

REUNION CIENTIFICA GEMARA CONJUNTA CON GIH.
BACTERIAS RESISTENTES A LOS ANTIBIÓTICOS:
NUEVOS RETOS, NUEVAS SOLUCIONES. Barcelona, SEIMC 2016.

***El papel estratégico de la microbiología en los
Planes de Resistencia a los Antimicrobianos.***

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Instituto de Salud Carlos III

Objetivo.

Poner en valor la labor de la microbiología y de los microbiólogos en el contexto de los planes nacionales e internacionales de lucha contra la resistencia a los antibióticos.

Communication from the Commission to the European Parliament and the Council

Action plan against the rising threats from Antimicrobial
Resistance

AMR a public health priority!

COM (2011) 748 – 17 Nov 2011

- 5 year action plan
- Holistic approach
- 7 key areas
- 12 concrete actions



COM (2011) 748



The 12 actions

Human

- 1. Appropriate use
- 4. Prevention of infections
- 6. New antibiotics
- 9. Surveillance

- 8. International cooperation
- 11. Research & Innovation
- 12. Communication, education

Veterinary

- 2 & 3. Appropriate use
- 5. Prevention of infections
- 7. Need for new antibiotics
- 10. Surveillance

Reino Unido



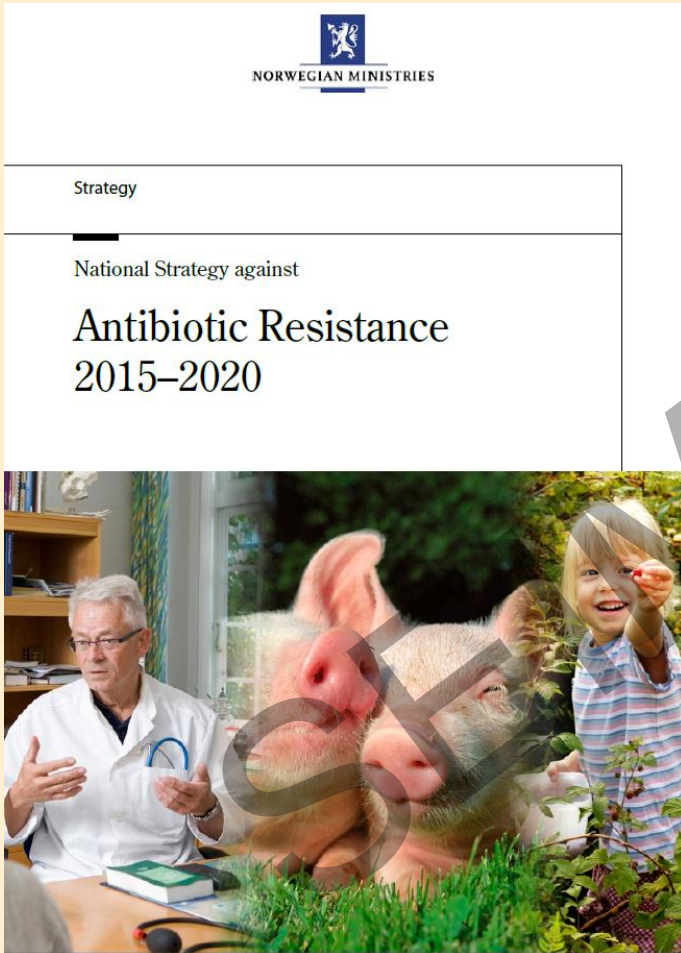
HM Government

UK 5 Year Antimicrobial Resistance (AMR) Strategy 2013–2018

Annual progress report and implementation plan, 2014



Noruega



Francia y Alemania

Plan national d'alerte sur les antibiotiques 2011-2016



The
Federal Government



DART 2020

Fighting antibiotic resistance for the good
of both humans and animals

USA

NATIONAL ACTION PLAN FOR COMBATING ANTIBIOTIC-RESISTANT BACTERIA

MARCH 2015



Goals

1. Slow the Emergence of Resistant Bacteria and Prevent the Spread of Resistant Infections
2. Strengthen National One-Health Surveillance Efforts to Combat Resistance
3. Advance Development and Use of Rapid and Innovative Diagnostic Tests for Identification and Characterization of Resistant Bacteria
4. Accelerate Basic and Applied Research and Development for New Antibiotics, Other Therapeutics, and Vaccines
5. Improve International Collaboration and Capacities for Antibiotic-resistance Prevention, Surveillance, Control, and Antibiotic Research and Development

NATIONAL ACTION PLAN FOR COMBATING ANTIBIOTIC-RESISTANT BACTERIA

TABLE 1: National Targets to Combat Antibiotic-Resistant Bacteria

By 2020, the United States will:

For CDC Recognized Urgent Threats:

- Reduce by 50% the incidence of overall *Clostridium difficile* infection compared to estimates from 2011.
- Reduce by 60% carbapenem-resistant Enterobacteriaceae infections acquired during hospitalization compared to estimates.
- Maintain the prevalence of ceftriaxone-resistant *Neisseria gonorrhoeae* below 2% compared to estimates from 2013.

For CDC Recognized Serious Threats:

- Reduce by 35% multidrug-resistant *Pseudomonas spp.* infections acquired during hospitalization compared to estimates from 2011.
- Reduce by at least 50% overall methicillin-resistant *Staphylococcus aureus* (MRSA) bloodstream infections by 2020 as compared to 2011.*
- Reduce by 25% multidrug-resistant non-typhoidal *Salmonella* infections compared to estimates from 2010-2012.
- Reduce by 15% the number of multidrug-resistant TB infections.¹
- Reduce by at least 25% the rate of antibiotic-resistant invasive pneumococcal disease among <5 year-olds compared to estimates from 2008.
- Reduce by at least 25% the rate of antibiotic-resistant invasive pneumococcal disease among >65 year-olds compared to estimates from 2008.

* This target is consistent with the reduction goal for MRSA bloodstream infections (BSI) in the *National Action Plan to Prevent Healthcare-Associated Infections (HAI): Road Map to Elimination*, which calls for a 75% decline in MRSA BSI from the 2007-2008 baseline by 2020. Additional information is available at http://www.health.gov/hai/prevent_hai.asp#hai_plan.

OMS

30
ANIVERSARIO
(1986-2016)

ISC
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de Salud
Carlos III



REGIONAL OFFICE FOR

**World Health
Organization**

Europe

Regional Committee for Europe
Sixty-first session

Baku, Azerbaijan, 12–15 September 2011

Provisional agenda item 6(e)

EUR/RC61/14
+ EUR/RC61/Conf.Doc./7

10 June 2011
111380
ORIGINAL: ENGLISH

**European strategic action plan on
antibiotic resistance**

ECDC: resistencia a antimicrobianos y microbiología de la salud pública.

Contact : Sitemap : Social media

 **European Centre for Disease Prevention and Control**

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You are here: Portal Home > English > Health Topics > Antimicrobial resistance

Antimicrobial resistance

News
Publications
Events
Eurosurveillance articles
Public health developments

Basic facts

Antimicrobial resistance interactive database: EARS-Net

Antimicrobial consumption interactive database: ESAC-Net

Antimicrobial resistance

Antibiotics are one of the most important therapeutic discoveries in medical history. They have revolutionised the way we treat patients with bacterial infections and have contributed to reducing the mortality and morbidity from bacterial diseases. They are also an essential tool for modern medicine and common procedures such as transplantation, chemotherapy for cancer and even orthopaedic surgery could not be performed without the availability of potent antibiotics.

Unfortunately, antibiotics have been liable to misuse. They are often unnecessarily prescribed for viral infections, against which they have no effect. Similarly when diagnoses are not accurately made, more often than not, broad-spectrum antibiotics, i.e. antibiotics that kill a large proportion of various bacteria and not only the bacteria responsible for the disease, are prescribed because the causative micro-organism is not known.

Misuse of antibiotics leads to the emergence and selection of resistant bacteria. Doctors in Europe and worldwide now are sometimes facing situations where infected patients cannot be treated adequately because the responsible bacterium is totally resistant to available antibiotics. [Read more](#)

Examples of common multi-drug resistant bacteria:

- Methicillin-resistant *Staphylococcus aureus* (MRSA)
- Vancomycin-resistant enterococci (VRE)
- Extended-spectrum beta-lactamase (ESBL)-producing Enterobacteriaceae (examples of common Enterobacteriaceae are *Escherichia coli* and *Klebsiella pneumoniae*)
- Carbapenemase-producing Enterobacteriaceae (e.g. *Klebsiella pneumoniae*)
- Multidrug resistant *Pseudomonas aeruginosa*
- *Clostridium difficile*

Video on Antimicrobial resistance & food safety (ECDC/EFSA/EMA)

INTERACTIVE DATABASES

Antimicrobial resistance interactive database (EARS-Net)

Antimicrobial consumption interactive database (ESAC-Net)

Point prevalence survey interactive database (HAI-Net)

Microbiology

News
Publications
Events

Public Health Microbiology Programme

Microbiology activities

External quality assessment (EQA)
EU Laboratory Capability Monitoring System (EULabCap)
National microbiology focalpoints (NMFPs)

Public Health Microbiology Programme

Sharing timely, reliable and comparable microbiological data across Europe is essential for effective prevention and control of communicable diseases. Thus, ECDC's Public Health Microbiology Programme aims to strengthen the capacity of expert and reference laboratories in Europe and foster laboratory collaboration. The Programme encompasses all laboratory cooperation activities and microbiology projects of ECDC. It is executed through joint work done by the Microbiology Coordination Section, the [Disease Surveillance and Response Support](#) and [Public Health Capacity and Communication](#) units, in close collaboration with the EU/EEA member states experts.

Key priorities are defined in the [Public Health Microbiology Strategy and Work Plan 2012-2016](#) and [ECDC's strategic multi-annual programme 2014-2020](#):

- Priority 1: consolidate the capacity of the EU public health microbiology for European surveillance of infectious diseases and for epidemic preparedness.
- Priority 2: develop and implement a system for monitoring microbiology laboratory capabilities for European surveillance of infectious diseases and for epidemic preparedness
- Priority 3: develop and implement a roadmap for integration of molecular typing into European surveillance and epidemic preparedness
- Priority 4: further develop the EU integrated surveillance and epidemic intelligence of antimicrobial resistance in human and zoonotic pathogens.

Effective liaison and dialogue with key stakeholders is paramount for the successful implementation of the Public Health Microbiology Strategy. The appointed Coordinating Competent Bodies from the Member States include the [National Microbiology Focal Points \(NMFP\)](#), who advise ECDC on strategic and technical matters in the field of public health microbiology system. ECDC and the NMFP have reached a consensus on core functions of microbiology reference laboratories and fostering collaboration across some identified areas. ECDC actively collaborates with the European Commission, European Food Safety Authority, the World Health Organisation and leading EU learned societies.

ECDC country-visits, indicators

- Development of an Intersectoral Coordinating Mechanism
- Organised multidisciplinary and multisectoral collaboration on local level
- Laboratory capacity
- Monitoring of antibiotic resistance
- Monitoring of antibiotic usage
- Antibiotic utilisation and treatment guidance
- Infection control
- Educational programmes on AMR
- Public information related to AMR



Plan Nacional
**Resistencia
Antibióticos**



Plan estratégico y de acción para reducir el riesgo de selección y diseminación de resistencias a los antibióticos

AEMPS

AGENCIA ESPAÑOLA
DE MEDICAMENTOS
Y PRODUCTOS SANITARIOS



GOBIERNO
DE ESPAÑA

MINISTERIO
DE SANIDAD, SERVICIOS SOCIALES
E IGUALDAD



agencia española de
medicamentos y
productos sanitarios

Plan para reducir el riesgo de resistencias a los antibióticos

Grupo Coordinador Técnico



Dirección General de Cartera
Básica de Servicios del Sistema
Nacional de Salud y Farmacia

Dirección General de
Salud Pública, Calidad
e Innovación



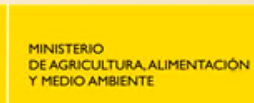
**CONSEJO GENERAL
DE COLEGIOS OFICIALES
DE FARMACÉUTICOS**

UNIVERSIDAD COMPLUTENSE
VETERINARIA

Instituto de Salud Carlos III



Dirección General de
Producciones y
Mercados Agrarios



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Sanidad de la
Producción Agraria

GEMARA

Centro Nacional de
Microbiología

Centro Nacional de
Epidemiología



Sociedad Española
de Medicina Preventiva
Salud Pública e Higiene

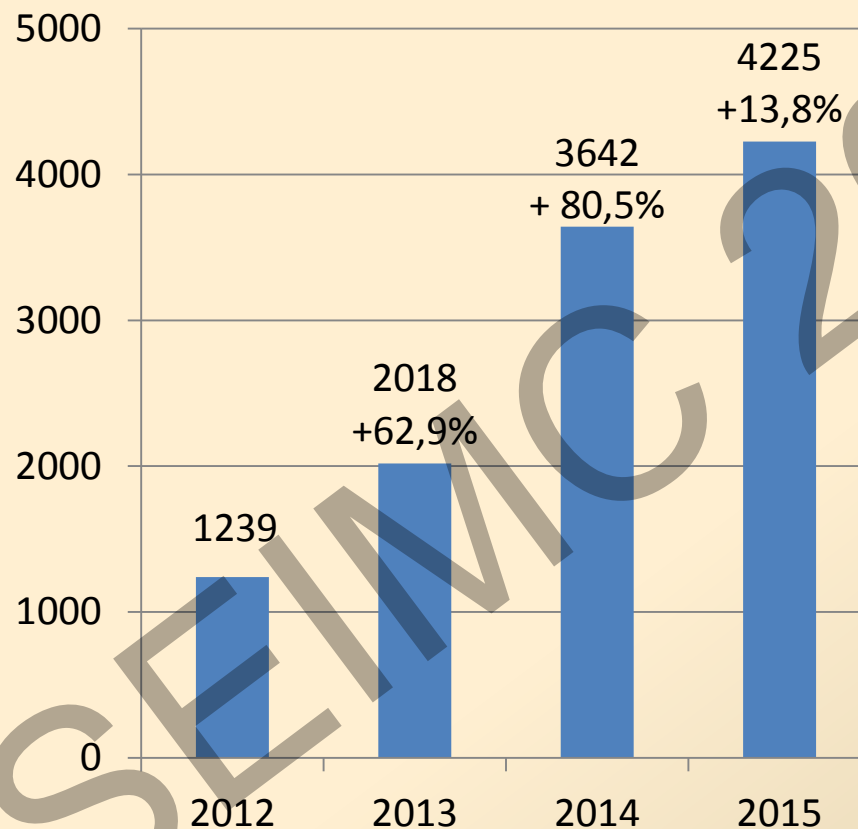
RED ESPAÑOLA DE
INVESTIGACIÓN EN
PATOLOGÍA INFECCIOSA



Plan Nacional Resistencia Antibióticos

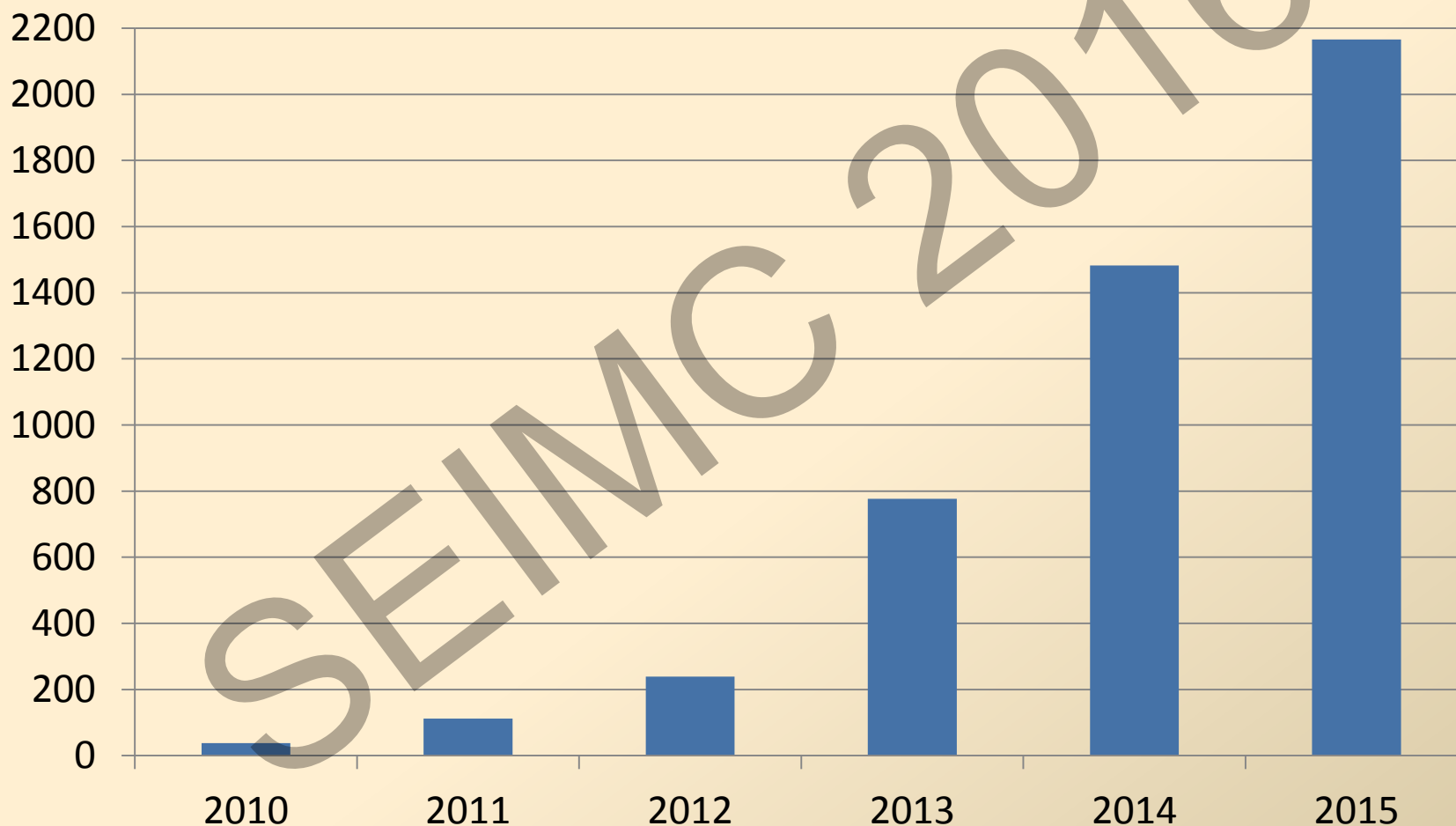


Number of isolates submitted to the AMR Surveillance Programme (2012-2015)

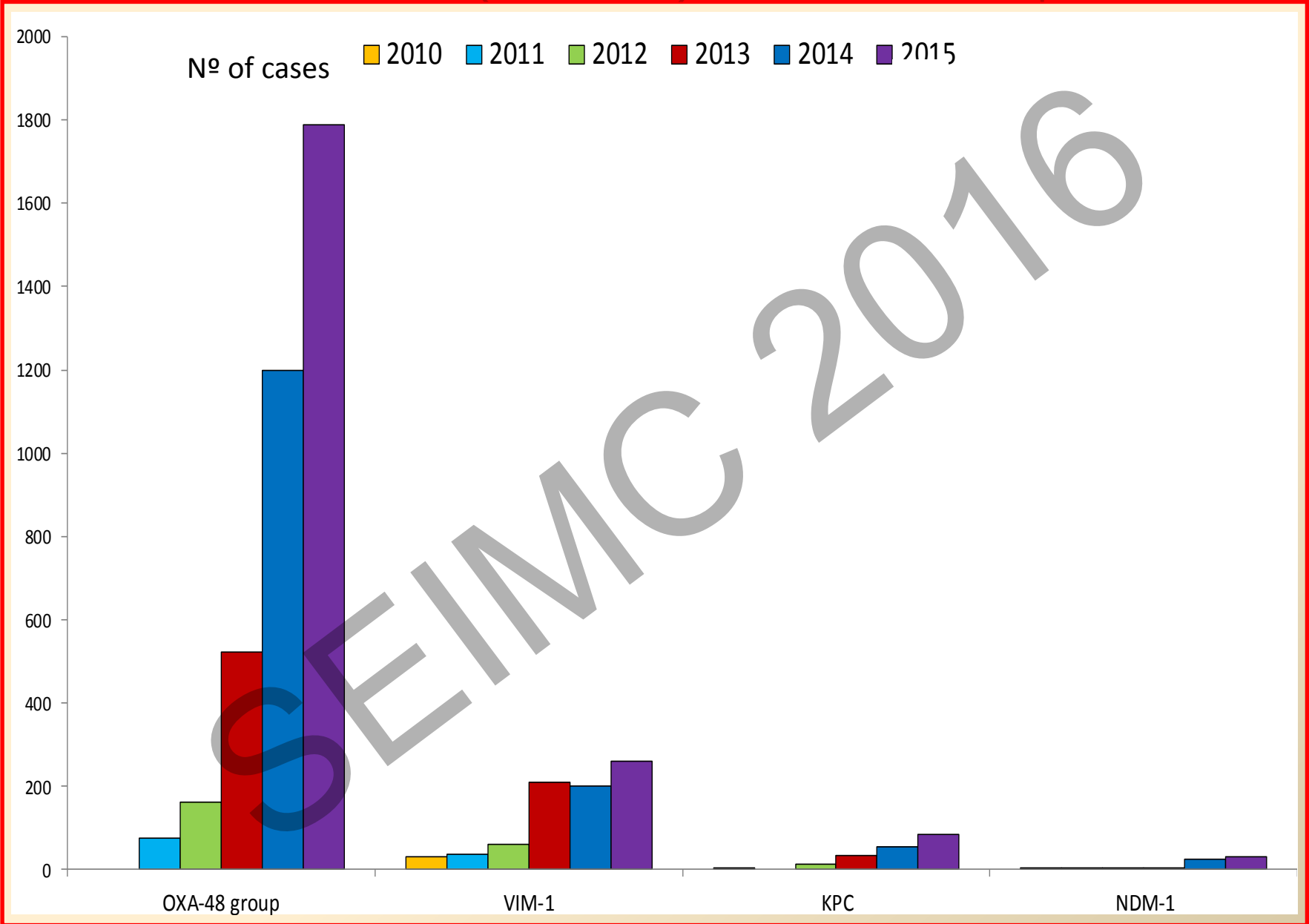


Total 2012-2015: 341%

Total number of CPE identified by the CNM-ISCIII surveillance programme.

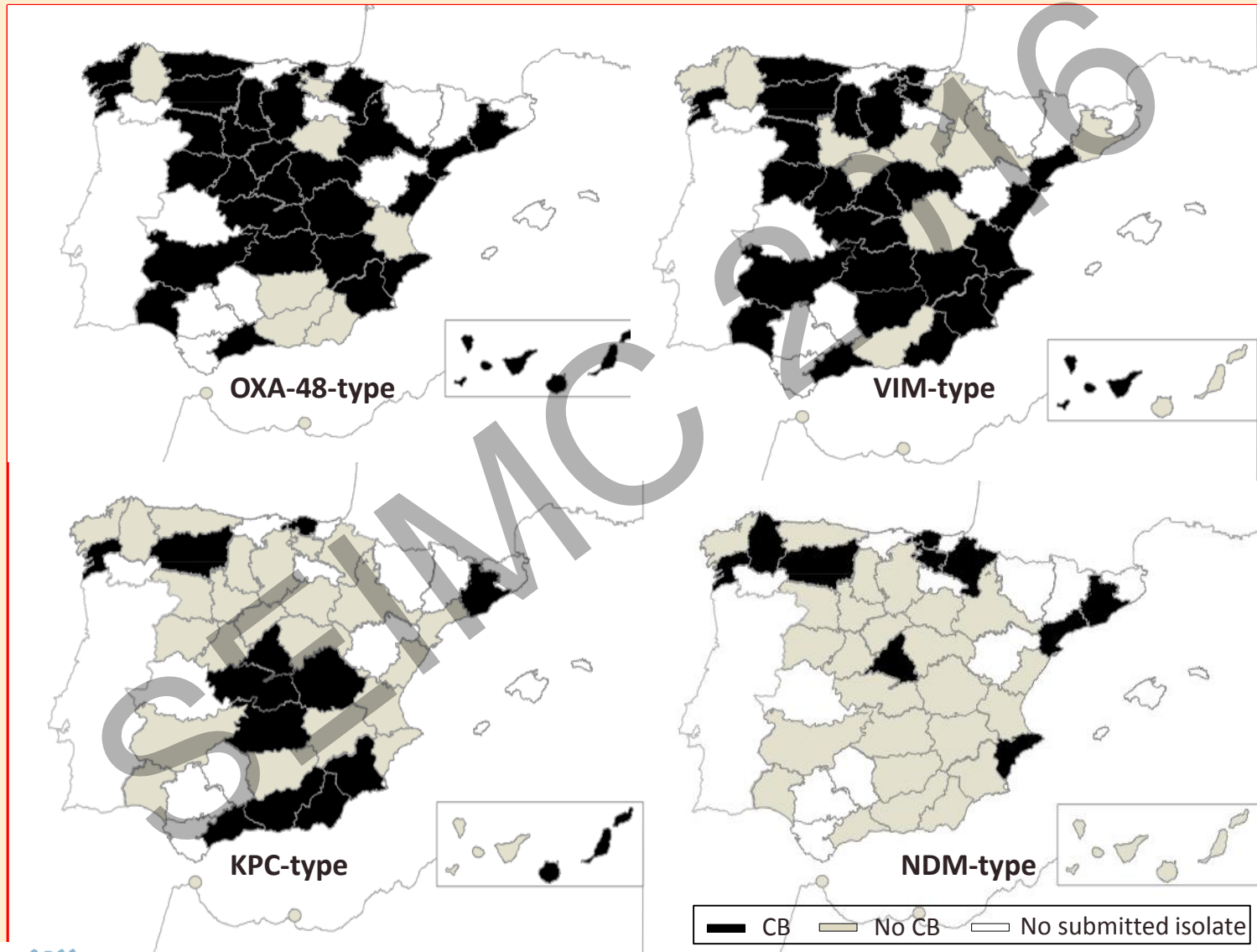


Evolution trend (2009-2014) of CPE isolates in Spain



Geographic distribution of CB types

Spanish Antibiotic Resistance Surveillance Program, ISCIII (2015)



Carbapenemase-producing Kpn and Eco: high-risk clones as identified by the CNM-ISCIH surveillance programme.

OXA-48- Kpn: ST11 (CTX-M-15)
ST15 (CTX-M-15)
ST405 (CTX-M-15)
ST326 (CTX-M-15)

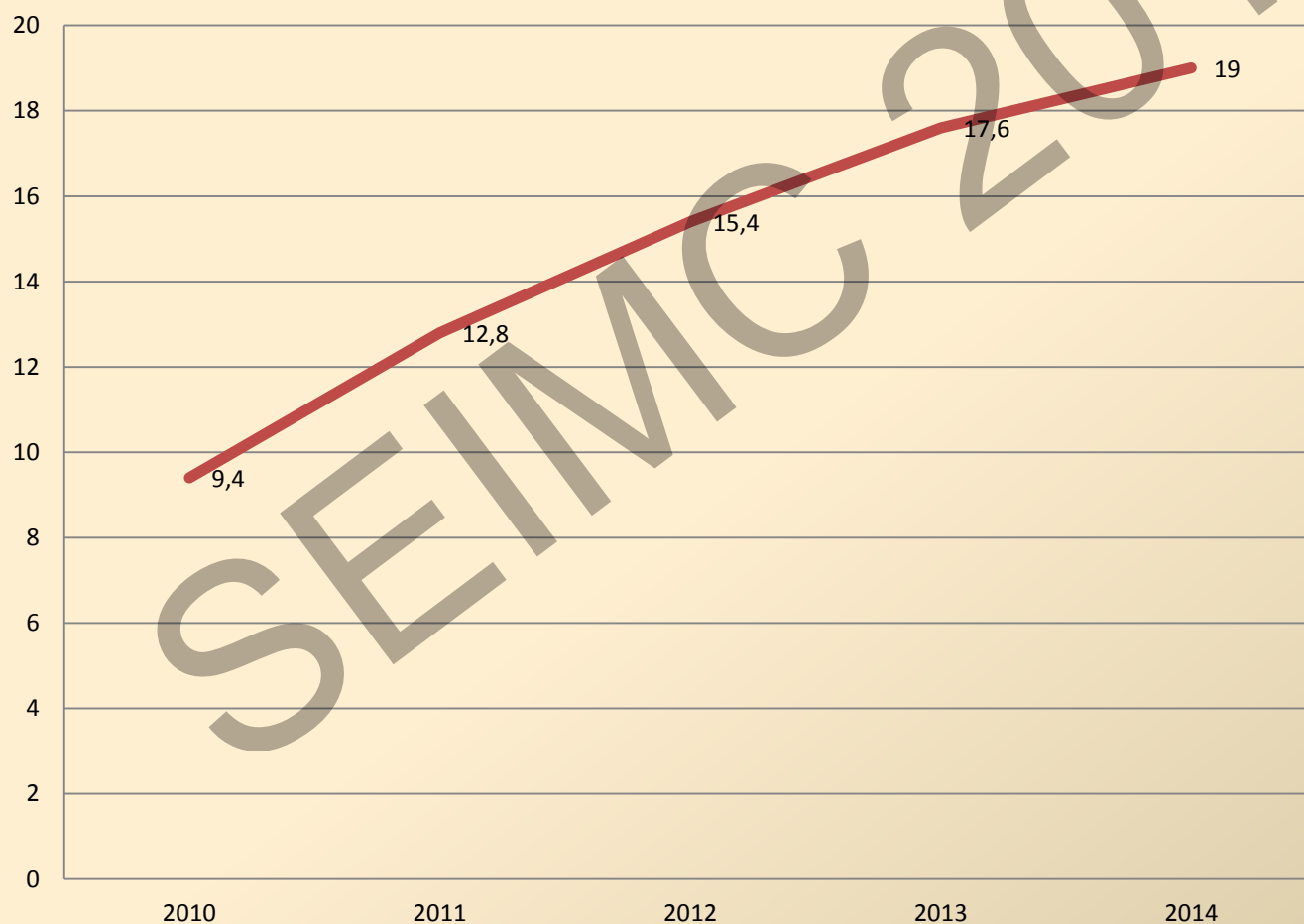
VIM-1 Kpn: ST15
ST147 (CTX-M-9)

KPC Kpn: ST11 (KPC-2)
ST101 (KPC-2+CTX-M-15)
ST512 (KPC-3, colistin resistant)
ST1961 (KPC-2+CTX-M-14)

NDM-7 Kpn: ST437 (CTX-M-15)

OXA-48 Eco: Polyclonal; ST131 (ST43 and ST9 by Pasteur MLST scheme)

***K. pneumoniae* aislados de sangre: Resistencia a cefalosporinas de 3ª generación en España (%) (2010-2014) (fuente: EARS-Net-España)**



Concluyendo.

La generación de conocimiento acerca de...

- resistencias,
- brotes epidémicos,
- los envíos a laboratorios de apoyo
- el tipado molecular
- la participación en sistemas de vigilancia microbiológica...
- la participación en proyectos de investigación multicéntrica...

dependen de manera esencial del microbiólogo. Ningún Plan funcionará sin su cooperación.

La labor del microbiólogo es pues estratégica para conocer y resolver los graves problemas de RA a todos los niveles.