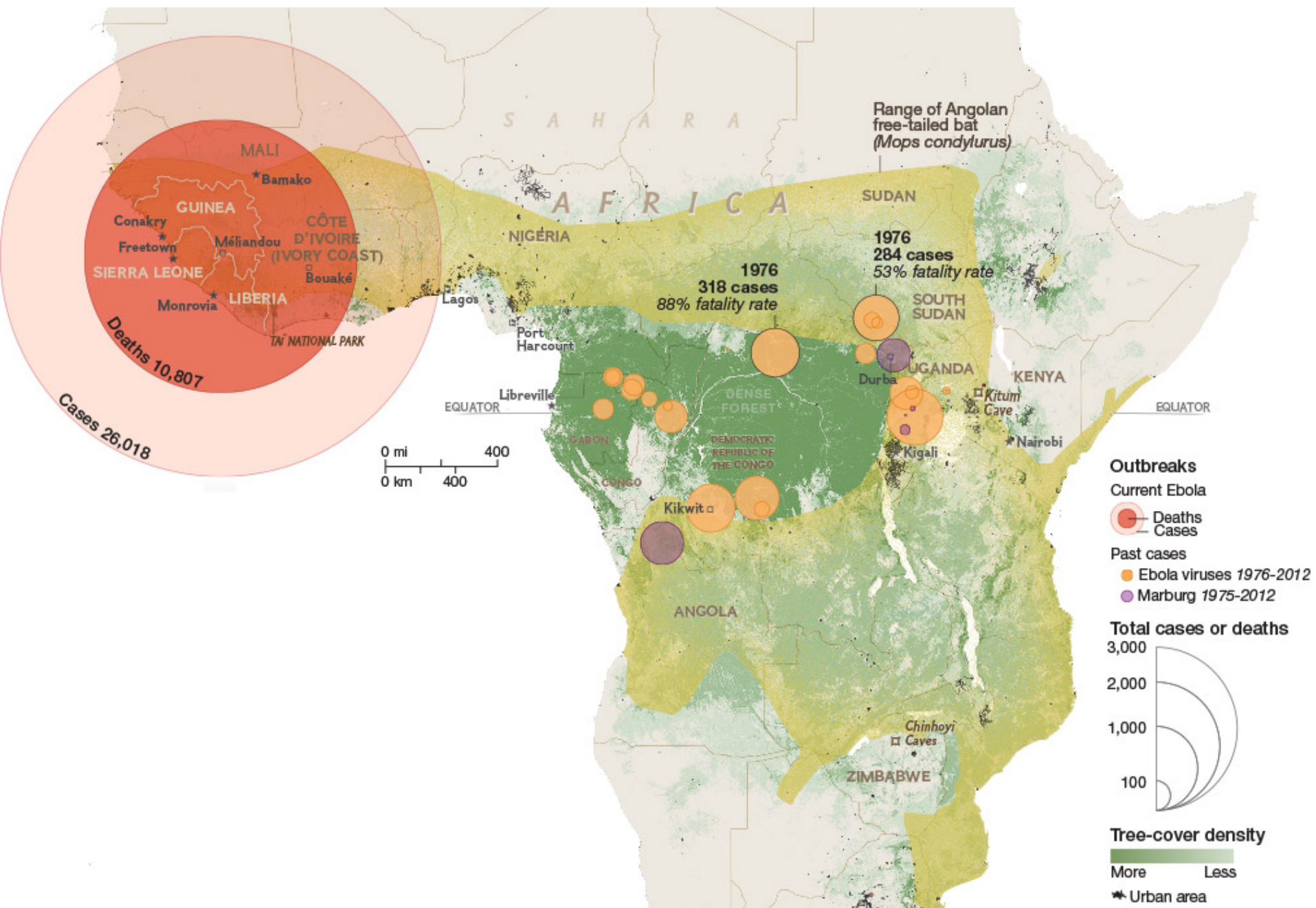


**A WORLD of
MICROBES
at OUR
DOORSTEP**

**MATT GILMOUR
SDG of the NML**





HSC CLINICAL CASE

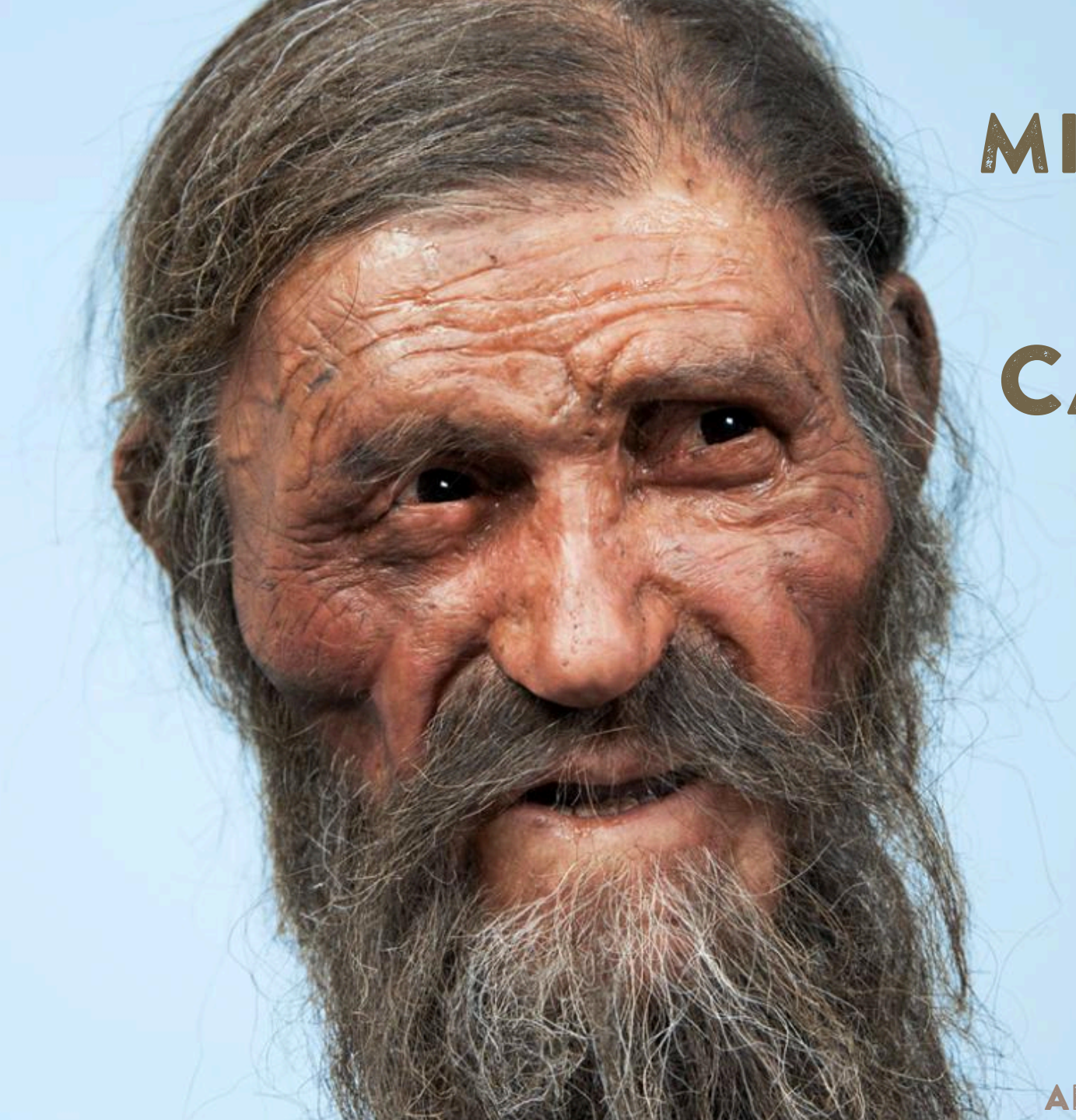
CPO - KLEBSIELLA

Susceptibility Information	Card: AST-N208		Lot Number: 578315520		Expires: Aug 4, 2015 12:00 GMT-06:00	
	Completed: Jun 22, 2014 01:20 GMT-06:00		Status: Final		Analysis Time: 9.00 hours	
Antimicrobial	MIC	Interpretation	Antimicrobial	MIC	Interpretation	
Ampicillin	>= 32	R	Ertapenem	>= 8	R	
Amoxicillin/Clavulanic Acid	>= 32	R	Meropenem	>= 16	R	
Piperacillin/Tazobactam	>= 128	R	Amikacin	>= 64	R	
Cefalotin	>= 64	R	Gentamicin	>= 16	R	
Cefazolin	>= 64	R	Tobramycin	>= 16	R	
Cefoxitin	>= 64	R	Ciprofloxacin	>= 4	R	
Cefixime	>= 4	R	Tetracycline	>= 16	R	
Ceftazidime	>= 64	R	Nitrofurantoin	>= 512	R	
Ceftriaxone	>= 64	R	Trimethoprim/Sulfamethoxazole	>= 320	R	

+= Deduced drug *= AES modified **= User modified

ÖTZI





MICROBIAL TIME CAPSULE

**SÜDTIROLER
ARCHÄOLOGIE MUSEUM**

ZIKA

STRATEGIC RESPONSE FRAMEWORK & JOINT OPERATIONS PLAN

JANUARY-JUNE 2016

FEB 2016



1.
SURVEILLANCE

2.
RESPONSE

3.
RESEARCH



World Health
Organization

EMERGENGE...

SPILLOVER...

SPREAD...

ZIKA

STRATEGIC RESPONSE FRAMEWORK & JOINT OPERATIONS PLAN

JANUARY-JUNE 2016

FEB 2016



1.
SURVEILLANCE

2.
RESPONSE

3.
RESEARCH



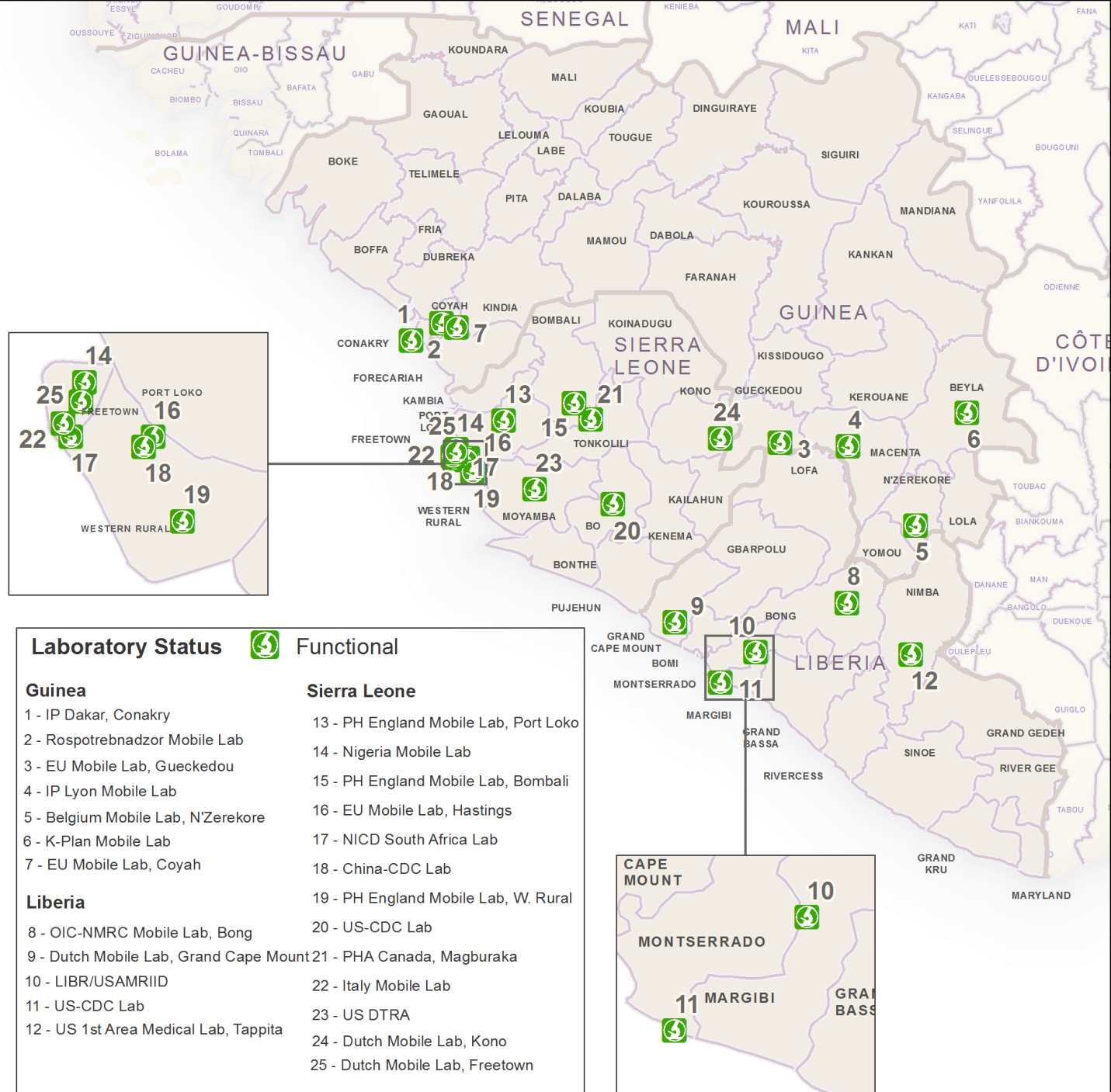


Figure 4: Geographical distribution of new and total confirmed cases

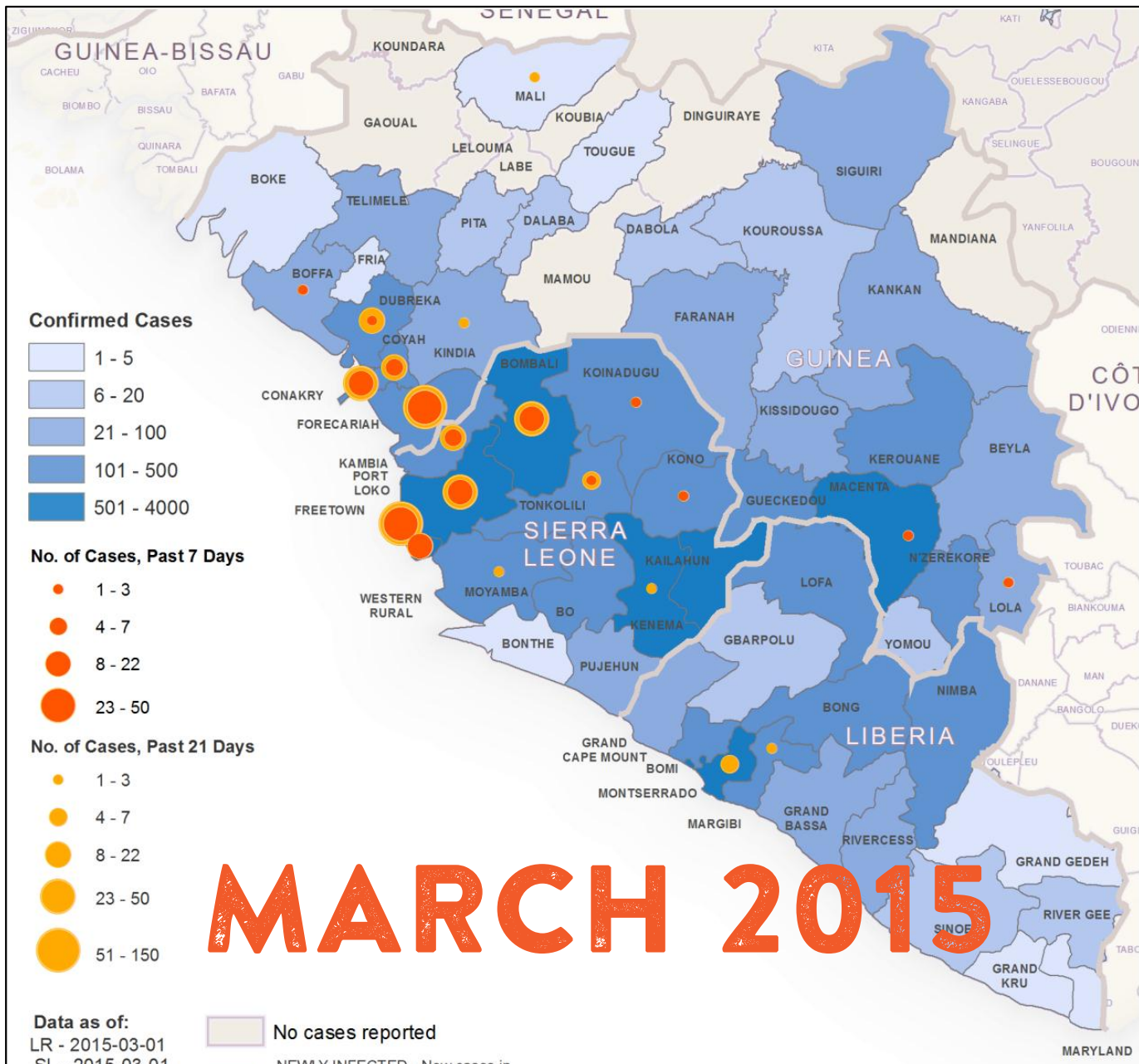
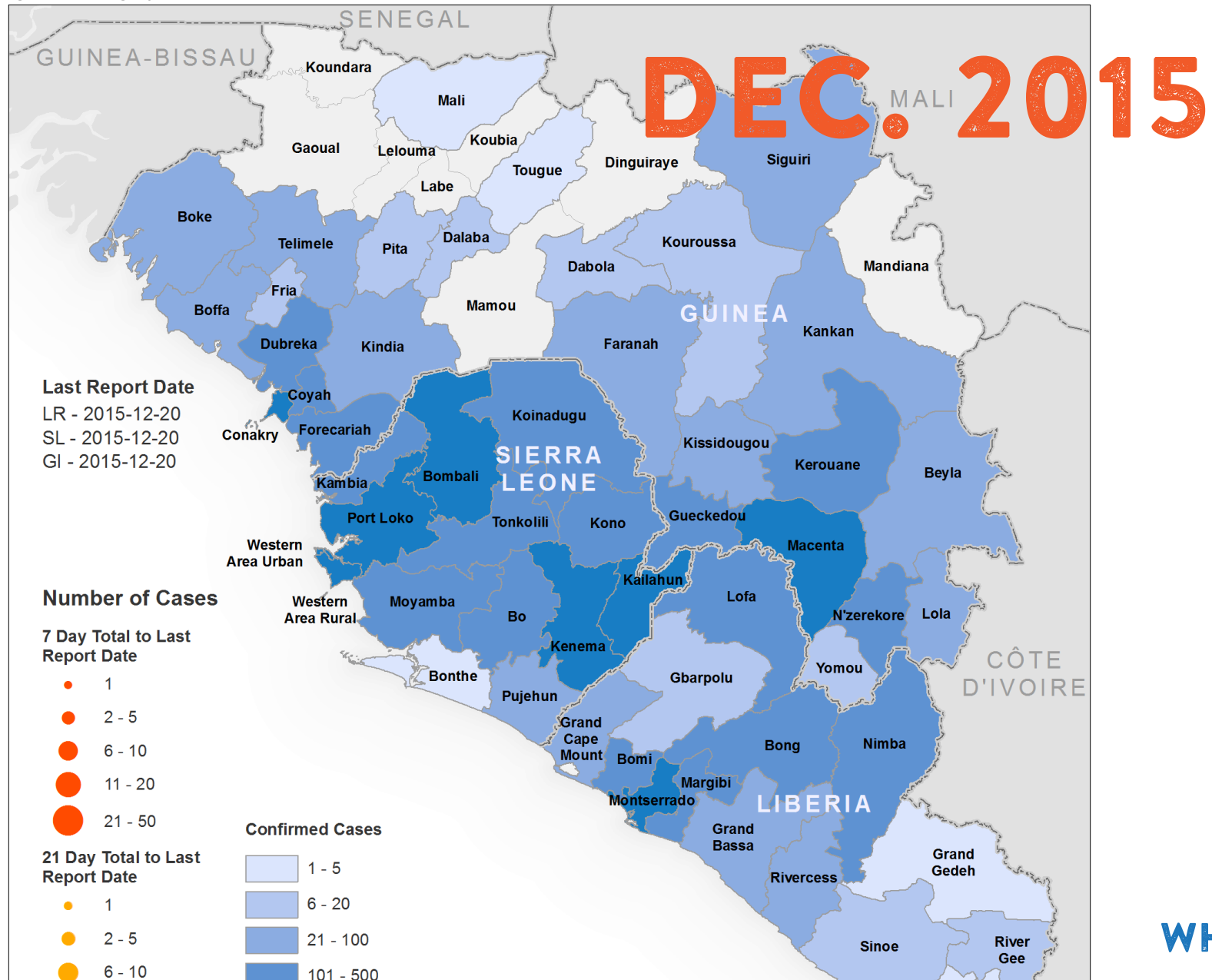


Figure 2: Geographical distribution of new and total confirmed cases in Guinea, Liberia, and Sierra Leone



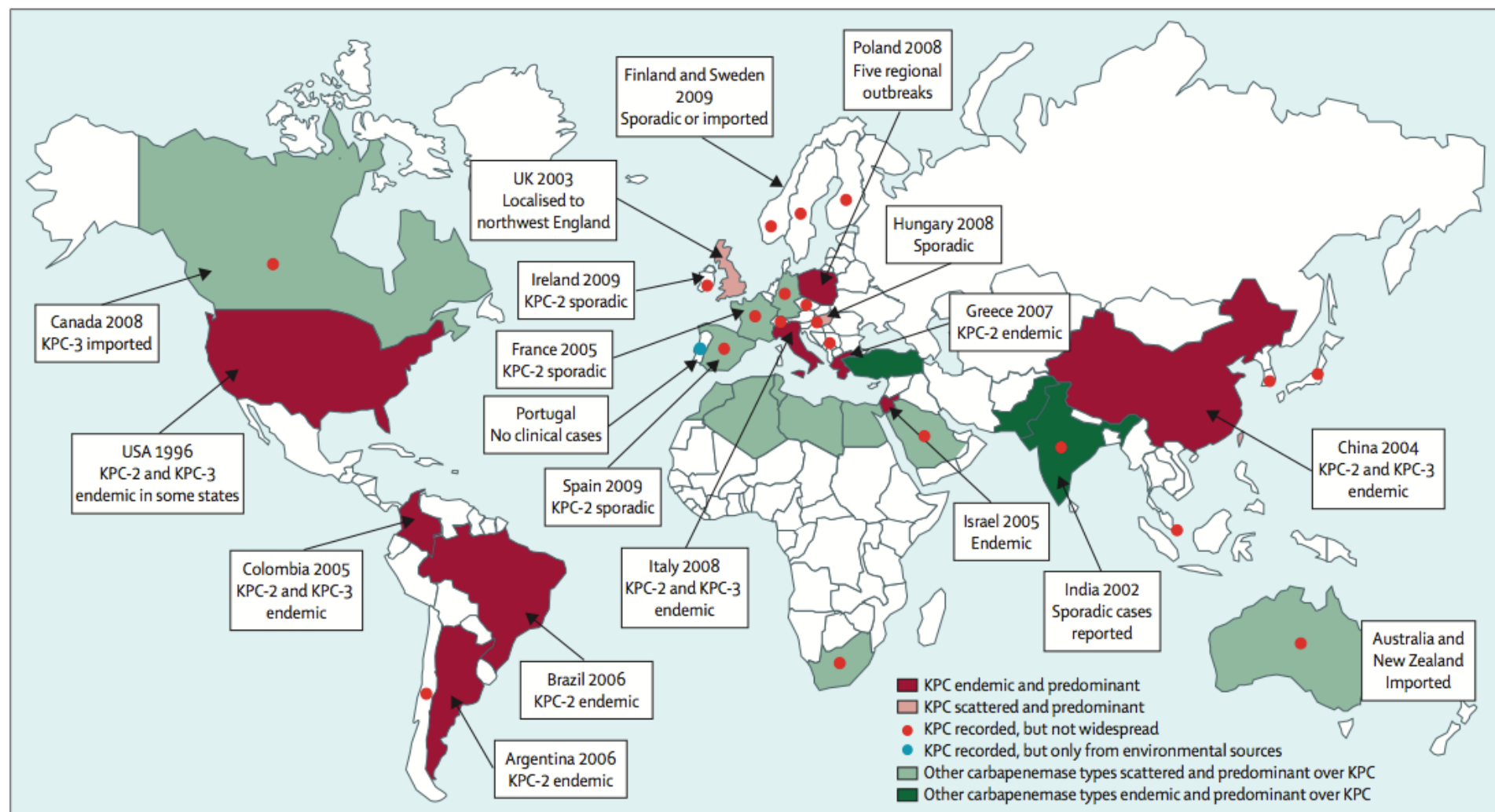
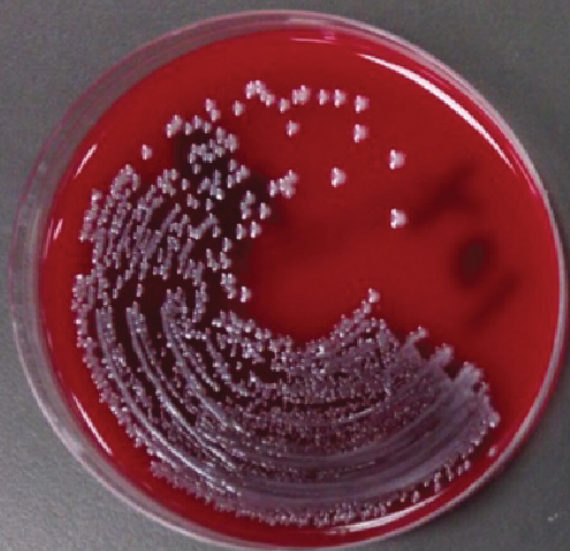
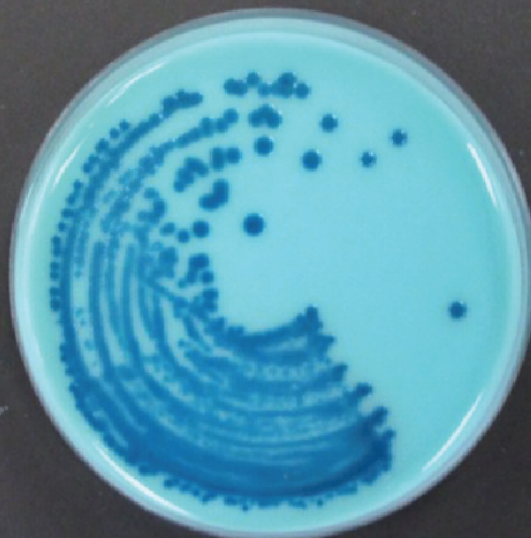


Figure: Epidemiological features of producers of *Klebsiella pneumoniae* carbapenemases by country of origin
 Other carbapenemase types include VIM, OXA-48, or NDM. KPC=*Klebsiella pneumoniae* carbapenemase.

**KLEBSIELLA
KPC**



BRILLIANCE CRE



CHROMID CARBA



**BRILLIANCE ESBL
+ERT**



**C3GR
+ERT**

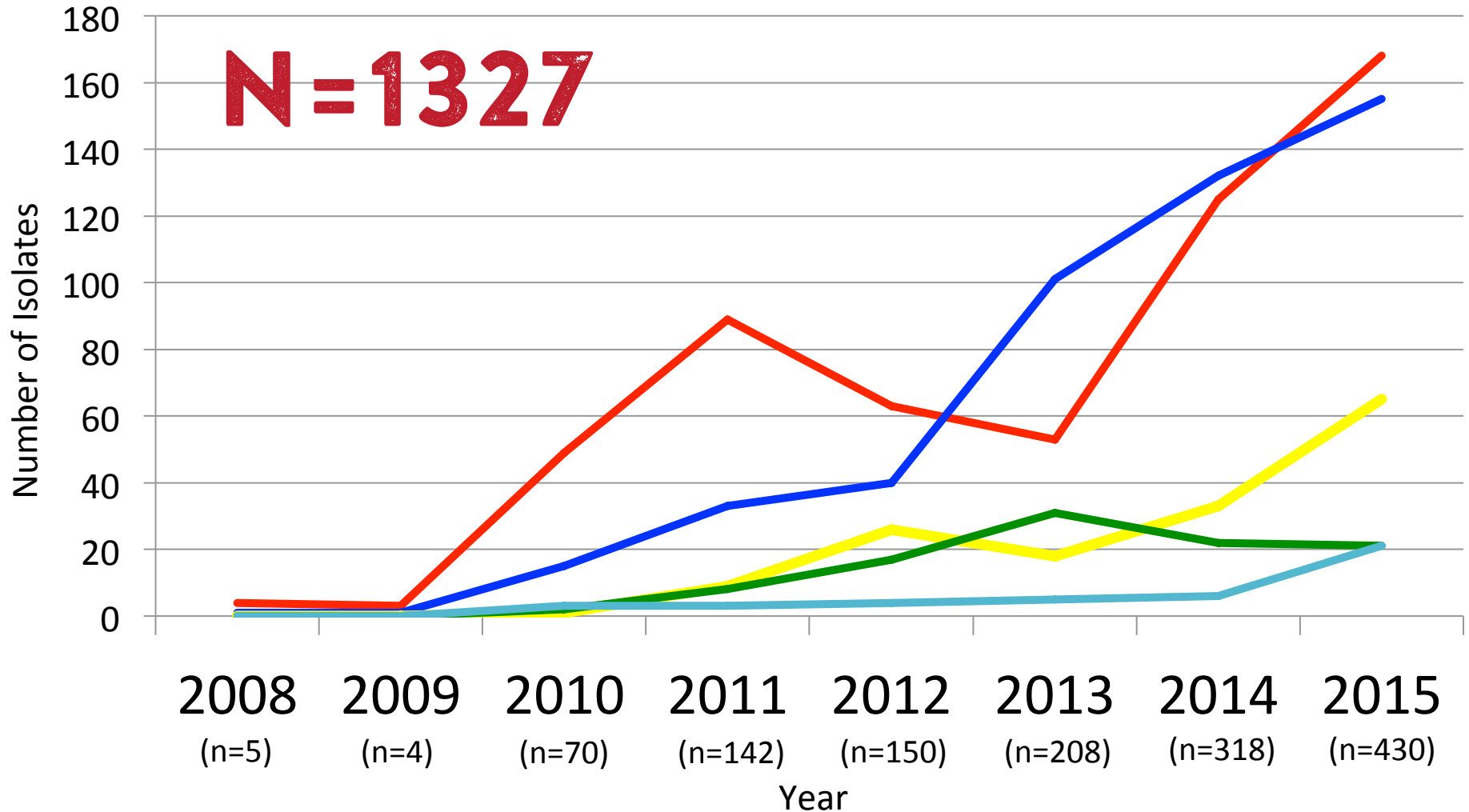


**COLOREX
KPC**



CPE IN CANADA: CPHLN DATA

—KPC —NDM —OXA-48-like —SME —Other



CANADIAN ANTIMICROBIAL RESISTANCE SURVEILLANCE SYSTEM—REPORT 2015

The logo for the Canadian Antimicrobial Resistance Surveillance System (CARSS). It features the letters 'CARSS' in a large, white, bold, sans-serif font. The letters are set against a dark green background that has a subtle, textured pattern resembling grass or a field. The 'C' is a simple curve, while the 'A', 'R', and 'S's have a slightly distressed or speckled appearance, giving the logo a sense of being outdoors or natural.

ZIKA

STRATEGIC RESPONSE FRAMEWORK & JOINT OPERATIONS PLAN

JANUARY-JUNE 2016

FEB 2016



1.
SURVEILLANCE

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RESEARCH

'SOCIAL MOBILISATION'



INTERRUPTED TRANSMISSION CHAINS



PETER MULLER

Canadian Critical Care Society

Canadian Association of Emergency Physicians

Association of Medical Microbiology & Infectious Diseases Canada



Ebola Clinical Care Guidelines



A guide for clinicians in Canada



Report #2 – Updated: October 28, 2014



Organized by the Public
Health Agency of Canada

DAILY TEMPERATURE RECORDING FORM



PROCURE FOCOS DO MOSQUITO AEDES AEGYPTI SEMANALMENTE.

FAÇA O CHECKLIST

GESTANTE,
confira os cuidados
que você precisa ter para
se prevenir contra a Zika

REPELENTES:
saiba como usar
com segurança

O que fazer em caso
de suspeita



QUEM VESTE A CAMISA



**VOCÊ SABE
O QUE É
MICROCEFALIA?**

FALE CONOSCO!

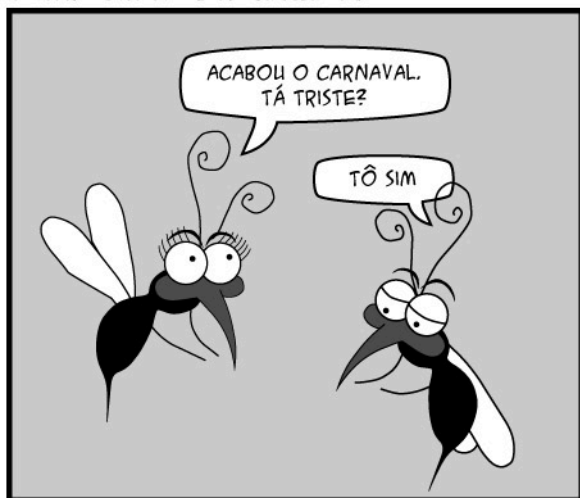
VISITE O PORTAL

**10 MINUTOS
SALVAM
VIDAS**

Entre na luta
contra o
mosquito
Aedes aegypti



O MOSQUITEIRO em "Pós-carnaval"



www.riocontradengue.rj.gov.br





MARIO TAMA



Public Health PH...

@PHAC_GC



TWEETS

2,345

FOLLOWING

175

FOLLOWERS

53.5K

LIKES

5

LISTS

2



Public Health PHAC @PHAC_GC · Jan 15

Updated Public Health Notice on Zika virus – Risk to Canadians remains low ow.ly/X8rfa



20



11



Public Health PHAC @PHAC_GC · Jan 15

Travel Health Notice Update: Zika virus – new guidance for women who are and trying to become pregnant ow.ly/X8rnc



25



7



PREGNANT and living in an area with Zika?



What we know about Zika

- ◆ Zika can be spread from a mother to her fetus during pregnancy.
- ◆ Infection with Zika during pregnancy may be linked to birth defects in babies.
- ◆ Zika is spread mostly by the bite of an infected *Aedes* species mosquito.
 - » These mosquitoes are aggressive daytime biters. They also bite at night.
- ◆ There is no vaccine to prevent or medicine to treat Zika.



What we don't know about Zika

- ◆ When during pregnancy Zika infection might cause harm to the fetus.
- ◆ How likely it is that Zika infection will affect your pregnancy.
- ◆ If your baby will develop birth defects from the infection.



Zika virus concerns prompt Canadian airlines to let travellers cancel or change flights

Air Canada says female customers will need to provide note from health-care professional

CBC News Posted: Jan 28, 2016 3:02 PM CT | Last Updated: Jan 28, 2016 8:07 PM CT



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Winnipeg, MB

Today

A mix of sun and clouds



Fri

A few flurries



Sat

Mainly sunny



CANADA

TRENDING

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Pregnant Canadian woman, who was refused Zika test after Brazil trip, may choose abortion



SHARON KIRKEY | February 1, 2016 | Last Updated: Feb 2 8:45 AM ET



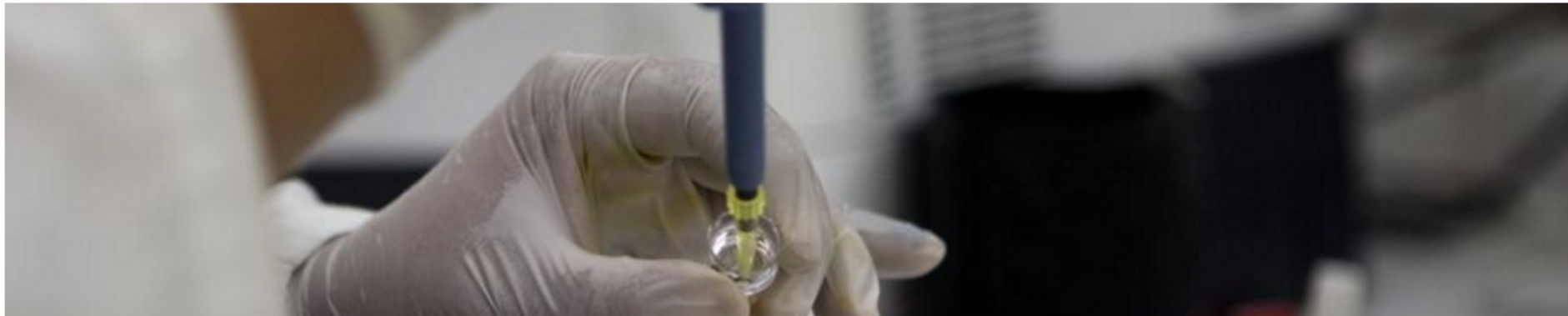
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Zika virus infection 'through sex' reported in US

🕒 3 February 2016 | [US & Canada](#)





CARBAPENEM-RESISTANT ENTEROBACTERIACEAE

THREAT LEVEL
URGENT



This bacteria is an immediate public health threat that requires urgent and aggressive action.



9,000

DRUG-RESISTANT
INFECTIONS
PER YEAR



600

DEATHS

CARBAPENEM-
RESISTANT
KLEBSIELLA SPP.

7,900



1,400

CARBAPENEM-
RESISTANT
E. COLI



**CRE HAVE BECOME RESISTANT TO ALL
OR NEARLY ALL AVAILABLE ANTIBIOTICS**



Untreatable and hard-to-treat infections from carbapenem-resistant Enterobacteriaceae (CRE) bacteria are on the rise among patients in medical facilities. CRE have become resistant to all or nearly all the antibiotics we have today. Almost half of hospital patients who get bloodstream infections from CRE bacteria die from the infection.

RESISTANCE OF CONCERN

- Some Enterobacteriaceae are resistant to nearly all antibiotics, including carbapenems, which are often considered the antibiotics of last resort.
- More than 9,000 healthcare-associated infections are caused by CRE each year.
- CDC laboratories have confirmed at least one type of CRE in healthcare facilities in 44 states.
- About 4% of U.S. short-stay hospitals had at least one patient with a serious CRE

PUBLIC HEALTH THREAT

An estimated 140,000 healthcare-associated Enterobacteriaceae infections occur in the United States each year; about 9,300 of these are caused by CRE. Up to half of all bloodstream infections caused by CRE result in death. Fortunately, bloodstream infections account for a minority of all healthcare-associated infections caused by Enterobacteriaceae. Each year, approximately 600 deaths result from infections caused by the two most common types of CRE, carbapenem-resistant *Klebsiella* spp. and carbapenem-resistant *E. coli*.

	Percentage of Enterobacteriaceae healthcare-associated infections resistant to carbapenems	Estimated number of infections	Estimated number of deaths attributed
Carbapenem-Resistant <i>Klebsiella</i> spp.	11%	7,900	520
Carbapenem-resistant <i>E. coli</i>	2%	1,400	90

Making Health Care Safer

Stop Infections from Lethal CRE Germs Now



4% & 18%

About 4% of US hospitals had at least one patient with a CRE (carbapenem-resistant Enterobacteriaceae) infection during the first half of 2012. About 18% of long-term acute care hospitals* had one.

42



One type of CRE infection has been reported in medical facilities in 42 states during the last 10 years.



1 in 2

CRE germs kill up to half of patients who get bloodstream infections from them.

Untreatable and hard-to-treat infections from CRE germs are on the rise among patients in medical facilities. CRE germs have become resistant to all or nearly all the antibiotics we have today. Types of CRE include KPC and NDM. By following CDC guidelines, we can halt CRE infections before they become widespread in hospitals and other medical facilities and potentially spread to otherwise healthy people outside of medical facilities.

Health Care Providers can

- ◇ Know if patients in your facility have CRE.
 - Request immediate alerts when the lab identifies CRE.
 - Alert the receiving facility when a patient with CRE transfers, and find out when a patient with CRE transfers into your facility.
- ◇ Protect your patients from CRE.
 - Follow contact precautions and hand hygiene recommendations when treating patients with CRE.
 - Dedicate rooms, staff, and equipment to patients with CRE.
 - Prescribe antibiotics wisely.
 - Remove temporary medical devices such as catheters and ventilators from patients as soon as possible.

*Long-term acute care hospitals provide complex medical care, such as ventilation or wound care, for long periods of time.

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ZIKA

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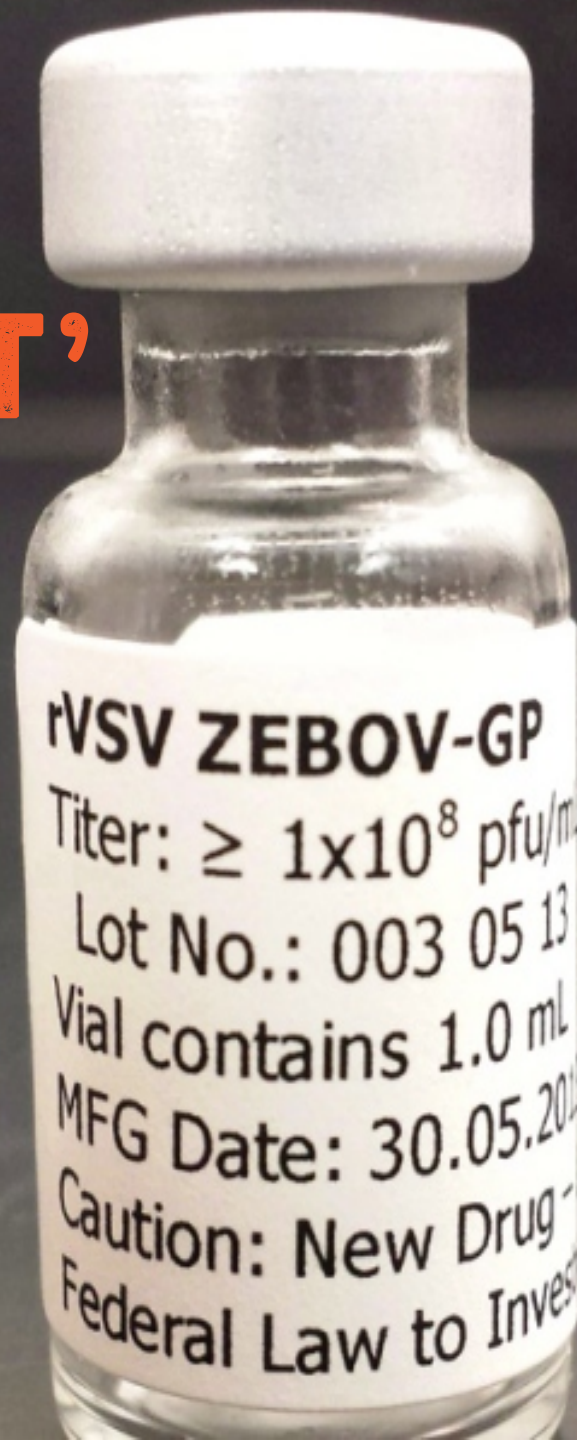


1.
SURVEILLANCE

2.
RESPONSE

3.
RESEARCH

‘EBOLA
ÇA SUFFIT’



rVSV ZEBOV-GP

Titer: $\geq 1 \times 10^8$ pfu/ml

Lot No.: 003 05 13

Vial contains 1.0 mL

MFG Date: 30.05.2013

Caution: New Drug

Federal Law to Invest



📷 Six-year-old Cecilia Kamara from Robertsport, Liberia holds up a sign after receiving news about the Ebola vaccine. Photograph: Alphonso Appleton

CANADA

TRENDING

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From Ebola to Zika, the Winnipeg virology lab solving all the world's disease problems lately



TRISTIN HOPPER | February 18, 2016 | Last Updated: Feb 19 11:49 AM ET

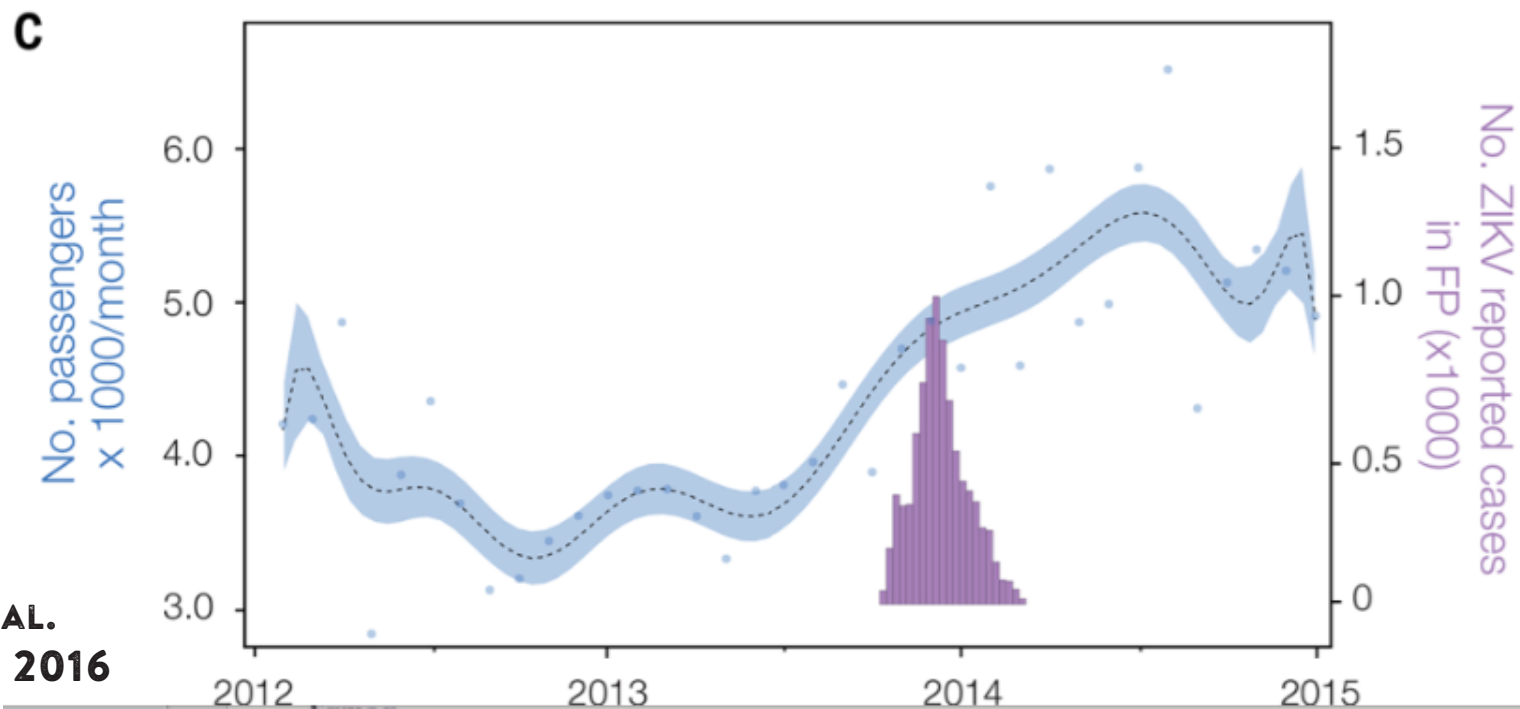
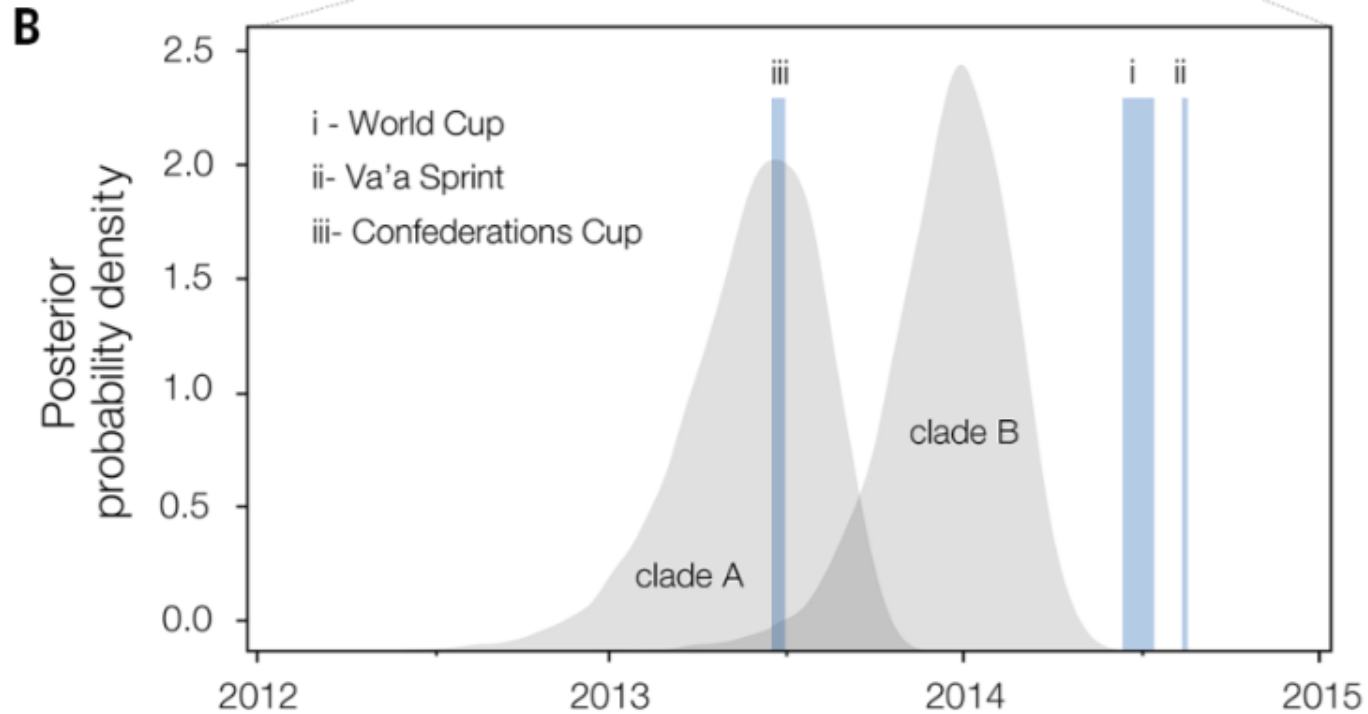
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NATIONAL GEOGRAPHIC



GROWING RELEVANCE *for* CLINICAL MICROBIOLOGY



COLISTIN (MCR-1) RESISTANCE

CMAJ

Medical knowledge that matters

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NEWS

Surveillance
programs
watching for
colistin-resistant
infections



Photo credit: Public Health Agency of Canada

The MCR-1 gene has been confirmed in Canadian patients and Ontario meat samples, says antimicrobial-resistance researcher Michael Mulvey.



TOMÁS MUNITA



INTERNATIONAL HEALTH

REGULATIONS (2005)

SECOND EDITION



World Health
Organization

goo.gl/Kpe2P6

goo.gl/133q0E



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