



AMERICAN  
SOCIETY FOR  
MICROBIOLOGY

# American Society for Microbiology and PAHO



Pan American  
Health  
Organization

## Perspective of ASM on implementation of new technologies

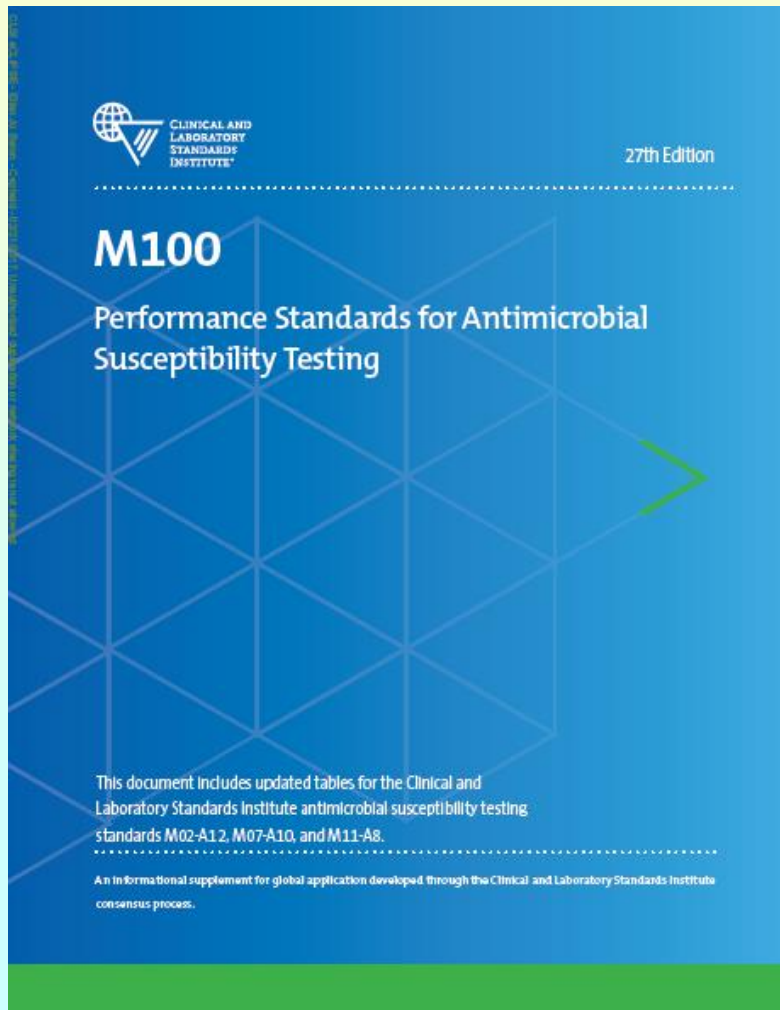
**ASM does not have any perspective on  
implementation of new technologies**

Ellen Jo Baron, Ph.D., D(ABMM), F(AAM), F(IDSA)  
Professor Emerita, Pathology  
Stanford Univ. Med. School



# Microbiologists in USA primarily follow CLSI guidelines on AST

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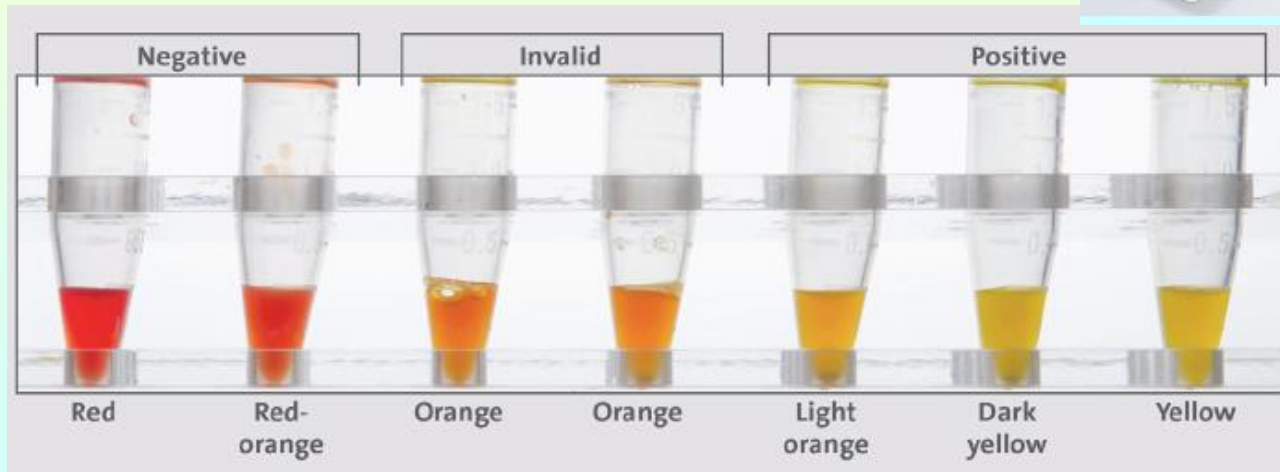
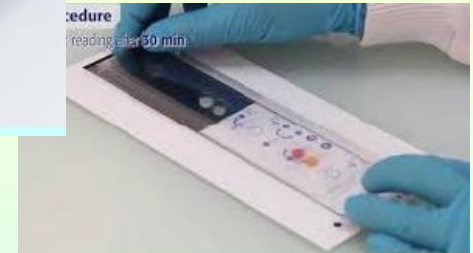


**CLSI moving closer to EUCAST. Now includes epidemiological cutoffs.**

# Recent CLSI recommendations for emerging resistance detection

## 1. Carba NP method

RAPIDEC Carba-NP (BioMerieux)



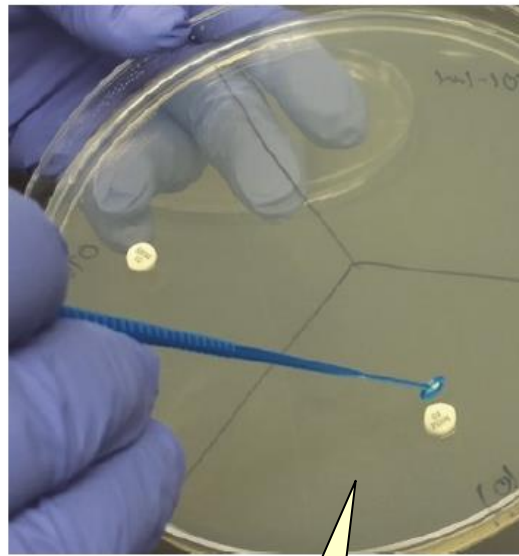
**If negative, report results based on MIC**

From M100, 27<sup>th</sup> ed. CLSI

## 2. Modified carbapenem inactivation method (mCIM) for Enterobacteriaceae (KPC, NDM, VIM, IMP, IMI, SPN, SME, OXA)



A



D

If mCIM positive, EDTA tube differentiates:  
Serine enzyme: Neg  
Metal enzyme: Pos

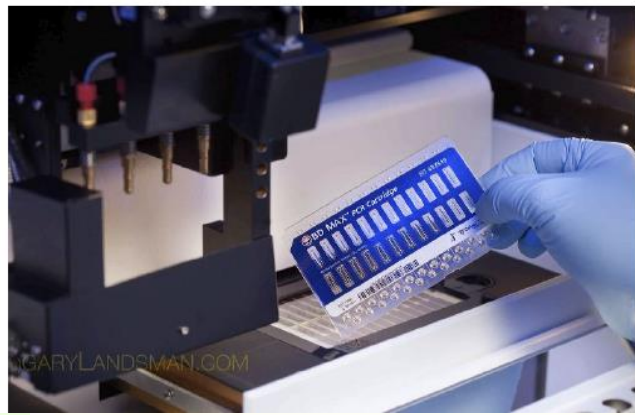
ATCC 25923  
(Suscept)



positive



# Molecular methods (FDA-cleared)



## Luminex Verigene®



 **BD MAX™ MRSA XT**



 **Cepheid®**

**GeneXpert®**



 **ACCELERATE**  
DIAGNOSTICS



# American Society for Microbiology and PAHO



**Goal of ASM/PAHO relationship: Aimed at strengthening professional development, engagement, and knowledge sharing in Latin America and the Caribbean**

**Ellen Jo Baron, Ph.D., D(ABMM), F(AAM)  
Professor Emerita, Pathology  
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# Achievements in 2017

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1. Appointment of **Dr. Paul Brown**, Jamaica, to the ASM Council on Microbial Sciences (COMS) and **Dr. Patricio Acosta**, Argentina, to the ASM Board of Directors (BOD), expanding regional representation in ASM's governance.
2. Implementation of the ASM **Art of Science Communication** and ASM **Scientific Writing and Publishing** Workshops in Brazil, Colombia, El Salvador, Guatemala, Mexico, Paraguay, Uruguay, and Venezuela.

Spanish subtitles added to the Art of Science Communication Workshop by the ASM Young Ambassador to Paraguay.

# Achievements in 2017

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3. New appointments of **ASM Young Ambassadors** in Argentina, Brazil, Canada, Chile, El Salvador, Mexico, Panama, and Paraguay to facilitate in-country activities and engage early career scientists.
4. Online live streaming of the **Vector Borne Diseases Symposium** during the XI Paraguayan Infectious Diseases meeting to classrooms in Argentina and Panama, reaching an audience of over 400.
5. **Free ASM membership and access to all online ASM journals** was provided to 5 members in Cuba, 57 members in Haiti, and 117 members in Venezuela through the Global Outreach Program, engaging scientists from resource constrained and politically isolated countries.



# Achievements in 2017

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6. Initial assessment of the feasibility of a limited **surveillance study** for the presence of carbapenem resistant Enterobacteriaceae among a convenience sample of patients whose stool is sent for other studies in El Salvador, Paraguay, and Panama, conducted by Young Ambassadors, with support from Cepheid (providing molecular test reagents) and University of Bogota, Colombia, providing genetic sequencing of isolates where possible.

If successful, the study could be extended to include additional countries.



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**Viviana de Egea,**  
**YA Paraguay**



**Cesar Arias, Prof.**  
**Univ. Bosque**  
**(Colombia) and U.**  
**Texas Baylor**

**300 samples**

- 10 random stools
- 10 unique institutions (geographically diverse, small)

**Any positive by phenotypic screen but not GeneXpert Carba-R will be sequenced in Colombia.**

**Cepheid will donate cartridges and loaner instrument**



**Collect a swab from stool  
Store swabs at 15-28°C for up to 6 hours and thereafter at 2-28°C for up to seven days.**

**Using aseptic techniques, place a 10 µg meropenem disk into 10 mL T-soy broth**

**Place swab in T-soy broth containing meropenem disk and vortex for ~10 seconds.**

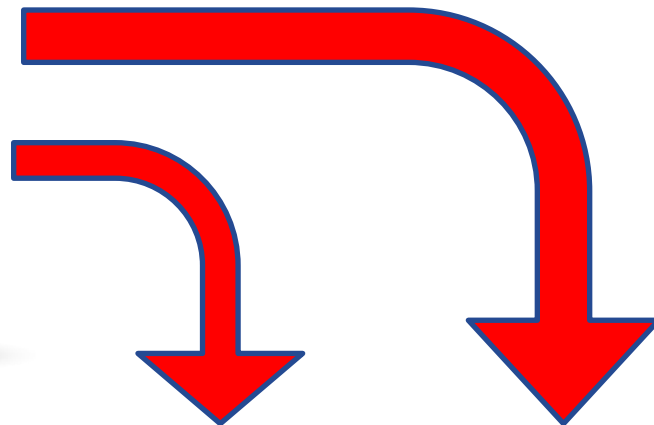
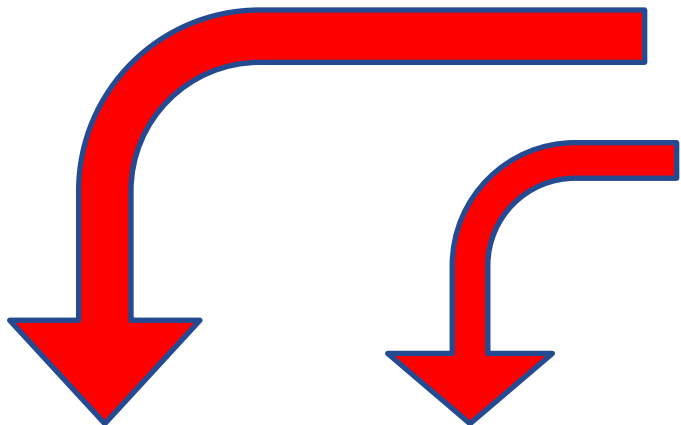
**Loosen cap and incubate broth for 20-24 hours at 35 °C**

**Subculture broth to MacConkey plate with a 10 µg meropenem disk, incubate overnight**

**Identify any resistant Enterobacteriaceae**

**Use another swab to send resistant colonies to reference lab for Xpert testing**

# Xpert Carba-R Spectrum of Detection



**ALL KPCs  
1-19**

**IMP-1  
subgroup**

**ALL VIMS  
1-40**

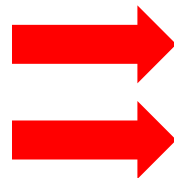
**ALL NDMs  
1-12**

**OXA-48  
like**

IMP 1	IMP 3
IMP 5	IMP 6
IMP 10	IMP 15
IMP 25	IMP 29
IMP 30	IMP 40

**Does NOT detect**

IMP 7
IMP 13
IMP 14
GES



OXA-162	OXA-163
OXA-181	OXA-204
OXA-232	OXA-244
OXA-245	OXA-247
OXA-370	

# Requirements El Salvador

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**Dr. Oliva, appointee of the National Institute of Health (INS), stated the following:**

- 1- Submit the protocol to INS. At least one month delay to send their observations.**
- 2 - After INS's endorsement, present the protocol to the National Committee for Health Research Ethics (CNEIS). About 1-2 months delay to send their observations.**
- 3- After the approval of the 2 previous institutions, deliver the protocol to the Minister of Health, who will prepare a document called "Oficio", which is required to go ahead with the proposal.**