

# Antibiorésistance

## Bon usage des antibiotiques

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Coopération  
infectiologues et  
hygiénistes



# Antibiorésistance

> 670 000

INFECTIONS  
À BACTÉRIES  
RÉSISTANTES  
AUX ANTIBIOTIQUES  
EN EUROPE  
EN 2015

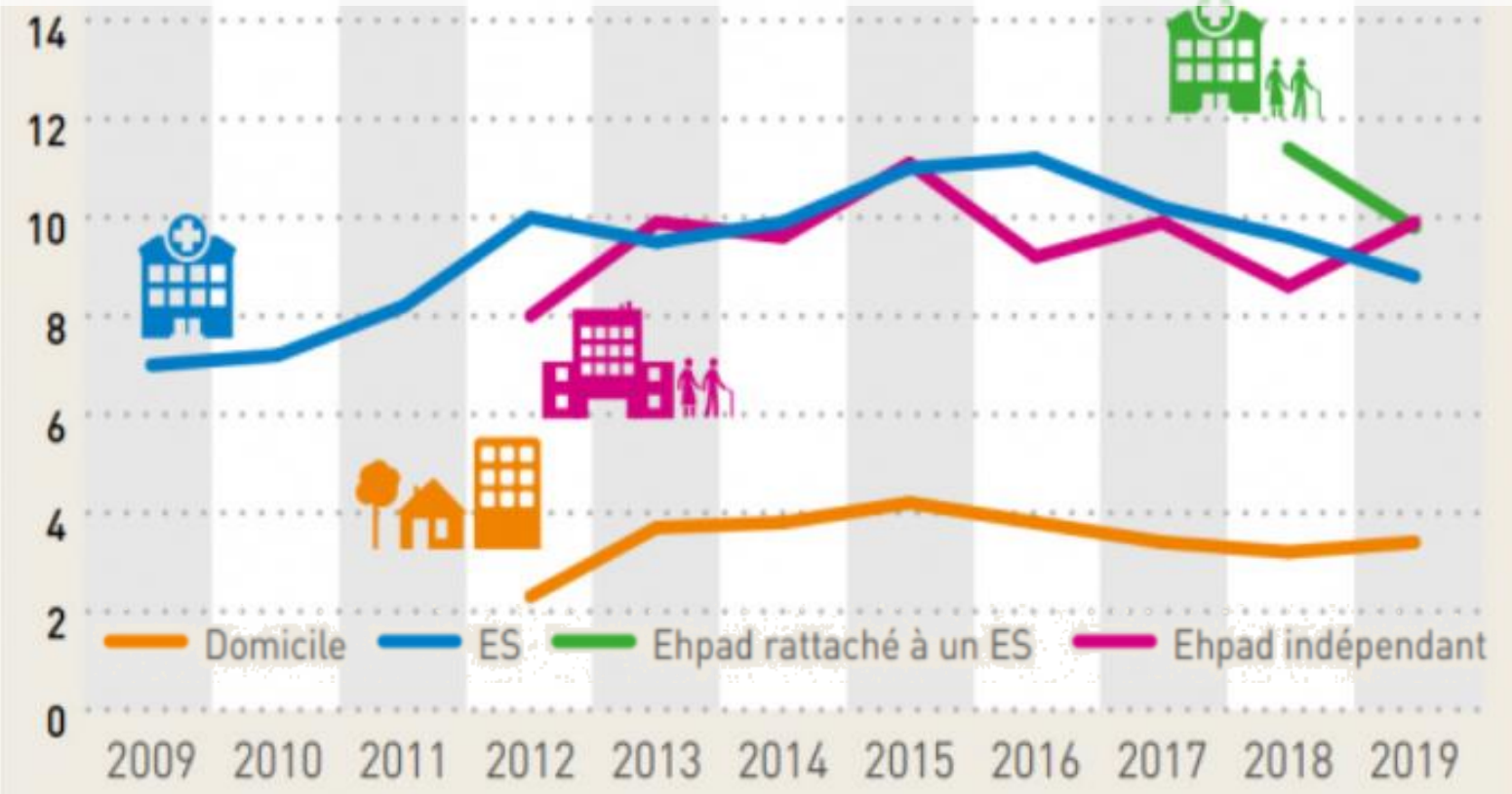
125 000

INFECTIONS  
À BACTÉRIES  
MULTIRÉSISTANTES  
EN FRANCE  
EN 2015

> 5 500

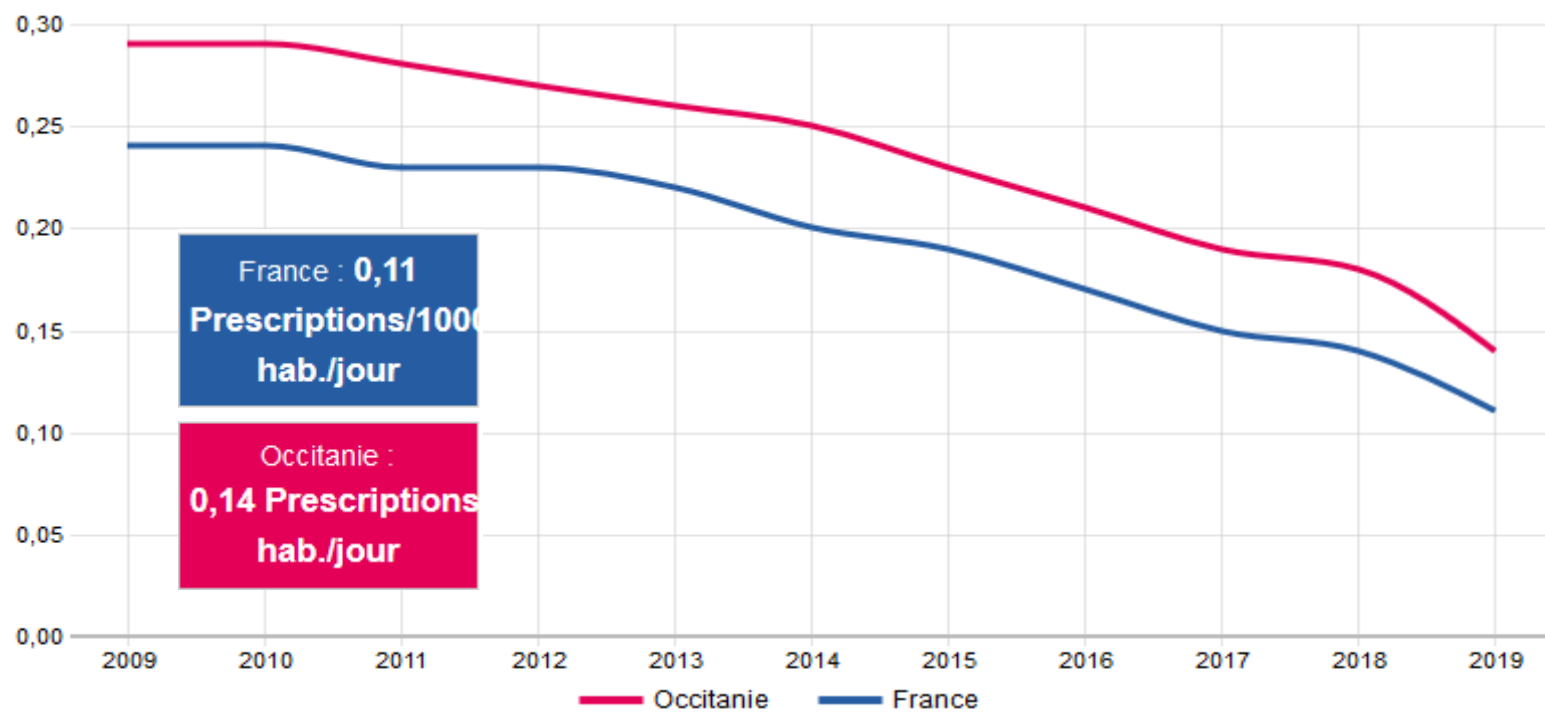
DÉCÈS LIÉS  
À CES INFECTIONS  
EN FRANCE  
EN 2015

Résistance aux céphalosporines de 3<sup>ème</sup> génération %

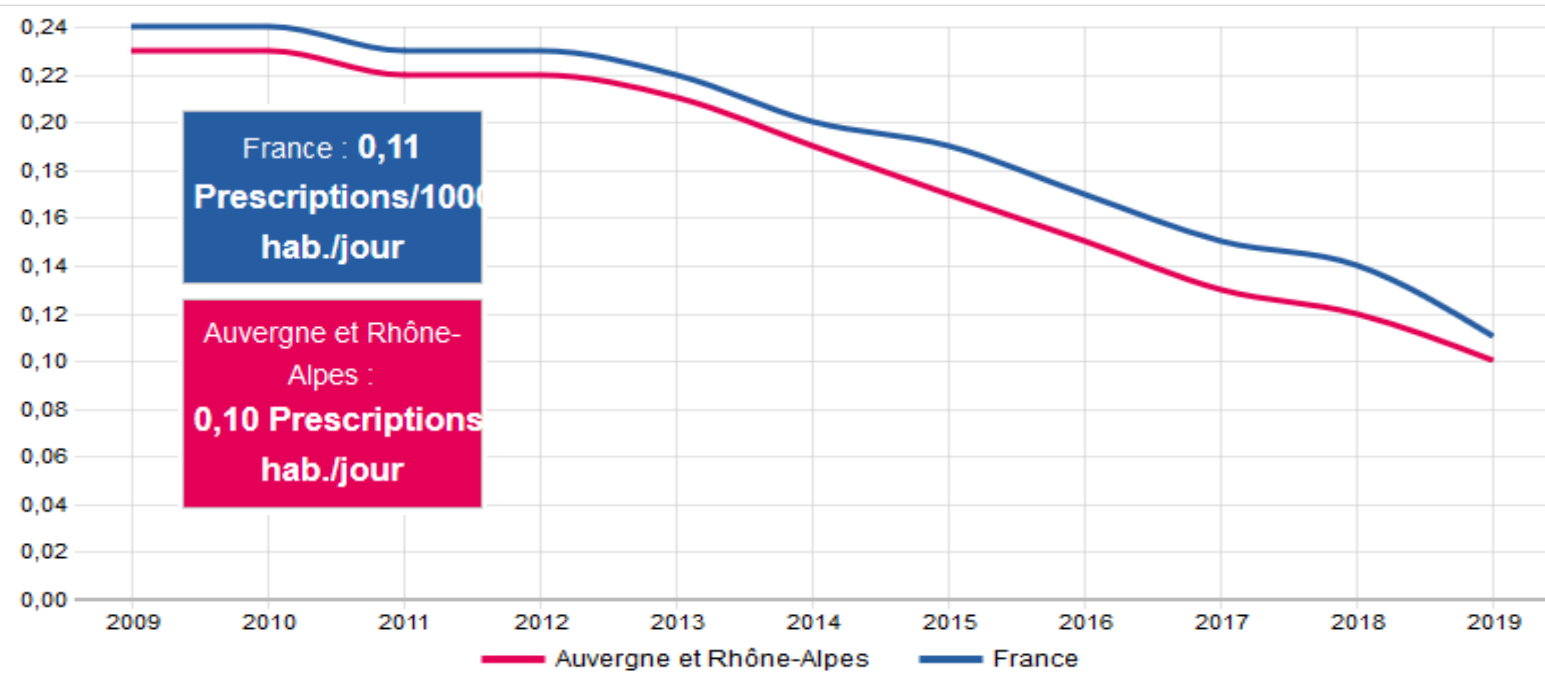


# Consommation des antibiotiques

Occitanie



Auvergne-Rhône-Alpes



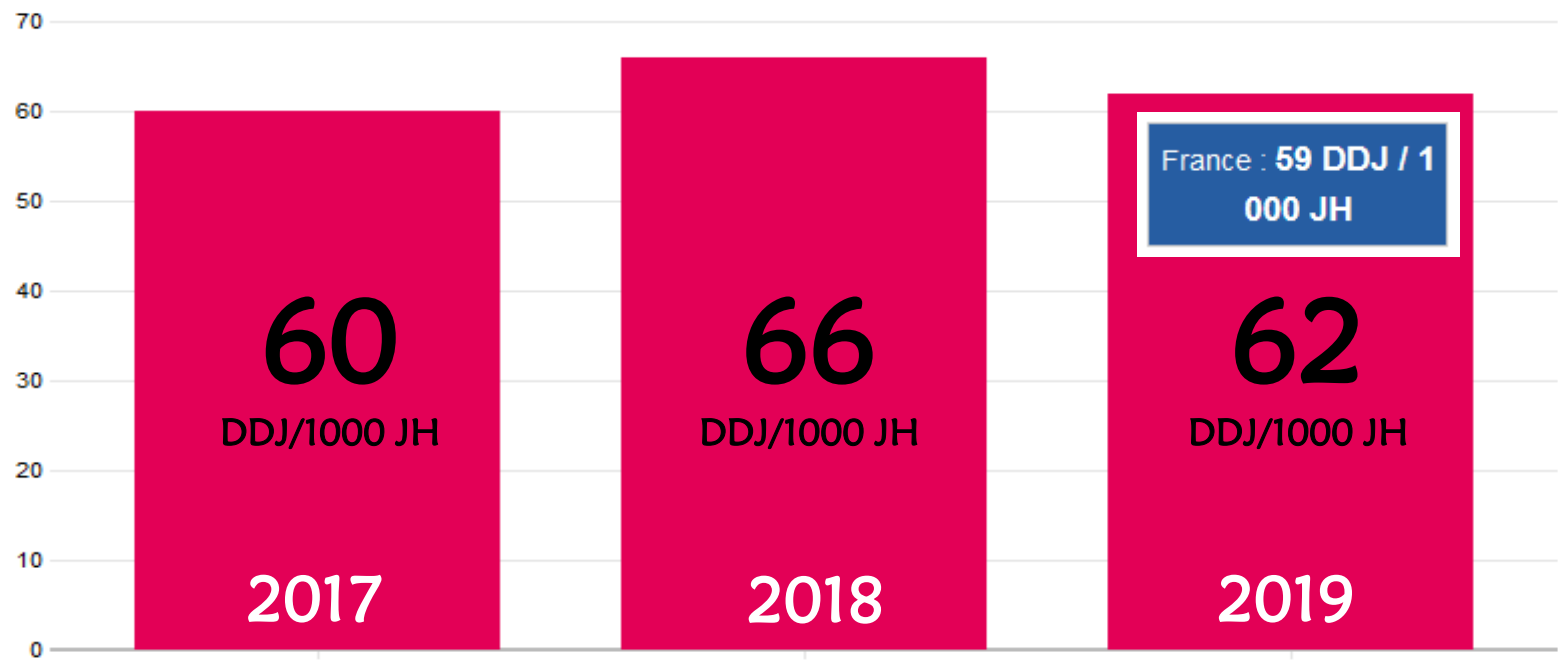
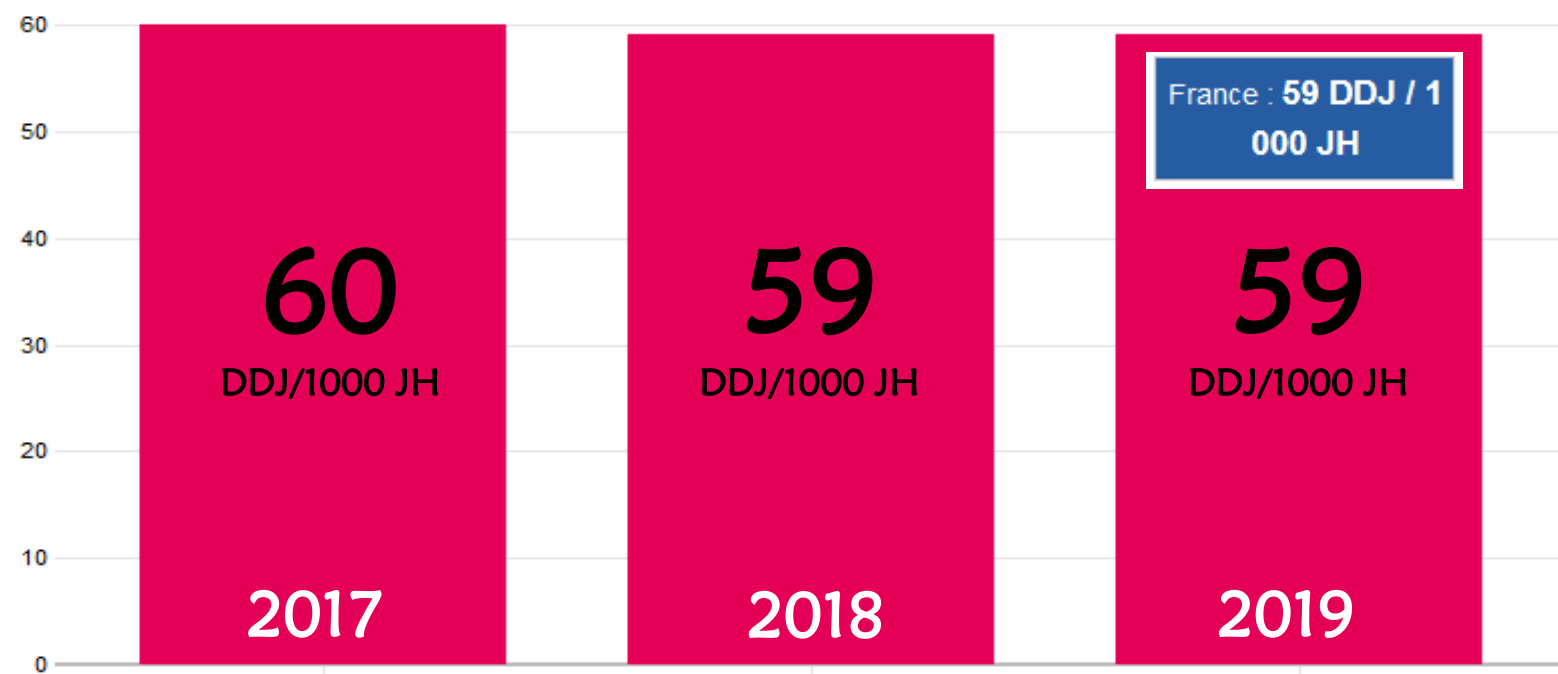
Nombre de prescriptions en ville de Quinolones (ATC J01M)  
Prescriptions/1000/hab/J

# Consommation des antibiotiques

Occitanie




Auvergne-Rhône-Alpes

Consommation de C3G  
en cours séjour  
(DDJ/1000 JH)



# Contrôle de la transmission



-  **Contact**
-  **Goutelettes**
-  **Air**

-  **Hygiène des mains**
-  **Équipements de protection individuelle**
-  **Hygiène respiratoire**
-  **Gestion des excreta**
-  **Prévention des AES**
-  **Bionettoyage**



# Prévention des infections (PCI)

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**CPias**

Centre d'appui pour la prévention des IAS

**EMH (ESMS)**

Équipes mobiles d'hygiène

**EOHH**

Équipes opérationnelles d'hygiène

**Pdt CLIN**

# Bon usage des antibiotiques (BUA)

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**CRAtb**

Centre régional en antibiothérapie

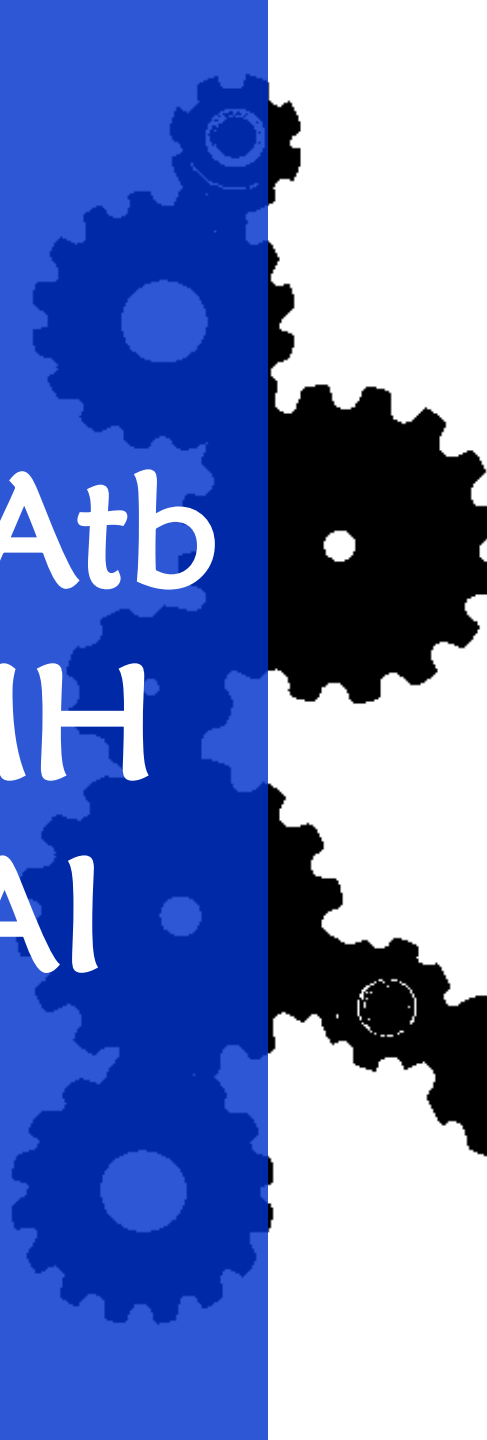
**EMA (ESMS-Ville-ES)**

Équipes multidisciplinaires en antibiothérapie

**CAI**

Commission des antibiotiques

**Référent ATB**



CPias-CRA**t**b  
EMA-EMH  
EOH-CAI

- Audit-Evaluation
- Formation
- Surveillance
- Animation Réseau
- Documentation
- Outils
- Recommandations
- Conseils
- Alerte

# Long-Term Impact of an Educational Antimicrobial Stewardship Program on Hospital-Acquired Candidemia and Multidrug-Resistant Bloodstream Infections: A Quasi-Experimental Study of Interrupted Time-Series Analysis

José Molina,<sup>1</sup> Germán Peñalva,<sup>1</sup> María V. Gil-Navarro,<sup>2</sup> Julia Praena,<sup>1</sup> José A. Lepe,<sup>1</sup> María A. Pérez-Moreno,<sup>2</sup> Carmen Ferrándiz,<sup>3</sup> Teresa Aldabó,<sup>3</sup> Manuela Aguilar,<sup>1</sup> Peter Olbrich,<sup>4</sup> Manuel E. Jiménez-Mejías,<sup>1</sup> María L. Gascón,<sup>3</sup> Rosario Amaya-Villar,<sup>3</sup> Olaf Neth,<sup>4</sup> María J. Rodríguez-Hernández,<sup>1</sup> Antonio Gutiérrez-Pizarra,<sup>1</sup> José Garnacho-Montero,<sup>5</sup> Cristina Montero,<sup>6</sup> Josefina Cano,<sup>6</sup> Julián Palomino,<sup>1</sup> Raquel Valencia,<sup>1</sup> Rocío Álvarez,<sup>1</sup> Elisa Cordero,<sup>1</sup> Marta Herrero,<sup>1</sup> and José M. Cisneros<sup>1</sup>; for the PRIOAM team

1. Équipe multidisciplinaire (infectiologue, pharmacien, un réanimateur (*preventive specialist*), un pédiatre et un microbiologiste)
2. Interview des prescripteurs 10' sur une prescription tirée au sort
3. Pas de changement dans les pratiques telles que mesures d'hygiène
4. Actualisation et diffusion des protocoles de traitement
5. Bilan trimestriel des consommations d'antibiotiques dans chaque service
6. Bilan annuel de la résistance bactérienne
7. Bilan annuel du programme dans chaque service



# Long-Term Impact of an Educational Antimicrobial Stewardship Program on Hospital-Acquired Candidemia and Multidrug-Resistant Bloodstream Infections: A Quasi-Experimental Study of Interrupted Time-Series Analysis

Molina J. et al, Clin Infect Dis 2017

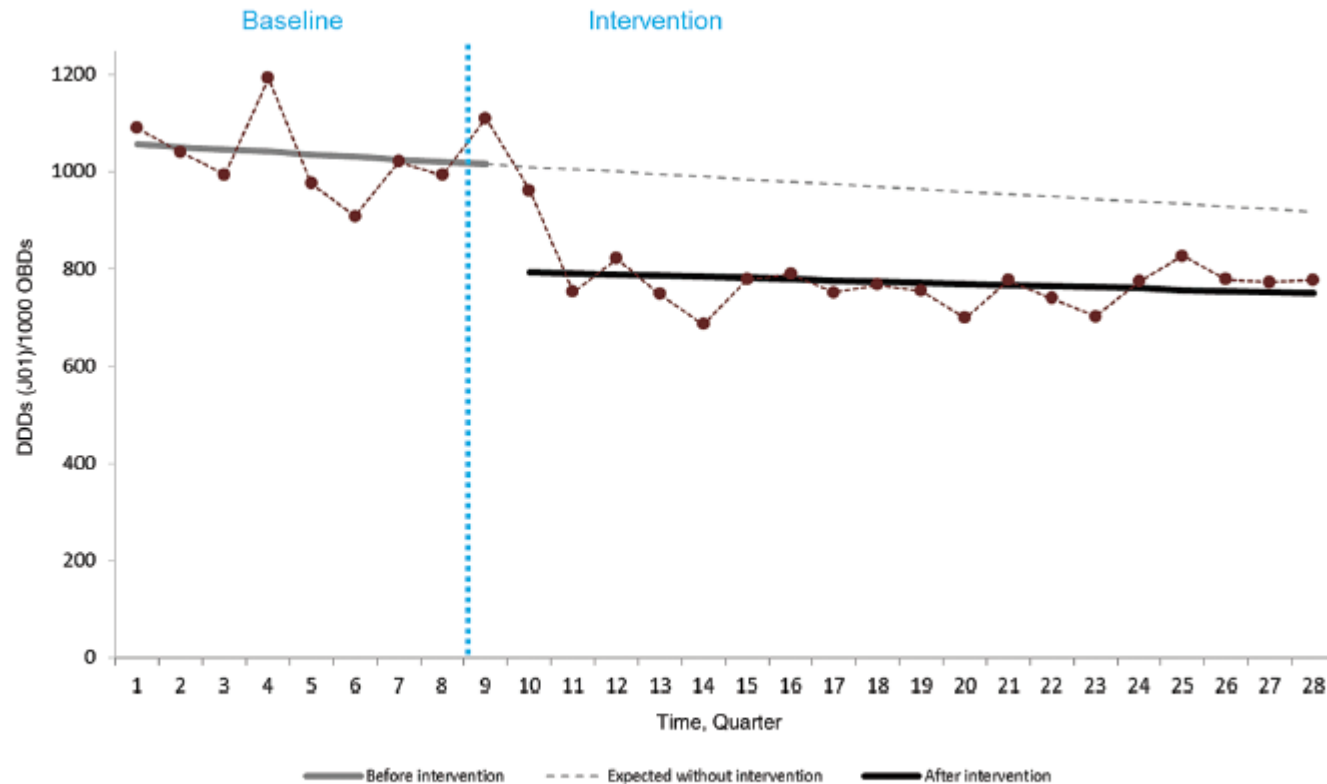


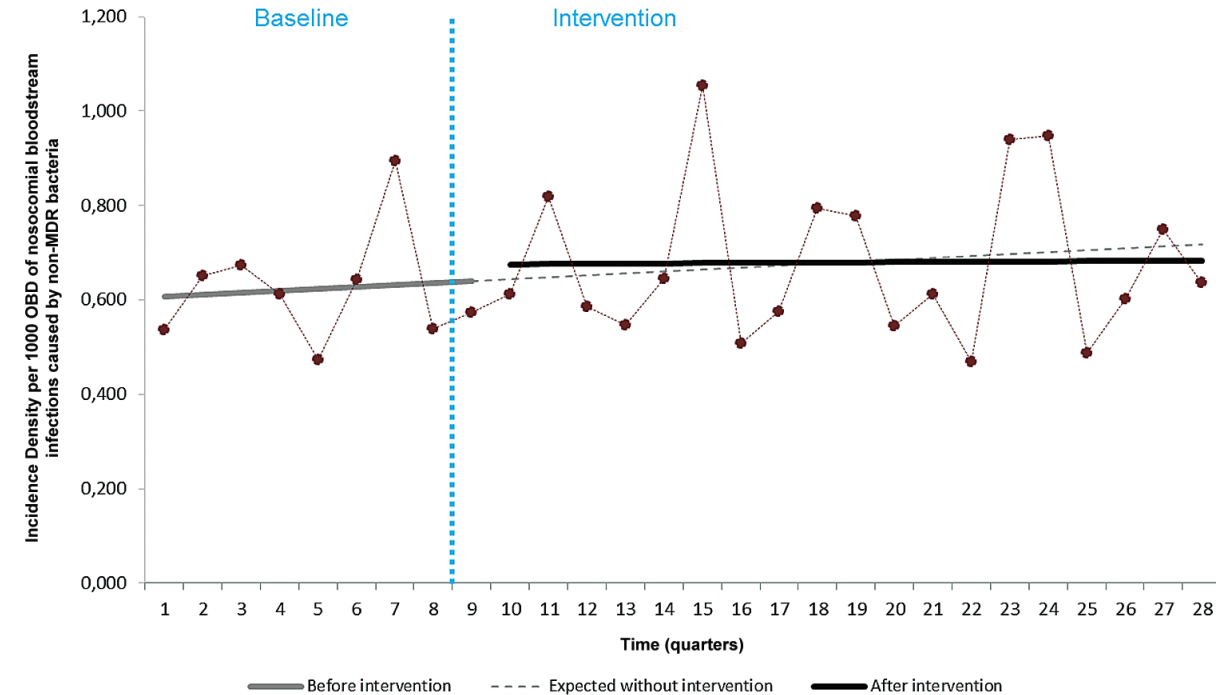
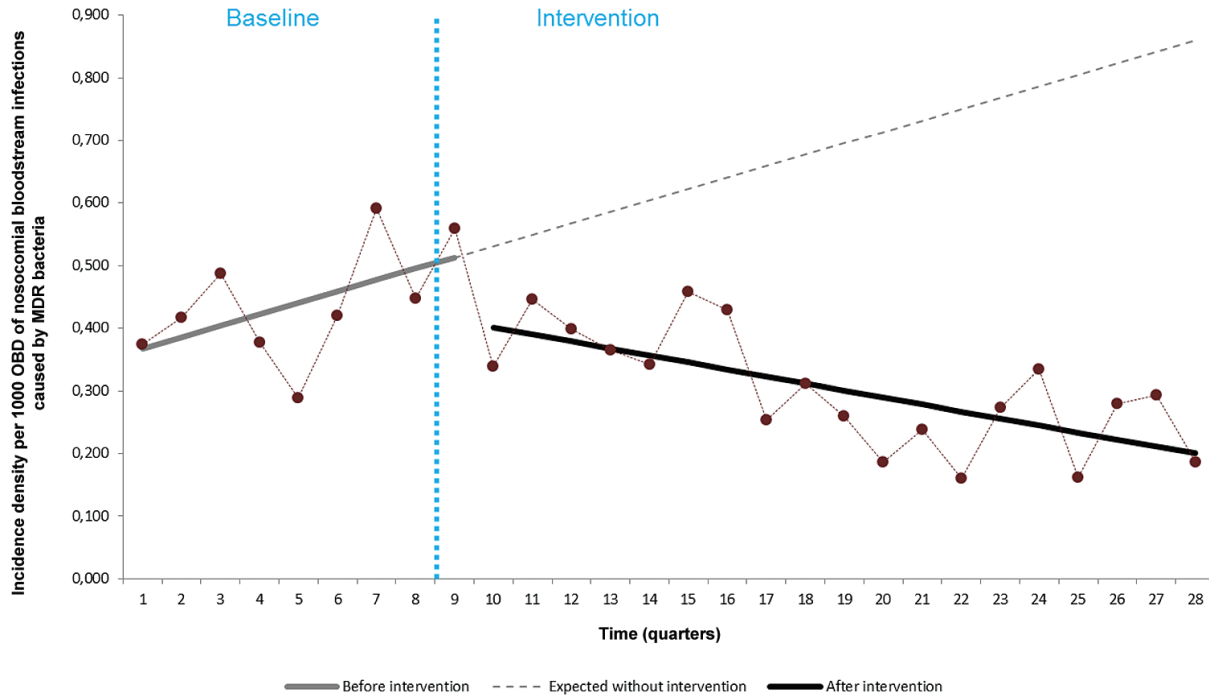
Figure 1. Changes in antibiotic consumption. ATC group J01 (antibacterials for systemic use); DDDs, defined daily doses; OBDs, occupied bed days.

# Long-Term Impact of an Educational Antimicrobial Stewardship Program on Hospital-Acquired Candidemia and Multidrug-Resistant Bloodstream Infections: A Quasi-Experimental Study of Interrupted Time-Series Analysis

Molina J. et al, Clin Infect Dis 2017

Impact on incidence of hospital-acquired **candidemia and multidrug-resistant (MDR) bacterial** bloodstream infections (BSIs). OBDs, occupied bed days

Evolution of incidence of hospital-acquired **non-multidrug-resistant (non-MDR) bacterial** bloodstream infections (BSIs). OBDs, occupied bed days.



# Efficacité des équipes multidisciplinaires d'antibiothérapie sur l'incidence de l'infection et la colonisation par des bactéries résistantes aux antibiotiques et Infection à *Clostridium difficile* : une revue systématique et méta-analyse

1. Sélection de 32 articles parmi 1169
2. Intervention par audits et ou par restriction
3. Mesures de contrôle des infections dans 10 études

**Antibiotic stewardship programmes reduced the incidence of infections and colonisation with multidrug-resistant Gram-negative bacteria (51% reduction; IR 0.49, 95% CI 0.35–0.68;  $p < 0.0001$ ), extended-spectrum  $\beta$ -lactamase-producing Gram-negative bacteria (48%; 0.52, 0.27–0.98;  $p = 0.0428$ ), and **meticillin-resistant *Staphylococcus aureus* (37%; 0.63, 0.45–0.88;  $p = 0.0065$ ), as well as the incidence of *C difficile* infections (32%; 0.68, 0.53–0.88;  $p = 0.0029$ ). Antibiotic stewardship programmes were more effective when implemented with infection control measures (IR 0.69, 0.54–0.88;  $p = 0.0030$ ), especially hand-hygiene interventions (0.34, 0.21–0.54;  $p < 0.0001$ ), than when implemented alone.****

Effect of antibiotic stewardship on the incidence of infection and colonisation with antibiotic-resistant bacteria and *Clostridium difficile* infection: a systematic review and meta-analysis

David Baur\*, Beryl Primrose Gladstone\*, Francesco Burkert, Elena Carrara, Federico Foschi, Stefanie Döbele, Evelina Tacconelli

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Baur D, Lancet Infect Dis 2017

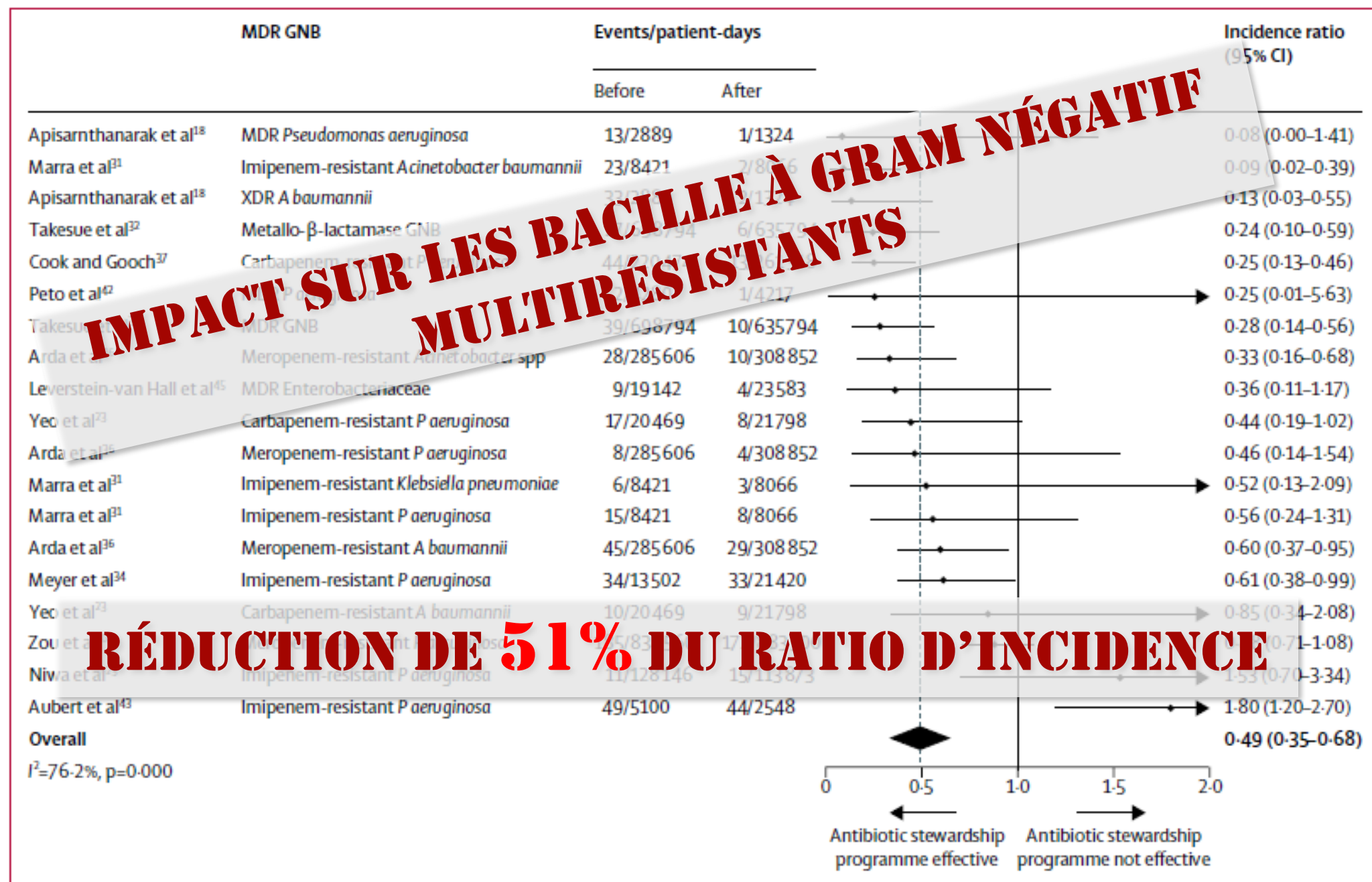


Figure 2: Forest plot of the incidence ratios for studies of the effect of antibiotic stewardship on the incidence of MDR GNB  
GNB- Gram-negative bacteria. MDR- multidrug-resistant. XDR-extensively drug-resistant.

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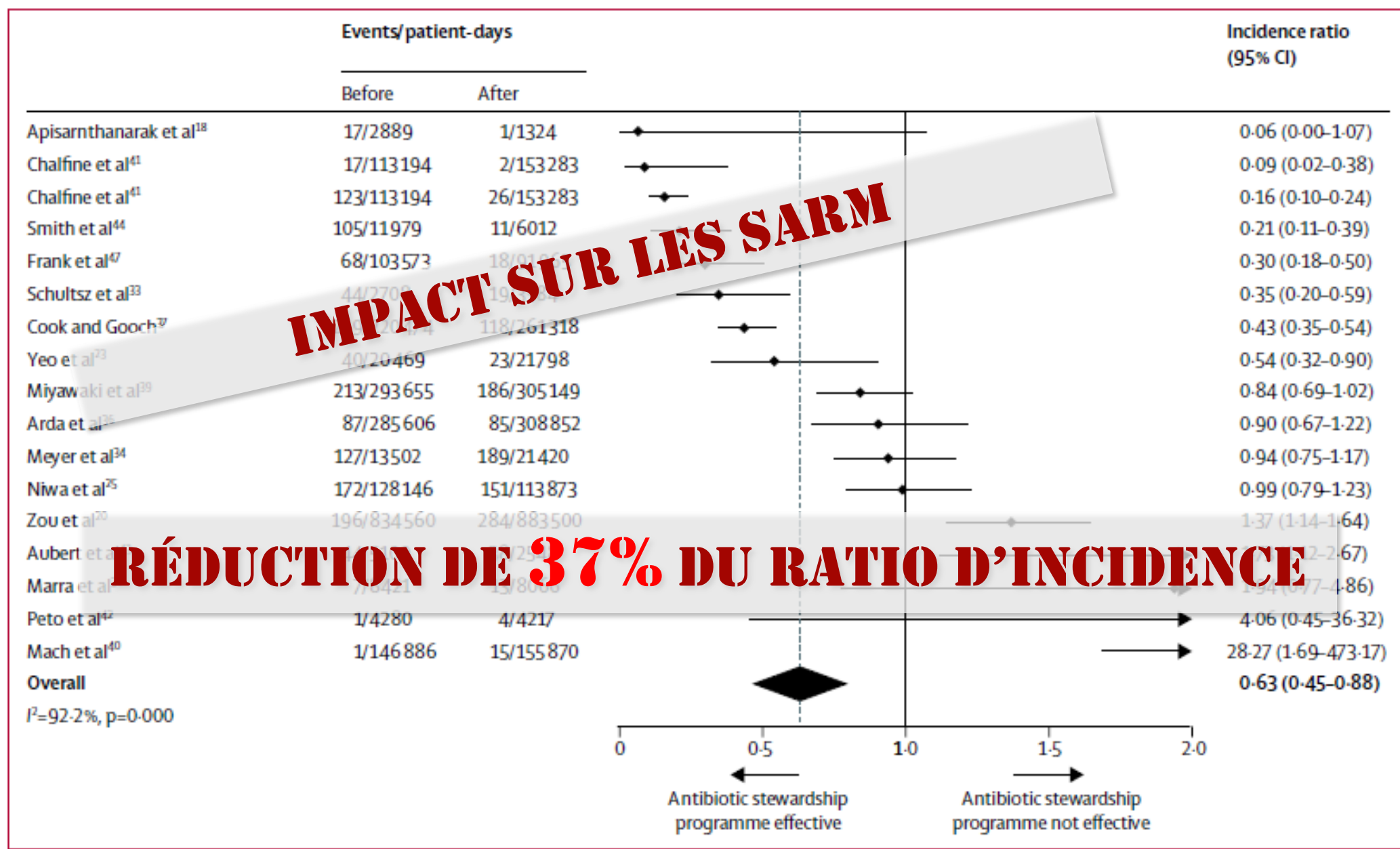


Figure 3: Forest plot of the incidence ratios for studies of the effect of antibiotic stewardship on the incidence of meticillin-resistant *Staphylococcus aureus*

Effect of antibiotic stewardship on the incidence of infection and colonisation with antibiotic-resistant bacteria and *Clostridium difficile* infection: a systematic review and meta-analysis

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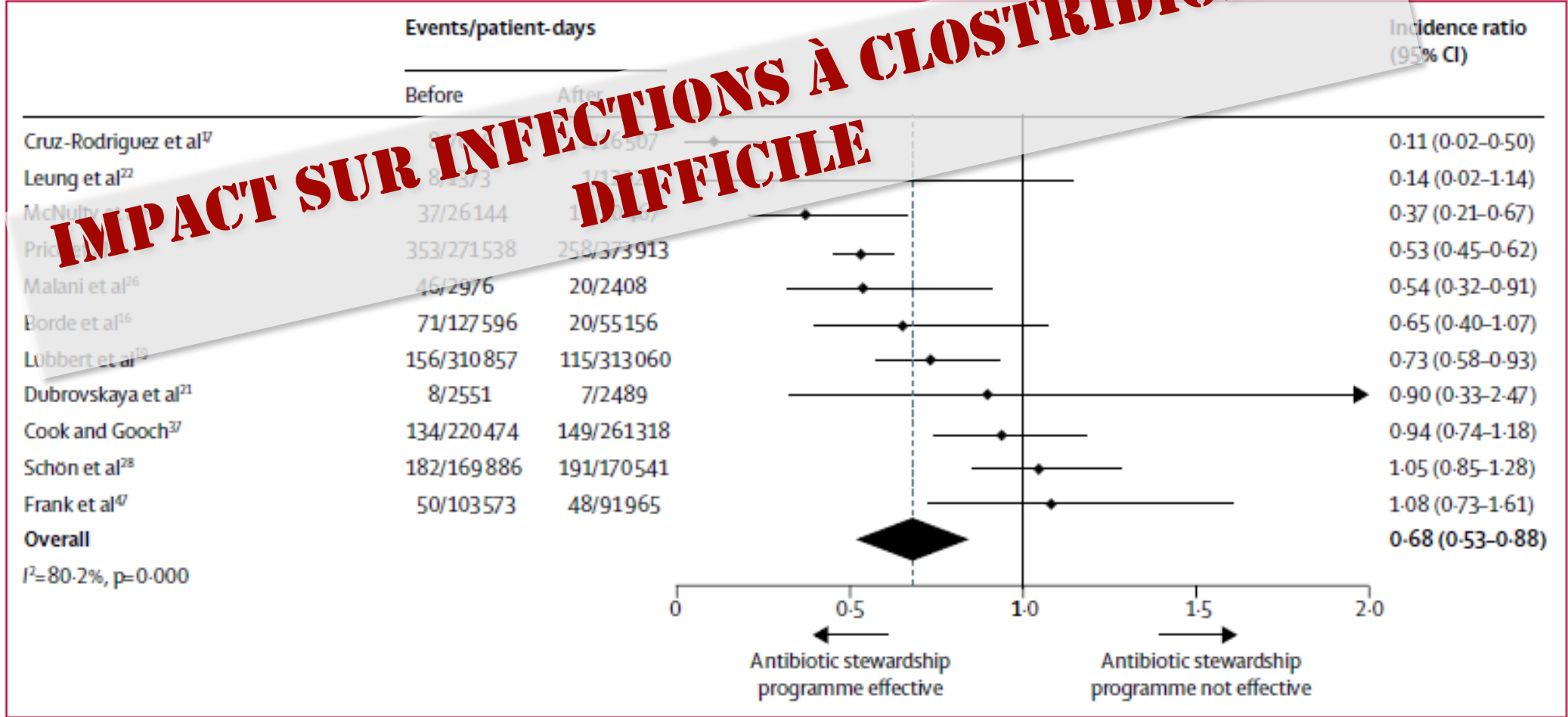


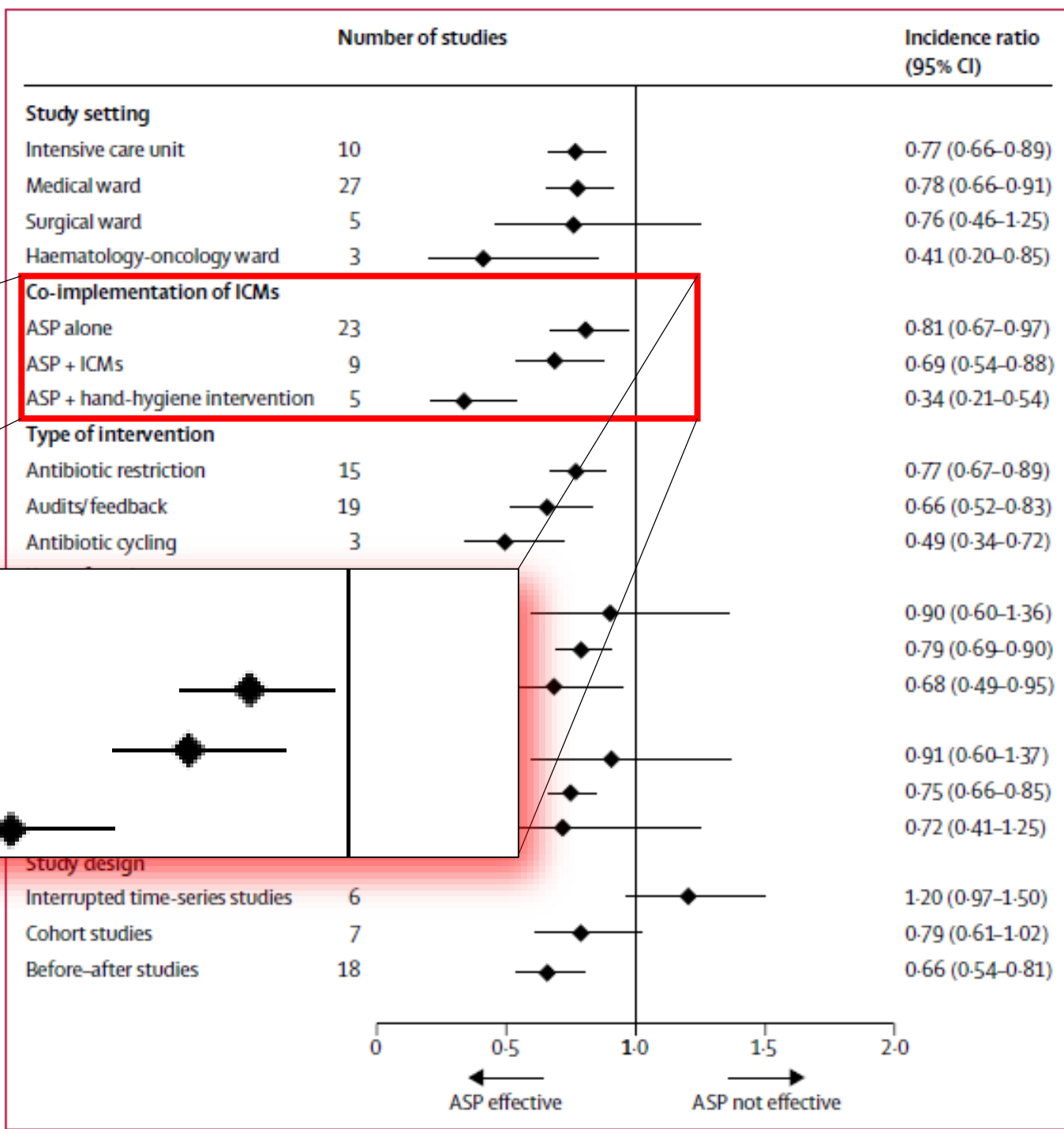
Figure 4: Forest plot of the incidence ratios for studies of the effect of antibiotic stewardship on the incidence of *Clostridium difficile* infections

**RÉDUCTION DE 32% DU RATIO D'INCIDENCE**

# Effect of antibiotic stewardship on the incidence of infection and colonisation with antibiotic-resistant bacteria and *Clostridium difficile* infection: a systematic review and meta-analysis

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Baur D, Lancet Infect Dis 2017



## Co-implementation of ICMs

ASP alone	23
ASP + ICMs	9
ASP + hand-hygiene intervention	5


ICM : infection control measure

ASP : antibiotic stewardship programme

# CRA**tb**

## Infections urinaires

# CP**ias**


- 
- Diagnostic clinique
  - Traitement
  - Alerte
  - Outils diagnostics
  - Prélèvement
  - Protocoles
  - Conseils
  - Prévalence incidence
  - Prévention



# CRAtb

Infections  
respiratoires  
aiguës


# CPias

- 
- Diagnostic clinique
  - Traitement
  - Alerte
  - Outils diagnostics
  - Prélèvement
  - Protocoles
  - Conseils
  - Prévalence incidence
  - Prévention

# CRAtb

## Épidémie de BMR/BHRe

# CPias

- 
- Diagnostic clinique
  - Traitement
  - Alerte
  - Outils diagnostics
  - Prélèvement
  - Protocoles
  - Conseils
  - Prévalence incidence
  - Prévention

# CRAtb

## Vaccination

# CPias

- Campagnes
- Protocoles
- Outils de promotion
- Conseils
- Suivi de la couverture
- Suivi des épidémies
- Prévention

## Conclusion

La synergie entre infectiologues et hygiénistes devrait permettre de démultiplier l'efficacité de la lutte contre l'antibiorésistance et être source d'un bel enrichissement simultané.

