

# Mettre en place un programme de bon usage des anti-infectieux dans votre établissement de santé

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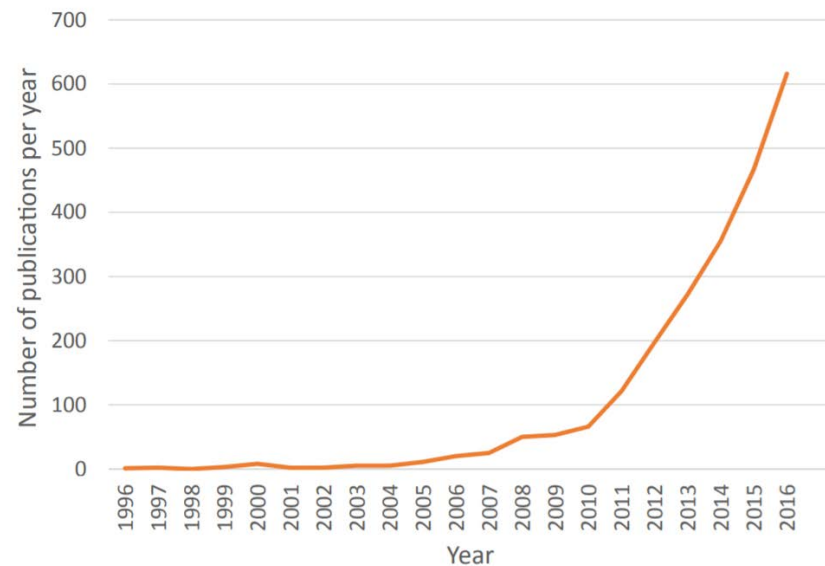
Avec la complicité du Pr Céline Pulcini, Nancy

# Antimicrobial stewardship / Bon usage

## De quoi parlons-nous?

Première mention du terme « antimicrobial stewardship » en 1996

*“Antimicrobial stewardship is a coherent set of actions which promote using antimicrobials responsibly, i.e. in ways that ensure sustainable access to effective therapy for all who need them”*



*Dyar CMI 2017*

*McGowan New Horiz 1996*

# Etapes



Situation locale ?  
- Epidémiologie  
- Prescription des ATM  
- Sources de données

Quelles stratégies?  
Comment?  
Avec qui?






Quelles méthodes de  
mesure d'impact?  
Feedback  
Adaptation de la stratégie




# Un conseil : ne passez pas cette étape

- Quelles exigences / quelles stratégies nationales?
- Formez-vous!
- Identifiez les outils, ressources disponibles localement et au niveau régional, partagez les expériences
- Cherchez les sources d'information : sur la prescription des ATM, contrôle de l'infection, données microbiologiques
- Allez à la rencontre des différents acteurs, essayez d'identifier leurs attentes et leurs difficultés
- Identifiez un « champion » dans chaque service
- Pensez à inclure les molécules couteuses dans votre plan d'actions
- Accordez-vous avec votre direction sur un plan d'action (pas sur des résultats++)
- Construisez votre plan d'actions en fonction du contexte local+++

# European Commission (EU countries)



**A European  
One Health  
Action Plan  
against  
Antimicrobial  
Resistance  
(AMR)**



**EU Guidelines  
for the  
prudent use of  
antimicrobials  
in human  
health**



Health and  
Food Safety



Review

## Managing responsible antimicrobial use: perspectives across the healthcare system

O.J. Dyar<sup>1,4</sup>, G. Tebano<sup>2,4</sup>, C. Pulcini<sup>3,\*</sup>, on behalf of ESGAP (ESCMID Study Group for Antimicrobial stewardship)

Contents lists available at [ScienceDirect](#)

## Clinical Microbiology and Infection

journal homepage: [www.clinicalmicrobiologyandinfection.com](http://www.clinicalmicrobiologyandinfection.com)



ELSEVIER

Review

Antibiotic stewardship: does it work in hospital practice? A review of the evidence base

M.E.J.L. Hulscher <sup>1,\*</sup>, J.M. Prins <sup>2</sup>



# Core elements and checklist items

Clinical Microbiology and Infection xxx (2018) 1–6

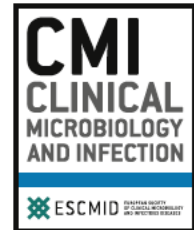


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Original article

## Developing core elements and checklist items for global hospital antimicrobial stewardship programmes: a consensus approach

C. Pulcini<sup>1,2,\*</sup>, F. Binda<sup>1,2,3</sup>, A.S. Lamkang<sup>4</sup>, A. Trett<sup>4</sup>, E. Charani<sup>5</sup>, D.A. Goff<sup>6</sup>, S. Harbarth<sup>7</sup>, S.L. Hinrichsen<sup>8</sup>, G. Levy-Hara<sup>9</sup>, M. Mendelson<sup>10</sup>, D. Nathwani<sup>11</sup>, R. Gunturu<sup>12</sup>, S. Singh<sup>13</sup>, A. Srinivasan<sup>14</sup>, V. Thamlikitkul<sup>15</sup>, K. Thursky<sup>16</sup>, E. Vlieghe<sup>17,18,19</sup>, H. Wertheim<sup>20</sup>, M. Zeng<sup>21</sup>, S. Gandra<sup>4</sup>, R. Laxminarayan<sup>4,22</sup>

- Group of 15 international experts
- Set of globally applicable essential core elements and checklist items for hospital AMS programmes

# One example

## **Box 1. Core element 1: Senior hospital management leadership towards antimicrobial stewardship**

Accompanying comment: *This section relates to governance of the programme by hospital executives, and specifies how senior hospital management supports the antimicrobial stewardship programme.*

Checklist item 1.1:

**Has your hospital management formally identified antimicrobial stewardship as a priority objective for the institution and included it in its key performance indicators?**

Checklist item 1.2:

**Is there dedicated, sustainable and sufficient budgeted financial support for antimicrobial stewardship activities (e.g., support for salary, training, or IT (information technology) support)?**

Checklist item 1.3:

**Does your hospital follow any (national or international) staffing standards for antimicrobial stewardship activities (e.g. number of full-time equivalent (FTE) per 100 beds for the different members of the antimicrobial stewardship team)?**

Accompanying comment: *These staffing standards should ideally be set at national level.[56]*



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### Commentary

## Human resources estimates and funding for antibiotic stewardship teams are urgently needed

C. Pulcini <sup>1,2,3,\*</sup>, C.M. Morel <sup>4,5</sup>, E. Tacconelli <sup>6,7</sup>, B. Beovic <sup>3,8,9</sup>, K. de With <sup>10</sup>,  
H. Goossens <sup>11</sup>, S. Harbarth <sup>12</sup>, A. Holmes <sup>13</sup>, P. Howard <sup>3,14</sup>, A.M. Morris <sup>15</sup>,  
D. Nathwani <sup>16,17</sup>, M. Sharland <sup>18</sup>, J. Schouten <sup>3,19</sup>, K. Thursky <sup>20</sup>, R. Laxminarayan <sup>21</sup>,  
M. Mendelson <sup>22</sup>

# Toolkits

- [http://ecdc.europa.eu/en/healthtopics/Healthcare-associated\\_infections/guidance-infection-prevention-control/Pages/guidance-antimicrobial-stewardship.aspx](http://ecdc.europa.eu/en/healthtopics/Healthcare-associated_infections/guidance-infection-prevention-control/Pages/guidance-antimicrobial-stewardship.aspx)
- 
- <http://www.infectiologie.com/fr/toolbox.html>
- 
- <http://www.ateams.nl>
- 
- <https://www.reactgroup.org/toolbox/about-the-toolbox/how-to-use-the-toolbox/>
- 
- <http://www.bsac-arc.com>

# Some useful resources

Developments in Emerging and Existing Infectious Diseases Series Editors: Önder Ergönül and Füsün Can	2	2	Developments in Emerging and Existing Infectious Diseases Series Editors: Önder Ergönül and Füsün Can	2
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## ANTIMICROBIAL STEWARDSHIP

Edited by  
 Céline Pulcini, MD, PhD, Professor of Infectious Diseases, University of Lorraine, Nancy University Hospital, Nancy, France  
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 Bojana Beović, MD, PhD, Professor of Infectious Diseases, Department of Infectious Diseases, University Medical Centre Ljubljana and Faculty of Medicine, University of Ljubljana, Slovenia

Antimicrobial resistance has become a global threat to human medicine and a public health priority worldwide. Antimicrobial stewardship is one of the cornerstone activities to combat antimicrobial resistance in hospitals and in the community.

Healthcare professionals involved in antimicrobial stewardship activities often lack practical training tools. In this book, ESGAP, the ESCMID (European Society of Clinical Microbiology and Infectious Diseases) Study Group for Antibiotic Policies, has summarized the best of its international expertise on this topic, building on its international network and more than 15 years of educational courses in the field.


The book includes short practical 'hands-on' chapters, encompassing all aspects of antimicrobial stewardship activities. All authors are international well-known leaders in their field. We also included more than 30 country cases, to provide a true global perspective and help readers build their own stewardship programme.

**KEY FEATURES**

- State-of-the-art short practical chapters with useful tools and references
- Encompassing all aspects of antimicrobial stewardship
- Including how to adapt antimicrobial stewardship programs in various settings
- With examples of antimicrobial stewardship experiences worldwide



Developments in Emerging and Existing Infectious Diseases  
 ANTIMICROBIAL STEWARDSHIP

# ANTIMICROBIAL STEWARDSHIP




Edited by  
 Pulcini  
 Ergönül  
 Can  
 Beović

Edited by  
 Céline Pulcini, Önder Ergönül, Füsün Can, Bojana Beović





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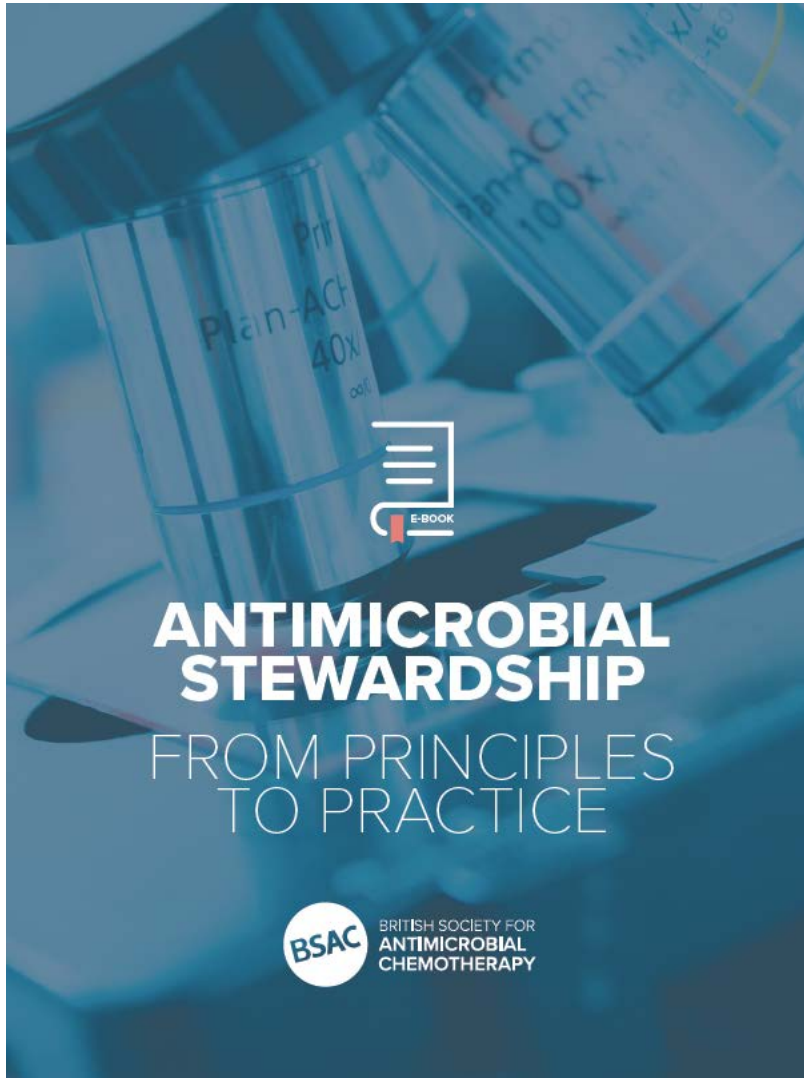


ESCMID  
 MANAGING INFECTIONS  
 PROMOTING SCIENCE



ESGAP  
 ESCMID STUDY GROUP FOR  
 ANTIBIOTIC POLICIES  
 European Society of Clinical Microbiology and Infectious Diseases





THIS E-BOOK HAS BEEN  
DEVELOPED BY BSAC



IN COLLABORATION  
WITH ESGAP/ESCMID



# Antimicrobial Stewardship: Managing Antibiotic Resistance

Join now – started 28 Sep

## INTRODUCTION

Understand antibiotic resistance, and how antimicrobial stewardship can slow down or reduce it, with this free online course

## WATCH THE TRAILER







# Quelques clefs pour commencer

- Ne soyez pas trop ambitieux au début
- Appuyez-vous sur les techniques d'amélioration de la qualité, les théories de changement du comportement
- Commencez de préférence avec les personnes les plus enthousiastes (« champions »)
- Prévoyez du temps pour la mise en place et du temps pour faire le bilan de vos actions+++
- Créez la demande en aidant les cliniciens dans les situations complexes (hémocultures, infections complexes..), ce qui aidera à faire accepter des mesures plus restrictives
- Valorisez votre valeur ajoutée pour les cliniciens : simplifiez-leur la vie, insistez sur votre plus-value clinique
- Travaillez en équipe avec les pharmaciens, les microbiologistes
- Soyez patients et persévérants...

# Equipe multidisciplinaire

**Support officiel de la Direction+++**

Guident la réalisation des examens microbiologiques et leur interprétation

**Microbiologistes**

Leaders d'opinion locaux des services fortement prescripteurs

**Pharmaciens**

Dosages, interactions, switch IV-oral, molécules sous prescription nominative

**Infectiologues**

Consultations au lit du patient, partage de la responsabilité de la décision médicale, importance de la crédibilité et des capacités de communication auprès des prescripteurs

**Cliniciens**

# Composition de l'équipe

- Flexible
- IDE si possible
- Travail d'équipe++ (crédibilité, traçabilité des avis)
- Prise en charge globale de l'infection (du diagnostic, au traitement et la prévention)
- A différencier de la COMAI

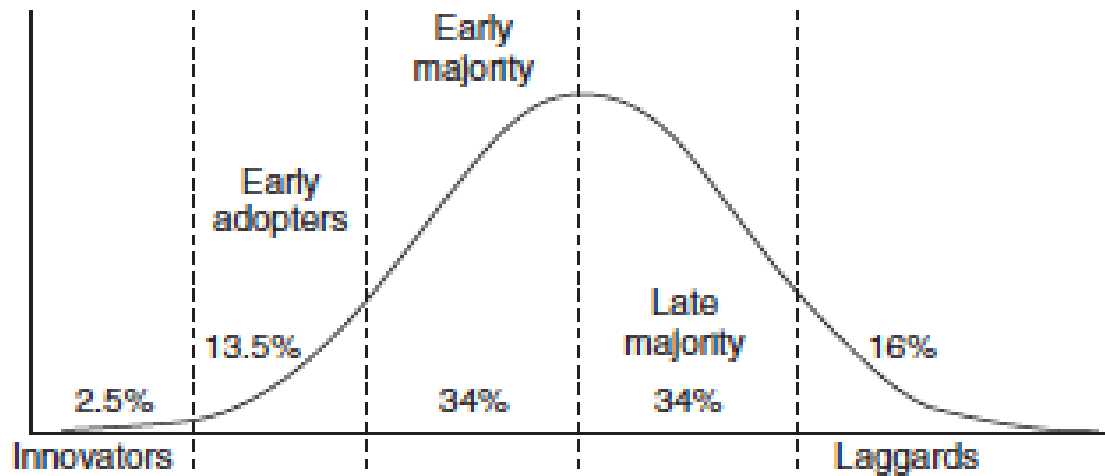


Fig. 1. Rogers's adoption/innovation bell curve (reproduced

# 'HOW' strategies for stewardship

## « *Enabling strategies* »

- Educational outreach through review of individual patients with recommendation for change
- Education through meetings or distribution of educational materials
- Audit and feedback
- Reminders (verbally, on paper in the workplace environment or on computer)
- Switch from paper to computerized patients records
- New technology (Rapid microbiology testing or measurement of inflammatory markers)

## « *Restrictive strategies* »

- Selective reporting of laboratory susceptibilities
- Antibiotic restriction requiring prior authorization by an expert
- Automatic stop orders



**Cochrane**  
**Library**

Cochrane Database of Systematic Reviews

*Davey 2013 and 2017*  
*Barlam CID 2016*

# « Prescribing Etiquette »

Etiquette : *“The set of rules or customs that control accepted behaviour in particular social groups or social situations”*

Cambridge Dictionary 2017

## Understanding the Determinants of Antimicrobial Prescribing Within Hospitals: The Role of “Prescribing Etiquette”

E. Charani,<sup>1</sup> E. Castro-Sanchez,<sup>1</sup> N. Sevdalis,<sup>2,3</sup> Y. Kyratsis,<sup>1</sup> L. Drumright,<sup>1</sup> N. Shah,<sup>1</sup> and A. Holmes<sup>1</sup>

1. Noninterference with the prescribing decisions of colleagues: reluctance to interfere with the prescribing decisions of colleagues. In the case of antimicrobial prescribing, there is a reluctance to intercept antimicrobial prescriptions started by colleagues. This recognizes the autonomous decision-making process of prescribing.
2. Accepted noncompliance to policy: Deviations from policy recommendations are tolerated and put in the context of the prescriber's experience and expertise and the specific clinical scenario. This leads to hierarchy and expertise, and not policy as determinants of prescribing practice behaviors.
3. Hierarchy of prescribing: Prescribing as an activity is performed by junior doctors. But it is the senior doctors who decide what is prescribed.



# Principes

- Que mesurer?
- Comment? Système d'information++
- Analyser
- A qui rendre les résultats? Prescripteurs, COMAI, Direction
- Modifiez votre stratégie en fonction de votre analyse



# Structure + Process = Outcome

## Structural measures

- Le contexte : comment la structure est-elle organisée? Quelles sont les ressources disponibles?
- Ex: nombre de praticiens dans l'équipe/nombre de lits

## Process measures

- Prescriptions : qualités des prescriptions, consommations
- Quelles actions mises en place par l'équipe: nombre de prescription réévaluées, nombre d'avis sollicités = bilan d'activité

## Outcome measures

- Conséquences sur la prise en charge
- Ex: résistance bactérienne, mortalité, incidence *C difficile*

## Volume

## Qualité

Sources

### Bases de données hospitalières

Pharmacie  
Dossiers médicaux  
Labo de microbiologie  
PMSI

**Petits audits réguliers** (e.g. 10 patients par mois, par molécule, par catégorie de patients, par indication...). Impliquez les prescripteurs++

**Audits de grande ampleur** (enquêtes de prévalence)

**Surveillance automatisée**

Indicateurs

Consommation globale et par classes (DDD versus DOT)  
Coûts  
Ratio IV/Per os pour certaines molécules

Documentation de l'indication

% d'adhésion aux recommandations (indication, délai d'initiation, choix des molécules, durées...)

La surveillance en réseau de la consommation  
d'antibiotiques et des résistances bactériennes



## Consommation & résistance aux bactéries

→ Consommation  
des antibiotiques

→ Résistance  
bactérienne

→ Analyse croisée  
Consommation  
et résistance

→ Rapports



### CONNEXION

Adresse mail

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» VALIDER

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**INSCRIPTION**

**FORMATION**



CPias Grand-Est -  
Centre Hospitalier Universitaire de Nancy  
Hôpitaux de Brabois  
Rue du Morvan  
54511 Vandœuvre les Nancy Cedex



Club Consores  
Site de formation  
[www.club-consores.fr](http://www.club-consores.fr)



PHAST  
[www.phast.fr](http://www.phast.fr)

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# You like AMS... join ESGAP !

The screenshot shows the ESCMID website with the URL [https://www.escmid.org/research\\_projects/study\\_groups/antibiotic\\_policies/esgap\\_membership\\_application/](https://www.escmid.org/research_projects/study_groups/antibiotic_policies/esgap_membership_application/). The page features a navigation menu with categories like 'Dates & Events', 'News & Discussion', 'Research & Projects', 'ESCMID Library', 'Profession & Career', and 'Membership & Organization'. A sidebar on the left lists various study groups, with 'ESGAP membership application' highlighted. The main content area includes a group photo of members and a section titled 'IMPORTANT: Only ESCMID members can become Study Group members.' Below this, there are two login forms: one for general users and one for members/registered users. The member login form shows the email 'celine.pulcini@univ-lorraine.fr' and a masked password. Social media links for Facebook, Twitter, LinkedIn, and YouTube are also present.

ESCMID EUROPEAN SOCIETY OF CLINICAL MICROBIOLOGY AND INFECTIOUS DISEASES

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**Research & Projects**

**ECCMID**

**ESCMID Conferences**

**Study Groups**

- Become SG Member
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- Antibiotic Policies**
  - Presentations & Publications
  - ABC Calc (AMC Tool)
  - Executive Committee
  - Mission & Objectives
  - Links
  - Statutes & Membership
  - Newsletters
- ESGAP membership application**
  - Biofilms
  - Bloodstream Infections and Sepsis
  - Brain Infections
  - Clinical Parasitology
  - Clostridium difficile
  - Critically Ill Patients
  - Elderly Infections
  - Epidemiological Markers
  - Food/Water Infections
  - Forensic/Postmortem Microbio
  - Fungal Infection
  - Immunocompromised Hosts
  - Implant Infections
  - Legionella Infections

**LOGIN**

Member ID / email address:

Password:

**LOGIN**

- ✦ Forgot password
- ✦ Registration

search term  Search

**QUICK NAVIGATION**

**ESCMID Newsletter Sign Up**

Email:

- ✦ Sign Up

**IMPORTANT: Only ESCMID members can become Study Group members.**

If you are already ESCMID member, please log in with your ESCMID login and password.

If you are not yet ESCMID member, please apply for ✦ ESCMID membership.

If you have difficulties or if you are not sure about your ESCMID membership status, please consult the online membership FAQ on the ✦ ESCMID membership website to know how to check your status.

**For members or registered users of this website only**

Member ID / email address:  Password:

- ✦ Login
- ✦ Forgot password
- ✦ Registration