



HCDCP in the management of health threats

Sotirios Tsiodras, MD, MSc, PhD, FIDSA

National & Kapodistrian University of Athens Medical School, HCDCP

Athens 6 June 2018

Under the auspices of



AIM

- **To provide a short review of...**
- **the Greek experience with health threats**
 - **during the recent years, Representative examples**

Under the auspices of



The role of HCDCP- PH threats

functions supported

- Rapid risk & need assessment
- PH surveillance & response
- Clinical & laboratory support
- Recovery ?

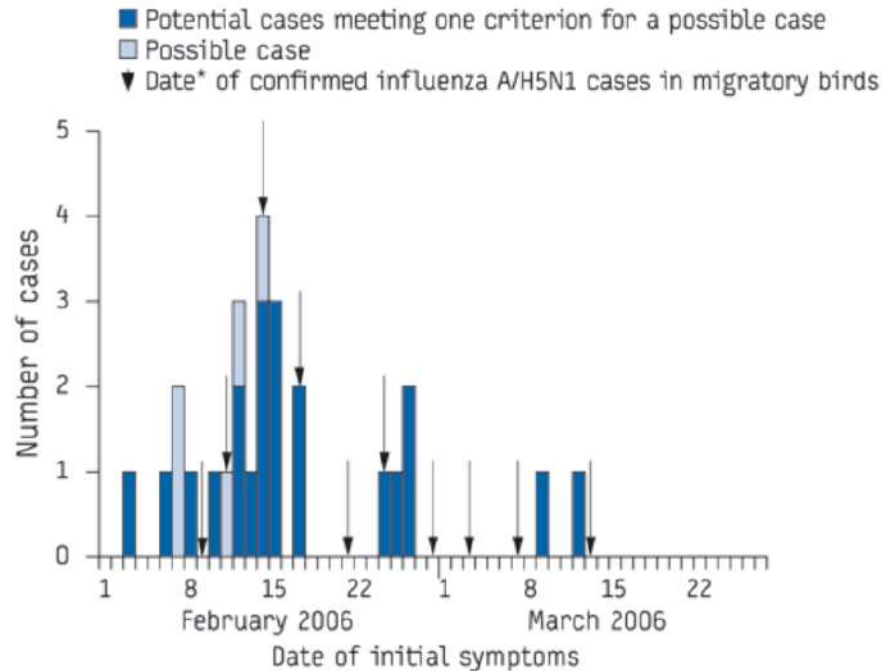
Under the auspices of



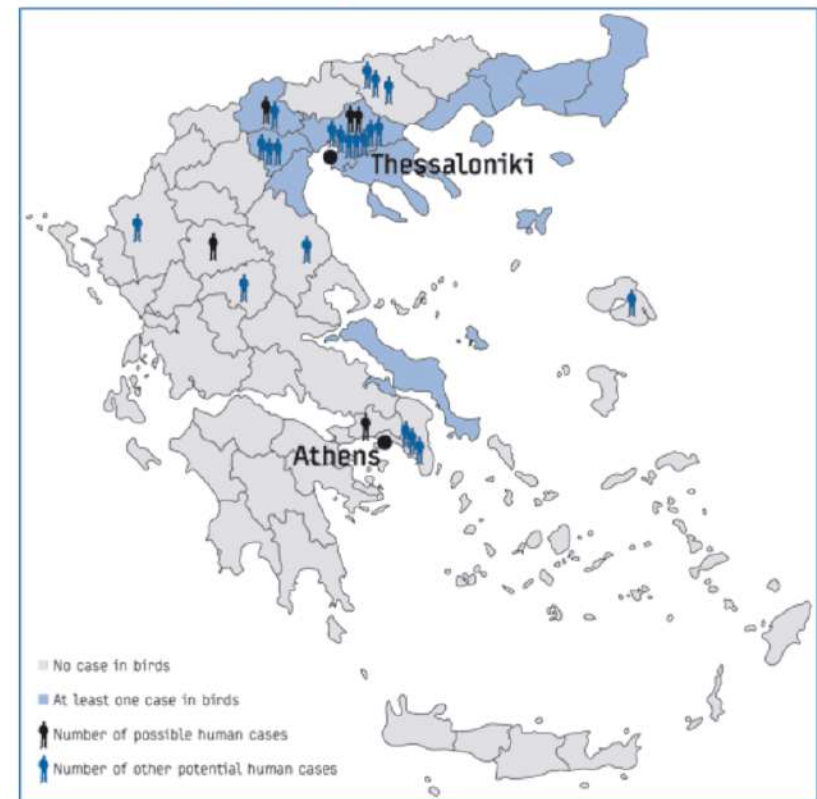
AH5N1 & Pseudo-outbreaks

↑ awareness & case definition issues

Potential human A/H5N1 cases over time and dates of A/H5N1 in birds, Greece, February-March 2006

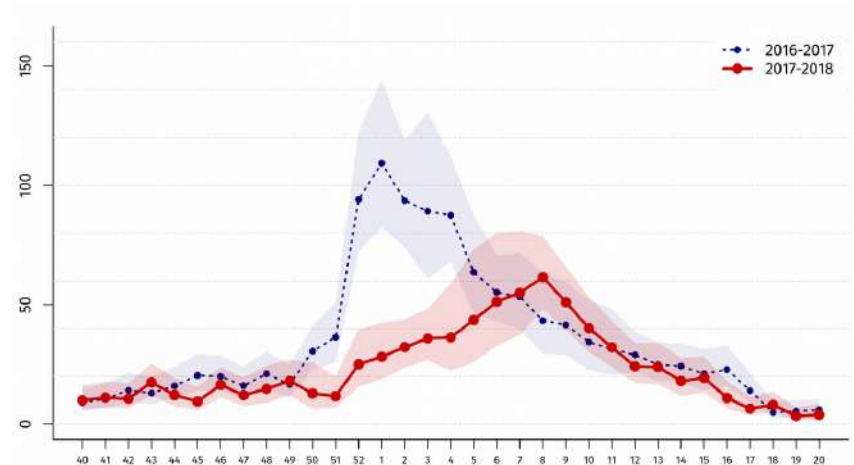
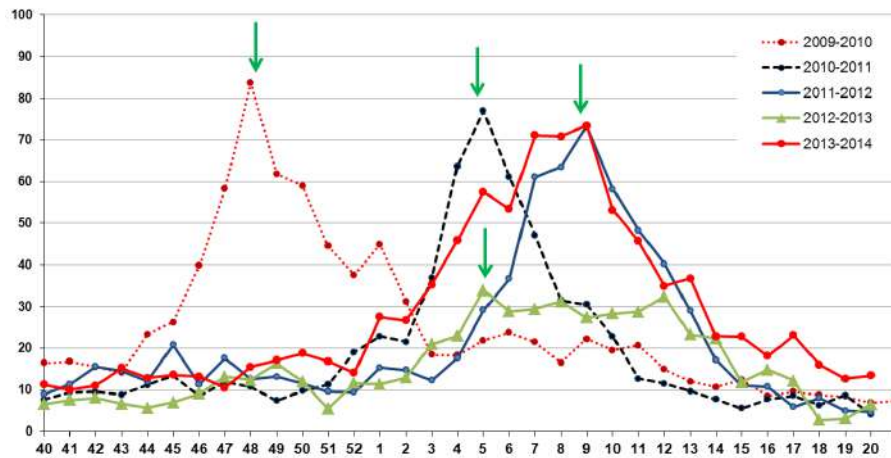


Avian influenza A/H5N1 cases in birds and potential human cases in Greece, February-March 2006



Human Influenza, 2009-18

observed cases vs. estimated



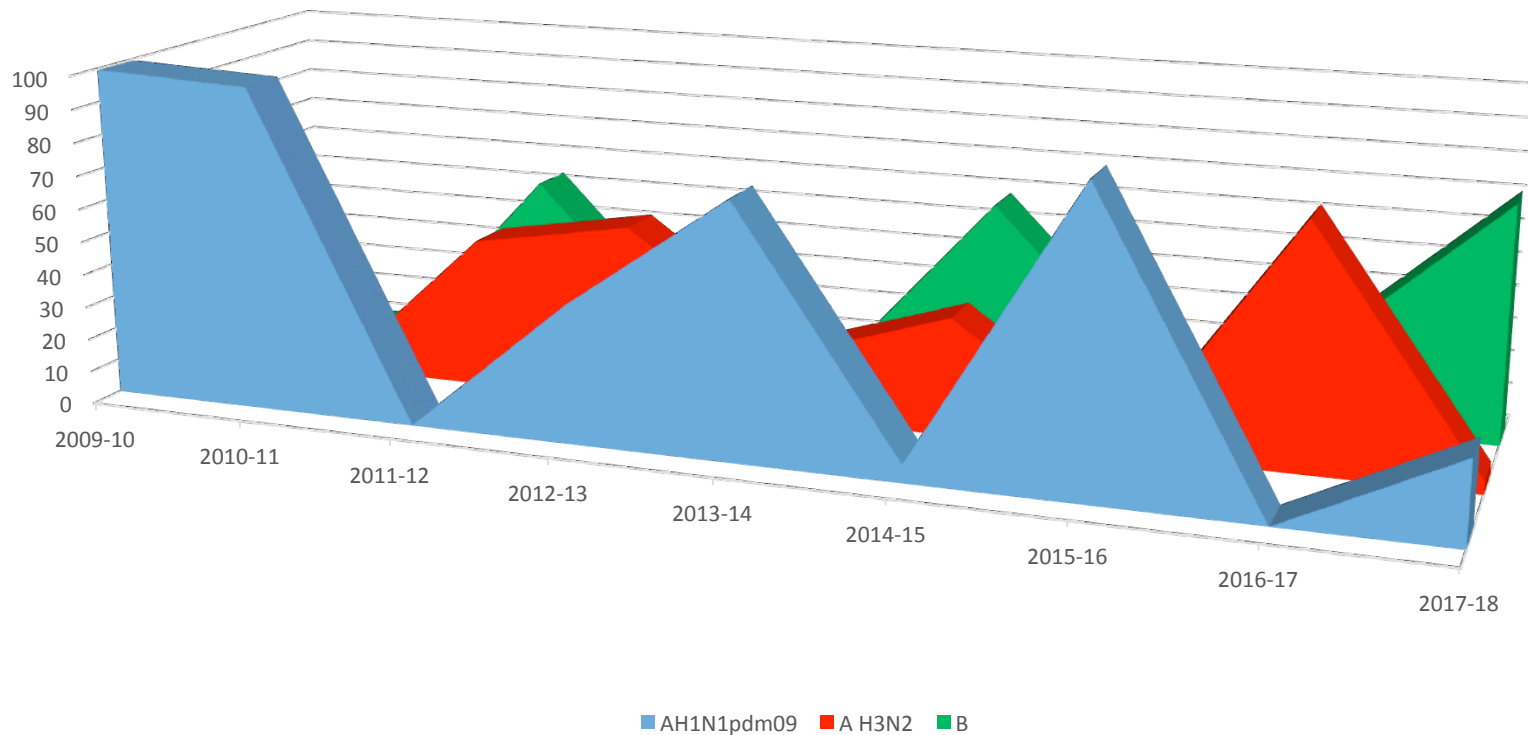
Under the auspices of



Human Influenza, Greece 2009-18

difference in predominant type

Influenza predominant types per season

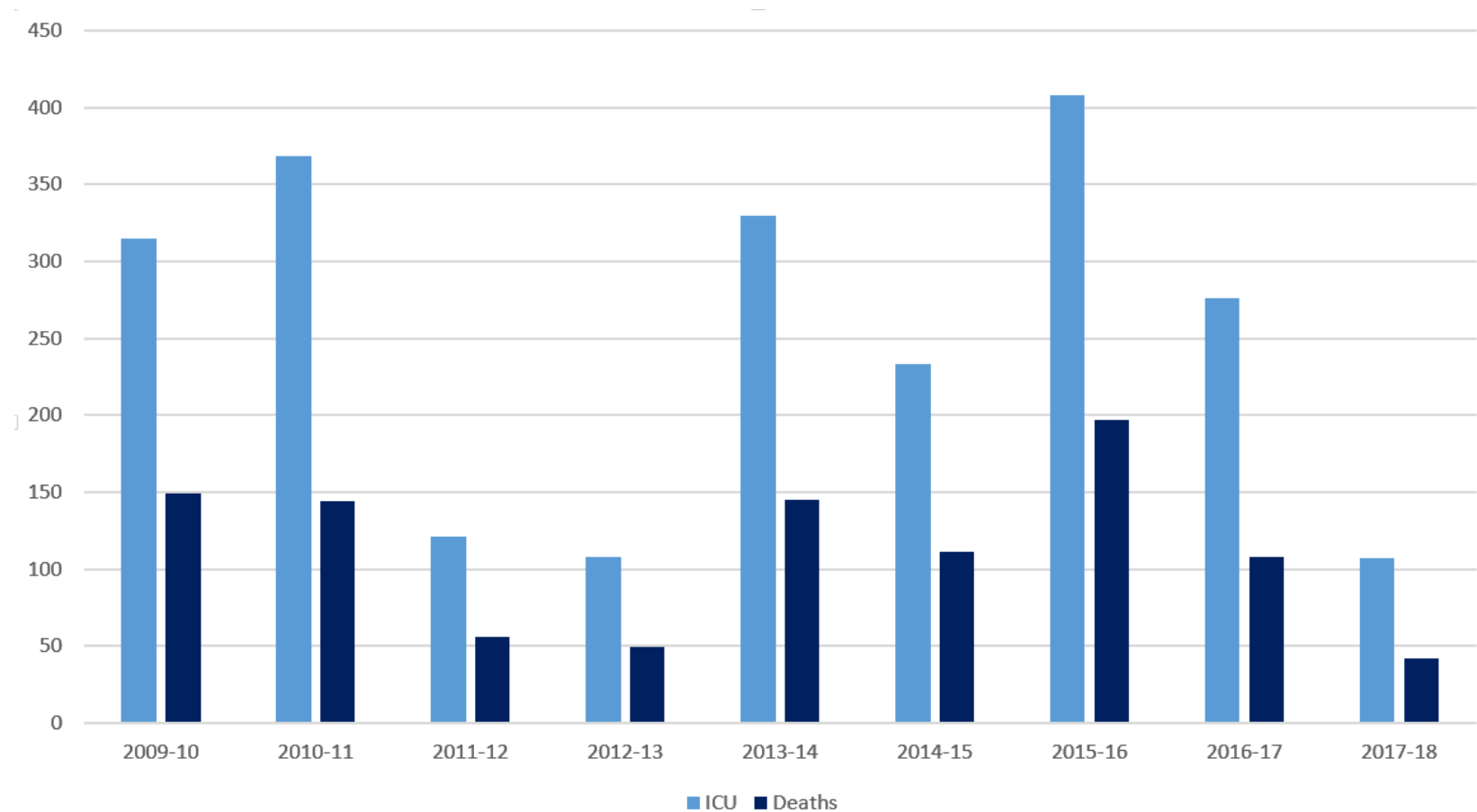


Under the auspices of



Human Influenza, Greece 2009-18

significant burden... maybe even more!!!



Under the auspices of



MINISTRY OF HEALTH



Conflicting-mixed messages & mitigation measures



Rapid communications

SCHOOL CLOSURE IS CURRENTLY THE MAIN STRATEGY TO MITIGATE INFLUENZA A(H1N1)v: A MODELING STUDY

V Sypsa¹, A Hatzakis (ahatzak@med.uoa.gr)¹

1. Department of Hygiene, Epidemiology and Medical Statistics, Athens University Medical School, Athens, Greece



Deathlier wave of infection is coming from Asia next winter - according to WHO

Conflicting messages for specific measures

Thermal scanning !!!

Well received but limited scientific evidence

Γρίπη:Θερμικές κάμερες και μέτρα πρόληψης στα αεροδρόμια της χώρας

0 ΣΧΟΛΙΑ

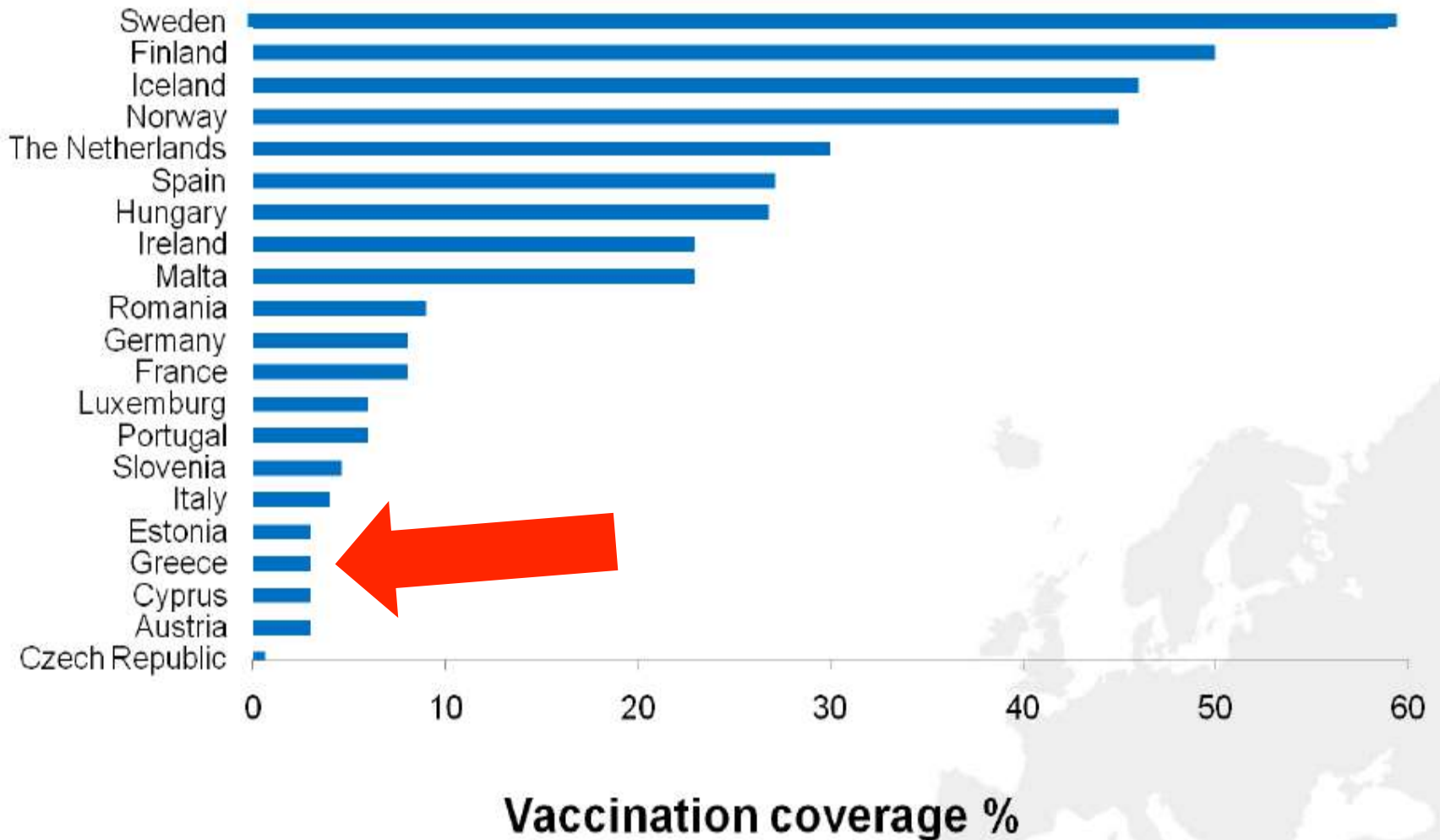
Κανένα κρούσμα γρίπης των χοίρων δεν έχει καταγραφεί στη χώρα μας. Ωστόσο, σε αεροδρόμια βρίσκονται οι αρμόδιες αρχές για να λάβουν τα αναγκαία μέτρα προφύλαξης τόσο στα αεροδρόμια όσο και στα αεροδρόμιο

επιβάτες με θερμοκρασία άνω των 38 βαθμών. Παράλληλα, υπάρχουν φυλλάδια με οδηγίες προφύλαξης.

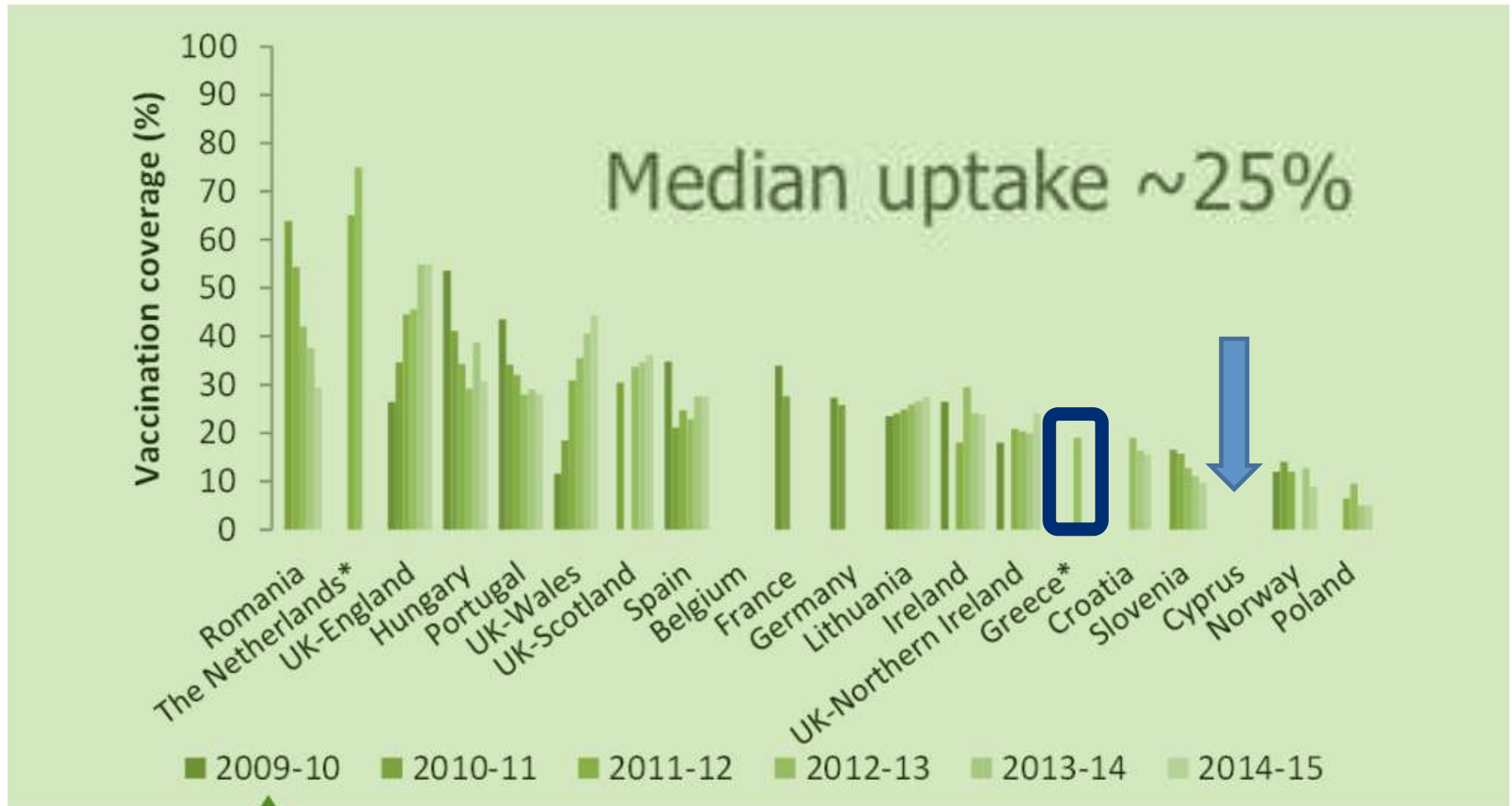




Estimated Pandemic vaccine coverage in entire populations 2009-10 (n=21)



Uptake in HCWs

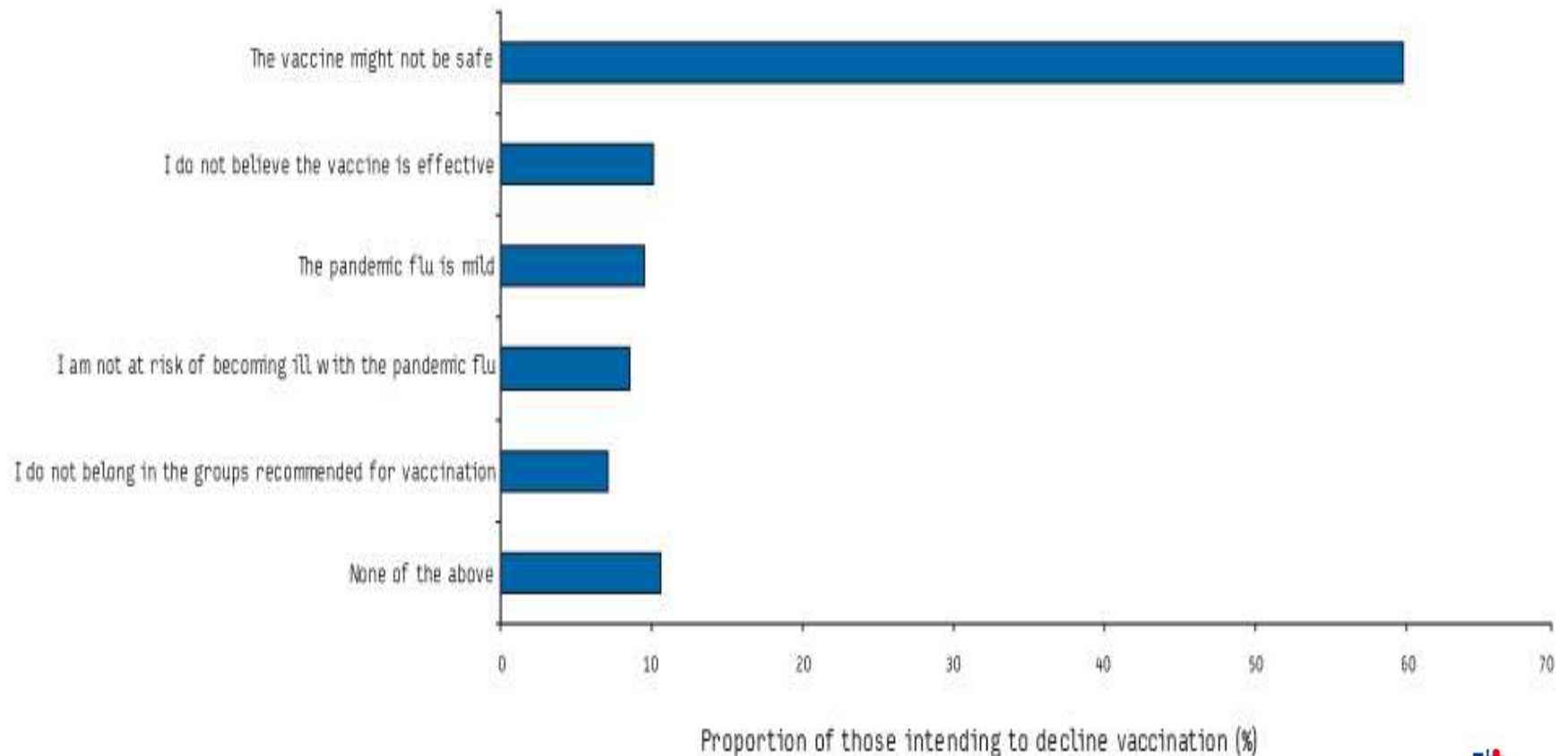


Source: VENICE III survey 2016

Reasons to decline

FIGURE 2

Reasons for intention to decline pandemic vaccination as reported by 631 participants in week 44/2009 (multiple answers were allowed), Greece



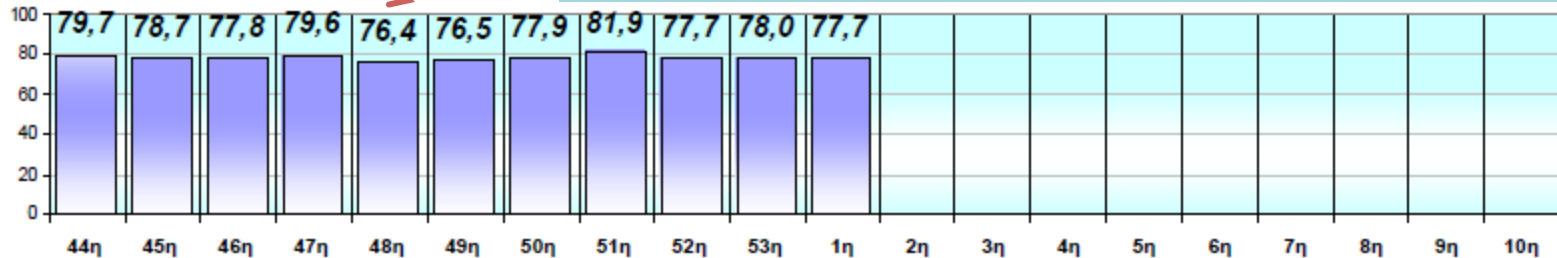
NSPH – HCDCP study 2009

on public trust & H1N1 related information

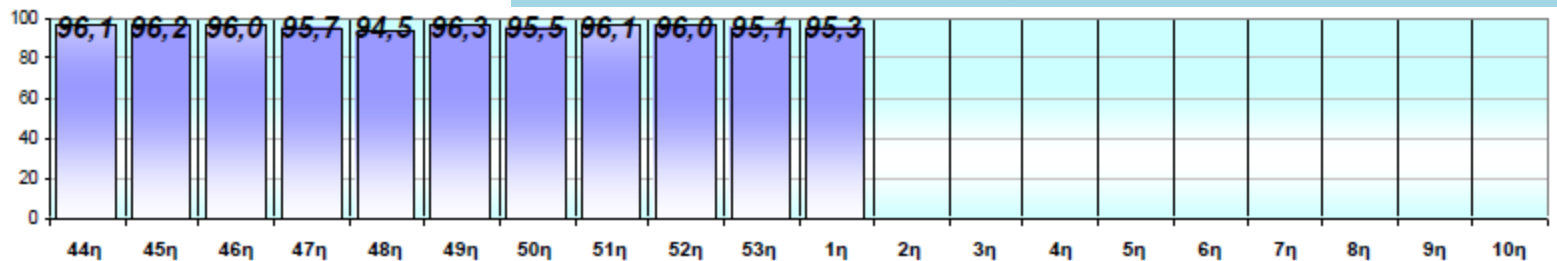
Pandemic peak



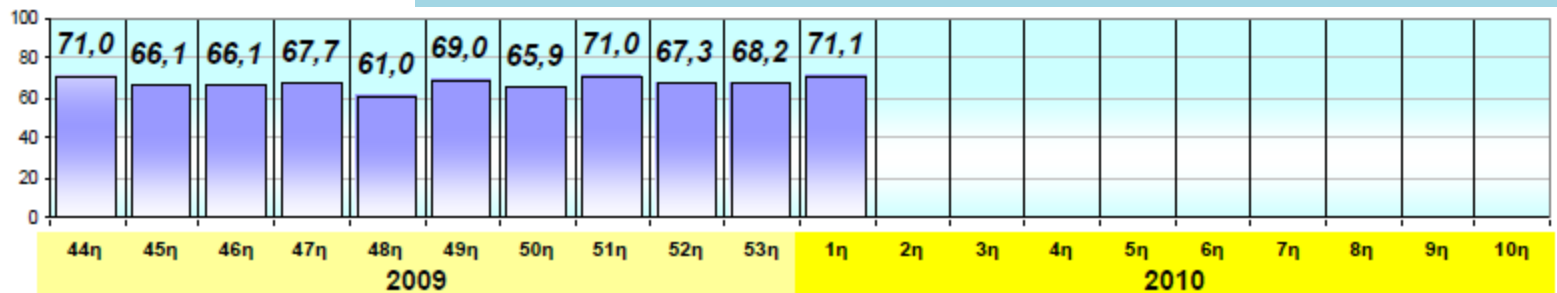
Health Insurance physician



Family Doctor



Internet



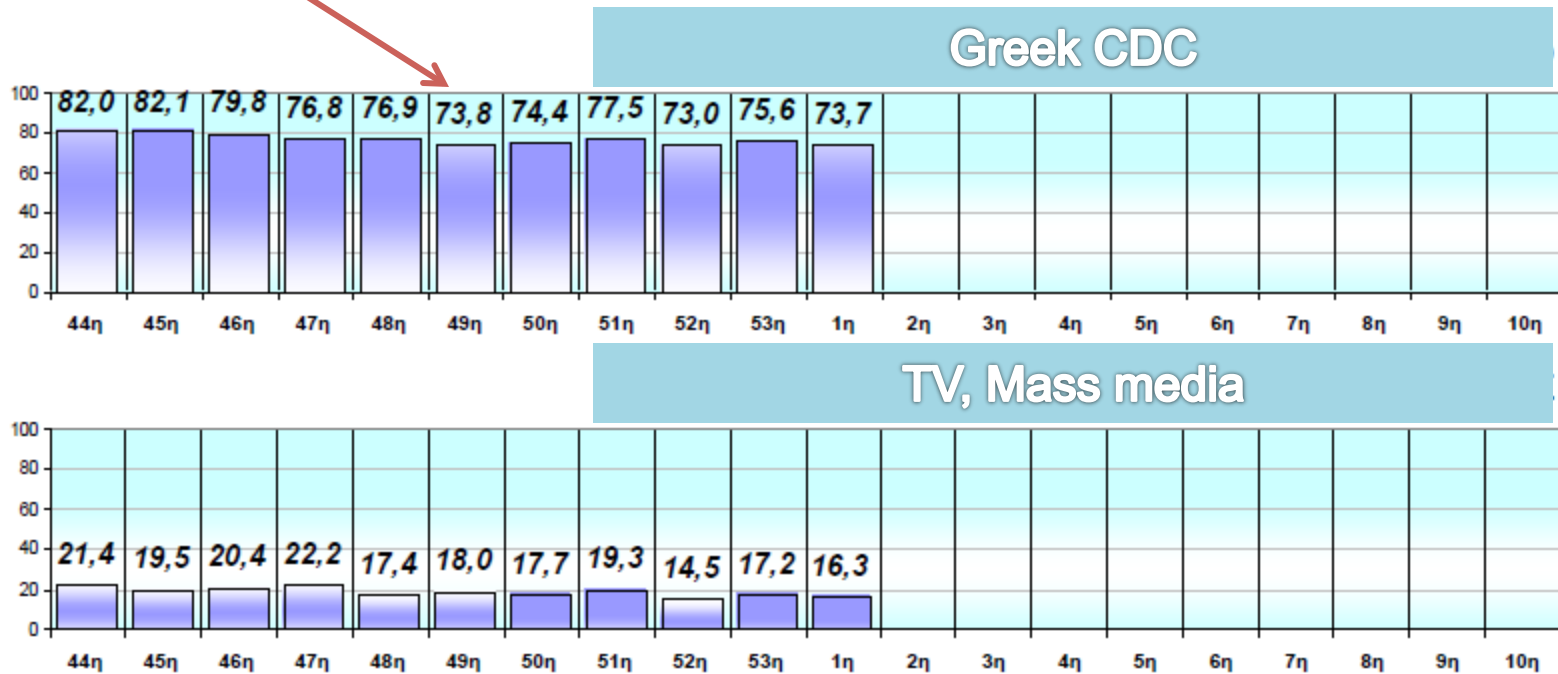
2009

2010

NSPH – HCDCP study 2009

on public trust & H1N1 related information

Pandemic peak



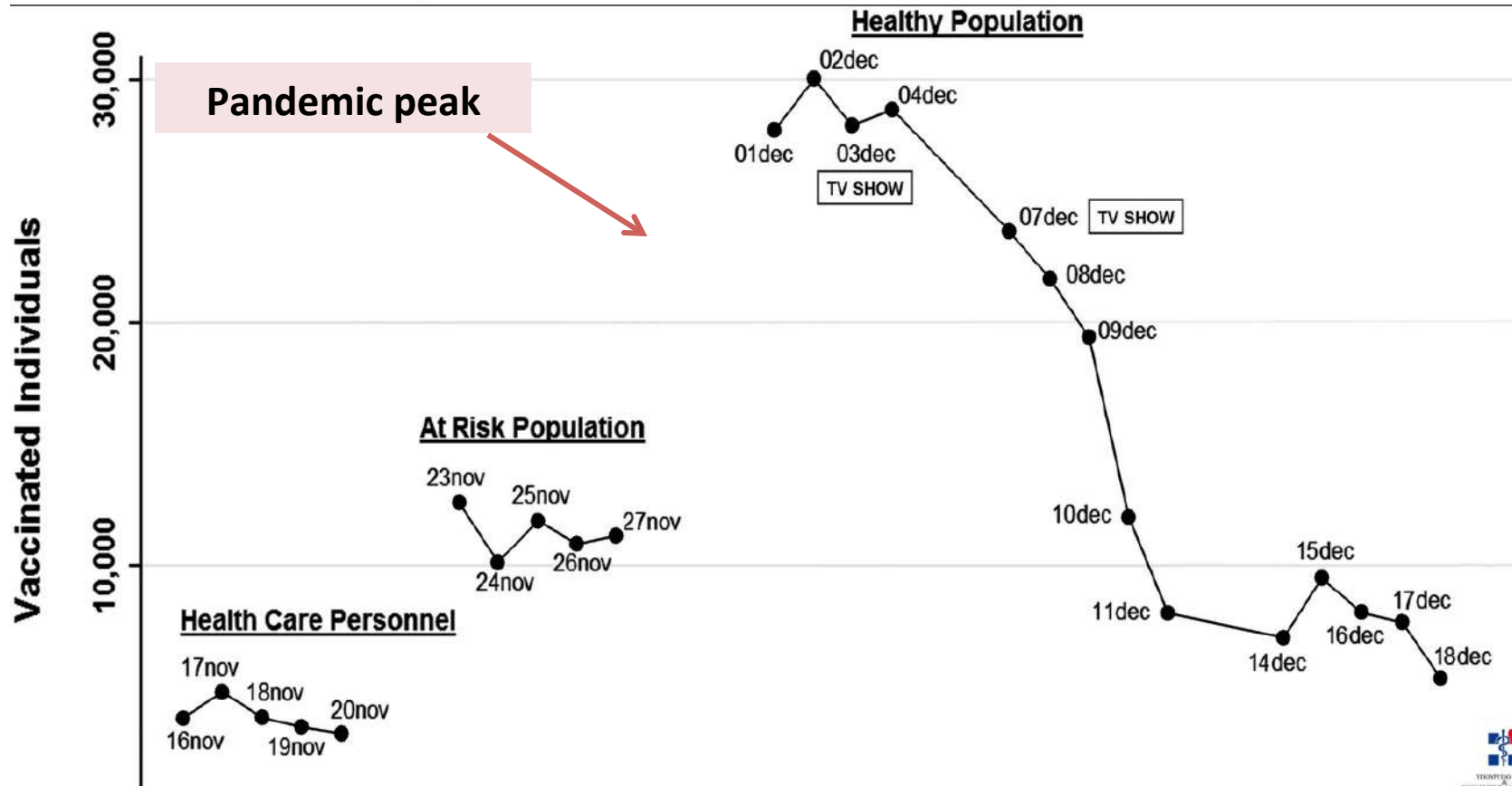
Letter to the Editor

The media: A public health partner or an unintentional enemy?

G. Nikolopoulos, S. Bonovas

Hellenic Centre for Diseases Control and Prevention, 15123 Athens, Greece

Available online 1 April 2010.



24 Feb 2010



Vaccine not well received despite scientific evidence

over 300 million people
... have been vaccinated
... against pandemic influenza

- ...
vaccine
- ...we have no
unusual safety ev

0.37 / 100,000

0.97 / 100,000

0.22 / 100,000

0.32 / 100,000

1.58 / 100,000

1.14 / 100,000



Vaccine effectiveness 2017-18

5 European studies, similar in Greece



Eurosurveillance Europe's journal on infectious disease surveillance and control

[Home](#) [Current](#) [Archives](#) [Print Editions](#) [Collections](#) [About Us](#) [Editorial Policy](#)

[Home](#) / [Eurosurveillance](#) / [Volume 23, Issue 9, 01/Mar/2018](#) / [Article](#)

Rapid communication

Interim 2017/18 influenza seasonal vaccine effectiveness: combined results from five European studies |

Marc Rondy^{1,2}, Esther Kissling^{1,2}, Hanne-Dorthe Emborg³, Alin Gherasim⁴, Richard Pebody⁵, Ramona Trebbien⁶, Francisco Pozo⁷, Amparo Larrauri⁴, Jim McMenamin⁸, Marta Valenciano¹, I-MOVE/I-MOVE+ group⁹

Overall VE

->

25-52%

Human Influenza, Greece 2009-18

main issues, challenges

- **Controversies about severity**
 - Risk communication issues
- **Low vaccine coverage** for high risk groups
 - HCW issue, ↑ campaign efforts, procurement & donation
- Revision of **pandemic plan, surge capacity** issues,
 - e.g. ↑ in ICU beds

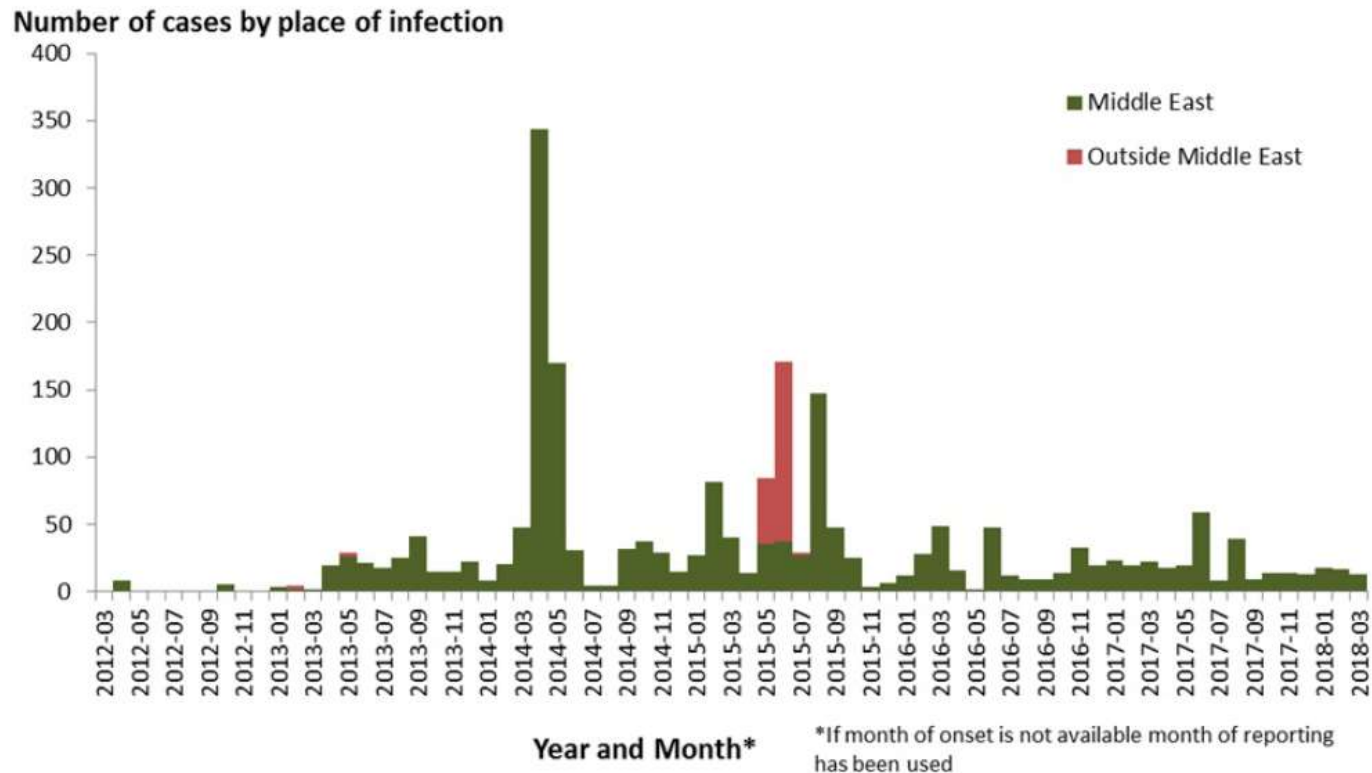
Under the auspices of



MERS-CoV, 2012- 04/2018

Distribution of confirmed cases of MERS-CoV by first available month and region, from March 2012 and as of 31 March 2018

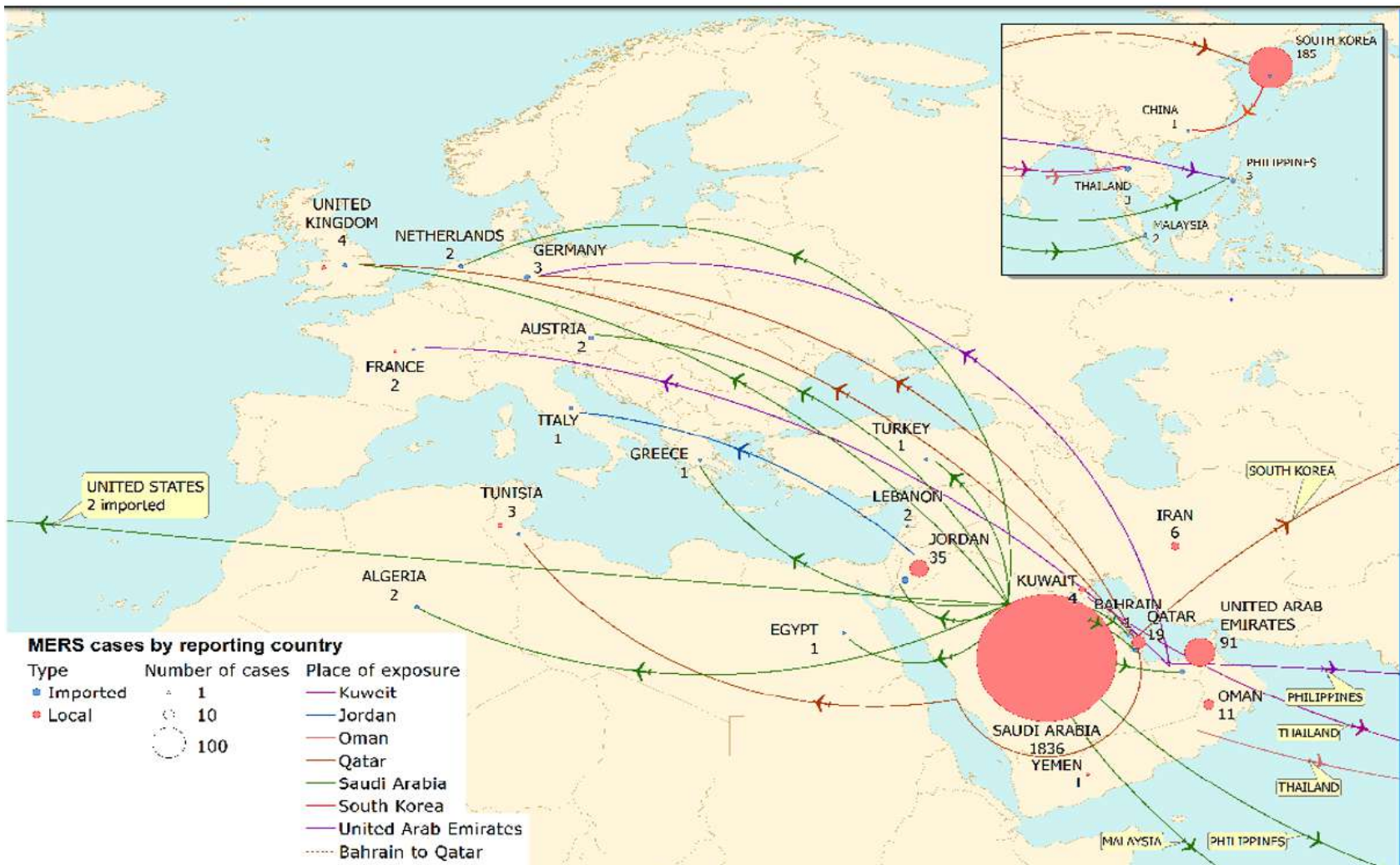
Source: ECDC



2 216 cases -> 829 deaths, CFR: 37.4%

MERS, S. Arabia = epicenter

export to EU/EEA, n=8 countries



MERS-CoV, Greece 2014

the case of the astute clinician

RAPID COMMUNICATIONS

A case of imported Middle East Respiratory Syndrome coronavirus infection and public health response, Greece, April 2014

S Tsiodras (sotirios.tsiodras@gmail.com)^{1,2}, A Baka¹, A Mentis³, D Iliopoulos¹, X Dedoukou¹, G Papamavrou¹, S Karadima¹, M Emmanouil³, A Kossyvakis³, N Spanakis⁴, A Pavli¹, H Malteizou¹, A Karageorgou⁵, G Spala¹, V Pitiriga⁴, E Kosmas⁶, S Tsiagklis⁶, S Gkatzias⁶, N G Koulouris⁷, A Koutsoukou⁸, P Bakakos⁷, E Markozanhs⁷, G Dionellis⁷, K Pontikis⁸, N Rovina⁸, M Kyriakopoulou⁸, P Efstathiou⁵, T Papadimitriou¹, J Kremastinou¹, A Tsakris⁴, G Saroglou^{1,6}

1. Hellenic Center for Disease Control and Prevention, Athens, Greece
2. University of Athens Medical School, Athens Greece
3. Hellenic Pasteur Institute, Athens, Greece
4. Microbiology Department, University of Athens Medical School, Athens, Greece
5. National Health Operations Center, Athens, Greece
6. Metropolitan Hospital Athens Greece
7. First Department of Respiratory Medicine, University of Athens Medical School, Athens, Greece
8. Intensive Care Medicine first Department of Respiratory Medicine, University of Athens Medical School, Athens Greece

Citation style for this article:

Tsiodras S, Baka A, Mentis A, Iliopoulos D, Dedoukou X, Papamavrou G, Karadima S, Emmanouil M, Kossyvakis A, Spanakis N, Pavli A, Malteizou H, Karageorgou A, Spala G, Pitiriga V, Kosmas E, Tsiagklis S, Gkatzias S, Koulouris NG, Koutsoukou A, Bakakos P, Markozanhs E, Dionellis G, Pontikis K, Rovina N, Kyriakopoulou M, Efstathiou P, Papadimitriou T, Kremastinou J, Tsakris A, Saroglou G. A case of imported Middle East Respiratory Syndrome coronavirus infection and public health response, Greece, April 2014. *Euro Surveill.* 2014;19(16):pii=20782. Available online: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=20782>

Article submitted on 22 April 2014 / published on 24 April 2014

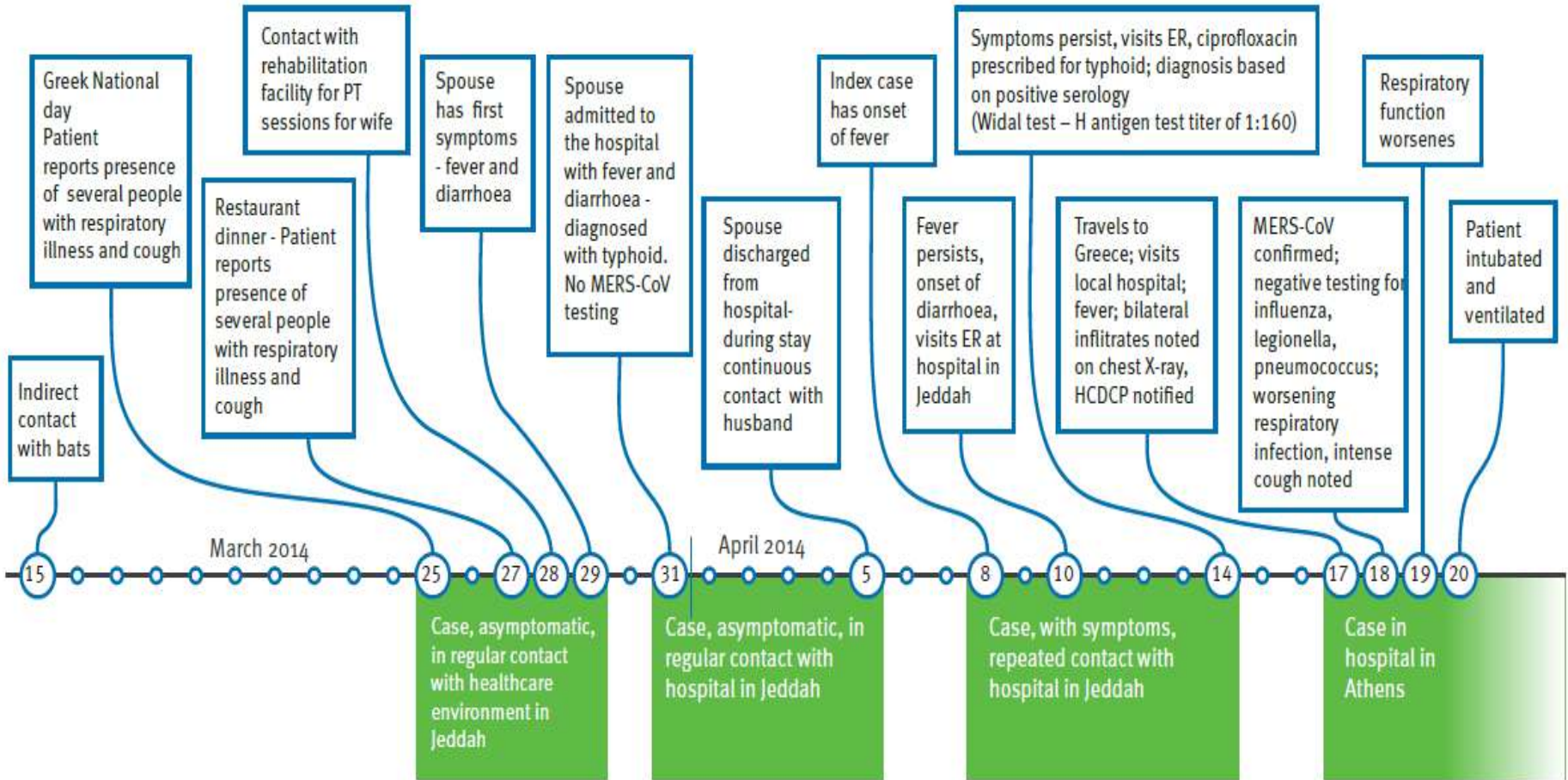
- **Successful control -> 73 contacts -> NO spread!!!**

Under the auspices of



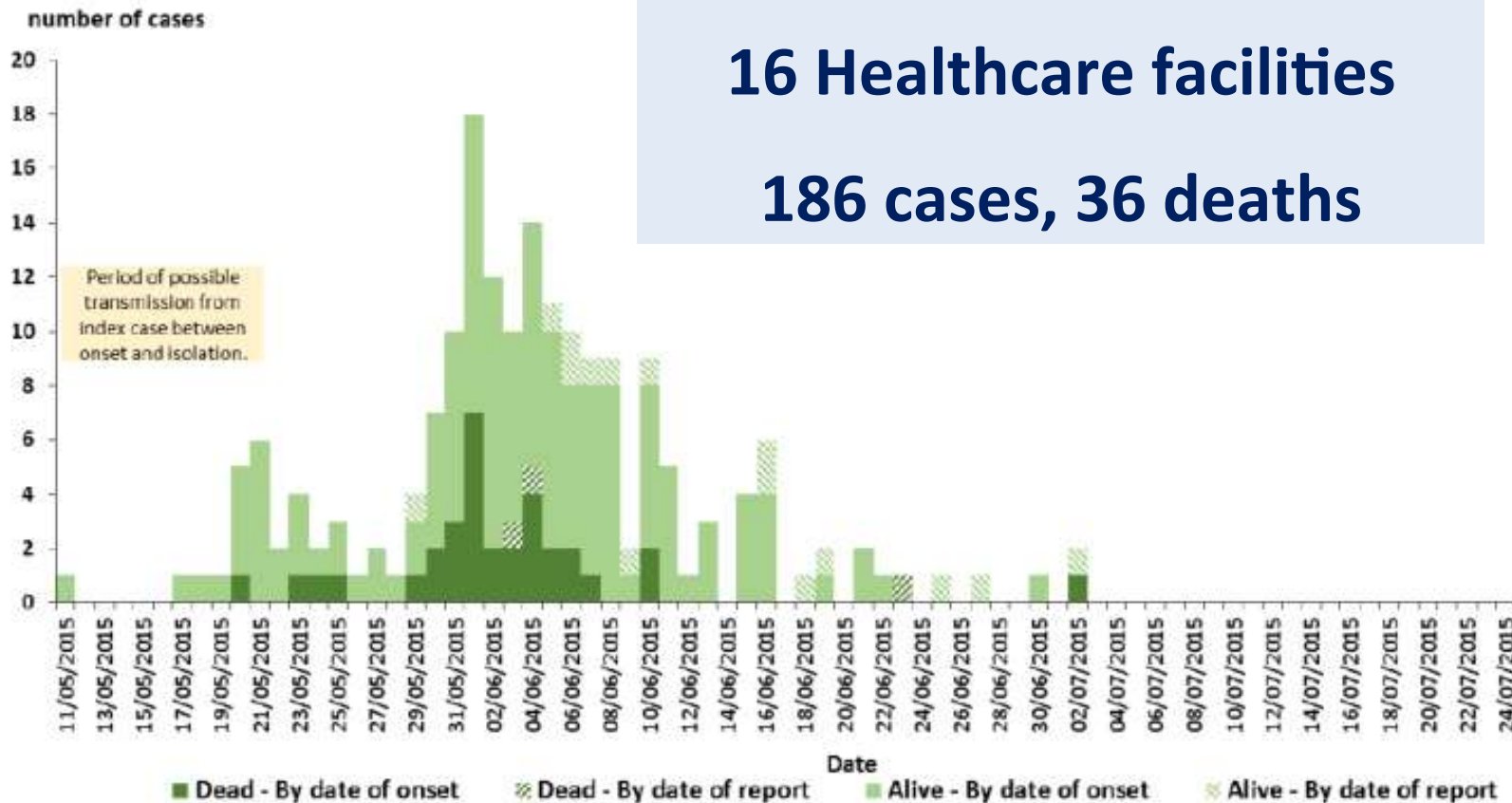
FIGURE

Timeline of possible exposure and clinical course of Middle East Respiratory Syndrome coronavirus infection case, Greece March-April 2014

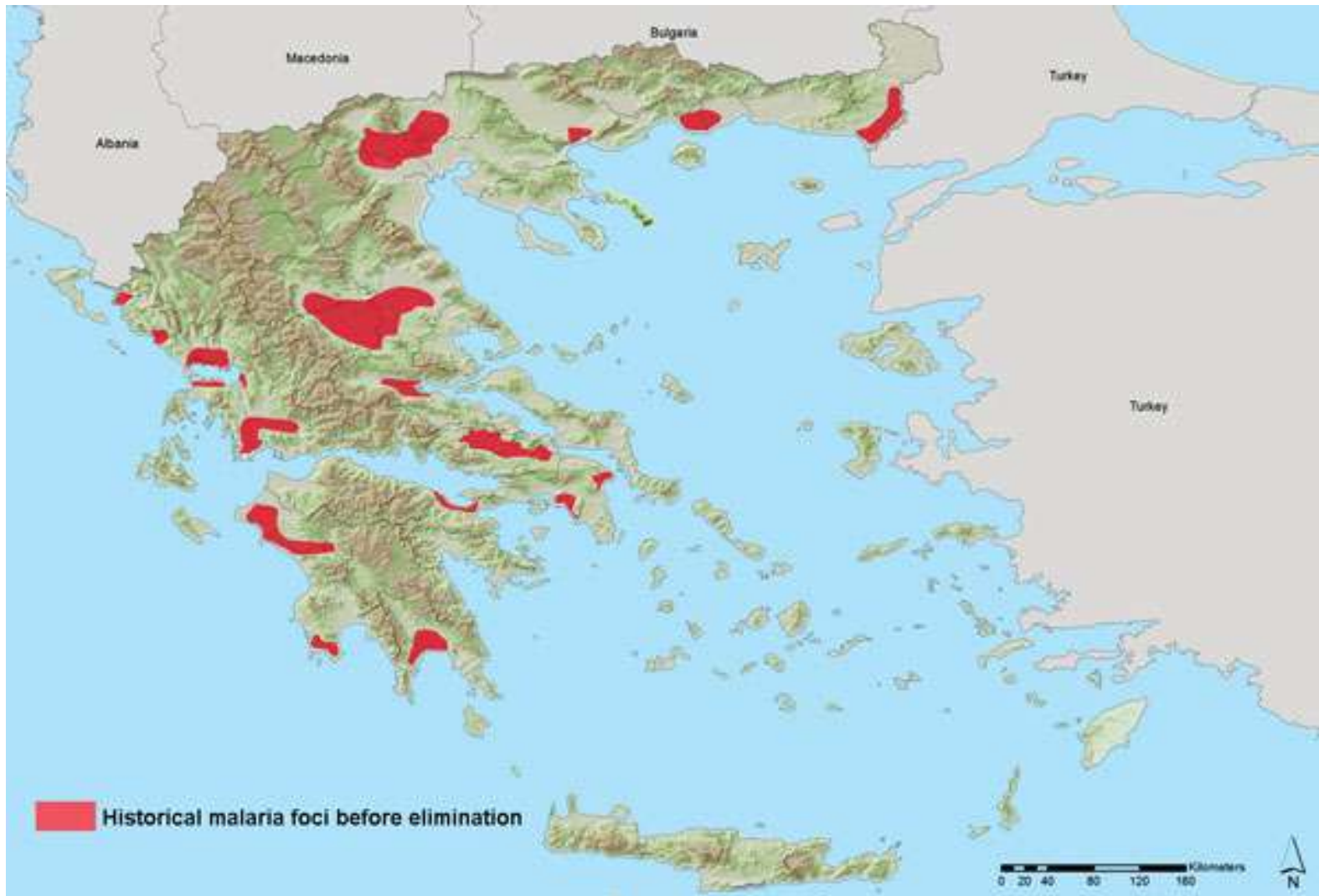


MERS-CoV, Korea & China

May - July 2015



Malaria, historically important in Greece



Research & PH on the field

MDA & zero cases in Laconia

RESEARCH ARTICLE

Prevention of Malaria Resurgence in Greece through the Association of Mass Drug Administration (MDA) to Immigrants from Malaria-Endemic Regions and Standard Control Measures

Maria Tseroni^{1,2}, Agoritsa Baka², Christina Kapizioni¹, Georges Snounou^{3,4}, Sotirios Tsiodras², Maria Charvalakou¹, Maria Georgitsou¹, Maria Panoutsakou¹, Ioanna Psinaki¹, Maria Tsoromokou¹, George Karakitsos¹, Danai Pervanidou², Annita Vakali², Varvara Mouchtouri¹, Theano Georgakopoulou², Zisis Mamuris⁵, Nikos Papadopoulos⁶, George Kolliopoulos⁷, Evangelos Badieritakis⁷, Vasilis Diamantopoulos⁸, Athanasios Tsakris⁹, Jenny Kremastinou², Christos Hadjichristodoulou^{1,*}, MALWEST Project[†]



RESEARCH ARTICLE

Field Application of SD Bioline Malaria Ag Pf/ Pan Rapid Diagnostic Test for Malaria in Greece

Maria Tseroni^{1,2}, Danai Pervanidou², Persefoni Tserkezou¹, George Rachiotis¹, Ourania Pinaka¹, Agoritsa Baka², Theano Georgakopoulou², Annita Vakali², Martha Dionysopoulou³, Irene Terzaki², Andriani Marka¹, Marios Detsis², Zafroula Evlamiidou⁴, Anastasia Mpimpa², Evdokia Vassalou⁵, Sotirios Tsiodras², Athanasios Tsakris⁶, Jenny Kremastinou², Christos Hadjichristodoulou^{1,*}, MALWEST Project[†]

1 Department of Hygiene and Epidemiology, Faculty of Medicine, University of Thessaly, Larissa, Greece, 2 Hellenic Centre for Disease Control & Prevention (KEELPND), Athens, Greece, 3 General Hospital of Sparta, Lakonia, Sparta, Greece, 4 Médecins Sans Frontières, Athens, Greece, 5 Department of Parasitology, Entomology and Tropical Diseases, National School of Public Health, Athens, Greece, 6 Department of Microbiology, Faculty of Medicine, National and Kapodistrian University of Athens, Athens, Greece

 OPEN ACCESS

Citation: Tseroni M, Pervanidou D, Tserkezou P,

[†] Membership of the MALWEST Project is provided in the Acknowledgments.

* chatzi@med.uoi.gr

Hospital acquired malaria, 2018

n= 6 cases, 1 in Greece, ? mode of Tx



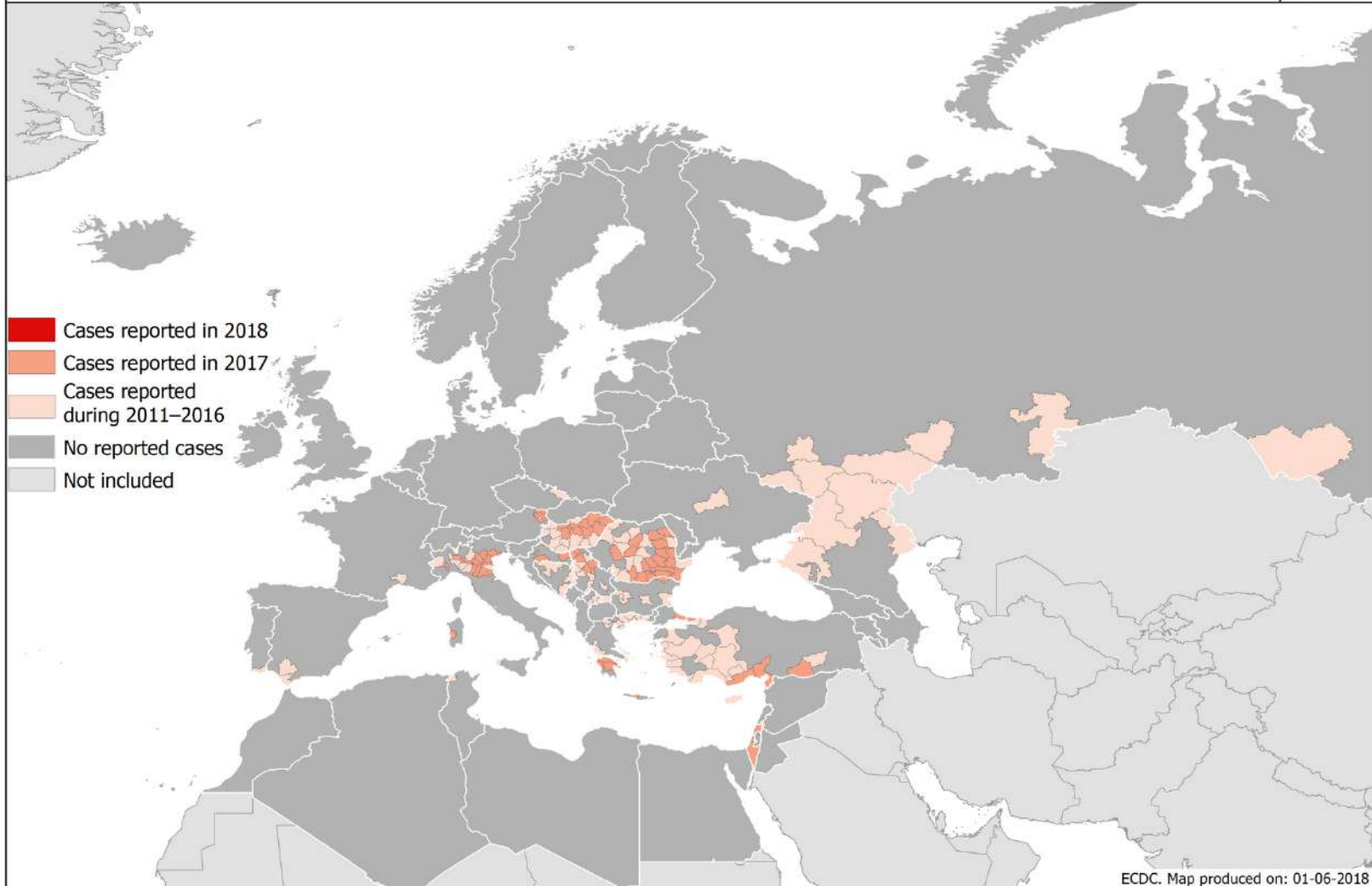
RAPID RISK ASSESSMENT

Hospital-acquired malaria infections in the
European Union

30 April 2018

West Nile virus, Europe 2011-18

Distribution of West Nile fever cases in humans by affected areas in the EU/EEA Member States and EU neighbouring countries
Transmission season 2018 and previous transmission seasons; latest data update 31-05-2018



WNV Greece, 2010 - 2017

2010



2011



2012



2013

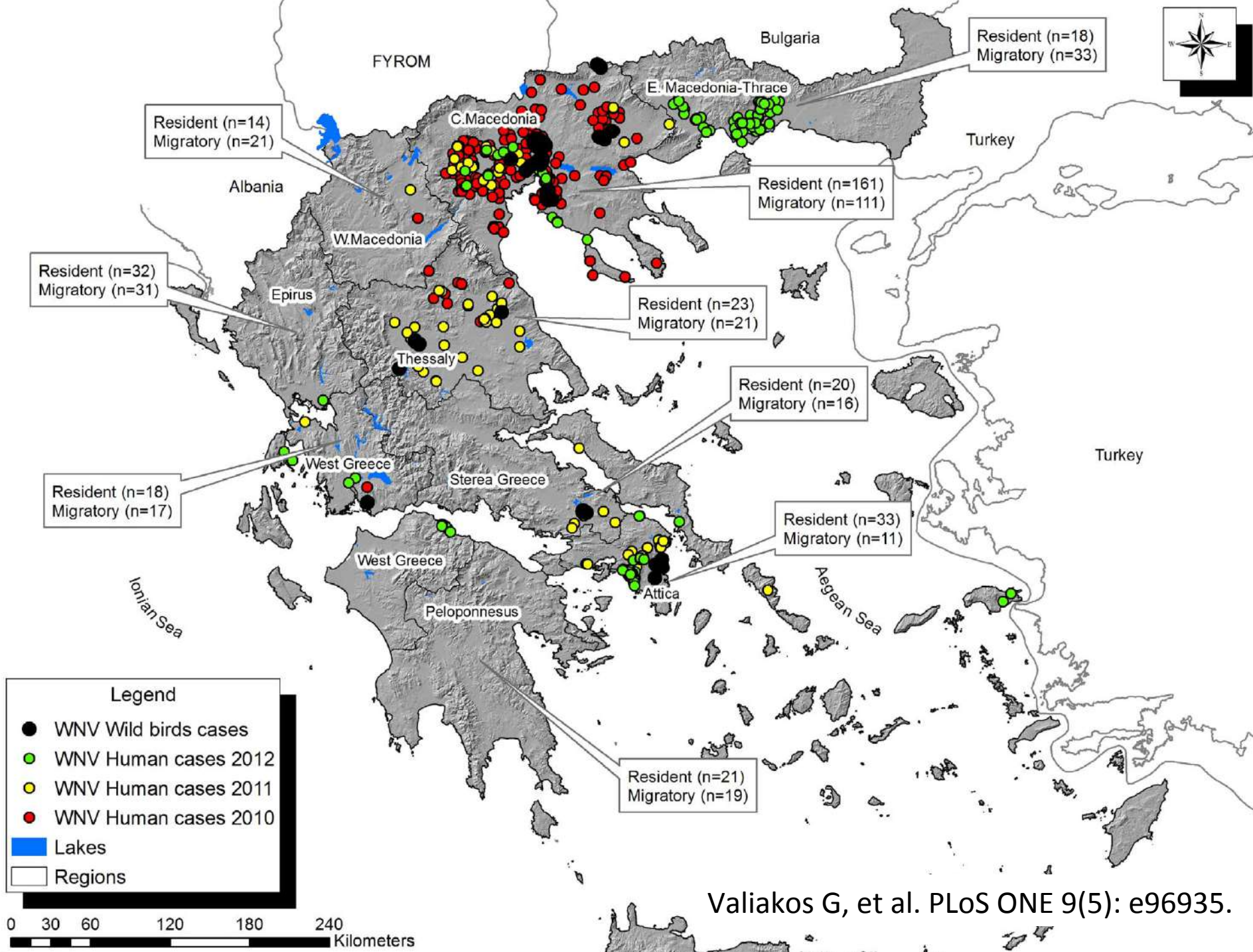


2014



2017





The big trio & emerging souvenirs !!!

- Chikungunya - Dengue – Zika
 - 50-100 mil people / year

Clinical Microbiology and Infection 24 (2018) 240–245



Original article

Emerging souvenirs—clinical presentation of the returning traveller with imported arbovirus infections in Europe

I. Eckerle ^{1,*}, V.T. Briciu ², Ö. Ergönül ³, M. Lupşe ², A. Papa ⁴, A. Radulescu ², S. Tsiodras ⁵, C. Tsitou ⁶, C. Drosten ⁷, V.R. Nussenblatt ⁸, C.B. Reusken ⁹, L.A. Sigfrid ¹⁰, N.J. Beeching ¹¹

Dengue, Chikungunya, Zika

A. albopictus is present

Imported cases in Greece, 2013 – 2017

	2013	2014	2015	2016	2017
Dengue	1	4	2	2	1
<u>Chikungunya</u>	0	1	0	2	0
<u>Zika</u>	0	0	0	2	1

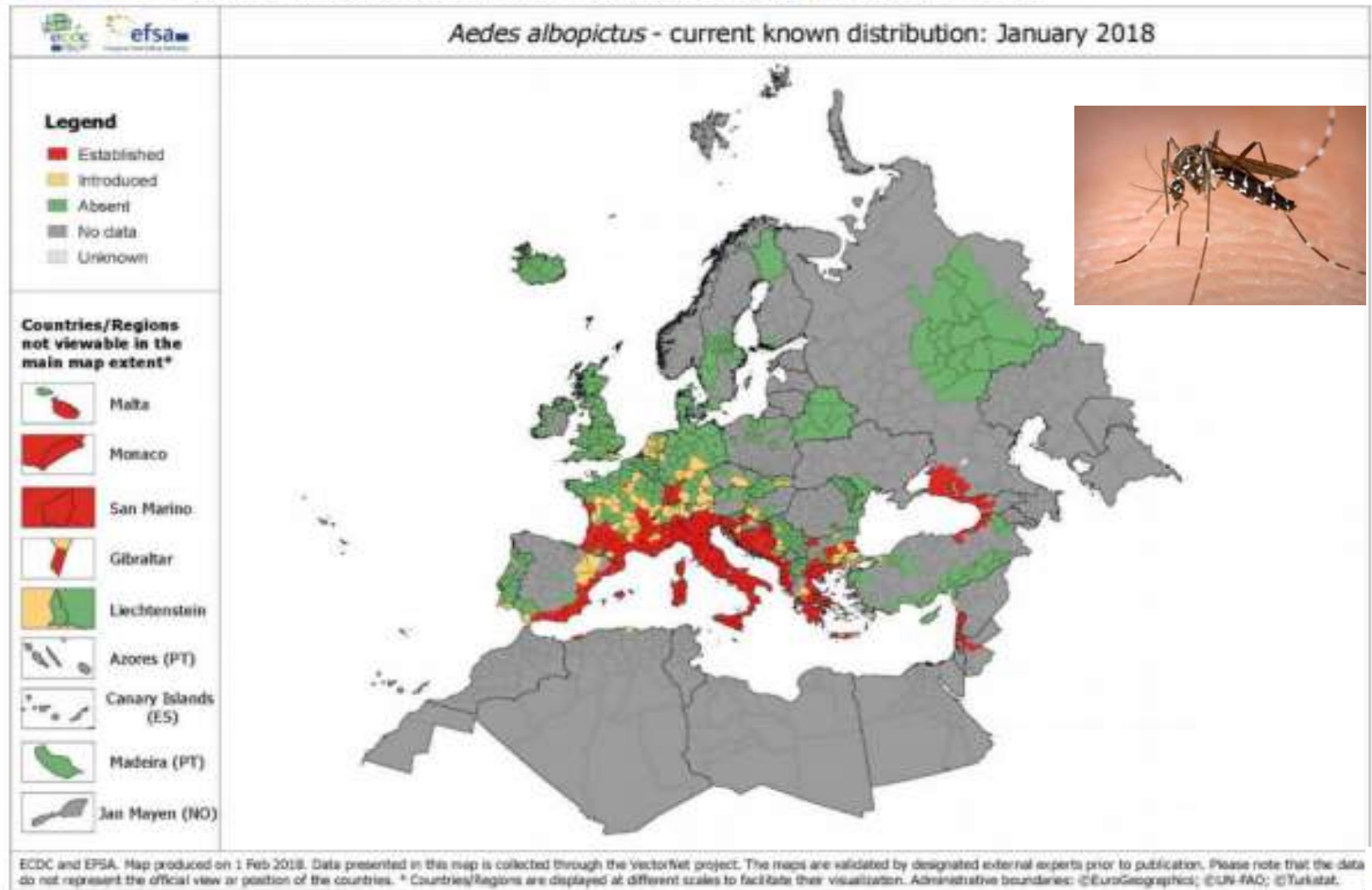
Courtesy of D Pervanidou, VBD office, HCDCP

Under the auspices of



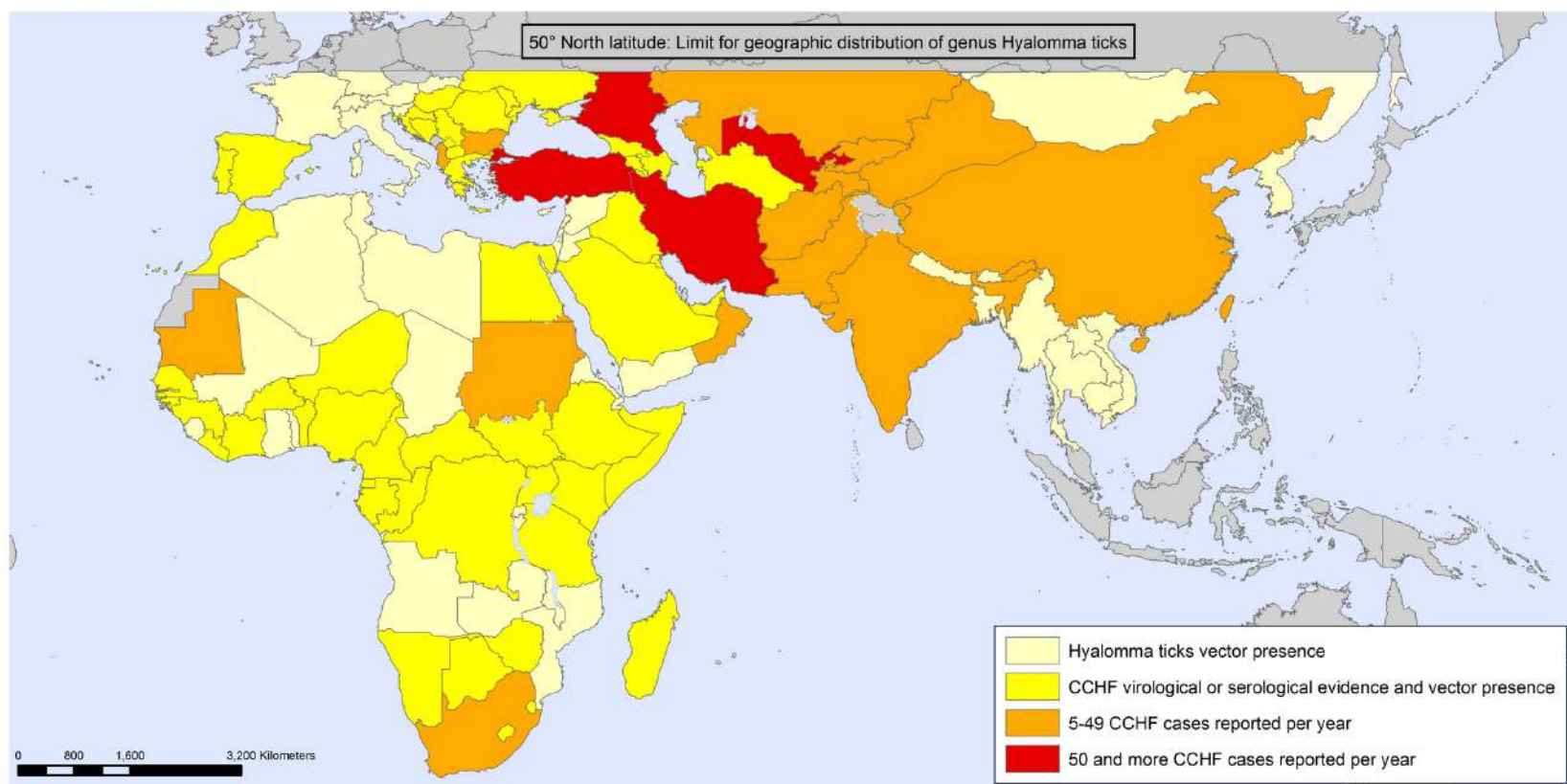
A. albopictus, Europe 2018

Figure A-1. Distribution of *Aedes albopictus* in Europe, January 2018



VHF – Crimean Congo

Geographic distribution of Crimean-Congo Haemorrhagic Fever



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 and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: Information, Evidence
and Research(IER)
World Health Organization



© WHO 2017. All rights reserved.

FIGURE

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





Fig. 1. Districts in Bulgaria with reported CCHF cases, 2013–2014. Burgas district where the British traveler was infected [Lumley et al., 2014] is marked with an asterisk. The location of Bulgaria in Europe is seen in the inset.

VHF – Ebola, Greece 2014-15 entry screening!!!

- Thermal cameras, Health declaration cards
 - 99,400 passengers in National airports, 3,500 refugees
 - ?Same practices in other EU countries
 - e.g. France, Belgium, Spain, UK, Italy



Under the auspices of



EBOLA outbreak DRC 2018,

Entry screening is not considered to be of any public health or cost-benefit value



RAPID RISK ASSESSMENT

Ebola virus disease outbreak in Equateur Province, Democratic Republic of the Congo

First update, 25 May 2018



RAPID RISK ASSESSMENT

Outbreak of Ebola virus disease in West Africa

Eighth update, 18 November 2014

Under the auspices of



AMR

- **Important healthcare & community issue**
 - Endemicity in major tertiary centers, ICU
 - Spread of MDR pathogens, therapeutic dilemmas

- **Inability to implement policies despite effort**

Under the auspices of



AMR

- **Need enhanced, sustained surveillance, lab support, infection control, new meds, evaluable indices, political/financial support**

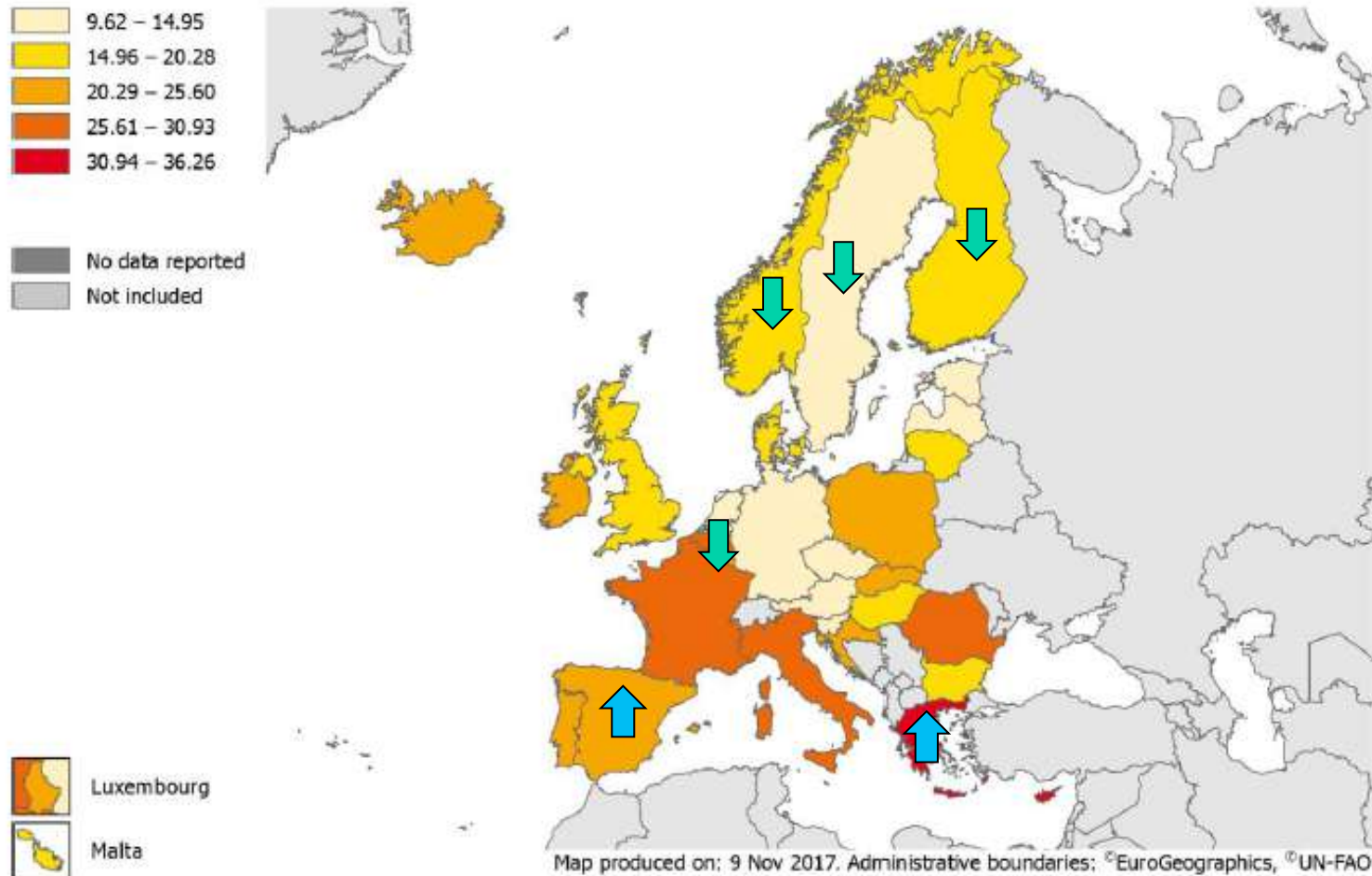
Under the auspices of



Abx consumption, EU/EEA 2012-16

Community data

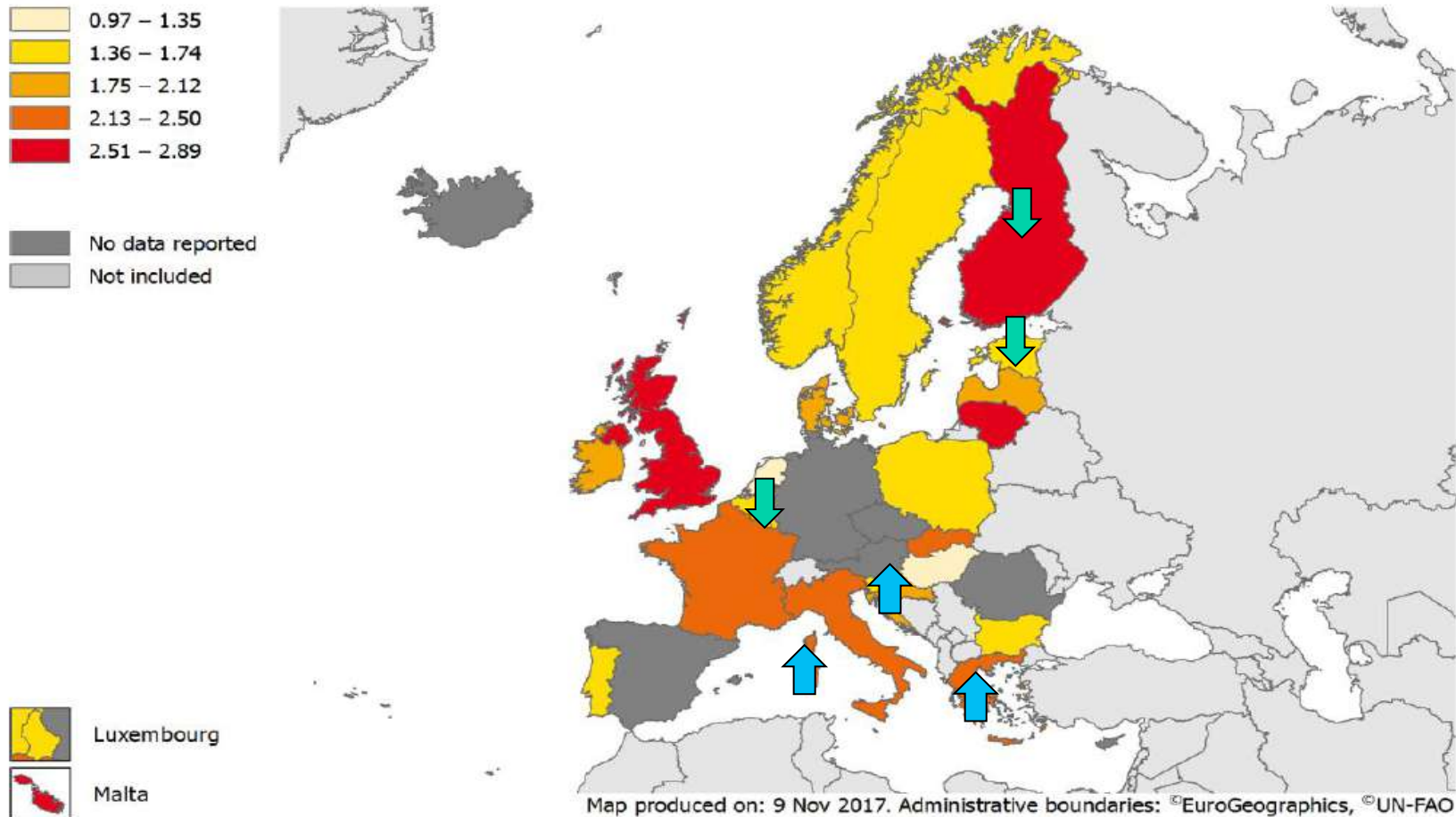
Figure 1. Consumption of antibiotics for systemic use in the community, EU/EEA countries, 2016 (expressed as DDD per 1 000 inhabitants per day)



Abx consumption, EU/EEA 2012-16

Hospital data

Figure 4. Consumption of antibiotics for systemic use in the hospital sector, EU/EEA countries, 2016 (expressed as DDD per 1 000 inhabitants per day)



Conclusions, Greece & PH threats

- **Successful response to PH threats over last 10 yrs**
 - **Crucial role of MoH, HCDCP**
- **Need for awareness, Political support crucial**
- **International collaboration extremely valuable**

Under the auspices of



Key challenges

- **Risk communication**
- **Sustainability of resources & PH funding**
- **Continuity in planning vs. adhoc response**
 - lapses in systematic preparedness testing

Under the auspices of



Are we ready for Disease X ?



Health » Food | Fitness | Wellness | Parenting | Vital Signs

International Edition + 🔍 ☰

World Health Organization gets ready for 'Disease X'

By Susan Scutti, CNN

🕒 Updated 1627 GMT (0027 HKT) March 12, 2018



© GORAN LORENTZ/PAF/GETTY IMAGES

News & buzz



Mourinho under fire after United exit



Second US fertility clinic reports tank malfunction

Photos: 10 diseases you thought were gone

Medecins Sans Frontieres (Doctors without Borders) workers in Monrovia, Liberia during the Ebola crisis in 2014. The outbreak raised questions about our ability to handle the spread of deadly diseases. Eradicating

Under the auspices of



Multiple stakeholders - Collaborating partners

thx to all !!!

- Ministry of Health, A. Xanthos, GSPH, Y Baskozos, A. Kyrlesi, Karaoli, D. Stavrou & team
- HCDCP, KEELPNO team
- T. Rosenberg, T. Georgakopoulou, A. Baka, K Gkolfinopoulou, D. Pervanidou, A. Lambrou, K. Mellou, U. Kalkouni, T. Lytras, F. Kontopidou, A. Economopoulou, D. Iliopoulos, A. Pavli, H. Maltezou T. Panagiotopoulos, A. Terzidis, A. Pavli, R. Vorou, A. Balaska, H. Maltezou , G. Dougas, G. Saroglou,
- NSPH, Dr Vatopoulos, T. Panagiotopoulos
- EKEPY, Dr Papaefstathiou and team, NMA-EOF, IFET
- Prefectures PH Directorates, tertiary care centers
- Ministry of Migration Policy, C Botsi, K Kampourakis, Ministry of Interior, Ministry of Defense
- UOA, A Tsakris, N. Spanakis, AUOT, Anna Pappa & team, UOT, C Hadjichristodoulou & team
- Hellenic Pasteur Institute
- EU, ECDC, CHAFEA
- & many others

Thank you for your attention



Under the auspices of



MINISTRY OF HEALTH