Βιβλιογραφία 2018: Τι νεότερο στις λοιμώξεις

Επιδημιολογία

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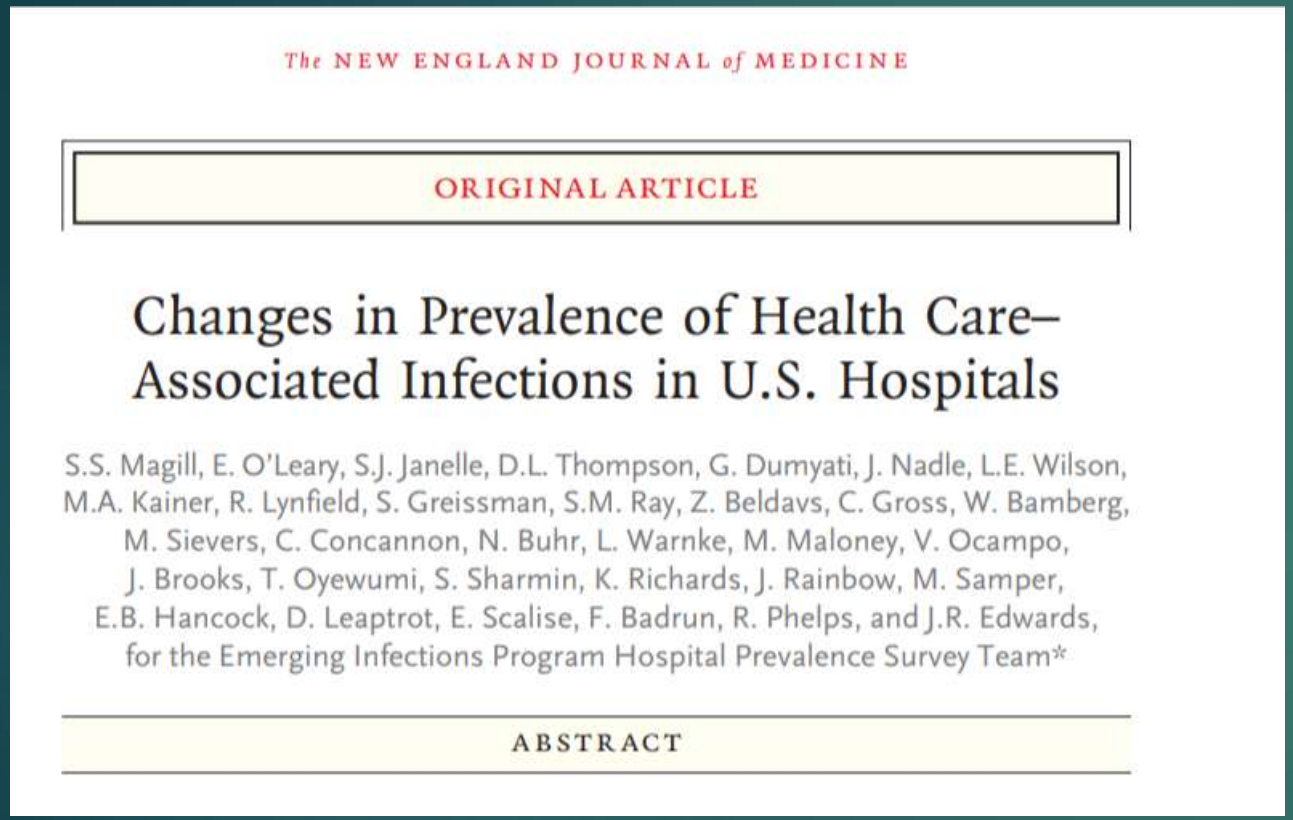
SHEA International Ambassador 2018

Δεν θα μιλήσουμε για:

- Φυματίωση
- Ιλαρά
- Ίσως για γρίπη

Αλλαγές στην επίπτωση των HAIs σε ΗΠΑ



The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Changes in Prevalence of Health Care–Associated Infections in U.S. Hospitals

S.S. Magill, E. O'Leary, S.J. Janelle, D.L. Thompson, G. Dumyati, J. Nadle, L.E. Wilson, M.A. Kainer, R. Lynfield, S. Greissman, S.M. Ray, Z. Beldavs, C. Gross, W. Bamberg, M. Sievers, C. Concannon, N. Buhr, L. Warnke, M. Maloney, V. Ocampo, J. Brooks, T. Oyewumi, S. Sharmin, K. Richards, J. Rainbow, M. Samper, E.B. Hancock, D. Leaptrot, E. Scalise, F. Badrun, R. Phelps, and J.R. Edwards, for the Emerging Infections Program Hospital Prevalence Survey Team*

ABSTRACT

A point-prevalence survey that was conducted in the United States in 2011 showed that 4% of hospitalized patients had a health care–associated infection.

We repeated the survey in 2015 to assess changes in the prevalence of health care–associated infections during a period of national attention to the prevention of such infections.

N Engl J Med 2018;379:1732-44. DOI: 10.1056/NEJMoa1801550

ORIGINAL ARTICLE

Changes in Prevalence of Health Care–Associated Infections in U.S. Hospitals

2015, 12,299 ασθενείς σε 199 νοσοκομεία

2011, 11.282 ασθενείς σε 183 νοσοκομεία

Με νοσοκομειακή λοίμωξη:

2015 394 ασθ.[3.2%; 95% {CI},2.9 to 3.5]

2011 452 ασθ. [4.0%; 95% CI, 3.7 to 4.4] (P<0.001)

Η Μείωση οφειλόταν κυρίως στην μείωση της επίπτωσης των Λοιμώξεων Χειρουργικού Πεδίου και των ουρολοιμώξεων

Πιο συχνές Νοσ.Λοιμώξεις.

- Πνευμονία,
- λοιμώξεις γαστρεντερικού (οι περισσότερες λόγω Clostridium difficile)[now *Clostridioides difficile*]),
- λοιμώξεις χειρουργικού πεδίου

Ο κίνδυνος να εμφανίσει ένας ασθενής νοσοκομειακή λοίμωξη ήταν

16% μικρότερος το 2015 από το 2011

N Engl J Med 2018;379:1732-44. DOI: 10.1056/NEJMoa1801550

Χαρακτηριστικά των ασθενών

Table 2. Comparison of Selected Characteristics of the Patients, 2011 vs. 2015 Survey.*

Characteristic	2011 Survey Patients (N=11,282)	2015 Survey Patients (N=12,299)	P Value*
Survey month — no. (%)			
May or June	5863 (52.0)		
July, August, or September	5419 (48.0)		
Hospital size — no. (%)			
Small	4073 (36.1)		
Medium	4995 (44.3)		
Large	2214 (19.6)		
Location of patient in hospital on survey date — no. (%)‡			
Critical care unit	1707 (15.1)		
Unit housing patients receiving different levels of acute care	119 (1.1)		
Newborn or special care nursery	485 (4.3)		
Specialty care area	49 (0.4)		
Step-down unit	466 (4.1)		
Ward, excluding nursery	8456 (75.0)		
Central catheter in place on survey date — no. (%)			
Yes	2121 (18.8)	2081 (16.9)	<0.001
No	9140 (81.0)	10,175 (82.7)	
Missing data	21 (0.2)	43 (0.3)	
Urinary catheter in place on survey date — no. (%)			
Yes	2659 (23.6)	2299 (18.7)	<0.001
No	8594 (76.2)	9959 (81.0)	
Missing data	29 (0.3)	41 (0.3)	
Received or were scheduled to receive antimicrobial therapy on the survey date or day before the survey, or information not available — no. (%)	5849 (51.8)§	6223 (50.6)	0.06
Received antimicrobial therapy for infection treatment or no documented rationale at time of survey — no. (%)	4504 (39.9)¶	4614 (37.5)	<0.001
Median no. of days from admission to survey (IQR)	3 (1–6)	3 (1–6)	0.40‖
Outcome among patients with health care–associated infection only — no./total no. (%)			0.99**
Survived	386/452 (85.4)	348/394 (88.3)	
Died	50/452 (11.1)	45/394 (11.4)	
Still in hospital or data were missing	16/452 (3.5)	1/394 (0.3)	

2011

2015

DISCUSSION

In this point-prevalence survey conducted in multiple states, we found that health care–associated infections affected 3.2% of hospitalized patients — a significantly lower percentage than we observed in a survey that had been conducted in 2011. These results provide evidence of national success in preventing health care–associated infections, particularly surgical-site and urinary tract infections. In contrast, there was no significant reduction in the prevalence of pneumonia or *C. difficile* infection, nor in the percentage of patients with health care–associated infection who died during their hospitalization, which suggests that more work is needed to prevent these infection types and reduce mortality among patients with health care–associated infections.

Εθνική επιτυχία της πρόληψης των νοσοκομειακών λοιμώξεων και κυρίως των ΛΧΠ και των ουρολοιμώξεων

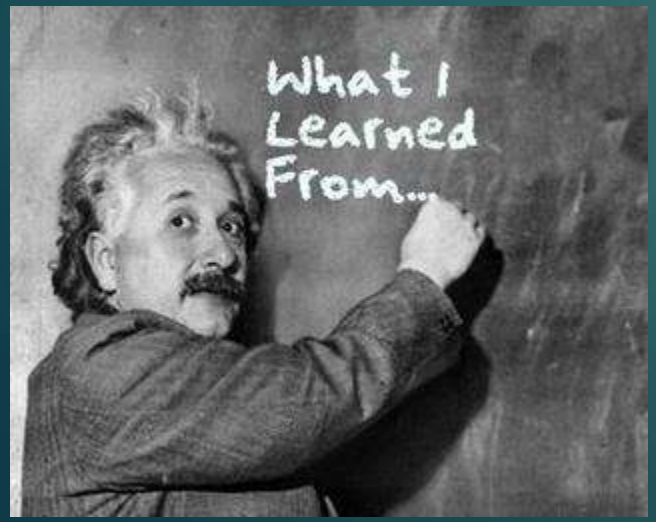
Table 4. Percentages of All Surveyed Patients with Specific Types of Health Care–Associated Infection, 2011 vs. 2015 Survey.*

Type of Infection	2011 Survey			2015 Survey			P Value†
	No. of Patients with Infection	No. of Infections	Percentage of Patients with Infection (95% CI)	No. of Patients with Infection	No. of Infections	Percentage of Patients with Infection (95% CI)	
Pneumonia	110	110	0.98 (0.81–1.20)	110	110	0.89 (0.74–1.10)	0.52
Ventilator-associated pneumonia	43	43	0.38 (0.28–0.51)	39	39	0.32 (0.23–0.43)	0.41
Other pneumonia	67	67	0.59 (0.47–0.75)	71	71	0.58 (0.46–0.73)	0.87
Gastrointestinal infection	86	86	0.76 (0.62–0.94)	91	91	0.74 (0.60–0.91)	0.84
Clostridium difficile infection‡	61	61	0.54 (0.42–0.69)	66	66	0.54 (0.42–0.68)	0.97
Other gastrointestinal infection	25	25	0.22 (0.15–0.33)	25	25	0.20 (0.14–0.30)	0.76
Surgical-site infection	109	110	0.97 (0.80–1.20)	69	69	0.56 (0.44–0.71)	<0.001
Deep incisional or organ-space infection	77	77	0.68 (0.55–0.85)	54	54	0.44 (0.34–0.57)	0.01
Superficial incisional infection	33	33	0.29 (0.21–0.41)	15	15	0.12 (0.07–0.20)	0.004
Bloodstream infection	50	50	0.44 (0.34–0.58)	51	52	0.41 (0.31–0.55)	0.74
Central catheter–associated bloodstream infection	42	42	0.37 (0.27–0.50)	37	38	0.30 (0.22–0.42)	0.35
Other primary bloodstream infection	8	8	0.07 (0.03–0.14)	14	14	0.11 (0.07–0.19)	0.29
Urinary tract infection	65	65	0.58 (0.45–0.73)	39	39	0.32 (0.23–0.43)	0.003
Catheter-associated urinary tract infection	44	44	0.39 (0.29–0.52)	24	24	0.20 (0.13–0.29)	0.005
Other urinary tract infection	21	21	0.19 (0.12–0.29)	15	15	0.12 (0.07–0.20)	0.21
Other infection§	78	83	0.69 (0.55–0.86)	61	66	0.50 (0.39–0.64)	0.05
Any infection	452	504	4.0 (3.7–4.4)	394	427	3.2 (2.9–3.5)	<0.001

* A total of 11,282 patients were included in the 2011 survey, and 12,299 in the 2015 survey; these values are the denominators for the percentages of patients with infection. Patients could have more than one health care–associated infection.
† P values were calculated by a mid-P exact test.
‡ *Clostridium difficile* is now known as *Clostridioides difficile*.
§ Other infections in the 2011 survey included the following: ear, eye, nose, and throat infections (28 infections); lower respiratory tract infection (20); skin and soft-tissue infections (16);

Take home message:

Είναι δυνατόν να πετύχεις τον περιορισμό των νοσοκομειακών λοιμώξεων



Επιπολασμός των HAIs σε ACH / LTCF EE PPS

Eurosurveillance

SURVEILLANCE AND OUTBREAK REPORT

Prevalence of healthcare-associated infections, estimated incidence and composite antimicrobial resistance index in acute care hospitals and long-term care facilities: results from two European point prevalence surveys, 2016 to 2017

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9. Department of Propaedeutics of Medicine, Nicolaus Copernicus University, Toruń; Ludwik Rydygier Collegium Medicum; Bydgoszcz, Poland
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Prevalence of healthcare-associated infections, estimated incidence and composite antimicrobial resistance index in acute care hospitals and long-term care facilities: results from two European point prevalence surveys, 2016 to 2017

PPS (HAI) και Χρήση αντιβιοτικων στην ΕΕ/ΕΕΑ 2016 με 2017

310,755 ασθενείς
1,209 acute care hospitals (ACH) σε**28** χώρες

117,138 Κάτοικοι (residents)
2,221 long-term care facilities (LTCF) σε **23** χώρες.

8.9 εκ ασθενείς
νοσούν με ΝΛ κάθε χρόνο
4.5 εκ σε ACH
4.4 εκ σε LTCF

Υπολογίστηκε ότι

6.5% των ασθενών σε **ACH**
and
3.9% κατοίκων σε **LTCF**

Είχαν τουλάχιστον μια ΝΛ

Σε μια οποιαδήποτε ημέρα στην ΕΕ

98,166 ασθενείς σε **ACH**
και
129,940 LTCF

Έχουν ΝΛ

TABLE 2A

Prevalence and estimated incidence of healthcare-associated infections in European acute care hospitals, 28 EU/EEA countries and Serbia, 2016–2017 (n = 325,737 patients)

Country	Patients in PPS sample	Patients with at least one HAI in PPS sample (HAI prevalence)[a]			Validation-corrected HAI prevalence[b]	Occupied beds in the country (average per day)	Patients with at least one HAI on a given day, estimated		Hospital discharges annually in the country	HAI incidence, estimated		Patients with at least one HAI, annually, estimated	
	n	n	%	95% CI	%	n	n	95% CI	n	%	95% CI	n	95% CI
Austria	13,461	541	4.0	3.4–4.7	NR	36,351	1,461	1,243–1,716	2,707,753	2.3	1.5–3.3	62,306	40,978–89,762
Belgium	11,800	856	7.3	6.4–8.3	NR	37,651	2,731						68,186–141,713
Bulgaria[c]	2,200	76	3.5	1.7–6.8	NR	25,324	875						13,909–61,597
Croatia	10,466	551	5.3	4.5–6.2	NR	11,047	581						18,937–37,561
Cyprus	1,036	85	8.2	5.4–12.4	ND	1,437	118						4,158–14,541
Czech Republic	15,117	1,015	6.7	5.9–7.6	NR	40,691	2,732						87,039–165,208
Estonia	4,220	178	4.2	2.4–7.3	NR	4,582	193						3,558–14,761
Finland	9,079	803	8.8	7.5–10.4	NR	15,894	1,406						30,053–68,350
France	16,522	965	5.8	4.9–7.0	NR	159,810	9,334						311,830–671,498
Germany	11,324	409	3.6	2.8–4.7	NR	400,132	14,452						373,766–938,383
Greece	9,401	938	10.0	8.5–11.6	NR	18,252	1,821	1,559–2,121	1,562,761	4.3	3.1–5.7	66,487	48,386–89,068
Hungary	20,588	818	4.0						2,22				
Iceland	633	40	6.3						39,				
Ireland	10,333	633	6.1						705				
Italy	14,773	1,186	8.0						8,93				

Μια οποιαδήποτε ημέρα ασθενείς με τουλάχιστον 1 ΝΛ

1821

Ποσοστό ασθενών με τουλάχιστον 1 HAI στο δείγμα

10%

Ασθενείς με τουλάχιστον 1 HAI κατ'έτος

66487

CI: confidence interval; EU/EEA: European Union/European E… country PPS sample; PPS: point prevalence survey; UK: Un… ; ND: validat…

[a] Country-weighted HAI prevalence for the EU/EEA= estimate… s.

[b] Validation-corrected prevalence of patients with at least on… size of 750 validated patients and/or validation of at least … ss for their n…

[c] Poor country representativeness in Bulgaria and the Netherlands.

TABLE 3

Country-weighted prevalence and estimated incidence of healthcare-associated infections (HAI) by ty
facilities (n = 3,858), 30 EU/EEA countries, 2016–2017

Type of HAI	Acute care hospitals									
	HAI in PPS sample		Country-weighted HAI prevalence		Estimated HAI on a given day, EU/EEA[a]		Estimated annual HAI, EU/EEA[a]		HA in PPS s	
	N	% total	n	95% cCI	N	95% cCI	n	95% cCI	n	
Respiratory tract infection										
Pneumonia	4,200	21.4	1.26	0.96–1.68	18,935	14,398–25,265	862,084	567,728–1 283,203	143	
Other lower respiratory tract infection[b]	838	4.3	0.24	0.15–0.41	3,568	2,208–6,192	183,232	91,731–376,990	847	
Common cold/ influenza	NI	NA	NA	NA	NA	NA	NA	NA	290	
Urinary tract infection	3,710	18.9	1.10	0.85–1.43	16,491	12,822–21,455	869,941	572,105–1,278,951	1,233	
Surgical site infection	3,601	18.3	1.08	0.81–1.44	16,130	12,185–21,715	518,182	293,036–858,222	66	
Bloodstream infection	2,116	10.8	0.69	0.48–1.00	10,294	7,241–15,097	375,050	227,552–613,624	19	
Gastrointestinal infection										
Clostridium difficile infection	951	4.8	0.32	0.21–0.51	4,786	3,105–7,721	189,526	105,154–340,978	37	
Other gastrointestinal infection	792	4.0	0.24	0.14–0.41)	3,549	2,108–6,166	144,926	64,880–312,212	75	
Skin and soft tissue infection	823	4.2	0.21	0.13–0.36	3,146	1,900–5,451	108,269	45,149–242,816	828	
Eye, ear, nose or mouth infection	557	2.8	0.16	0.09–0.35	2,400	1,278–5 194	123,091	54,155–303,206	183	
Systemic infection	1,069	5.4	0.29	0.17–0.52	4,388	2,586–7,799	251,237	110,732–549,877	35	
Other infection	969	4.9	0.30	0.19–0.50	4,518	2,867–7,574	154,138	65,647–332,357	102	
All types of HAI, EU/EEA[a]	19,626	100	NA	NA	88,204	62,697–129,630	3,779,677	2,197,869–6,492,437	3,858	
All types of HAI, EU/EEA, corrected after validation	**NA**	**NA**	**NA**	**NA**	**104,177**	**74,743–152,575**	**4,464,159**	**2,620,139–7,641,606**	**NA**	

	Εκτιμώμενα HAI μια τυχαία ημέρα στα νοσοκομεία σε EU/EEA
Πνευμονία	18935
Λ. κατώτ. αναπν.	3568
Ουρολοίμωξη	16491
Λ.Χειρ.Πεδίου	16130
Βακτηριαιμία	10294
C.difficile	4786
Συνολικά	**104177**

Ανθεκτικότητα στα αντιβιοτικά στα HAI

TABLE 4A

Composite index of antimicrobial resistance in bacteria from healthcare-associated infections in acute care hospitals (n = 8,413) and long-term care facilities (n = 565), 30 EU/EEA countries, Serbia and the former Yugoslav Republic of Macedonia[a], 2016–2017

Country	Acute care hospitals[a]								Long-term care facilities[a]			
	Composite index of AMR				Carbapenem-resistant Enterobacteriaceae				Composite index of AMR		Carbapenem-resistant Enterobacteriaceae	
	Tested isolates	Resistant isolates	Estimated annual HAI		Tested isolates	Resistant isolates	Estimated annual HAI		Tested isolates	Resistant isolates	Tested isolates	Resistant isolates
	n	%	n	95% CI	n	%	n	95% CI	n	%	n	%
Austria[b]	217	12.4	1,759	713–3,984	124	0.8	55	8–387	16	12.5	12	0.0
Belgium	495	18.6	8,458	4,422–14,621	318	1.3	261					
Bulgaria[b]	53	56.6	8,687	3,189–23,328	30	10.0	2,01					
Croatia[b]	280	41.4	3,823	2,491–5,808	114	5.3	300					
Cyprus[a,b]	37	51.4	1,070	431–2,380	15	6.7	19					
Czech Republic[a]	627	30.8	16,348	9,726–25,665	393	0.8	87					
Denmark[a]	NP	NA	UNK	NA	NA	NA	UNK					
Estonia	107	13.1	462	138–1,398	58	0.0	0					
Finland	188	7.4	298	139–619	92	0.0	0					
France[a]	738	21.4	44,953	21,316–86,180	413	0.5	785	129–4,943	41	24.4	35	14.3
Germany	197	18.8	27,228	13,378–52,651	95	2.1	1,769	420–7,444	2	NA	1	NA
Greece[b]	456	61.2	10,605	7,809–14,193	197	43.7	4,157	2,467–6,831	2	NA	1	NA
Hungary	256	37.9	5,383	2,578–9,837	126	0.8	41	6–289	7	NA	6	NA
Iceland	15	0.0	0	NA	10	0.0	0	NA	NP	NA	NA	NA
Ireland	192	25.0	1,206	454–2,704	107	0.9	45	6–306	28	17.9	12	8.3
Italy	555	42.3	63,930	39,969–98,909	306	16.7	11,660	6,489–20,554	93	32.3	67	5.6
Latvia	47	59.6	804	309–2,043	19	5.3	38	4–356	NP	NA	NA	NA
Lithuania	108	32.4	1,509	680–3,224	35	0.0	0	NA	2	.	3	NA
Luxembourg[b]	67	14.9	79	26–228	38	2.6	4	0–46	3	.	2	NA

20.3%). Carbapenem resistance in Enterobacteriaceae was 6.2% overall (mean of countries: 5.9%) and ranged from 0% in Estonia, Finland, Iceland, Lithuania and UK–Northern Ireland to 43.7% in Greece (Table 4). This

AMR: antimicrobial resistance; CI: confidence interval; EU/EEA: European Union/European Economic Area; HAI: healthcare-associated infection; NA: not applicable; ND: no data collected in national PPS; NP: did not participate; PPS: point prevalence survey; UNK: unknown; UK: United Kingdom.

[a]Antimicrobial resistance data were not reported by Norway and UK–Scotland in the PPS in acute care hospitals and by Denmark, Norway and UK–Scotland in the PPS in long-term care facilities. Cyprus did not submit case-based HAI data for long-term care facilities. The Czech Republic only collected institutional indicators for the PPS in long-term care facilities. For France, the percentage of non-susceptible (resistant + intermediate) isolates is given instead of the percentage resistant isolates.

[b]Country data representativeness was poor in Bulgaria and the Netherlands for the PPS in acute care hospitals and poor in Austria, Croatia, Cyprus, Greece, Luxembourg, Malta and Poland for the PPS in long-term care facilities.

[c]Cumulative 95% confidence intervals for the EU/EEA. Cumulative sums are rounded and may differ from the sum of the individual rounded country estimates.

Composite index of AMR: Staphylococcus aureus resistant to meticillin, *Enterococcus faecium* and *Enterococcus faecalis* resistant to vancomycin, Enterobacteriaceae resistant to third-generation cephalosporins, *Pseudomonas aeruginosa* and *Acinetobacter baumannii* resistant to carbapenems. Enterobacteriaceae selected for the AMR markers: *Escherichia coli*, *Klebsiella* spp., *Enterobacter* spp., *Proteus* spp., *Citrobacter* spp., *Serratia* spp. and *Morganella* spp. The percentage of resistance was not calculated if less than 10 isolates were reported.

Considering that previous studies have shown that **HAI in ACH alone are responsible for more deaths in the EU/EEA than all other infectious diseases under surveillance at European level**[1,2], and that our study showed that there are as many HAI in LTCF as there are in ACH,

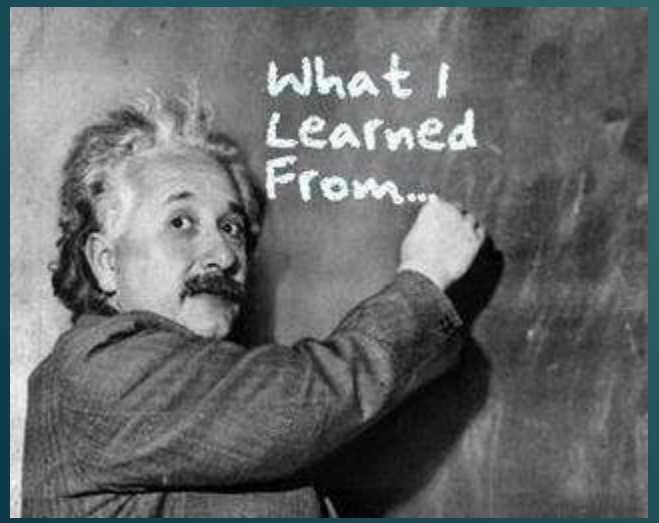
more focus needs to be dedicated to the **prevention** of HAI and AMR, through the application of available recommendations and guidelines [20-25], **in both ACH and LTCF.**

Take home message:

ΕΕ **4.5** εκατομμύρια HAIs ετησίως σε ACH

Ελλάδα:

66487 ετησίως HAIs (εκτιμώμενα)



61.2% των HAI είναι με ανθεκτικά μικρόβια

43.7% με Carbapenem Resistant Enterobacteriaceae

Το Κόστος των λοιμώξεων με ανθεκτικά βακτήρια στην ΕΕ/ΕΕΑ το 2015
Αποδιδόμενοι θάνατοι και DALY

THE LANCET
Infectious Diseases

Attributable deaths and disability-adjusted life-years caused by infections with antibiotic-resistant bacteria in the EU and the European Economic Area in 2015: a population-level modelling analysis

*Alessandro Cassini, Liselotte Diaz Högberg, Diamantis Plachouras, Annalisa Quattrocchi, Ana Hoxha, Gunnar Skov Simonsen, Mélanie Colomb-Cotinat, Mirjam E Kretzschmar, Brecht Devleesschauwer, Michele Cecchini, Driss Ait Ouakrim, Tiago Cravo Oliveira, Marc J Struelens, Carl Suetens, Dominique L Monnet, and the Burden of AMR Collaborative Group**

Summary

Background Infections due to antibiotic-resistant bacteria are threatening modern health care. However, estimating their incidence, complications, and attributable mortality is challenging. We aimed to estimate the burden of infections caused by antibiotic-resistant bacteria of public health concern in countries of the EU and European Economic Area (EEA) in 2015, measured in number of cases, attributable deaths, and disability-adjusted life-years (DALYs).

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http://dx.doi.org/10.1016/S1473-3099(18)30605-4

1 DALY
1 χαμένος χρόνος «υγειούς ζωής»

DALY για νόσο ή κατάσταση υγείας είναι
Το άθροισμα των **Years of Life Lost (YLL)**
λόγω πρώιμου θανάτου
Και των **Years Lost due to Disability (YLD)**
Για ανθρώπους με μια κατάσταση υγείας
ή τις επιπτώσεις της

DALY = YLL + YLD

Metrics: Disability-Adjusted Life Year (DALY)
Definition
One DALY can be thought of as one lost year of "healthy" life. The sum of these DALYs across the population, or the burden of disease, can be thought of as a measurement of the gap between current health status and an ideal health situation where the entire population lives to an advanced age, free of disease and disability.

DALYs for a disease or health condition are calculated as the sum of the Years of Life Lost (YLL) due to premature mortality in the population and the Years Lost due to Disability (YLD) for people living with the health condition or its consequences:

World Health Organization

https://www.who.int/healthinfo/global_burden_disease/metrics_daly/en/

Συμπεριέλαβαν **5** τύπους λοίμωξης

- Μικροβιαιμίες
- Ουρολοιμώξεις
- Λοιμώξεις Αναπνευστικού
- Λοιμώξεις Χειρουργικού πεδίου
- άλλες

Acinetobacter spp;
colistin-R, carbapenem-resistant, or multidrug-resistant

Enterococcus faecalis and Enterococcus faecium;
vancomycin-resistant

Escherichia coli;
colistin-R, carbapenem-resistant, or 3rd gen ceph resistant

Klebsiella pneumoniae;
colistin-R, carbapenems resistant, or 3rd gen ceph resistant

Pseudomonas aeruginosa;
colistin-R, carbapenems resistant, or multidrug-resistant

MRSA

Streptococcus pneumoniae.
penicillin-resistant and macrolide-resistant

Μεθοδολογία

Attribution to health care and analysis of MRSA

We estimated the proportion of infections with healthcare-associated antibiotic-resistant bacteria on the basis of various assumptions and epidemiological data (appendix pp 216–17). We further analysed results for MRSA infections to explore the apparent contradiction between the declining proportions of MRSA among *S aureus* infections as reported to the European Antimicrobial Resistance Surveillance System and EARS-Net between 2007 and 2015, and the results of this study **(appendix pp 218–19)**

each model was run
at 10 000 iterations of Monte Carlo simulations

Table 1: Estimated annual burden of infection with antibiotic-resistant bacteria of public health importance, by decreasing number of DALYs per 100 0000 population, EU and European Economic Area, 2015

	Median number of infections	Median number of attributable deaths	Median number of DALYs per 100 000 population	Median percentage of total DALYs
Third-generation cephalosporin-resistant *Escherichia coli**†	297 416 (255 377–341 064)	9066 (7787–10 607)	37·2 (32·8–41·8)	21·9% (37·2/170)
Meticillin-resistant *Staphylococcus aureus*	148 727 (131 757–166 361)	7049 (6308–7863)	32·6 (29·8–35·6)	19·2% (32·6/170)
Carbapenem-resistant *Pseudomonas aeruginosa*‡	61 892 (53 210–70 984)	4155 (3398–5087)	27·2 (23·0–32·0)	16·0% (27·2/170)
Third-generation cephalosporin-resistant *Klebsiella pneumoniae**†	68 588 (61 459–76 068)	3687 (3370–4031)	22·5 (20·8–24·3)	13·2% (22·5/170)
Carbapenem-resistant *Acinetobacter* spp‡	27 343 (24 064–30 794)	2363 (1947–2810)	14·0 (12·0–16·2)	8·2 (14·0/
Carbapenem-resistant *K pneumoniae*‡	15 947 (13 473–18 478)	2118 (1795–2473)	11·5 (9·87–13·2)	6·75% (11·5/170)
Colistin-resistant *K pneumoniae*	7450 (6223–8715)	1635 (1362–1922)	8·57 (7·19–10·0)	5·04% (8·57/170)
Vancomycin-resistant *Enterococcus faecalis* and *Enterococcus faecium*	16 146 (13 206–19 334)	1081 (891–1292)	5·49 (4·68–6·47)	3·2 (5·49/
Multidrug-resistant *P aeruginosa**§	9028 (7736–10 425)	572 (456–703)	3·14 (2·60–3·76)	1·85% (3·14/170)
Colistin-resistant *E coli*	7156 (6107–8241)	621 (518–751)	2·57 (2·22–2·95)	1·51 (2·57/
Penicillin-resistant *Streptococcus pneumoniae*¶	2836 (2581–3119)	172 (160–185)	1·54 (1·42–1·68)	0·9 (1·54/1
Penicillin-resistant and macrolide-resistant *S pneumoniae*‖	2013 (1776–2252)	172 (141–206)	0·91 (0·76–1·06)	0·53% (0·91/170)
Multidrug-resistant *Acinetobacter* spp**	2181·5 (1942·8–2449)	100 (89·5–113)	0·90 (0·79–1·05)	0·53% (0·90/170)
Carbapenem-resistant *E coli*‡	2619·0 (2269·0–2961)	141 (119–165)	0·80 (0·68–0·92)	0·47% (0·80/170)
Colistin-resistant *Acinetobacter* spp	1084·7 (926·0–1246)	94·5 (73·9–114)	0·64 (0·53–0·77)	0·38% (0·64/170)
Colistin-resistant *P aeruginosa*	1261·9 (1043·4–1476)	84·5 (65·5–108)	0·59 (0·46–0·72)	0·34% (0·59/170)
Overall	671 689 (583 148–763 966)	33 110 (28 480–38 430)	170 (150–192)	100%

Data are median number (95% uncertainty interval) or % (n/N). Data are not age-standardised. DALYs=disability-adjusted lif
isolates also resistant to colistin or carbapenem. †In 2015, most of the third-generation cephalosporin-resistant *E coli* (88·6%
Net produced an extended-spectrum β-lactamase.[3] ‡Excluding isolates also resistant to colistin. §Resistance to three or mor
¶Excluding isolates also resistant to macrolides. ‖Excluding isolates only resistant to penicillins. **Aminoglycoside-resistant
resistance.

Table 1: Estimated annual burden of infection with antibiotic-resistant bacteria of public health importance, by decreasing number of DALYs per 100 0000 population, EU and European Economic Area, 2015

	Median number of infections	Median number of attributable deaths	Median number of DALYs per 100 000 population
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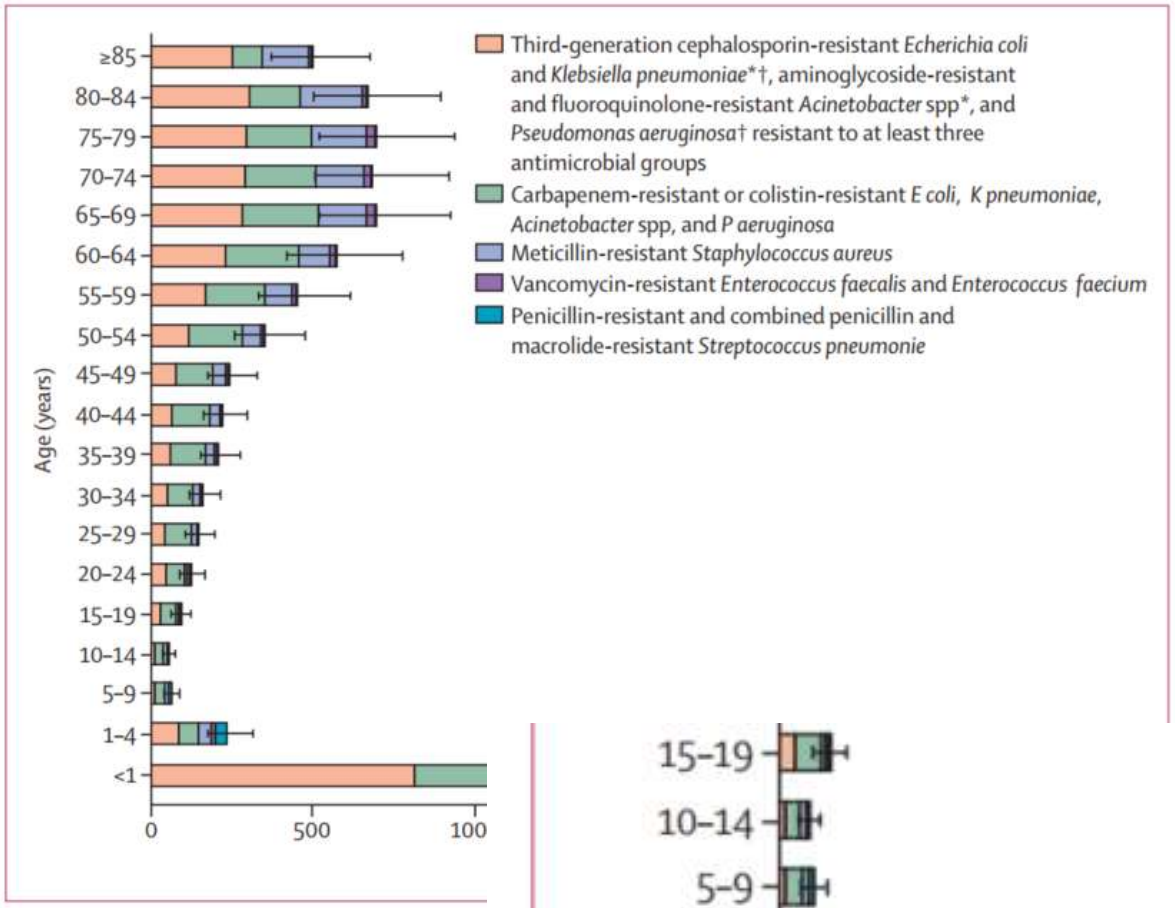


Figure 2: **Model estimates of the burden of inf**
importance in DALYs, by age group, EU and E
Error bars are 95% uncertainty intervals. DALYs=
carbapenem or colistin. †In 2015, most of the th
K pneumoniae (85·3%) isolates reported to the E
an extended-spectrum β-lactamase.[9]

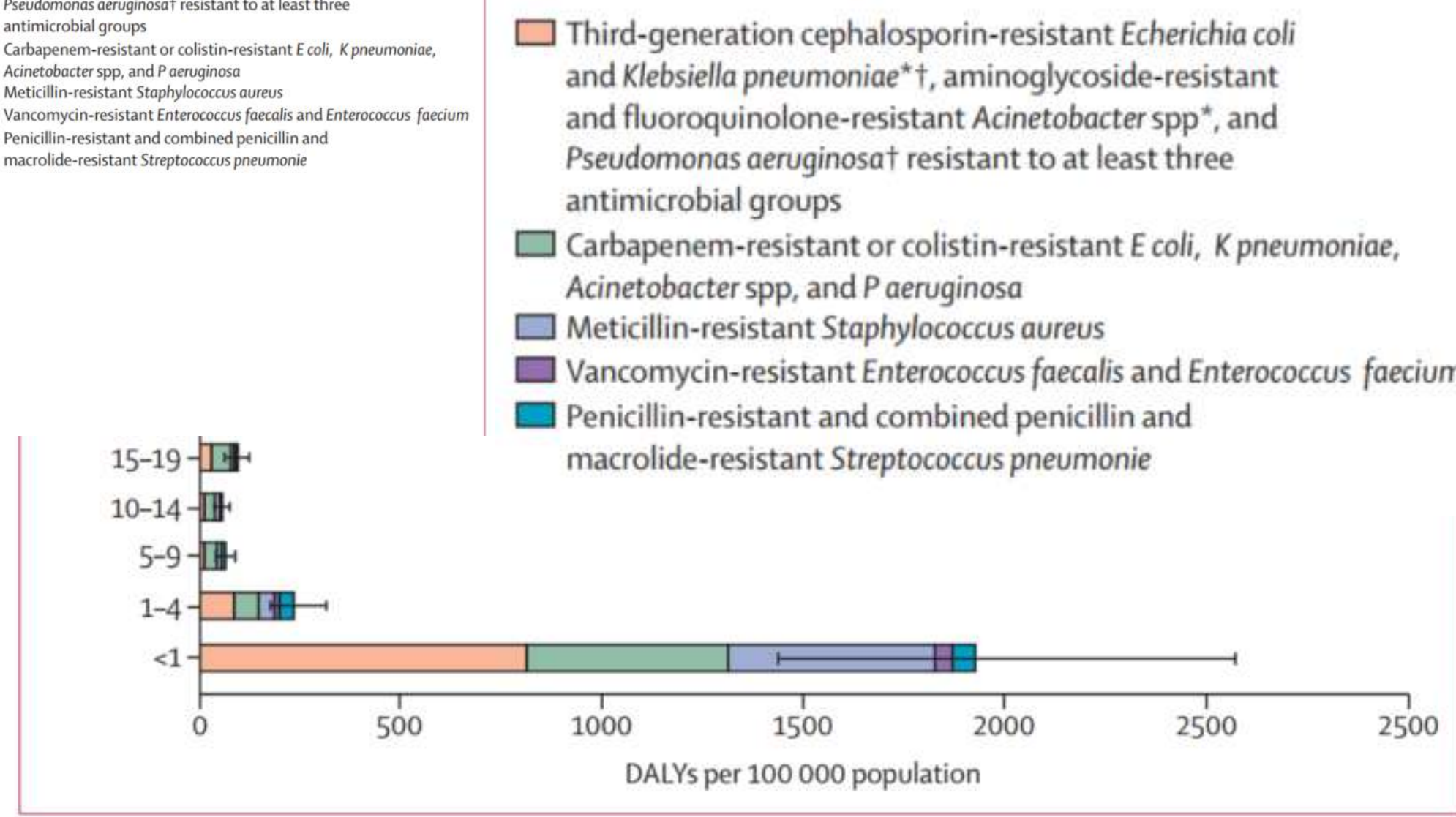


Figure 2: **Model estimates of the burden of infections with antibiotic-resistant bacteria of public health importance in DALYs, by age group, EU and European Economic Area, 2015**

Figure 3: Burden of infections with antibiotic-resistant bacteria in DALYs, EU and European Economic Area, 2015

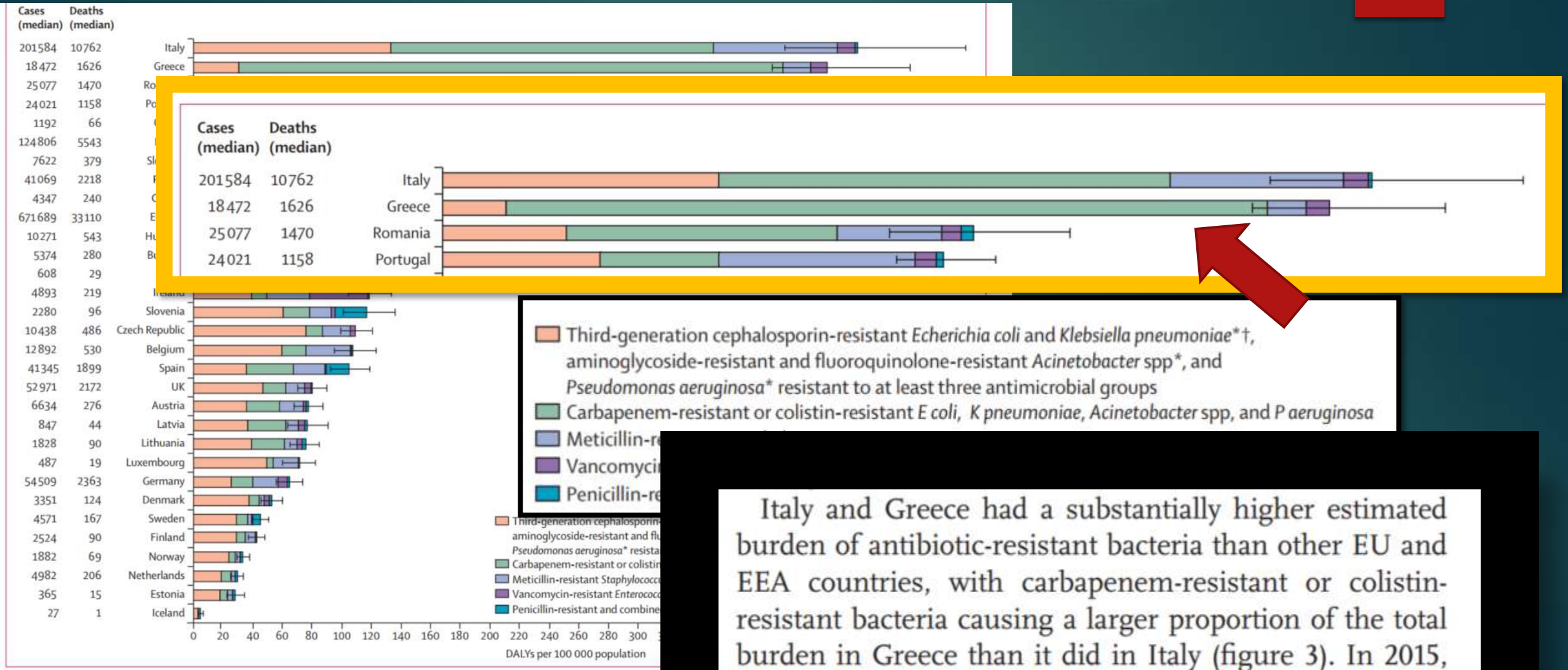


Figure 3: **Burden of infections with antibiotic-resistant bacteria in DALYs, EU and European Economic Area, 2015**
Error bars are 95% uncertainty intervals. Greece did not report data on *S pneumoniae* isolates to the European Antimicrobial Resistance
limit the effect of demographic differences across countries; numbers of cases and deaths are not age-standardised. DALYs=disability-a
colistin. †In 2015, most of the third-generation cephalosporin-resistant *E coli* (88·6%) and *K pneumoniae* (85·3%) isolates reported to th
produced an extended-spectrum β-lactamase.[9]

Italy and Greece had a substantially higher estimated burden of antibiotic-resistant bacteria than other EU and EEA countries, with carbapenem-resistant or colistin-resistant bacteria causing a larger proportion of the total burden in Greece than it did in Italy (figure 3). In 2015,

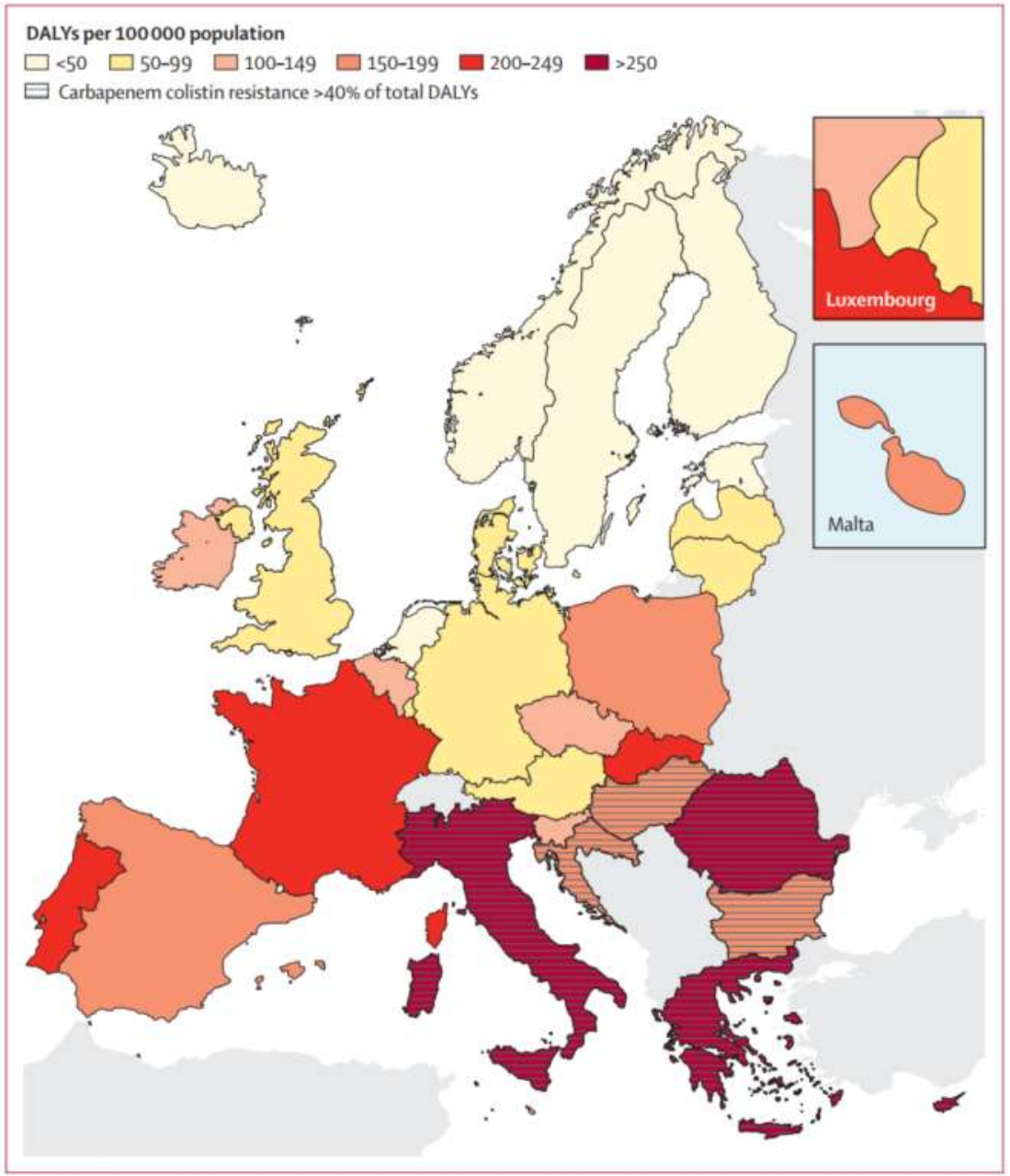


Figure 4: **Model estimates of the burden of infections with selected antibiotic-resistant bacteria of public health importance in DALYs per 100 000 population, EU and European Economic Area, 2015**
Greece did not report data on *S pneumoniae* isolates to the European Antimicrobial Resistance Surveillance Network in 2015. DALYs=disability-adjusted life-years.

DALY / 100.000 population

- >40% των συνολικών DALY από carbapenems Και colistin resistance

	Median number of infections		Median number of attributable deaths		Factor increase in attributable deaths between 2007 and 2015
	2007	2015	2007	2015	
Third-generation cephalosporin-resistant *Escherichia coli**†	70 276 (63 113–77 778)	285 758 (246 318–328 828)	2139 (1901–2420)	8750 (7505–10 262)	4·12 (3·29–5·13)
Meticillin-resistant *Staphylococcus aureus*	112 782 (103 186–122 006)	143 947 (127 592–161 158)	5340 (4952–5723)	6810 (6096–7559)	1·28 (1·11–1·47)
Carbapenem-resistant *Pseudomonas aeruginosa*	17 972 (15 685–20 170)	59 529 (51 237–68 238)	1216 (1000–1469)	4008 (3235–4898)	3·29 (2·41–4·46)
Third-generation cephalosporin-resistant *Klebsiella pneumoniae** †	16 474 (15 097–17 825)	64 980 (58 360–72 048)	891 (830–950)	3508 (3197–3824)	3·95 (3·51–4·43)
Carbapenem-resistant *K pneumoniae*	2535 (2125–2952)	15 910 (13 352–18 377)	341 (288–404)	2094 (1779–2460)	6·16 (4·78–8·04)
Vancomycin-resistant *Enterococcus faecalis* and *Enterococcus faecium*	8277 (6699–9950)	15 917 (12 900–19 092)	538 (452–652)	1065 (874–1283)	1·95 (1·47–2·58)
Multidrug-resistant *P aeruginosa*‡	5603 (4796–6430)	8749 (7470–10 044)	357 (281–439)	556 (447–681)	1·55 (1·11–2·17)
Penicillin-resistant *Streptococcus pneumoniae*§	2183 (2033–2355)	2817 (2552–3104)	134 (126–143)	171 (159–184)	1·28 (1·15–1·42)
Penicillin-resistant and macrolide-resistant *S pneumoniae*¶	1916 (1782–2075)	2386 (2173–2648)	118 (110–126)	145 (135–158)	1·25 (1·12–1·40)
Carbapenem-resistant *E coli*	543 (442–647)	2616 (2283–2960)	29·2 (22·2–37·6)	141 (118–163)	4·76 (3·51–6·90)
Overall	239 238 (215 544–262 951)	602 609 (524 237–686 497)	11 144 (9999–12 407)	27 249 (23 544–31 471)	2·46 (1·01–3·00)

Data are median (95% uncertainty interval) and are age-standardised. Note that only bacteria under surveillance in both 2007 and 2015 are included in this analysis. *Excluding isolates resistant to colistin or carbapenems. †In 2015, most of the third-generation cephalosporin-resistant *E coli* (88·6%) and *K pneumoniae* (85·3%) isolates reported to EARS-Net produced an extended-spectrum β-lactamase.* ‡Resistance to three or more antibiotic groups as marker of multidrug resistance. §Excluding isolates resistant to macrolides. ¶Excluding isolates resistant to penicillins, but not to macrolides.

***Table 2*: Estimated annual burden of infections with selected antibiotic-resistant bacteria of public health importance, age-group standardised, EU and European Economic Area, 2007–15**

Μεταξύ 2007 και 2015, το κόστος (DALY) αυξήθηκε σε όλα τα ανθεκτικά στα αντιβιοτικά βακτήρια

carbapenem ανθεκτικά βακτήρια

Από 18% των DALY το 2007 σε 28% in 2015,

Μόνο τα

carbapenem-resistant K pneumoniae και E coli

Διπλασιάστηκαν από 4,3% το 2007 σε 8,79% το 2015

Ένα σημαντικό ποσοστό οφείλεται σε

Λοιμώξεις της κοινότητας

Άρα,

ASP πρέπει να έχουν ως **στόχο**

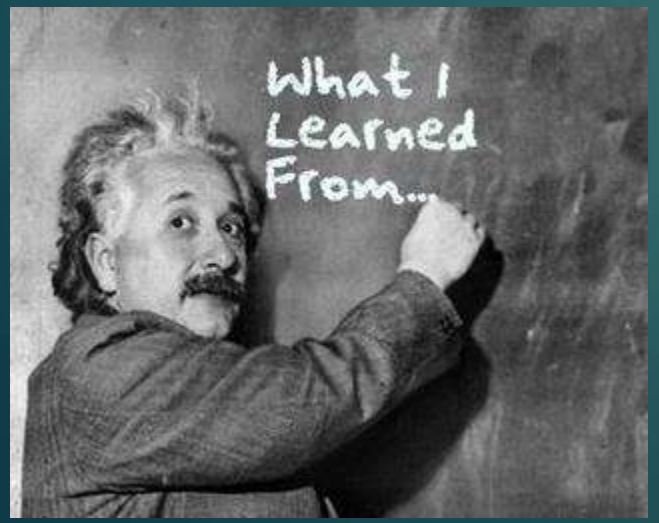
- Αυτούς που συνταγογραφούν στην

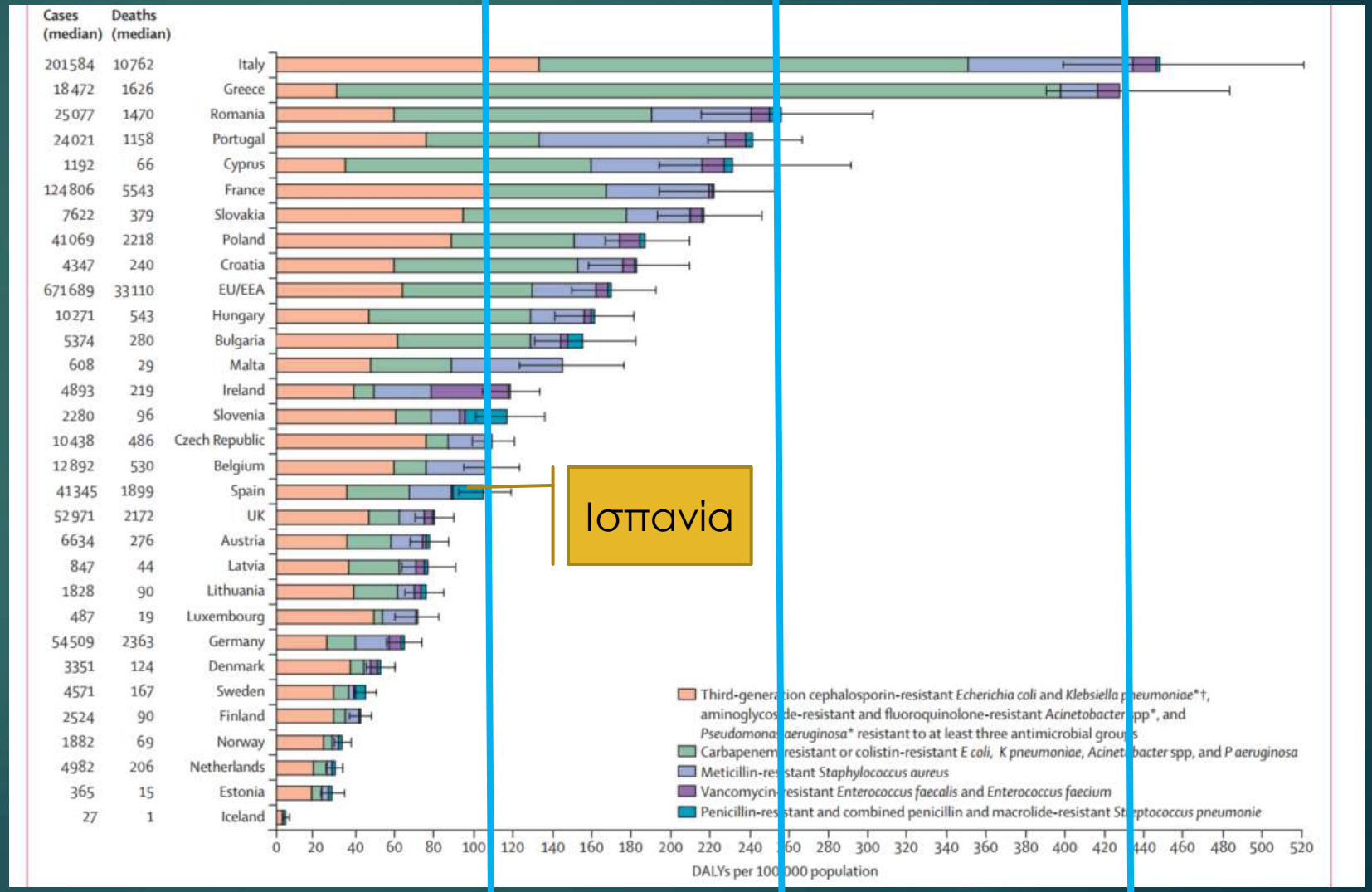
Πρωτοβάθμια περίθαλψη

- Αλλά και την πρόληψη και τον έλεγχο των λοιμώξεων σε αυτή

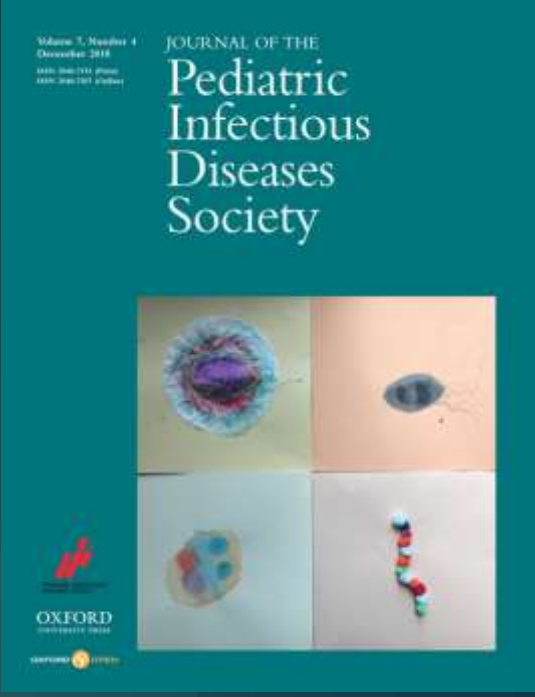
A substantial proportion of the burden of infections with antibiotic-resistant bacteria in the EU and EEA in 2015 was estimated to have been due to community-associated infections. This finding suggests that antimicrobial stewardship targeting prescribers and infection prevention and control interventions in primary care would also be necessary to reduce the burden of these infections in the EU and EEA.

Take home message:





Υψηλά ποσοστά συνταγογράφησης για προφύλαξη σε παιδιά και νεογνά (ARPEC)



Journal of the Pediatric Infectious Diseases Society

ORIGINAL ARTICLE

High Rates of Prescribing Antimicrobials for Prophylaxis in Children and Neonates: Results From the Antibiotic Resistance and Prescribing in European Children Point Prevalence Survey

Markus Hufnagel,[1] Ann Versporten,[2] Julia Bielicki,[3] Nico Drapier,[2] Mike Sharland,[3] and Herman Goossens[2]; For the ARPEC Project Group

[1]Division of Pediatric Infectious Diseases and Rheumatology, Department of Pediatrics and Adolescent Medicine, Medical Center, Faculty of Medicine, University of Freiburg, Germany; [2]Laboratory of Medical Microbiology, Vaccine & Infectious Disease Institute, Faculty of Medicine and Health Sciences, University of Antwerp, Belgium; [3]Paediatric Infectious Disease Unit, St. George's Hospital, London, United Kingdom

accepted 30 January 2018
DOI: 10.1093/jpids/piy019

Σκοπός αυτής της μελέτης ήταν η εκτίμηση των πρακτικών συνταγογράφησης σε 41 χώρες.

- **PPS** σε **226 παιδιατρικά νοσοκομεία**
- Σε **41 χώρες**
- **1/10 – 30/11 του 2012**

Διάρκεια χειρουργικής προφύλαξης >=30Ημ

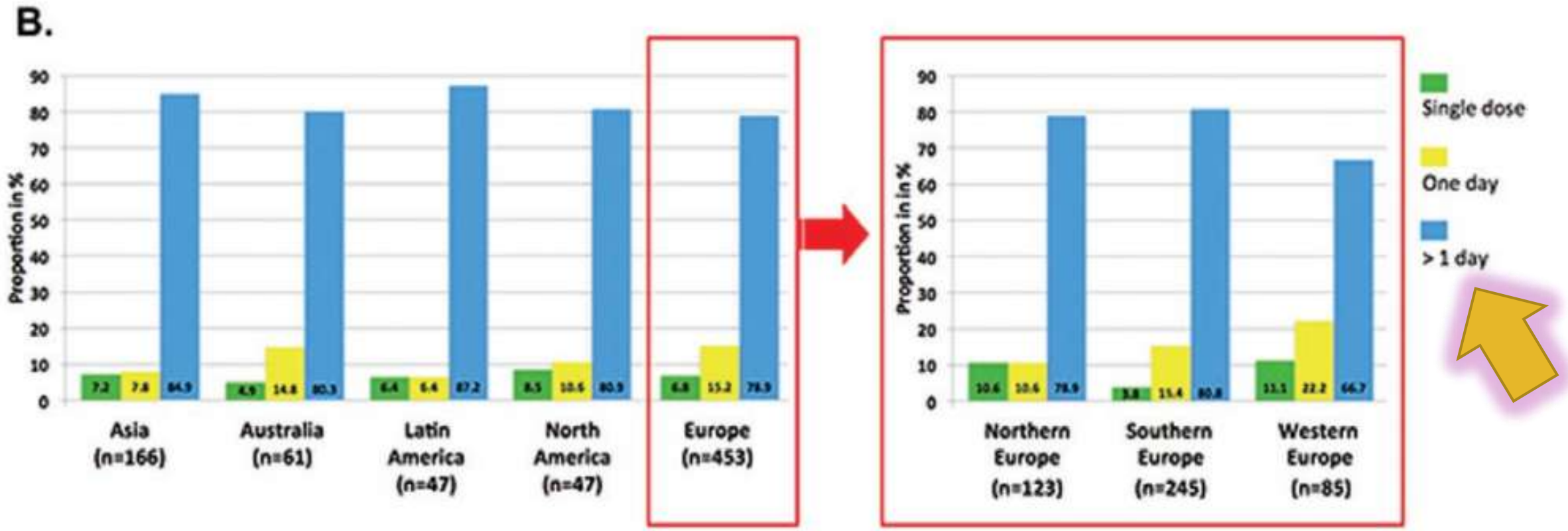


Figure 2. (A) Proportion (%) of children ≥30 days of age with antimicrobial agents for surgical prophylactic use (ATC4 level) by United Nations (UN) region (numbers of proportions >5% are shown in the graph). (B) Proportion (%) of children ≥30 days of age with surgical prophylactic use by duration and UN region.

Διάρκεια χειρουργικής προφύλαξης <30Ημ

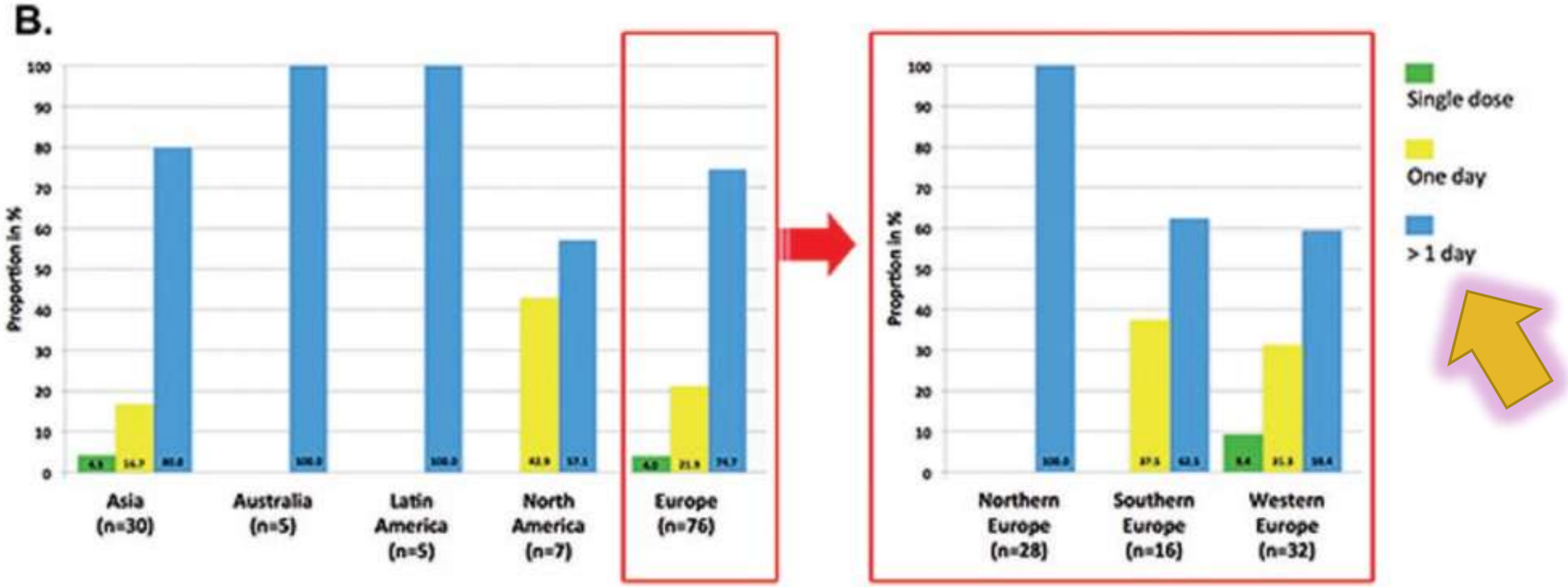
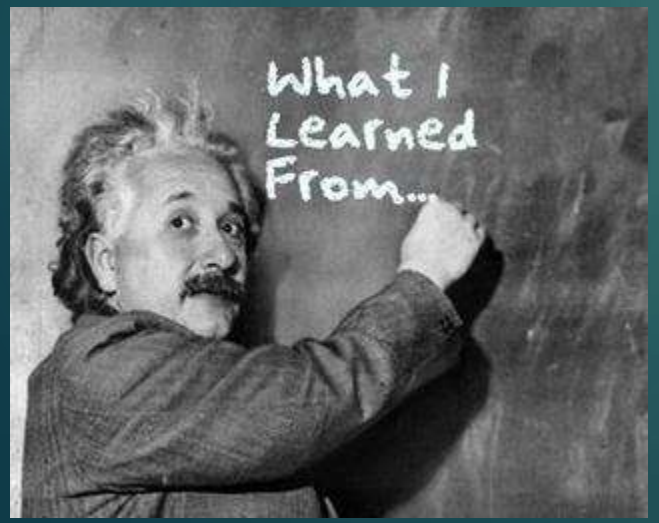


Figure 3. (A) Proportion (%) of infants <30 days of age with antimicrobial agents for surgical prophylactic use (ATC4 level) by United Nations (UN) region (numbers in proportions >5% are shown in the graph). (B) Proportion (%) of infants <30 days of age with surgical prophylactic use by duration and UN region.

Take home message:



Χρήση αντιμικροβιακών σε ΕΕ ACH PPS2016 – 2017

Eurosurveillance

SURVEILLANCE AND OUTBREAK REPORT

Antimicrobial use in European acute care hospitals: results from the second point prevalence survey (PPS) of healthcare-associated infections and antimicrobial use, 2016 to 2017

Diamantis Plachouras[1], Tommi Kärki[1], Sonja Hansen[2], Susan Hopkins[3], Outi Lyytikäinen[4], Maria Luisa Moro[5], Jacqui Reilly[6,7], Peter Zarb[8], Walter Zingg[9], Pete Kinross[1], Klaus Weist[1], Dominique L Monnet[1], Carl Suetens[1], the Point Prevalence Survey Study Group[10]

1. European Centre for Disease Prevention and Control, Stockholm, Sweden
2. Institute of Hygiene and Environmental Medicine, Charité – University Medicine Berlin, Berlin, Germany
3. Public Health England, London, United Kingdom
4. National Institute for Health and Welfare (THL), Department of Health Security, Helsinki, Finland
5. Agenzia sanitaria e sociale regionale – Regione Emilia Romagna, Bologna, Italy
6. National Services Scotland, Health Protection Scotland, Glasgow, United Kingdom
7. Glasgow Caledonian University, Glasgow, United Kingdom
8. Mater Dei Hospital, Msida, Malta
9. Imperial College, London, United Kingdom
10. Members of the Point Prevalence Survey Study Group are listed at the end of this article

Correspondence: Diamantis Plachouras (Diamantis.Plachouras@ecdc.europa.eu)

1,209 hospitals and **310,755** patients in **28 of 31** (EU/EEA) countries.

https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.23.46.1800393
15 Nov 2018

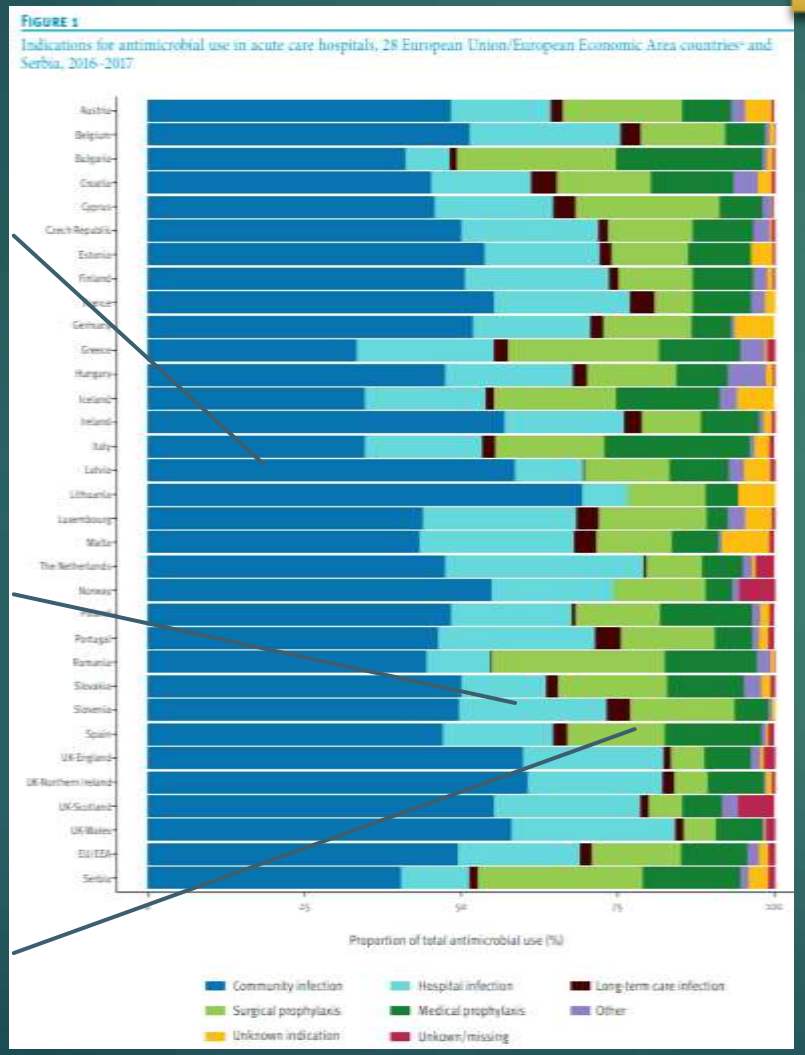
The **most common indication** for prescribing antimicrobials

treatment of a community-acquired infection
treatment of HAI
surgical prophylaxis

Κοινότητας

ΝΛ

Χειρουργική προφύλαξη



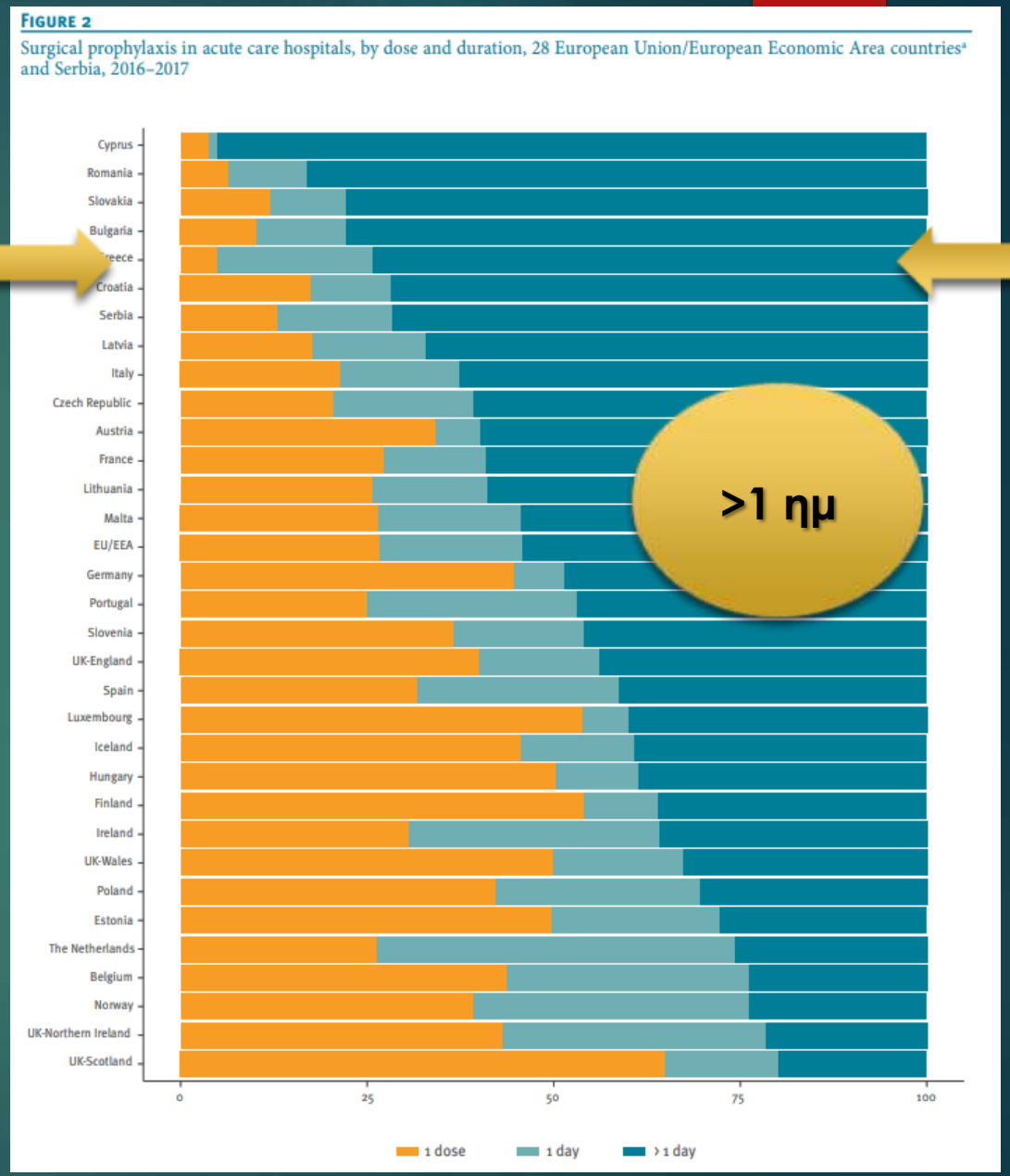
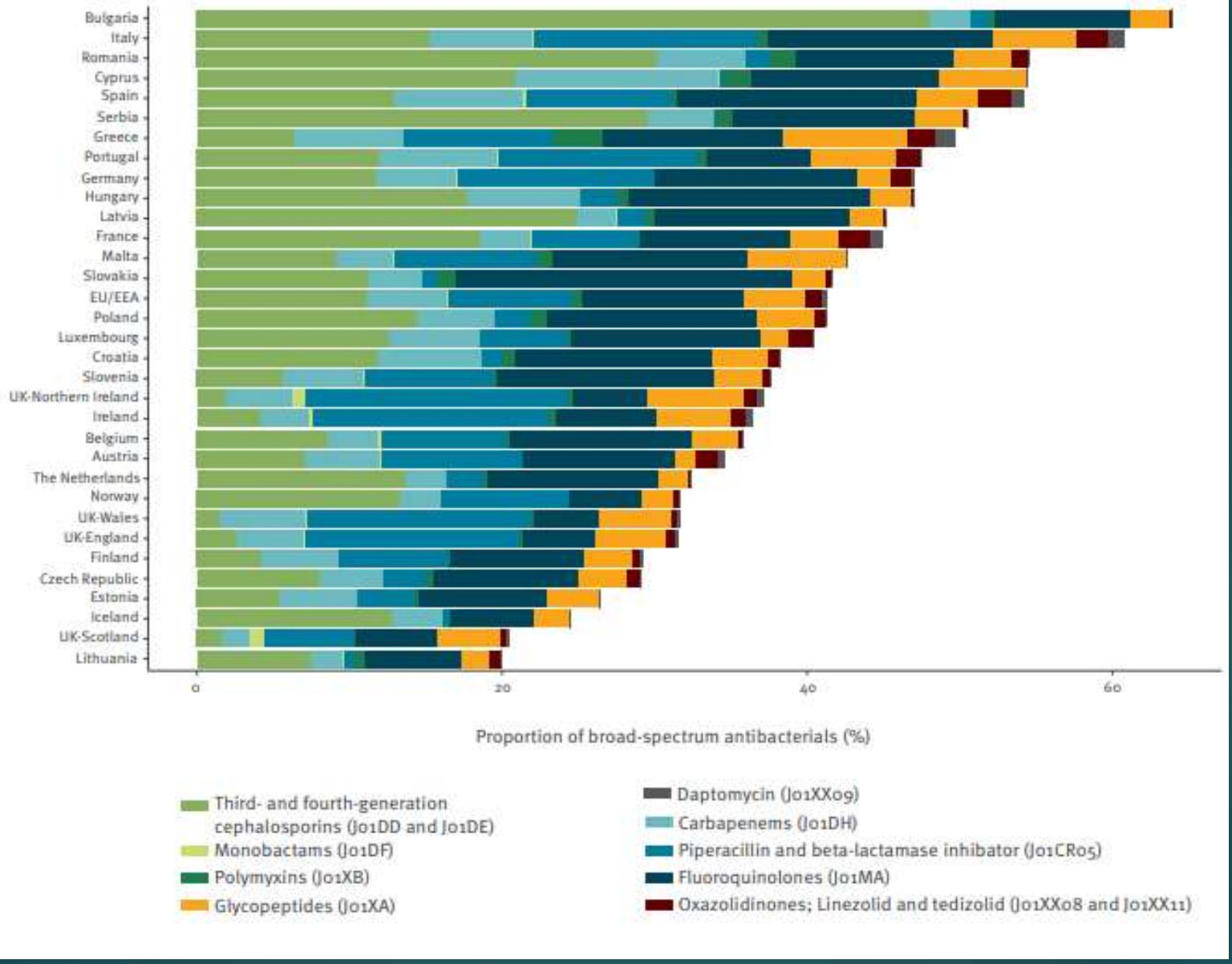
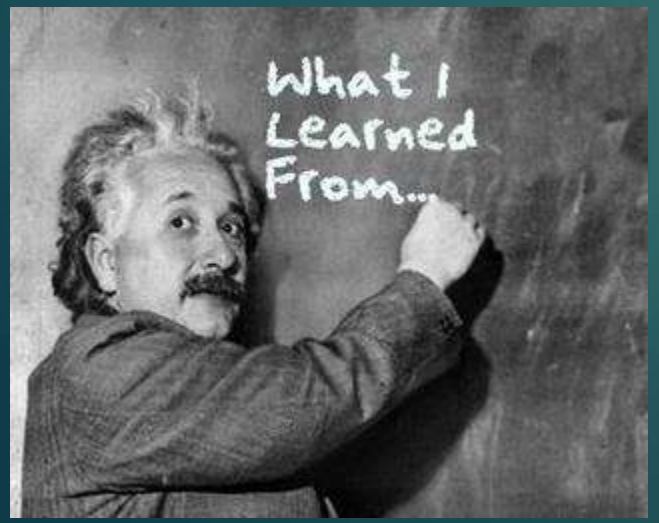


FIGURE 4

Proportion of broad-spectrum antibacterials[a] among all antibacterials for systemic use (J01), 28 European Union/European Economic Area countries[b] and Serbia, 2016–2017



Take home message:



The **most common indication** for prescribing antimicrobials

treatment of a community-acquired infection
treatment of HAI
surgical prophylaxis

Αύξηση της κατανάλωσης των αντιβιοτικών μεταξύ του 2000 και του 2015 παγκοσμίως

PNAS Proceedings of the National Academy of Sciences of the United States of America

Check for updates

Global increase and geographic convergence in antibiotic consumption between 2000 and 2015

Eili Y. Klein[a,b,c,1], Thomas P. Van Boeckel[d], Elena M. Martinez[a], Suraj Pant[a], Sumanth Gandra[a], Simon A. Levin[e,f,g,1], Herman Goossens[h], and Ramanan Laxminarayan[a,f,i]

[a]Center for Disease Dynamics, Economics & Policy, Washington, DC 20005; [b]Department of Emergency Medicine, Johns Hopkins School of Medicine, Baltimore, MD 21209; [c]Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD 21205; [d]Institute of Integrative Biology, ETH Zürich, CH-8006 Zürich, Switzerland; [e]Department of Ecology and Evolutionary Biology, Princeton University, Princeton, NJ 08544; [f]Princeton Environmental Institute, Princeton University, Princeton, NJ 08544; [g]Beijer Institute of Ecological Economics, SE-104 05 Stockholm, Sweden; [h]Laboratory of Medical Microbiology, Vaccine & Infectious Diseases Institute, University of Antwerp, 2610 Antwerp, Belgium; and [i]Department of Global Health, University of Washington, Seattle, WA 98104

Contributed by Simon A. Levin, February 23, 2018 (sent for review October 3, 2017; reviewed by Bruce R. Levin and Dominique L. Monnet)

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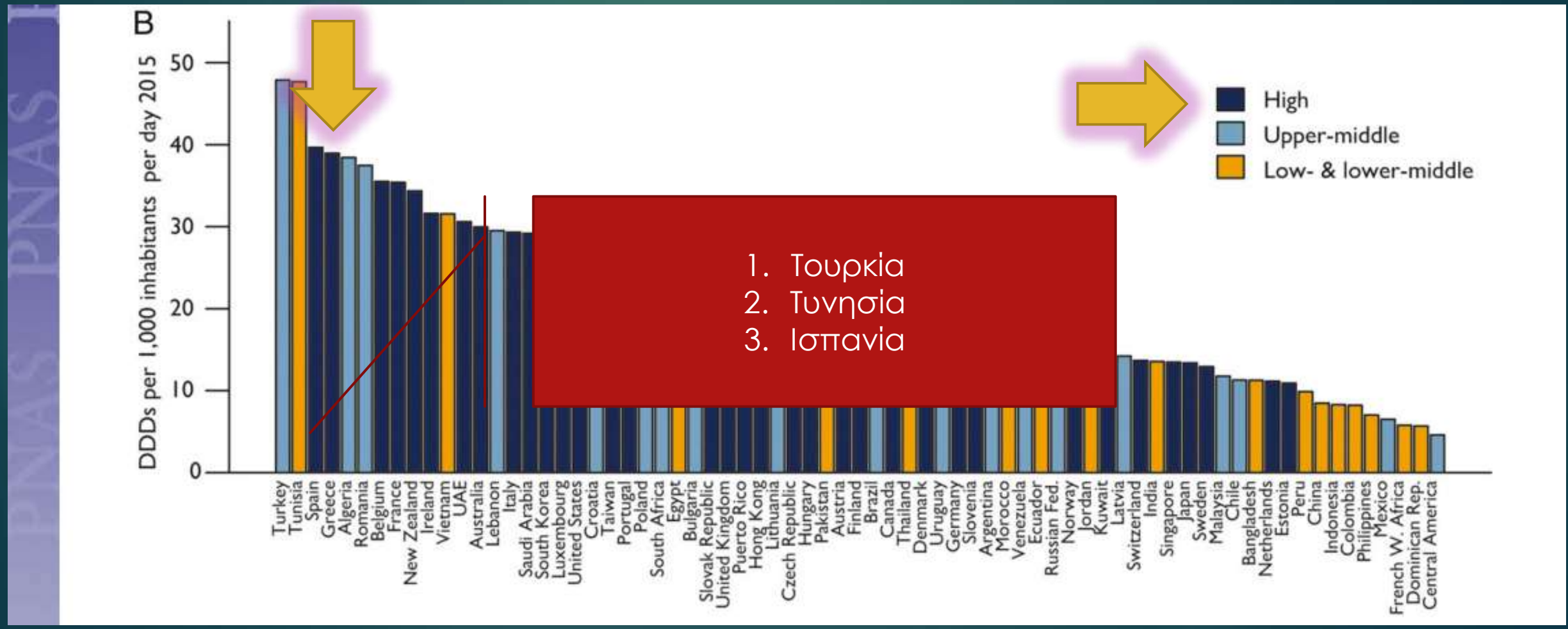
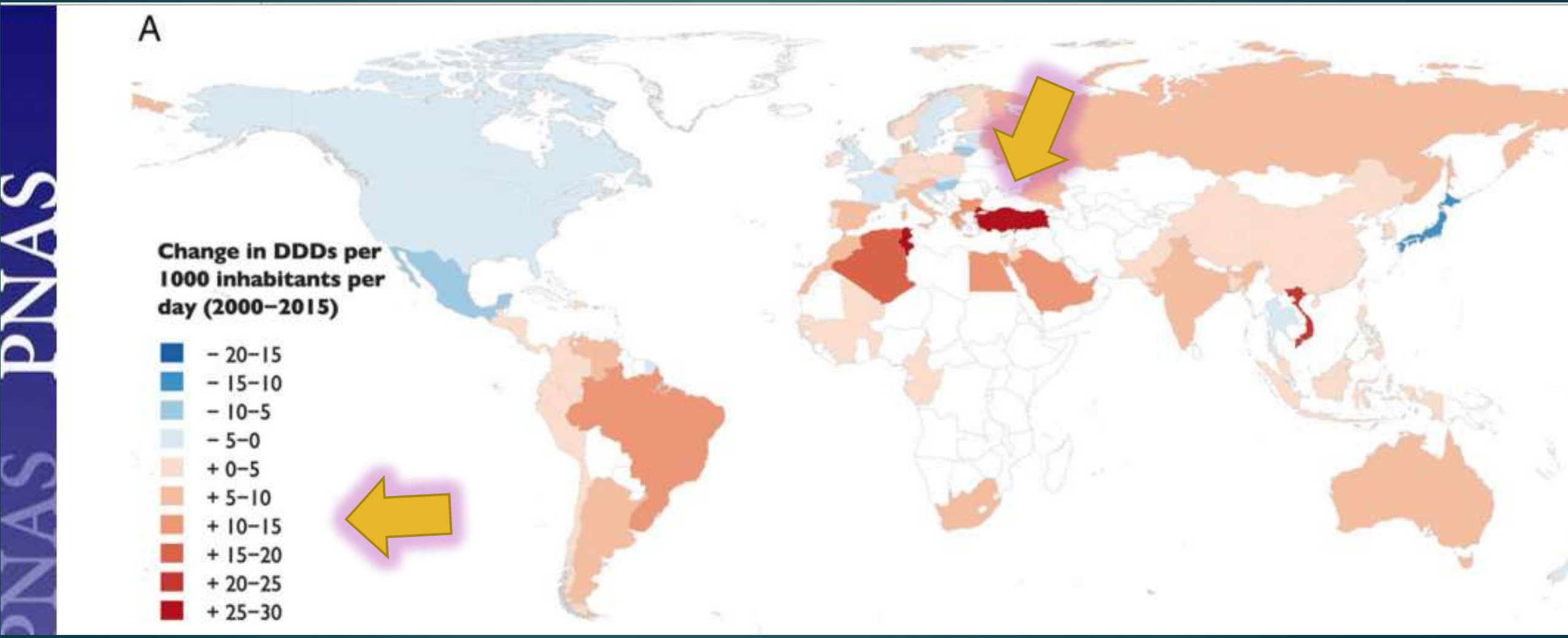
DDDs /1000 κατοίκους ανά ημέρα το 2015



Μεταβολή των DDDs /1000 κατοίκους ανά ημέρα 2000 -> 2015



Σημαντική αύξηση της κατανάλωσης σε LMIC (χαμηλό και χαμηλομεσαίο εισόδημα)

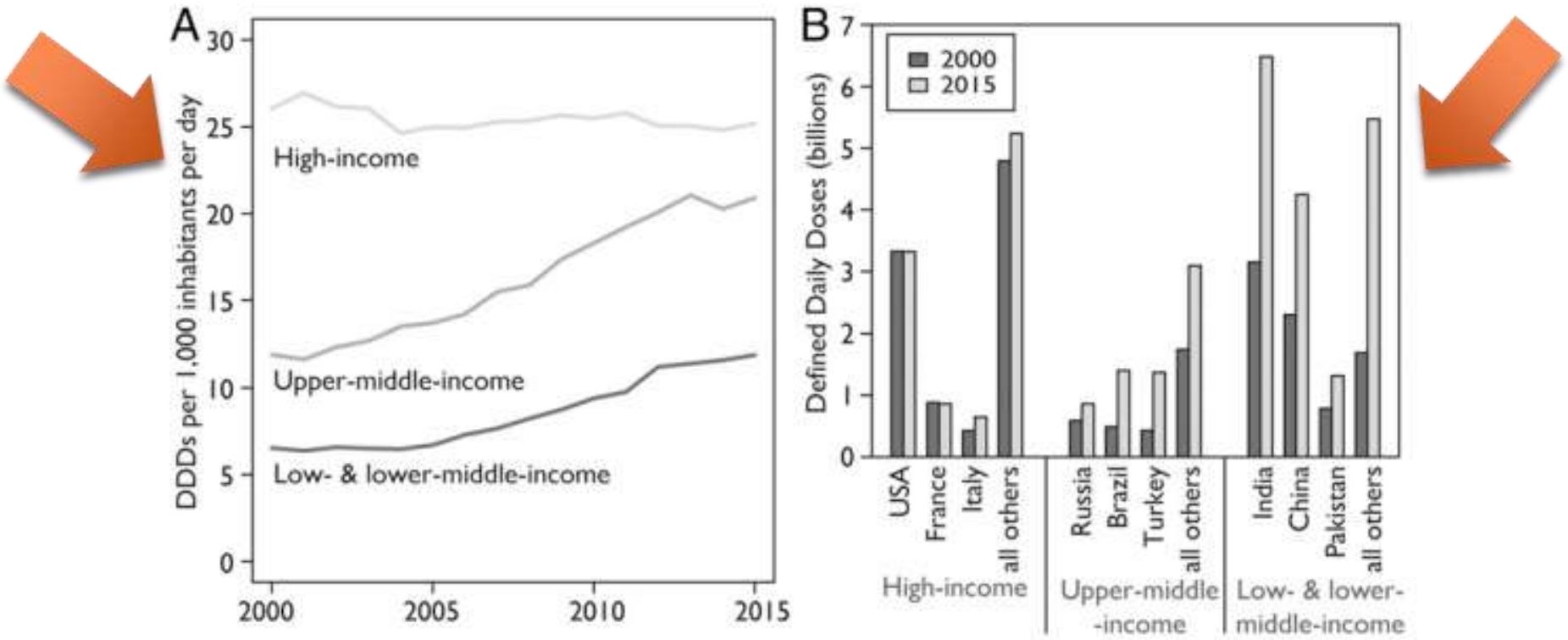
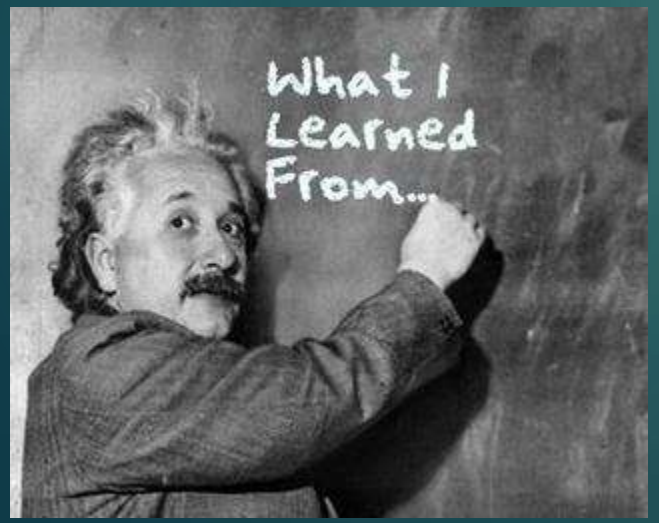


Fig. 2. Global antibiotic consumption by country income classification: 2000–2015. (*A*) Graph showing how the antibiotic consumption rate in DDDs per 1,000 inhabitants per day has rapidly increased for LMICs, while remaining nearly constant for HICs. However, as shown in *B*, the larger population sizes in many LMICs result in greater total antibiotic consumption (DDDs) in LMICs even though their consumption rate (and thus per capita use) is lower. In *B*, each bar reflects total consumption in the specified year for that country or group of countries. Data source: IQVIA MIDAS, 2000–2015, IQVIA Inc. All rights reserved (https://www.iqvia.com/solutions/commercialization/geographies/midas).

Take home message:



Επιδημιολογία Λοιμώξεων και χρήσης αντιβιοτικών σε νεογνικές μονάδες

ADC Fetal & Neonatal edition

Epidemiology of infections and antimicrobial use in Greek Neonatal Units

Despoina Gkentzi,[1] Christina Kortsalioudaki,[2] Benjamin Campbell Cailes,[2] Theoklis Zaoutis,[3] John Kopsidas,[3] Maria Tsolia,[4] Nikos Spyridis,[4] Soultana Siahanidou,[5] Kosmas Sarafidis,[6] Paul T Heath,[2] Gabriel Dimitriou,[1] on behalf of the Neonatal Infection Surveillance Network in Greece

ABSTRACT

Objective To describe the epidemiology of neonatal infections and of antimicrobial use in Greek Neonatal Units (NNUs) in order to develop national, evidence-based guidelines on empiric antimicrobial use for neonatal sepsis in Greece.

Design Retrospective analysis of prospectively collected infection surveillance data from 2012 to 2015, together with a Point Prevalence Survey (PPS) on antimicrobial use and the collection of data on local empiric antimicrobial policies.

What is already known on this topic?

- Data on the pathogens causing neonatal infections in Greece are limited and the emergence of multidrug-resistant pathogens is an important public health concern.
- The neonatal infection surveillance network (neonIN) monitors the epidemiology of neonatal infections in Europe.

https://fn.bmj.com/content/early/2018/06/28/archdischild-2018-315024.long

Χρήση των στοιχείων που καταγράφονται στην βάση **neonIN** 2012-2015

Με **σκοπό**

- την περιγραφή της επιδημιολογίας των λοιμώξεων των νεογνών της Ελλάδας

Και την διενέργεια ενός PPS με σκοπό

- την περιγραφή της χρήσης των αντιβιοτικών στις νεογνικές μονάδες

Table 2 Pathogen distribution for early and late onset sepsis in 16 Greek Neonatal Units

	EOS n (%)	LOS n (%)
Pathogens	46 (10%)	413 (90%)
GP	28 (60.9%)	162 (39.2%)
Most common GP pathogen	*CoNS* (8, 28.6%)	*CoNS* (130, 80.3%)
GP pathogens (CoNS excluded)	*GBS* (6, 30.0%) *Enterococcus* spp (4, 20%) *Streptococcus* spp (5, 25%) *Listeria* (3, 15%) *Diphtheroids* (2, 10%)	*Enterococcus* spp (22, 68.7%) (VRE 14%) *Bacillus* spp (4, 12.5%) *S. aureus* (all MSSA) (2, 6.2%) *GBS* (1, 3.1%) *Streptococcus* spp (3, 9.3%)
GN	17 (37.0%)	207 (50.1%)
GN pathogens	*E. coli* (8, 47.1%) *Klebsiella* spp (2, 11.7%) *S. maltophilia* (2, 11.7%) *Acinetobacter* spp (1,5.8%) *Haemophilus* spp (1, 5.8%) *Proteus* spp (1, 5.8%) *Citrobacter* spp (1, 5.8%) *Enterobacter* spp (1, 5.8%)	*Klebsiella* spp (80, 38.7%) *E. coli* (54, 26%) *Enterobacter* spp (33, 16%) *Serratia* spp (16, 7%) *Pseudomonas* (8, 3.8%) *Acinetobacter* spp (8, 3.8%) *Citrobacter* spp (4, 1.9%) *Proteus* spp (2, 1%) *Haemophilus* spp (1, 0.5%) *S. maltophilia* (1, 0.5%)
Fungi	1 (2.1%)	44 (10.7%)
Most common fungi	–	*Candida parapsilosis* (23, 52.3%)

Table 4 Antimicrobial Guidelines in 11 Greek Neonatal Units

	Empiric antimicrobial policies	N (%)
Early-onset sepsis	Ampicillin+Gentamicin	9 (73)
	Benzylpenicillin+Gentamicin	2 (18)
	Ampicillin+Amikacin	1 (9)
	Cefotaxime (second line option)	7 (64)
Late-onset sepsis	Piperacillin/tazobactam+Teicoplanin	3 (27)
	Cefotaxime+Glycopeptide	3 (27)
	Meropenem+Vancomycin	2 (18)
	Piperacillin/tazobactam+Amikacin	1 (9)
	Cefepime+Vancomycin	1 (9)
	Flucloxacillin+Gentamicin	1 (9)
Antifungal prophylaxis*	Fluconazole intravenous	6 (54)
	Nystatin PO	2 (18)
	No prophylaxis	2 (18)
	No policy	1 (9)

*Where recommended, antifungal prophylaxis is for all babies<1000 g.

Κατανομή παθογόνων με ημέρα έναρξης

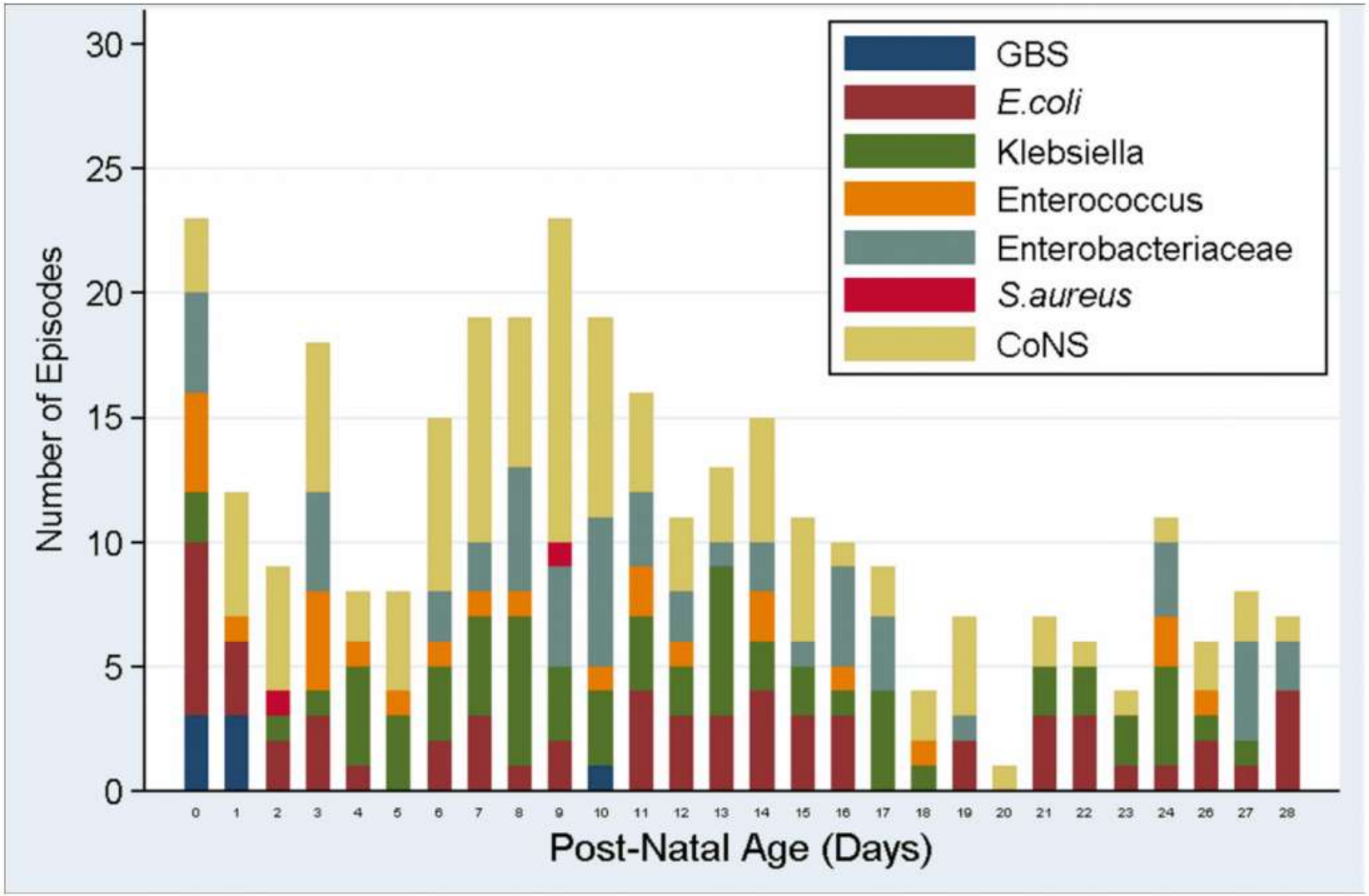
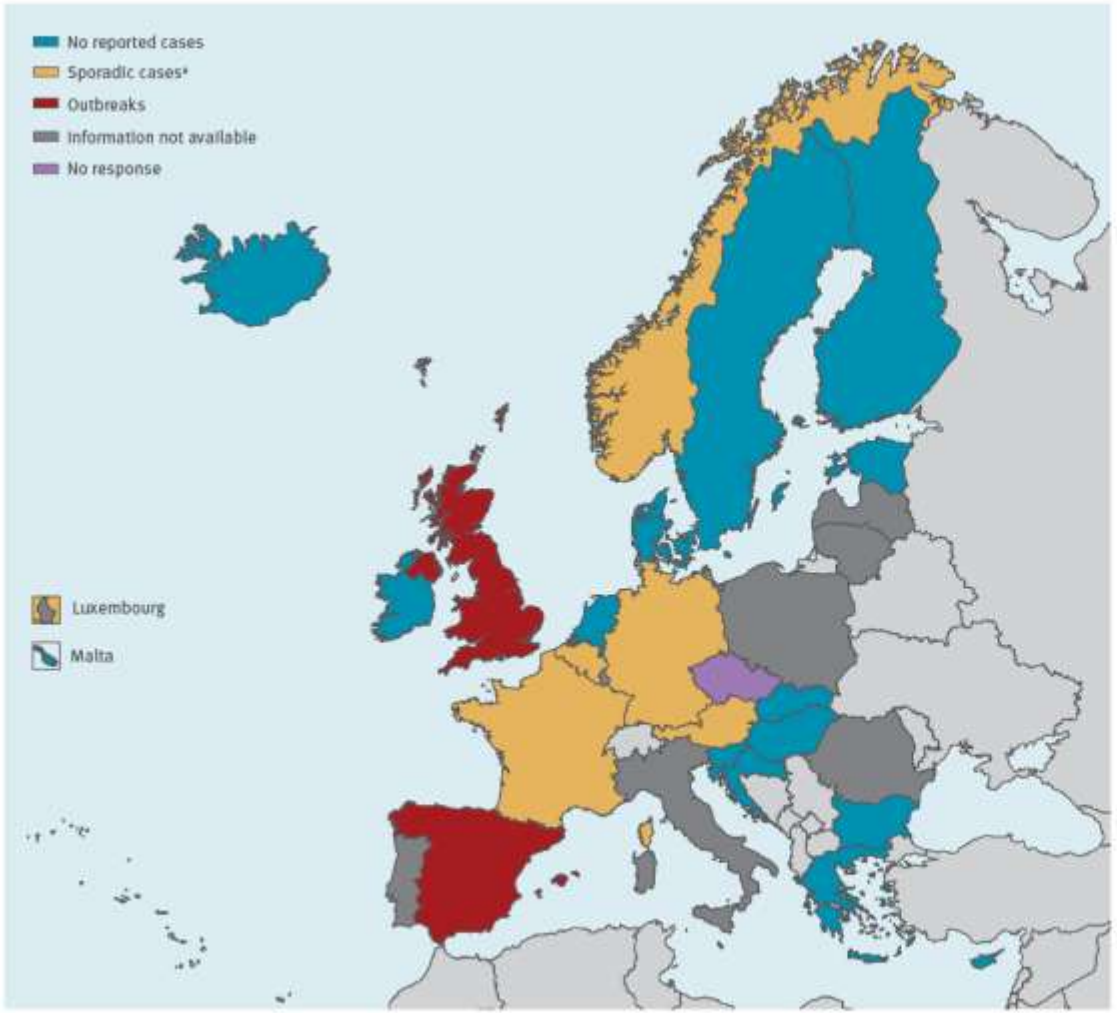


Figure 1 Pathogen distribution by day of onset for neonates with sepsis on 16 Greek Neonatal Units. CoNS, *Coagulase-negative Staphylococci;* GBS, Group B streptococcus.

Candida auris

Request from the European Commission on 4 April 2018
to update the rapid risk assessment published on 19 December 2016.

Figure 1. Geographic distribution of Candida auris cases reported in EU/EEA countries, 2013–2017 (n=620)[a] [16]



[a] The map includes one additional case detected in Austria in January 2018, which is not included in the total for the period 2013–2017. Sporadic cases include one case for Austria, one case for Belgium, two cases for France, seven cases for Germany and one case for Norway.

2013-2017

620 περιπτώσεις από

6 χώρες

Λοίμωξη: 150 (24.2%)

Αποικισμός 466 (75.2%)

Ισπανία και Η.Β. 599/620

Cases and outbreaks of C. auris in EU/EEA Member States

In response to the ECDC C. auris survey, 620 C. auris cases were reported from six EU/ EEA countries for the period 2013–2017. During this period, cases were reported from Spain (n = 388), the UK (n = 221), Germany (n = 7), France (n = 2), Belgium (n = 1) and Norway (n = 1) (Table 1, Figure 1) [16]. Austria detected one case in January 2018. The majority of cases were reported as colonisation (n = 466; 75.2%), while a bloodstream or other type of infection was reported in 150 (24.2%) cases. For four (0.6%) cases, the colonisation/infection status was unknown.

Table 1. Number of Candida auris cases detected in the EU/EEA, 2013–2017 (n = 620)[a] [16]

Year	C. auris bloodstream infection		Other type of C. auris infection		C. auris colonisation		Cases of unknown infection/colonisation status		Total
	n	%	n	%	n	%	n	%	n
2013	1	33.3	0	0.0	0	0.0	2	66.7	3
2014	0	0.0	1	100.0	0	0.0	0	0.0	1
2015	6	26.1	11	47.8	6	26.1	0	0.0	23
2016	53	18.3	13	4.5	223	76.9	1	0.3	290
2017	50	16.5	15	5.0	237	78.2	1	0.3	303
2013–2017	110	17.7	40	6.5	466	75.2	4	0.6	620

All percentages are row percentages. [a] One additional case was detected in Austria in January 2018 and is not include e table.

- 2 χώρες
- 4 επιδημίες of C. auris
- Μετάδοση εντός του ίδιου νοσοκομείου και σε τμήματα που δεν μοιράζονταν προσωπικό

- Επηρέασαν συνολικά 573 ασθενείς

- Περιπτώσεις ανά επιδημία από 39 έως 382

- **1 διήρκησε σχεδόν 2 χρόνια.**

Αποτελεί **κίνδυνο** για τους ασθενείς σε νοσοκομεία στην Ευρώπη

Λόγω

- της τάσης της να προκαλεί **επιδημίες**
- Της **αντοχής** της σε αντιμυκητιασικά
- (συνήθως θεραπεία με εχινοκανδίνες κάποια strains ανθ και στις 3 τάξεις αντιμυκ)
- Δύσκολη η ταυτοποίησή της εργαστηριακά
- Δεν υπάρχει επαγρύπνηση
- Καθυστέρηση της ανίχνευσής της

Πρώτη φορά αναγνωρίστηκε **το 2009**

Έχει προκαλέσει επιδημίες σε **5 ηπείρους**

Πλέον αποτελεί **σημαντικό παράγοντα νοσοκομειακών λοιμώξεων**

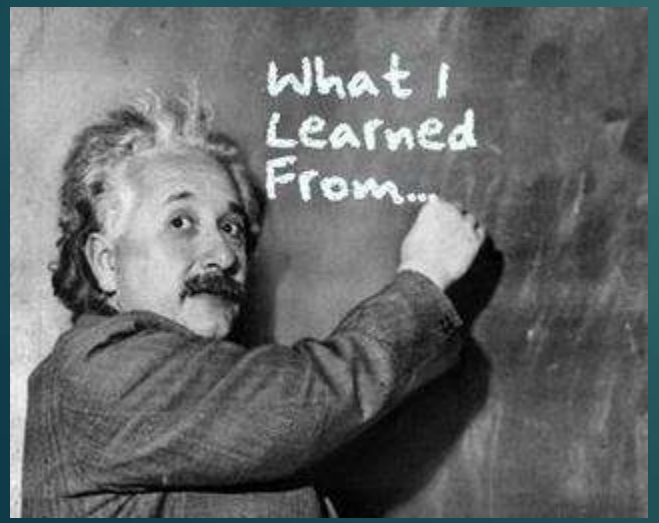
Συνεχίζει να υπάρχει ανάγκη να αυξηθεί η ευαισθητοποίηση για την C. auris στα ευρωπαϊκά νοσοκομεία

Main conclusions and options for response

Candida auris poses a risk for patients in healthcare facilities across Europe due to its propensity to cause outbreaks and its antifungal resistance. Difficulties with laboratory identification and lack of awareness of this Candida species may delay early detection increasing the potential for horizontal transmission. C. auris was first identified in 2009 and within a few years has emerged as a cause of healthcare-associated infections. Outbreaks have been reported in countries in five continents. The number of reported C. auris cases in European countries has increased significantly since the last ECDC rapid risk assessment on C. auris in December 2016. There continues to be a need to raise awareness of C. auris in European healthcare facilities, so that they may adapt their laboratory testing strategies and implement enhanced infection prevention and control measures where necessary.

Take home message:

Candida auris



Γρίπη Ελλάδα 2017 -2018

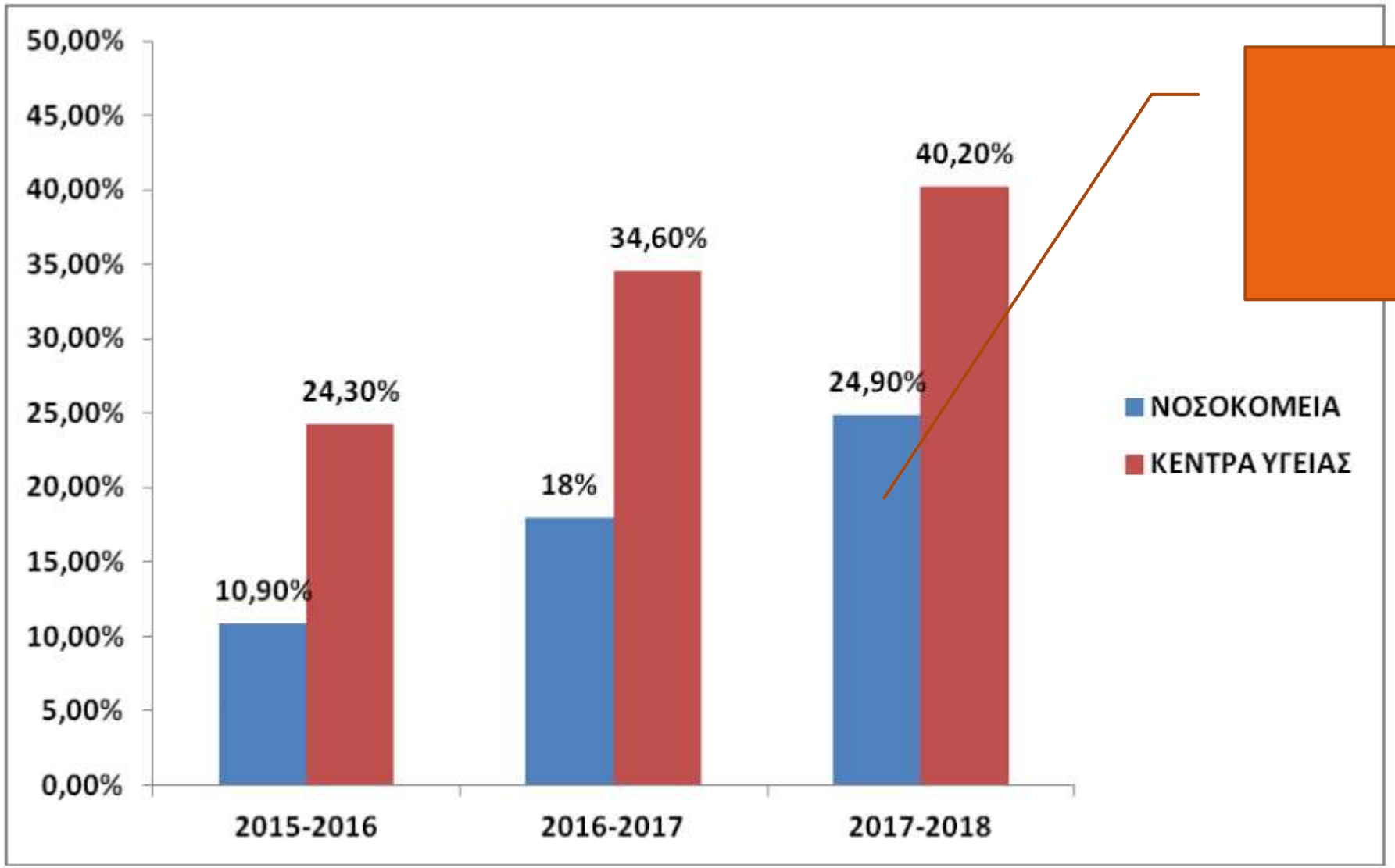
Τμήμα Επιδημιολογικής Επιτήρησης και Παρέμβασης

Γραφείο Νοσημάτων που μεταδίδονται μέσω του Αναπνευστικού

Η Δραστηριότητα της Γρίπης στην Ελλάδα

Περίοδος 2017-2018

Διάγραμμα 8. Εμβολιαστική κάλυψη των εργαζομένων σε νοσοκομεία και Κέντρα Υγείας τις τρεις τελευταίες περιόδους γρίπης (2015-2016, 2016-2017 και 2017-2018).



24.9%

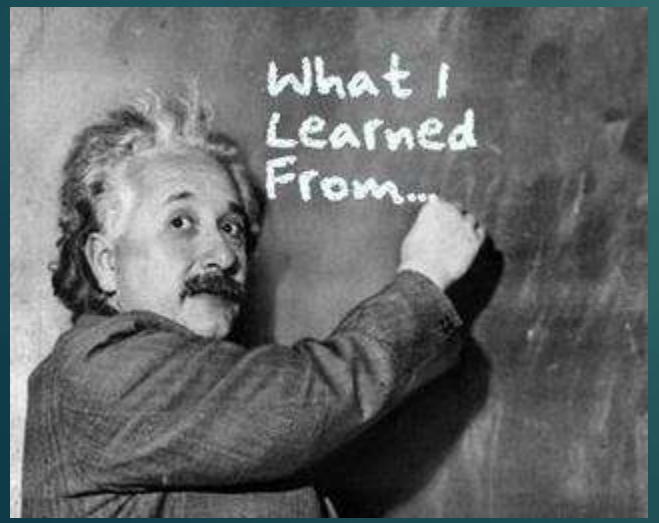
Εμβολιαστική κάλυψη των εργαζομένων σε Νοσοκομεία και Κέντρα Υγείας ανά υπηρεσία.

- Ιατρική υπηρεσία 40,3%
- Νοσηλευτική υπηρεσία 35,1%
- Λοιπό επιστημονικό προσωπικό 29,2%
- Τεχνική υπηρεσία 31,7%
- Διοικητική υπηρεσία 31,2%

Εμβολιαστική κάλυψη σε Νοσοκομεία και Κέντρα Υγείας ανά Υγειονομική Περιφέρεια

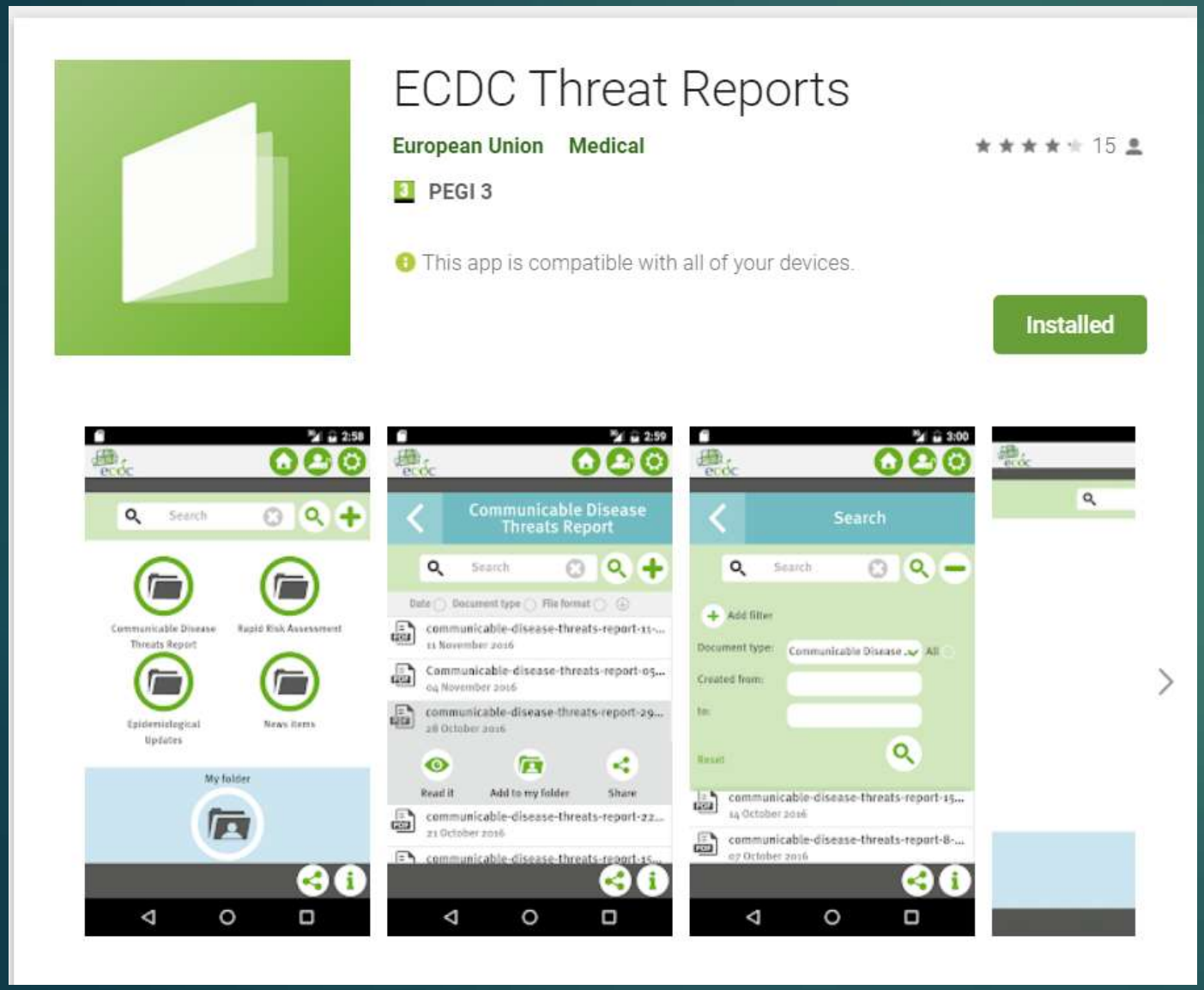
	Νοσοκομεία	Κέντρα Υγείας
1η Υ.ΠΕ	24,7%	33,3%
2η Υ.ΠΕ	20,9%	41,5%
3η Υ.ΠΕ	23,0%	34,5%
4η Υ.ΠΕ	16,0%	36,4%
5η Υ.ΠΕ	15,9%	39,1%
6η Υ.ΠΕ	27.3%	46,8%
7η Υ.ΠΕ	39,3%	53,7%
Στρατιωτικά	34,9%	-
Ιδιωτικά	32,1%	-

Take home message:



Υπάρχει ένα app για τα πάντα

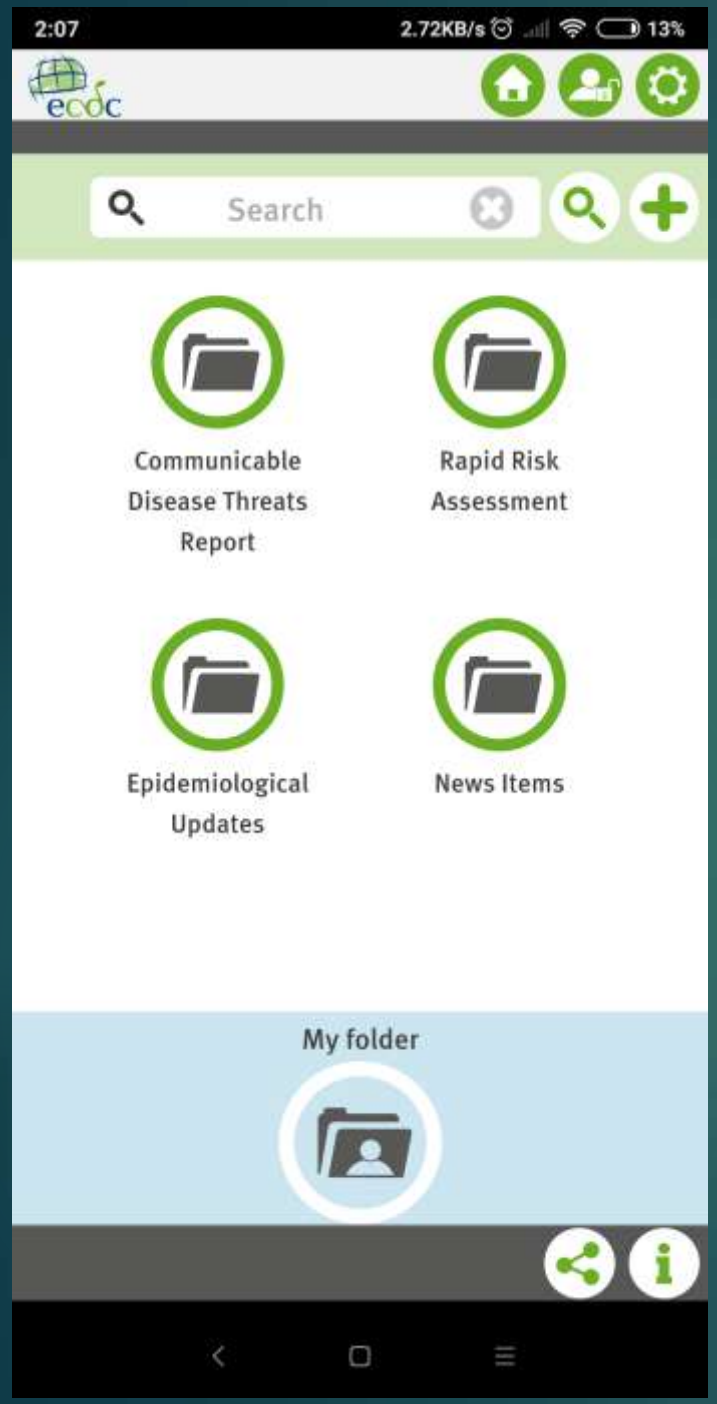
- https://play.google.com/store/apps/details?id=eu.europa.publications.threatreports



App Store

Google Play

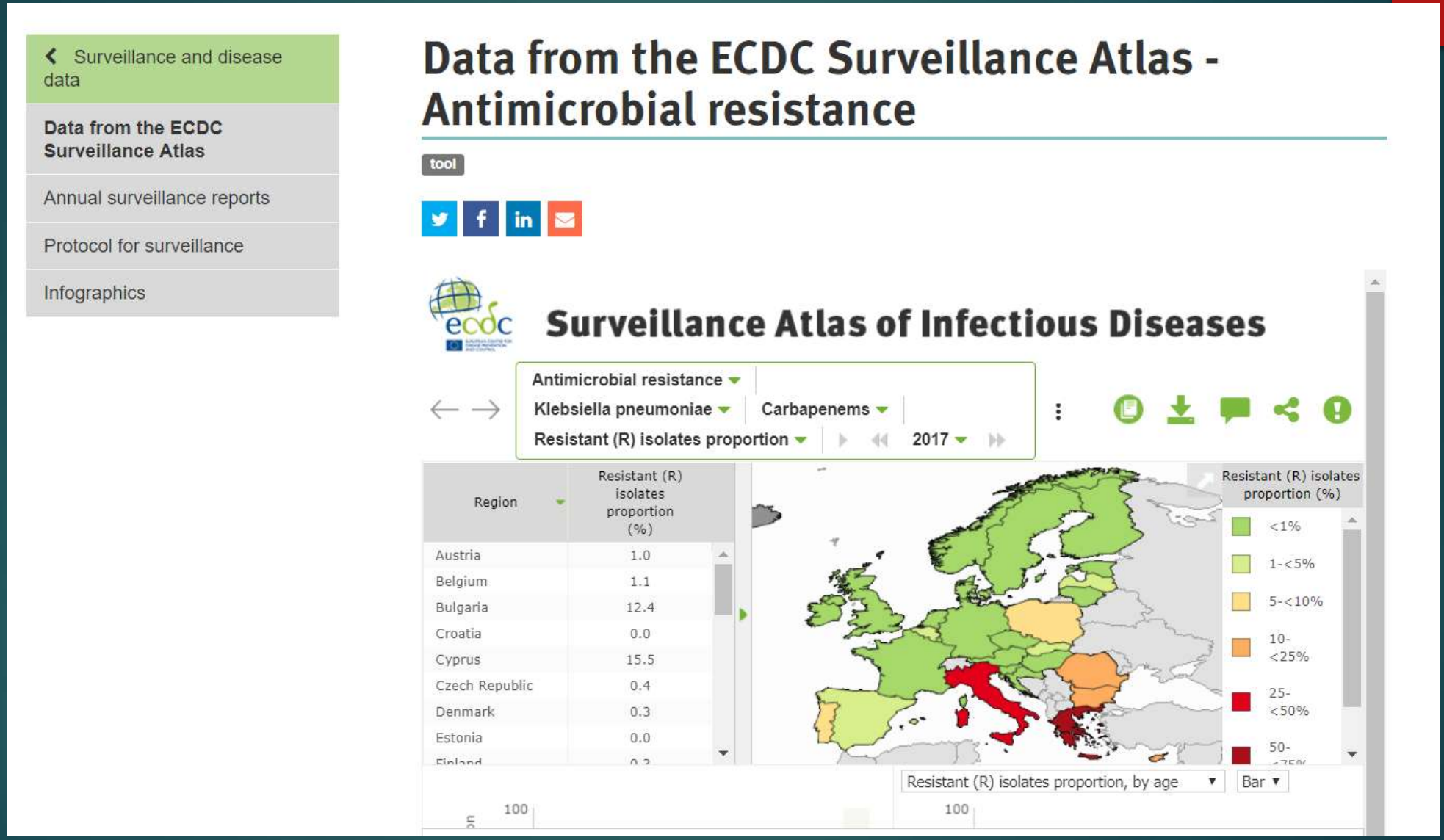
Windows



- https://play.google.com/store/apps/details?id=eu.europa.publications.threatreports

App Store
Google Play
Windows

Atlas – on demand surveillance data



https://ecdc.europa.eu/en/antimicrobial-resistance/surveillance-and-disease-data/data-ecdc

ecdc

EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL

COMMUNICABLE DISEASE THREATS REPORT

CDTR

Week 49, 2-8 December 2018

All users

This weekly bulletin provides updates on threats monitored by ECDC.

CDTR

I. Executive summary

EU Threats

West Nile virus - Multistate (Europe) - Monitoring season 2018

Opening date: 30 May 2018 Latest update: 7 December 2018

During the West Nile virus transmission season expected to be between June and November 2018, ECDC monitors the occurrence of West Nile virus infections in EU/EEA Member States and EU neighbouring countries and publishes weekly epidemiological updates to inform blood safety authorities of areas at NUTS 3 (Nomenclature of Territorial Units for Statistics 3) or GAUL 2 (Global Administrative Unit Layers 2) level where there is ongoing virus transmission.

➔Update of the week

Between 30 November and 6 December 2018, EU Member States reported one human West Nile virus infection by Hungary. The most recent onset date reported by Hungary was from week 45, 5 to 11 November 2018. Eighteen cases were reported by EU neighbouring countries, all by Turkey, with the most recent date of onset reported from week 38, 17 to 23 September 2018. In three areas in Turkey, human cases were reported for the first time. All other human cases were reported from previously affected areas. Three deaths were reported this week in Turkey (2) and Italy (1).

In the same week, no new outbreaks among equids were reported.

Influenza – Multistate (Europe) – Monitoring season 2018 – 2019

Opening date: 8 October 2018 Latest update: 7 December 2018

Influenza transmission in Europe shows a seasonal pattern, with peak activity during the winter months. So far this season, influenza viruses have been detected sporadically in specimens from persons with respiratory illness presenting to medical care. Both influenza A and B type viruses were detected.

➔Update of the week

For week 48 between 26 November and 2 December 2018, influenza activity was low throughout the WHO European Region

Ευχαριστώ

J Antimicrob Chemother 2018; **73** Suppl 5: v36–v42
doi:10.1093/jac/dky068

Journal of Antimicrobial Chemotherapy

Results from the Survey of Antibiotic Resistance (SOAR) 2014–16 in Greece

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…usceptibility in isolates of *Streptococcus pneumoniae* and *Haemophilus* …ents with community-acquired respiratory tract infections in Greece.

…broth microdilution and susceptibility assessed using CLSI, EUCAST and …PD) breakpoints.

…2 *H. influenzae* isolates were collected. Overall, 36.4% of *S. pneumoniae* …ICAST and 88.9% by CLSI intravenous (iv) breakpoints. All were fluoro- …tes also susceptible to amoxicillin, amoxicillin/clavulanic acid and cef- …Trimethoprim/sulfamethoxazole, cefuroxime, cefaclor and macrolides …ty of 83.8%, 69.7%, 50.5% and 49.5%, respectively, by CLSI. Generally …ver by EUCAST, but the cefaclor difference was much greater. Among …ctamase positive. Susceptibility to amoxicillin/clavulanic acid, ceftriax- … was seen in >95% of isolates by CLSI criteria. Susceptibility to azithro- …CLSI breakpoints, but clarithromycin susceptibility was lower (61.5%). …des was seen in <5% of isolates by PK/PD and EUCAST criteria. …xazole was seen in 71.2% of isolates.

Conclusions. Owing to the high prevalence of macrolide resistance among *S. pneumoniae* and the reduced activity of clarithromycin against *H. influenzae*, it appears that these agents are not appropriate as monotherapy for community-acquired pneumonia in Greece. Amoxicillin/clavulanic acid, on the other hand, maintained excellent *in vitro* activity and, as opposed to the similarly effective fluoroquinolones, is safe to use in paediatric patients.

JOURNAL OF MEDICAL MICROBIOLOGY

RESEARCH ARTICLE

Petridou *et al.*, *Journal of Medical Microbiology* 2018;67:400–407
DOI 10.1099/jmm.0.000688

MICROBIOLOGY SOCIETY

OPEN MICROBIOLOGY

Molecular epidemiology of *Bordetella pertussis* in Greece, 2010–2015

Evangelia Petridou,[1]† Christel Barker Jensen,[2]† Athanasios Arvanitidis,[2,3] Maria Giannaki-Psinaki,[1] Athanasios Michos,[4] Karen Angeliki Krogfelt[3] and Randi Føns Petersen[2,*]

Abstract

Purpose. To determine the predominant strains of *Bordetella pertussis* in Greece during 2010–2015.