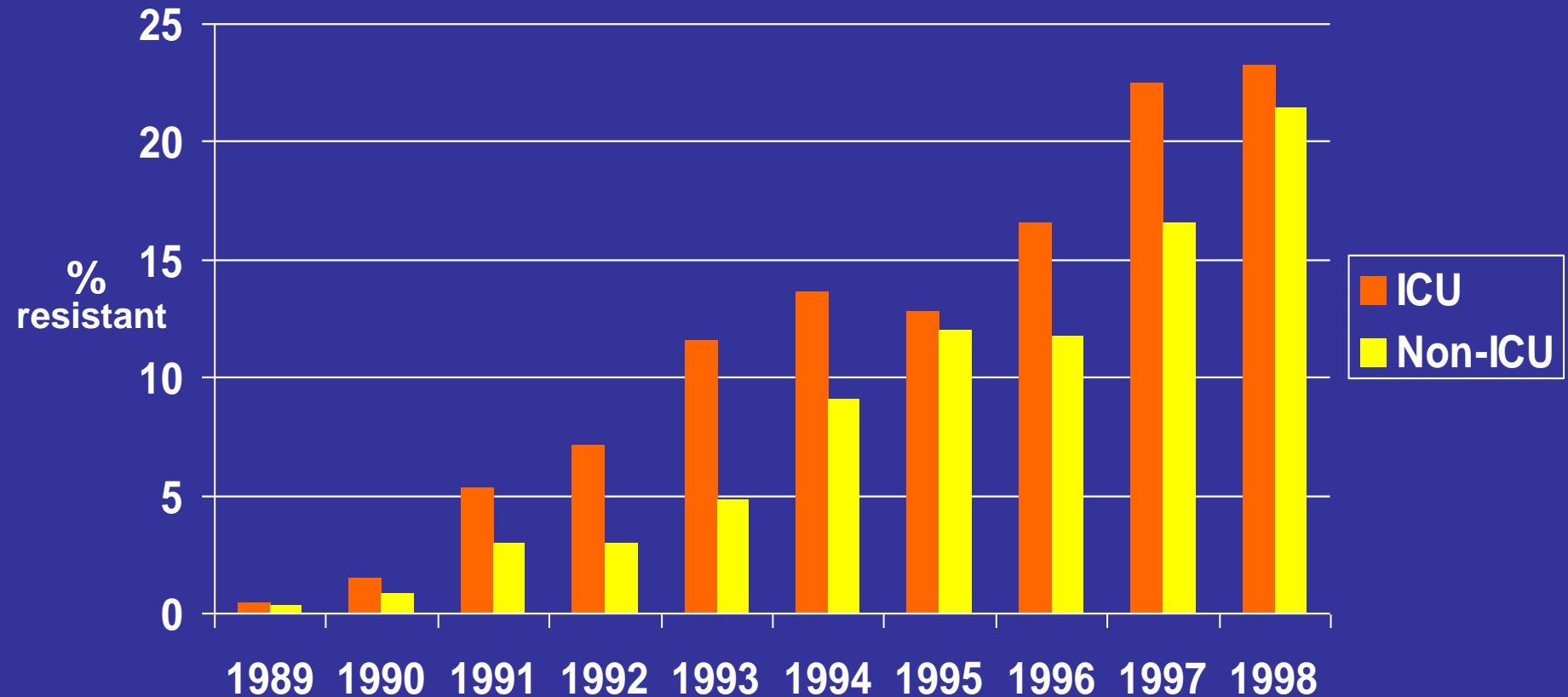
4 of 8

Scanning Electron Micrograph of
Klebsiella pneumoniae.

Some *K. pneumoniae*, a common cause of nosocomial infections involving the urinary and pulmonary systems, have acquired genes that encode for enzymes that destroy the cephalosporins and carbapenems.

Courtesy of CDC / Janice Haney Carr.

Emerging Vancomycin-resistant Enterococcal Infections in NNIS Hospitals



Αναδυόμενα λοιμώδη νοσήματα

- Συνεχής πρόκληση για την δημόσια υγεία
- Για να προληφθούν απαιτείται
 - Επιδημιολογική επιτήρηση και παρέμβαση
 - Εφαρμοσμένη έρευνα
 - Υποδομή και εκπαίδευση
 - Πρόληψη και έλεγχος λοιμώξεων

Επιστημονική βάση για έρευνα σε λοιμώδη νοσήματα-21^{ος} αιώνας

- Μοριακή επιδημιολογία
 - Παθογονικότητα μικροοργανισμών
 - Τρόποι μετάδοσης
- Γενετική επιδημιολογία
 - Παράγοντες ξενιστή
- Τεχνολογία πληροφορίας

Επιστημονική βάση για έρευνα σε λοιμώδη νοσήματα-21^{ος} αιώνας

- Genomics – Proteomics
 - Ανοσία, παθογένεια, διαγνωστική, πρόληψη, αντοχή, νέοι στόχοι φαρμάκων
- Συνθετική – συνδυαστική χημεία
 - Σχεδιασμός φαρμάκων
 - High throughput screening
- ΗΥ – Μαθηματικά μοντέλλα
 - Σχεδιασμός φαρμάκων
 - Προβλέψεις για μετάδοση

Αναδυόμενα λοιμώδη νοσήματα

- Απαιτείται συνεχής ετοιμότητα για αναγνώριση
- Συνεργασία με εργαστήρια
- Συμμετοχή σε διεθνή δίκτυα
- Συνεργασία με διεθνείς οργανισμούς
- Επικοινωνία με αρμόδιους φορείς

Περισσότερες πληροφορίες

- Κέντρο Ελέγχου και Πρόληψης Νοσημάτων
www.keelpno.gr
- **European Centre for Disease Prevention and Control**
www.ecdc.europa.eu
- Centers for Disease Control and Prevention-USA
www.cdc.gov/ncidod/dvbid/westnile

Ευχαριστώ !!!

