



BALKAN SOCIETY FOR MICROBIOLOGY

HELLENIC SOCIETY FOR MICROBIOLOGY

Est. 1932



Turkish Microbiology Society Cooperation with International Associations

What collaborations can be done between Balkan
Microbiological Societies?

Prof. Athanassios Tsakris
Medical School, University of Athens



Funding opportunities/limitations

- Restricted funding from the Greek government and the National Strategic Reference Framework
- Contribution to EU projects, limitations to contribute to JPIAMR projects
- Limited funding from pharmaceutical companies for studies on the activity of antimicrobial agents/clinical studies
- Development and evaluation of commercial diagnostic assays in clinical microbiology

Professional development/limitations

- Very limited positions in the private and public sectors
- Very limited positions in the university and research institutes
- Restricted resources for diagnostic purposes/research



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Balkan countries:
**Cross-border consideration of the Public Health
Issues**



**A typical problem amenable to Cross-border
collaboration:**

**Severe Antibiotic Resistance Issues
in the Balkan States:**

Broad spectrum β -lactamase-producing Gram-negatives

Example of successful projects:

- ▶ Development of convenient phenotypic tests/algorithms:
 - ▶ Applicable to the daily laboratory practice,
 - ▶ for the detection of broad-spectrum β -lactamases

JOURNAL OF CLINICAL MICROBIOLOGY, Feb. 2009, p. 362–367
0095-1137/09/\$08.00+0 doi:10.1128/JCM.01922-08
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Evaluation of Boronic Acid Disk Tests for Differentiating KPC-Possessing *Klebsiella pneumoniae* Isolates in the Clinical Laboratory[∇]

Athanassios Tsakris,^{1*} Ioulia Kristo,² Aggeliki Poulou,³ Katerina Themeli-Digalaki,⁴
Alexandros Ikonomidis,² Dimitra Petropoulou,⁵ Spyros Pournaras,² and Danai Sofianou⁶

J Antimicrob Chemother 2010; **65**: 1664–1671
doi:10.1093/jac/dkq210 Advance Access publication 11 June 2010

**ANTIMICROBIAL
Chemothe**

A simple phenotypic method for the differentiation of metallo- β -lactamases and class A KPC carbapenemases in *Enterobacteriaceae* clinical isolates

Athanassios Tsakris^{1*}, Aggeliki Poulou^{1,2}, Spyros Pournaras³, Evangelia Voulgari¹, Georgia Vrioni¹,
Katerina Themeli-Digalaki⁴, Dimitra Petropoulou⁵ and Danai Sofianou⁶

Vol. 47, No. 2 JOURNAL OF CLINICAL MICROBIOLOGY, Nov. 2009, p. 3420–3426
0095-1137/09/\$12.00 doi:10.1128/JCM.01314-09
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Use of Boronic Acid Disk Tests To Detect Extended-Spectrum β -Lactamases in Clinical Isolates of KPC Carbapenemase-Possessing *Enterobacteriaceae*[∇]

Athanassios Tsakris,^{1*} Aggeliki Poulou,² Katerina Themeli-Digalaki,³ Evangelia Voulgari,¹
Theodore Pittaras,¹ Danai Sofianou,⁴ Spyros Pournaras,⁵ and Dimitra Petropoulou⁶



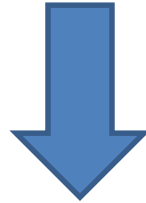
Modified CLSI Extended-Spectrum β -Lactamase (ESBL) Confirmatory Test for Phenotypic Detection of ESBLs among *Enterobacteriaceae* Producing Various β -Lactamases

Aggeliki Poulou,^{a,b} Evgenia Grivakou,^a Georgia Vrioni,^a Vassiliki Koumaki,^a Theodoros Pittaras,^a Spyros Pournaras,^a
Athanassios Tsakris^a



Target

- ▶ To point out similarities/differences in national trends and
- ▶ form common guidelines between Balkan countries, regarding the Control of beta-lactamase-producing Gram-negatives



Expert workshops could be organized for this purpose by the Balkan Microbiological Societies



Target

Initiatives/Network at nationwide scale in Greece: National Action Plan “Procrustes”

- ▶ Implemented for the Surveillance and Control of Nosocomial Infections due to carbapenem-resistant:
 - *Klebsiella pneumoniae*
 - *Acinetobacter baumannii*
 - *Pseudomonas aeruginosa*

**A Similar Network could be formed
at Balkan-wide scale ?**



Carbapenemase reports from the Balkans: a systematic review

Microrganismi produttori di carbapenemasi nei Balcani: una rassegna sistematica

Georgios Meletis¹, Efstathios Oustas¹, Maria Bagkeri²

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²Department of Internal Medicine, St. Demetrios General Hospital of Thessaloniki, Thessaloniki, Greece

Present situation:



Data from Balkan countries related to this significant health problem seem to be scarce in the international literature

Table 2 - Number of evaluated studies per country and foreign reports due to patient transfers abroad

	Total domestic studies	Large studies	Case reports	Foreign reports of patient transfer
Greece	78	48	30	20
Croatia	7	5	2	0
Bulgaria	4	3	1	0
Slovenia	0	0	0	0
Romania	4	4	0	0
Serbia	3	1	2	5
Bosnia & Herzegovina	0	0	0	1
Kosovo	0	0	0	1
Montenegro	0	0	0	1
Albania	0	0	0	0
FYROM	0	0	0	0

Target: Surveillance and Control of Carbapenem-resistant pathogens

So, even though carbapenemase-producing bacteria are present in the Balkans, the actual situation in some countries is not well-documented, or in some cases, not at all documented, leaving unanswered questions about this huge public health threat

- ▶ More research is required to assess the prevalence of carbapenemases - especially that of NDM enzymes - among gram-negative pathogens in this area, and in the absence of political will and adequate funding, the contribution of active investigators is of utmost importance...



**A Research Network could be built-up between
Balkan countries**





Additional Working Groups on Public Health issues established in Greece:

National networks for the investigation of emerging public health issues

- MALWEST Project for the:
 - West-Nile virus outbreak/endemicity
 - Malaria re-emergence

National networks to promote research

Countrywide multi-centre studies for investigating:

- Linezolid resistance in staphylococci
- Carbapenem-resistant *Acinetobacter baumannii*
- Antibiotic stewardship studies

**Similar Issues exist in Balkan countries:
A Network at Balkan-wide scale?**



Examples of International Research Collaborations/Networks:

1. University of Antwerp, Prof. Herman Goossens' lab; investigation of colistin resistance mechanisms
2. University of Groningen, Prof. Alex Friedrich's lab; molecular/NGS epidemiological investigation of outbreak-associated MDR pathogens (*Klebsiella*, *Acinetobacter*)
3. University of Siena and Florence, Prof. Gian-Maria Rossolini's lab; investigation of resistance mechanisms in OXA-48 carbapenemase-producing *Klebsiella pneumoniae*
4. University of Freiburg and Heidelberg, Prof. Uwe Frank; European Network to investigate "Transmission Dynamics of Antimicrobial Resistance"

Actions through Trans-National Balkan networks

Antibiotic over-use and severe antibiotic resistance need actions for:

- ▶ **Antibiotic Stewardship Protocols**, based on antimicrobial susceptibility testing
- ▶ **Widespread usage of blood cultures**
- ▶ **Limited duration of empiric antibiotic administration**
- ▶ **Limited duration of surgical prophylaxis**
- ▶ **Community: Elimination of the over-the-counter antibiotic purchasing**



- ✓ Establish a robust antimicrobial resistance surveillance system
- ✓ Ensure enforcement of rules and regulations for rational use of antimicrobials at all levels

Actions through Trans-National Balkan networks

- ▶ **Dissemination of MDR-XDR pathogens, particularly**
 - ▶ carbapenem-resistant *Klebsiella pneumoniae* and
 - ▶ *Acinetobacter baumannii*:
- ▶ **Cross-border surveillance of the dynamic changes of dominant clones**
- ▶ **Refugees in Turkey, Greece and other Balkan countries**
 - ▶ Surveillance of public health issues related to populations' movements





Balkan countries: **Continuing Education**



**Congresses, workshops could be organized by the
Balkan Microbiological Societies**



Paradigms:

9th Balkan Congress of Microbiology

Microbiologia Balkanica 2015

Under the auspices of:

- Hellenic Microbiological Society
- Medical School, University of Athens
- Aristotle University of Thessaloniki

We gratefully acknowledge the support from:



MICROBIOLOGIA BALKANICA 2015

9th BALKAN CONGRESS OF MICROBIOLOGY

www.microbiologiabalkanica2015.com

22 - 24 October, 2015
Makedonia Palace, Thessaloniki Greece

Under the auspices of:

• Hellenic Microbiological Society • Medical School, University of Athens • Aristotle University of Thessaloniki



9th BALKAN CONGRESS OF MICROBIOLOGY

PRESIDENTS OF THE CONGRESS

Professor Athanassios Tsakris
Medical School, University of Athens
e-mail: atsakris@med.uoa.gr

Professor Anna Pappa
Medical School, Aristotle University of Thessaloniki
e-mail: annap@med.auth.gr

- ▶ 22-24 October 2015
- ▶ Makedonia Palace Thessaloniki
- ▶ **214 participants**
 - ▶ **from 9 countries:** Greece, Albania, Bulgaria, FYROM, Kosovo, Montenegro, Romania, Serbia, Turkey

BOARD OF THE BALKAN SOCIETY FOR MICROBIOLOGY

President: Prof. Angel Galabov, Sofia
President-Elect: Prof. Athanassios Tsakris, Athens

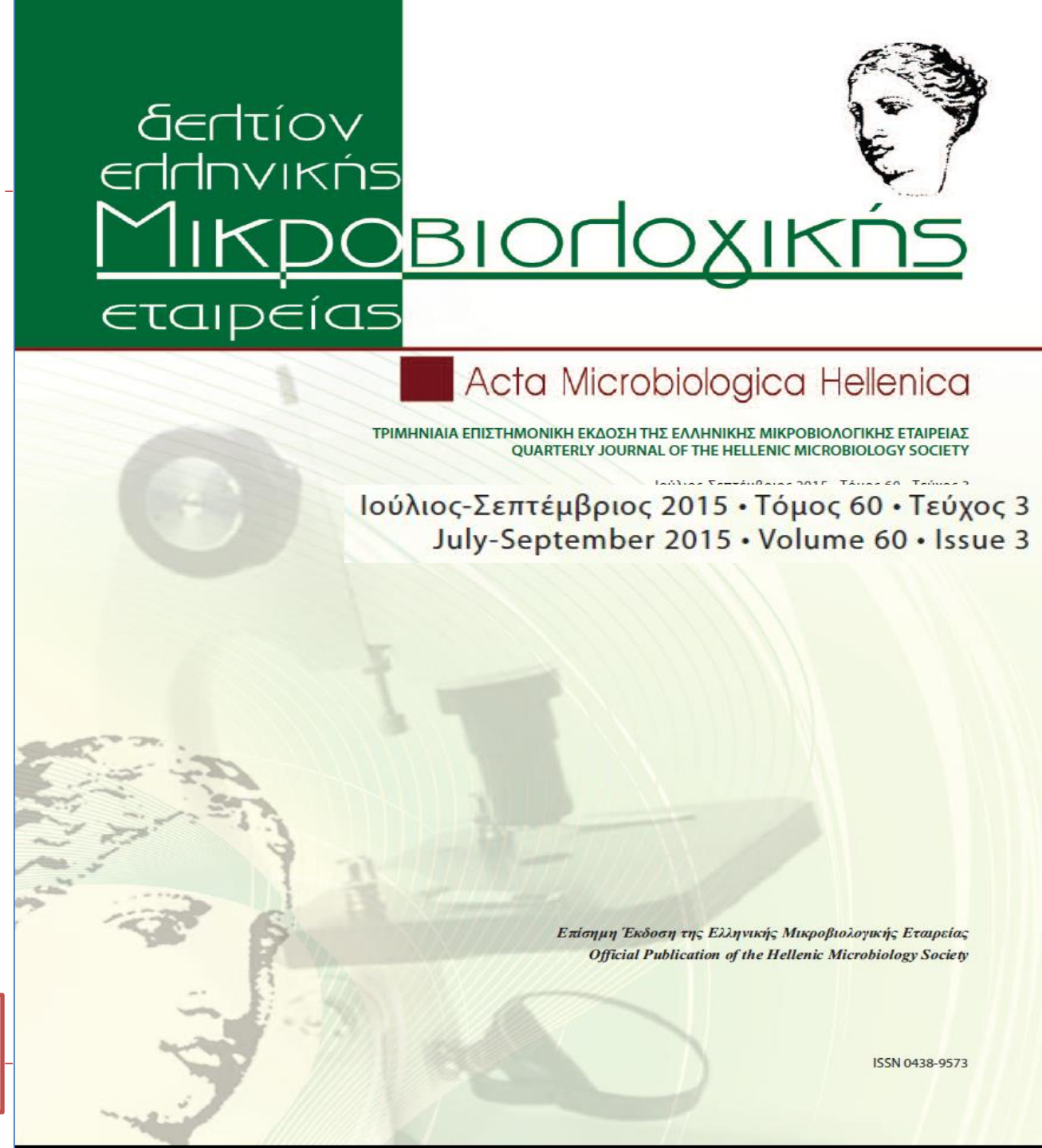
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Prof. Lazar Ranin, Belgrade
Prof. Antoniy Stoev, Kostinbrod
Prof. Vineta Vuksanović, Podgorica
Dr. Kaiti Themeli-Digalaki, Athens

- ▶ 16 Plenary Lectures
- ▶ 50 Oral presentations
- ▶ 129 Poster presentations

PLENARY LECTURES AND ORAL PRESENTATIONS	147
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**Abstract book:
Acta Microbiologica Hellenica (Volume 60 – Issue 3)**





9th BALKAN CONGRESS OF MICROBIOLOGY

OVERALL EVALUATION OF THE 9th BALKAN CONGRESS OF MICROBIOLOGY

1 (unsatisfactory):	0%
2 (fair):	0%
3 (good):	16%
4 (very good):	37%
5 (excellent):	47%

Interesting presentations

- BALKAN AND NDM-1 ENDEMICITY: SERBIAN EXPERIENCE
- MOLECULAR BASIS OF S. AUREUS ANTIBIOTIC RESISTANCE
- SALMONELLA AS A REAL AND POTENTIAL ZONOTIC INFECTION
- EMERGING VIRUSES IN THE BALKANS
- EPIDEMIOLOGY OF HANTAVIRUS INFECTIONS AMONG RODENTS IN THRACE REGION, TURKEY
- MIGRATING BIRDS AS CARRIERS OF ZONOTIC PATHOGENS



MICROBIOLOGIA BALKANICA 2015

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www.microbiologiabalkanica2015.com

22 - 24 October, 2015
Makedonia Palace, Thessaloniki Greece

Under the auspices of:

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EVALUATION

Example of postgraduate Course: Microbiology & Hospital Infection Control

Under the auspices of:

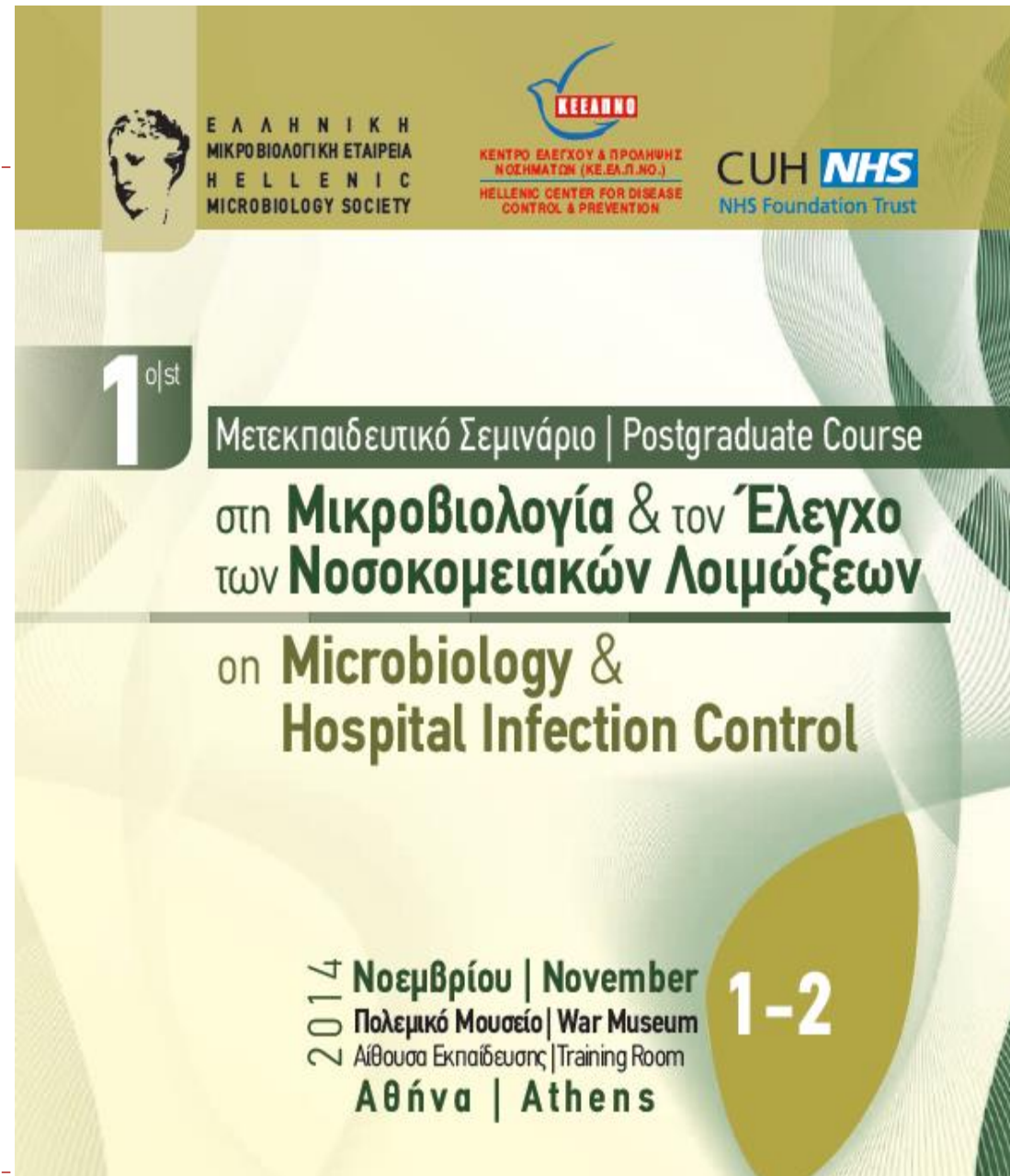
- Hellenic Society for Microbiology
- Cambridge University Hospitals NHS Trust

Επόμενα Σεμινάρια | Next Seminars

29 - 30 Νοεμβρίου | November 2014

13 - 14 Δεκεμβρίου | December 2014

10 - 11 Ιανουαρίου | January 2015



The flyer features a green and white color scheme with a background of overlapping circles. At the top left is the logo of the Hellenic Microbiological Society, which includes a profile of a classical Greek head. To its right are the logos for the Hellenic Center for Disease Control & Prevention (KE.EA.L.H.O.) and the CUH NHS Foundation Trust. The main title is presented in both Greek and English. A large number '1' with 'ofst' indicates it is the first of two seminars. The dates and location are specified at the bottom right.

ΕΛΛΗΝΙΚΗ ΜΙΚΡΟΒΙΟΛΟΓΙΚΗ ΕΤΑΙΡΕΙΑ
HELLENIC MICROBIOLOGY SOCIETY

ΚΕΝΤΡΟ ΕΛΕΓΧΟΥ & ΠΡΟΑΨΗΣ ΝΟΣΗΜΑΤΩΝ (ΚΕ.ΕΛ.Π.ΝΟ.)
HELLENIC CENTER FOR DISEASE CONTROL & PREVENTION

CUH NHS
NHS Foundation Trust

1^{ofst}

Μετεκπαιδευτικό Σεμινάριο | Postgraduate Course

στη Μικροβιολογία & τον Έλεγχο
των Νοσοκομειακών Λοιμώξεων

on Microbiology &
Hospital Infection Control

2014 Νοεμβρίου | November
Πολεμικό Μουσείο | War Museum
Αίθουσα Εκπαίδευσης | Training Room
Αθήνα | Athens

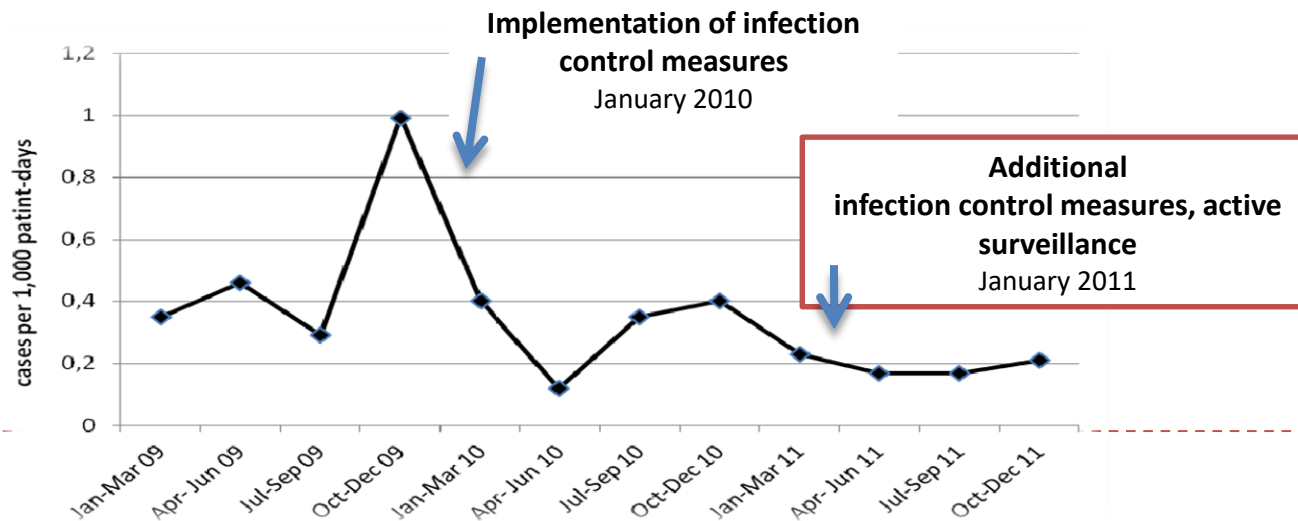
1-2

Results of continuing education

- In Greece, due to the complex epidemiology, a battery of phenotypic tests has been developed



- Implementation of them in many clinical labs:
 - This has helped us to stabilize or even reduce carbapenem RRs
 - It was crucial to avoid further spread of the recently introduced OXA-48 and NDM-1, despite the fact that outbreaks were initially noticed



Impact of infection control interventions: a paradigm from a hospital with high importation of CPE, Greece (2009-2011)

Poulou A et al. JCM 2012