ANTIMICROBIAL STEWARDSHIP
Interfaces e Impacto

Carla Sakuma de Oliveira
Infectologista
Hospital do Câncer-Uopeccan
Hospital Universitárrio do Oeste do PR
Medicina-UNIOESTE

Conflitos de interesse

Resolução CFM nº 1595/2000, 18/05/2000 - RDC ANVISA nº 102, 30/11/2000

- Subsídios para Educação Médica da Pfizer, Bayer, Bristol, Novartis

-Taxas do palestrante da Pfizer, Bayer, Merck e United

-Subsídios para pesquisa: apoio financeiro da Pfizer Intl. Projeto Rede Candidemia Paraná

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28 de setembro de 2018

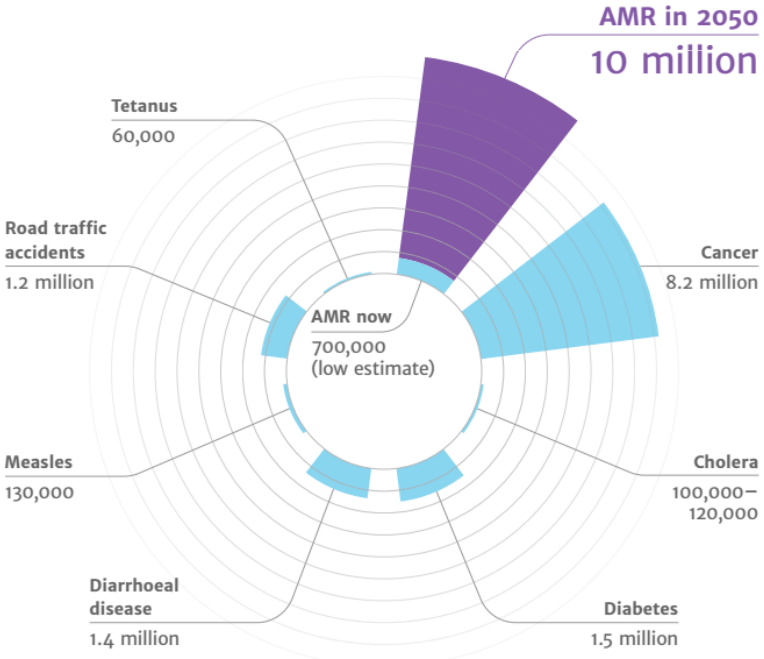
Impacto global da resistência microbiana

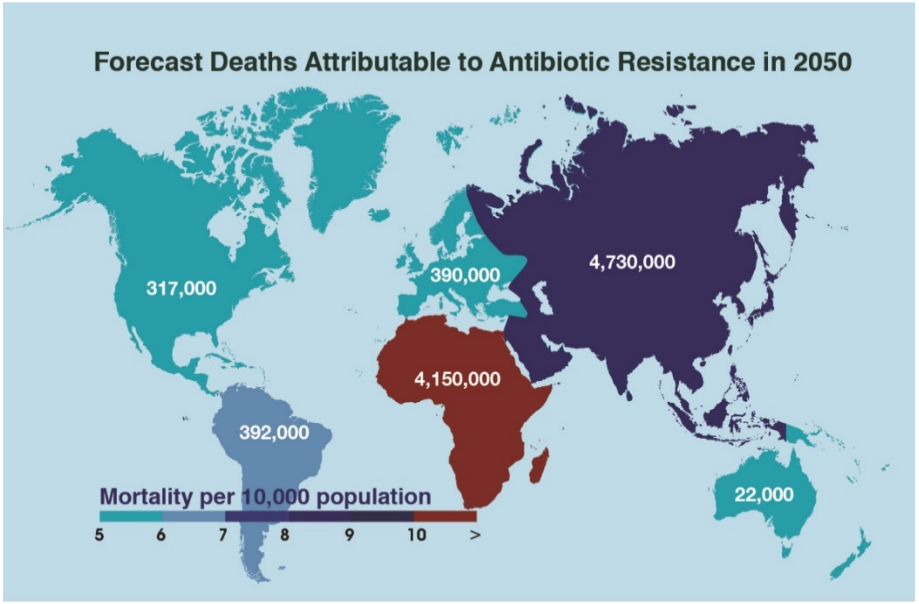
- 2 milhões infecções/ ano bactérias multiresistentes;
- 23.000 mortes/ ano
- Aumento das hospitalizações e complicações
- Resistência microbiana: problema de saúde pública
- Uso antibióticos de forma disseminada: agricultura criando um grande reservatório de genes resistentes
- Poucas opções terapêuticas

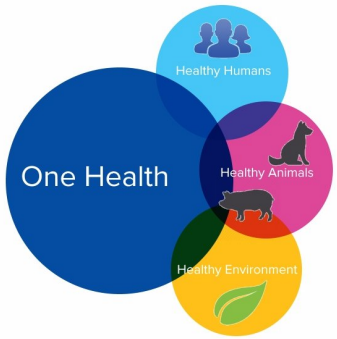
Infec Dis Clin N Am 30 (2016) 313-322.

Importância Global

DEATHS ATTRIBUTABLE TO AMR EVERY YEAR







INTEGRATIVE HEALTH
RISK MANAGEMENT

PREVENTION

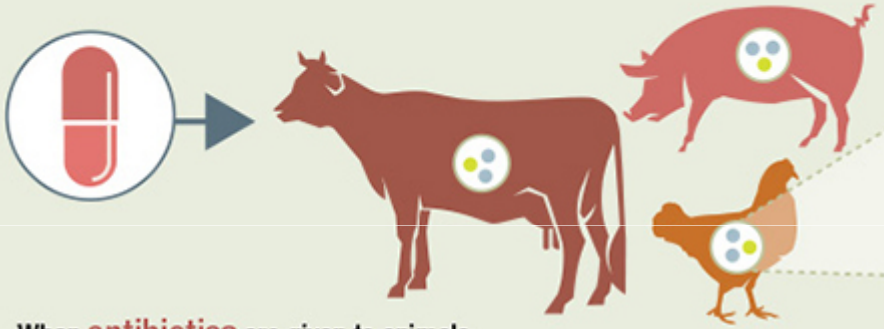
INTERVENTION

RECOVERY/REHABILITATION

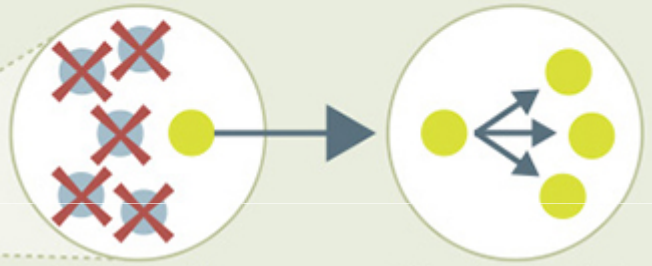
ANTIBIOTIC RESISTANCE

from the farm to the table

RESISTANCE Animals can carry harmful **bacteria** in their intestines



When antibiotics are given to animals...



Antibiotics kill most bacteria

But resistant bacteria can survive and multiply

SPREAD Resistant bacteria can spread to...

Resistência microbiana: esferas de discussão

Campanha "Get Smart" desenvolvida pelo do CDC nos Estados Unidos com recomendações sobre o uso apropriado de antimicrobianos.

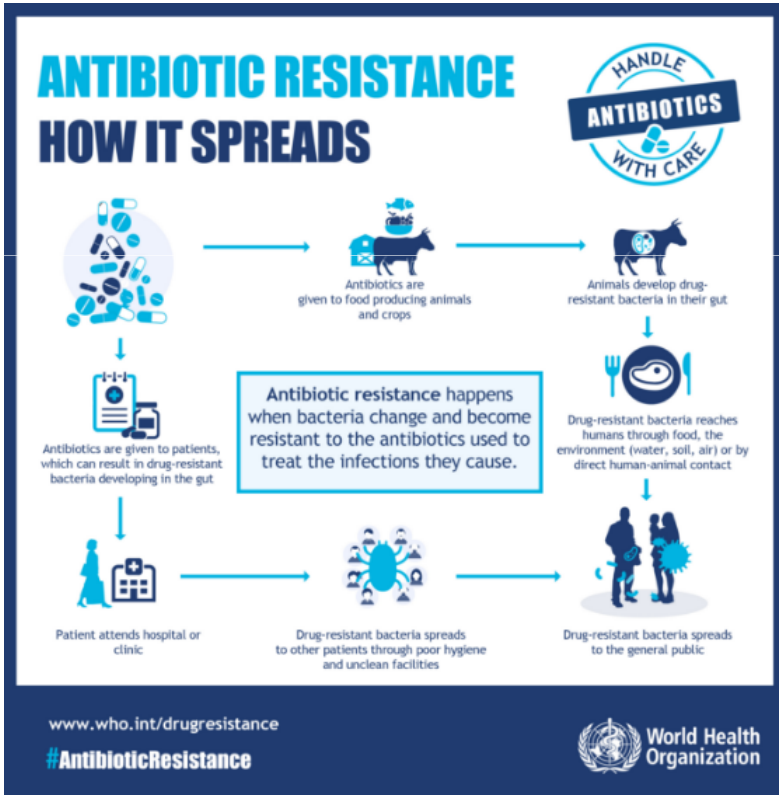
Ações do FDA para combater a resistência dos antimicrobianos.

Guidelines e protocolos de indicação ou uso de antimicrobianos e todas as estratégias do ciclo de uso

Rede Nacional de Monitoramento da Resistência Microbiana em Serviços de Saúde – Rede RM: uma parceria entre a Anvisa, Organização Pan-Americana da Saúde - OPAS e com a Coordenação Geral dos Laboratórios de Saúde Pública – CGLAB/SVS/MS para a instituição de medidas para monitorar e controlar a resistência microbiana em serviços de saúde no Brasil.

OMS

The Global Antimicrobial Resistance Surveillance System (GLASS)



World Health Organization

Priority Pathogens List published in 2017

Priority 1: CRITICAL

Acinetobacter baumannii, carbapenem-resistant
Pseudomonas aeruginosa, carbapenem-resistant
Enterobacteriaceae, carbapenem-resistant, 3rd generation cephalosporin-resistant

Priority 2: HIGH

Enterococcus faecium, vancomycin-resistant
Staphylococcus aureus, methicillin-resistant, vancomycin intermediate and resistant
Helicobacter pylori, clarithromycin-resistant
Campylobacter, fluoroquinolone-resistant
Salmonella *spp.*, fluoroquinolone-resistant
Neisseria gonorrhoeae, 3rd generation cephalosporin-resistant, fluoroquinolone-resistant

Priority 3: MEDIUM

Streptococcus pneumoniae, penicillin-non-susceptible
Haemophilus influenzae, ampicillin-resistant
Shigella *spp.*, fluoroquinolone-resistant

Source: World Health Organization, 2017

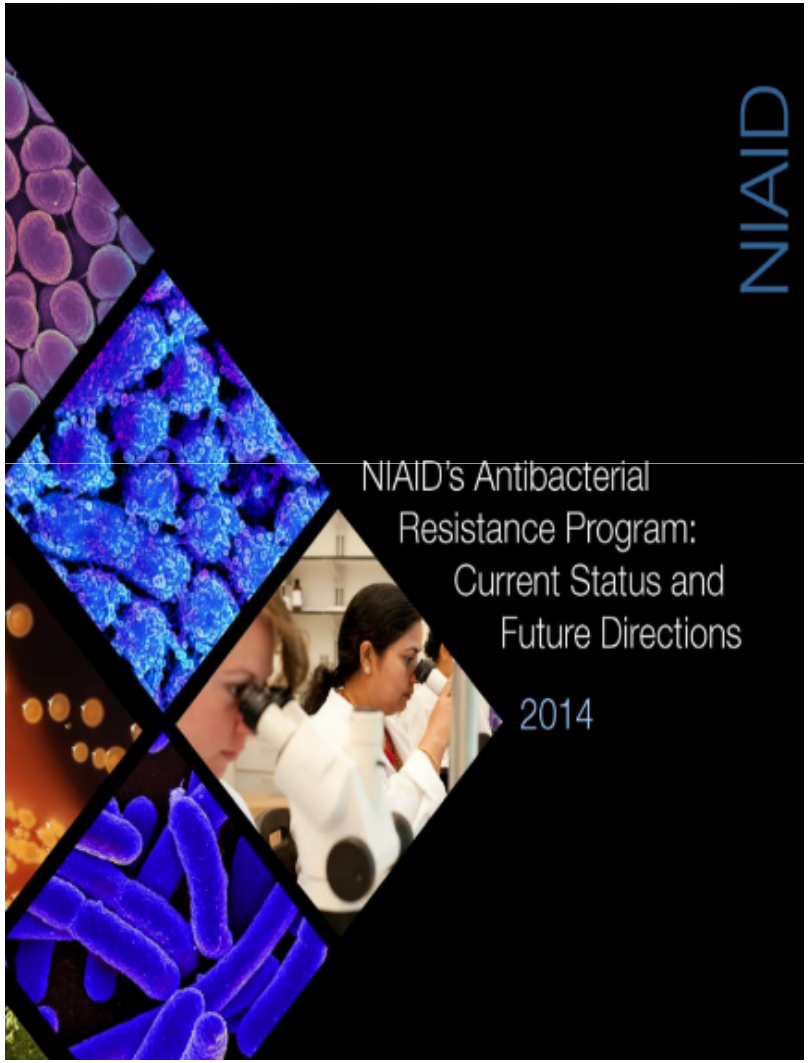
Bad Bugs, No Drugs: No ESKAPE! An Update from the Infectious Diseases Society of America

Helen W. Boucher,[1] George H. Talbot,[2] John S. Bradley,[3,4] John E. Edwards, Jr,[5,6,7] David Gilbert,[8] Louis B. Rice,[9,10] Michael Scheld,[11] Brad Spellberg,[5,6,7] and John Bartlett[12]

[1]Division of Geographic Medicine and Infectious Diseases, Tufts University and Tufts Medical Center, Boston, Massachusetts; [2]Talbot Advisors, Wayne, Pennsylvania; [3]Division of Infectious Diseases, Rady Children's Hospital San Diego, and [4]University of California at San Diego, San Diego, [5]Division of Infectious Diseases, Harbor–University of California at Los Angeles (UCLA) Medical Center, and [6]Los Angeles Biomedical Research Institute, Torrance, and [7]The David Geffen School of Medicine at UCLA, Los Angeles, California; [8]Division of Infectious Diseases, Providence Portland Medical Center and Oregon Health Sciences University, Portland; [9]Medical Service, Louis Stokes Cleveland Veterans Administration Medical Center, and [10]Department of Medicine, Case Western Reserve University School of Medicine, Cleveland, Ohio; [11]Department of Medicine, University of Virginia School of Medicine, Charlottesville; and [12]Department of Medicine, Johns Hopkins University School of Medicine, Baltimore, Maryland

IDSA
Infectious Diseases Society of America

Teaching Old Drugs New Tricks:



- Prolongar a vida útil dos antibióticos embora o NIAID apoie vários ensaios clínicos para otimizar o uso de antibacterianos atualmente licenciados,

- Otimizar os níveis de dosagem, a duração, a via de administração e o uso de terapia medicamentosa combinada de acordo com os princípios atuais de PK / PD podem suprimir o surgimento de resistência e minimizar a toxicidade.

- Além disso, os antibacterianos não patenteados devem ser explorados por seu potencial para tratar infecções graves e resistentes.

PRÊMIO NACIONAL DE INCENTIVO À PROMOÇÃO DO

USO RACIONAL DE MEDICAMENTOS

O que significa uso racional de medicamentos?

De acordo com a Organização Mundial de Saúde (Nairóbi, Quênia, 1985), entende-se que há uso racional de medicamentos quando pacientes recebem medicamentos apropriados para suas condições clínicas, em doses adequadas às suas necessidades individuais, por um período adequado e ao menor custo para si e para a comunidade.

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Projeto ICARE

Cooperative Study on the Magnitude & Impact of Antimicrobial Resistance in Hospitals, with a Focus on Intensive Care Units

- Todos os 47 hospitais participantes reportaram ter uma padronização de antimicrobianos

- 91% deles tinham pelo menos uma estratégia específica de controle, muito embora não atendessem de forma plena as recomendações propostas por diretrizes da IDSA e da Society of Hospital Epidemiology of América (SHEA).

Por que o uso racional de medicamentos deve ser uma prioridade ?

- 35% população: auto-medicação
- 27% intoxicações => 16% morte intoxicação medicamentosa
- 50% medicações dispensadas => Uso inadequado
- Gasto 15-20% orçamento complicações mau uso.

Ciência da Saúde Coletiva, 13 (sup):733-736,2008

SUPPLEMENT ARTICLE

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28 de setembro de 2018

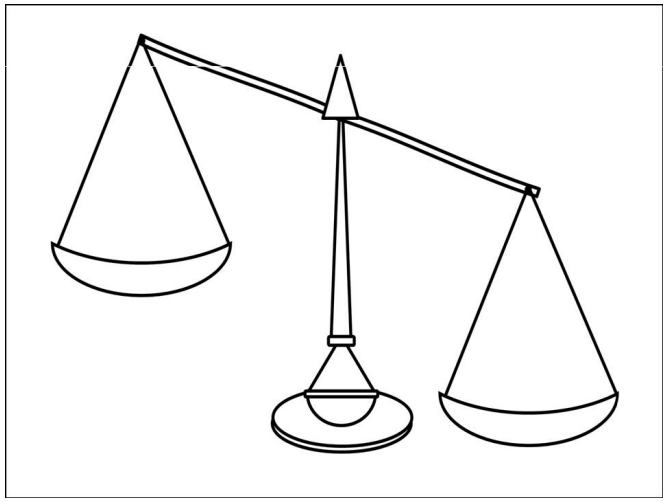
A Call to Arms: The Imperative for Antimicrobial Stewardship

John G. Bartlett
Department of Medicine and Epidemiology, Johns Hopkins University School of Medicine, Baltimore, Maryland

Antimicrobial resistance is a major public health crisis. The prevalence of drug-resistant organisms, such as the emerging NAP1 strain of *Clostridium difficile*, now highly resistant to fluoroquinolones, *Acinetobacter* species, *Klebsiella pneumoniae* carbapenemase-producing organisms, and methicillin-resistant *Staphylococcus aureus*, is increasing nationwide. The sources of antimicrobial resistance are manifold, but there is a well-documented causal relationship between antimicrobial use and misuse and the emergence of antimicrobial-resistant pathogens. As the development of new antimicrobial agents is on the decline, the medical community, across all specialties and in conjunction with public health services, must develop and implement programs and strategies designed to preserve the integrity and effectiveness of the existing antimicrobial armamentarium. Such strategies are collectively known as antimicrobial stewardship programs and have the potential to minimize the emergence of resistant pathogens.

2011:Dois dos maiores desafios do sistema de saúde enfrentados pela prática médica

Crise de resistência antimicrobiana

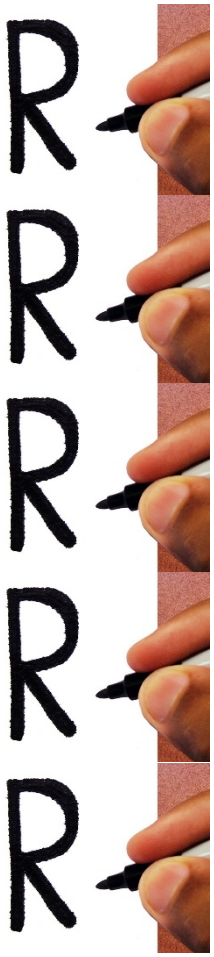


Infecção por *Clostridium difficile* (CDI)

Motivadas pelo uso de antimicrobianos e refletem, até certo ponto, o abuso dessas drogas

Clinical Infectious Diseases 2011;53(S1):S4–S7

5 R´s (profilaxia cirúrgica)



Right drug:
Ativa, segura, custo-efetiva, de acordo com padrões de resistência local, menor espectro sempre que possível, switch...

Right dose:
Idade, massa corporal, função hepática e renal...

Right time

Right duration

Right patient:
grau de contaminação cirurgia

Definição

Stewardship é definido como sendo a gestão de ações/ intervenções para melhorar o uso apropriado de antimicrobianos através da promoção da seleção ótima de agentes, dosagem, duração e via de administração.

Os objetivos do gestão antimicrobiana estão focados em alcançar resultados clínicos ótimos, minimizando a toxicidade, eventos adversos e seleção para resistência antimicrobiana estirpes.

Redução de custos pode ser resultado de mordomia programas, mas não deve ser uma meta abrangente

Journal of Community Hospital Internal Medicine Perspectives 2011, 1: 7209

Do que se trata e a quem interessa?

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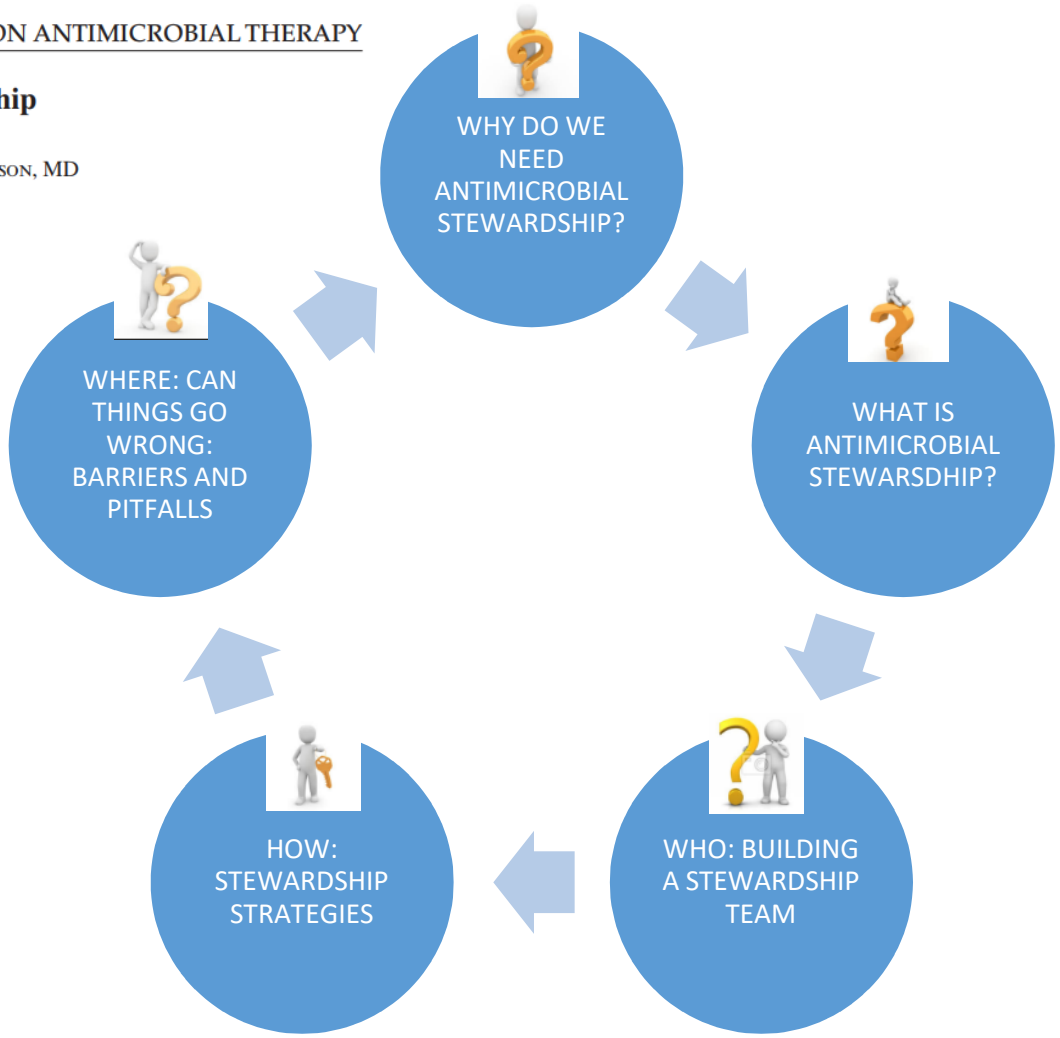
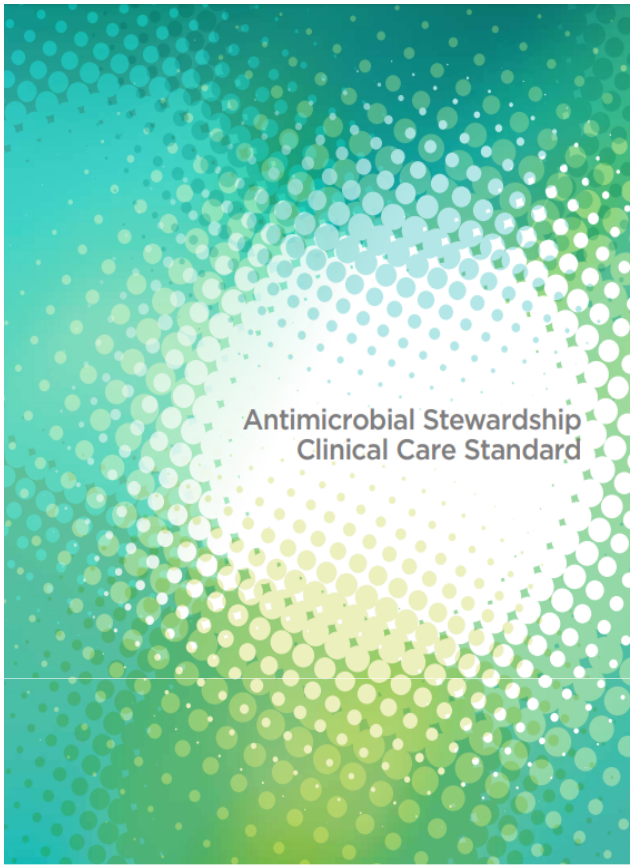
SYMPOSIUM ON ANTIMICROBIAL THERAPY

Antimicrobial Stewardship

SHIRA DORON, MD, AND LISA E. DAVIDSON, MD



Mayo Clin Proc. 2011:86: 1113-1123.



AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

Clinical Care Standards

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Clinical Care Standards

Antimicrobial Stewardship Clinical Care Standard

1. A patient with a life-threatening condition due to a suspected bacterial infection receives prompt antibiotic treatment without waiting for the results of investigations.
2. A patient with a suspected bacterial infection has samples taken for microbiology testing as clinically indicated, preferably before starting antibiotic treatment.
3. A patient with a suspected infection, and/or their carer, receives information on their health condition and treatment options in a format and language that they can understand.
4. When a patient is prescribed antibiotics, whether empirical or directed, this is done in accordance with the current version of the *Therapeutic Guidelines*[1] (or local antibiotic formulary). This is also guided by the patient's clinical condition and/or the results of microbiology testing.
5. When a patient is prescribed antibiotics, information about when, how and for how long to take them, as well as potential side effects and a review plan, is discussed with the patient and/or their carer.
6. When a patient is prescribed antibiotics, the reason, drug name, dose, route of administration, intended duration and review plan is documented in the patient's health record.
7. A patient who is treated with broad-spectrum antibiotics has the treatment reviewed and, if indicated, switched to treatment with a narrow-spectrum antibiotic. This is guided by the patient's clinical condition and the results of microbiology tests.
8. If investigations are conducted for a suspected bacterial infection, the responsible clinician reviews these results in a timely manner (within 24 hours of results being available) and antibiotic therapy is adjusted taking into account the patient's clinical condition and investigation results.
9. If a patient having surgery requires prophylactic antibiotics, the prescription is made in accordance with the current *Therapeutic Guidelines*[1] (or local antibiotic formulary), and takes into consideration the patient's clinical condition.

Urgência ATB

Coleta de Culturas

Linguagem/ Comunicação

Guideline institucional

Como, quando, por quanto tempo, efeitos colaterais potenciais

Indicação, via de administração, intenção de duração

Switch EV-VO

Adequação ATB a cultura

ATB profilático

	What?	Sensibilização, apropriação de dados e informações
	Why?	Definições, importância, apropriação dados epidemiológicos, alianças organizacionais, benefícios
	Who?	CCIH, Microbiologia, farmácia, epidemiologia, Informática, administração
	How?	Formulários restritivos, Algoritmos de liberação, Guidelines institucionais, Técnicas infusão para evitar resistência, Educação, Otimização dose pela farmacodinâmica, Programas de decisão assistida (Informática) Switch IV – Oral, Monitorização dose (pharmacy dosing programs), rodízio ATB
	Where?	Uso x resistência: longo prazo
	When?	Nem todos os hospitais necessitam de todas abordagem para restrição de antimicrobianos. Conhecer patógenos problema e evitar abuso de classes drogas em particular.

Mayo Clin Proc. 2011:86: 1113-1123.

SYMPOSIUM ON ANTIMICROBIAL THERAPY

Antimicrobial Stewardship

SHIRA DORON, MD, AND LISA E. DAVIDSON, MD

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TABLE 1. **Novel Approaches to Antimicrobial Dosing to Combat Resistance**

Strategy and drug	Pharmacodynamically optimized dose
Prolonged infusion of β-lactams	
Piperacillin-tazobactam	3.375 g IV every 8 h for 4 h (prolonged infusion)
Meropenem	1 g IV for 360 min every 6 h (continuous infusion)
Doripenem	500 mg IV every 8 h for 4 h (prolonged infusion)
Increased frequency dosing of quinolone	
Ciprofloxacin	400 mg IV every 8 h
Adjusting antimicrobial dosage to achieve specific recommended blood level	
Vancomycin	Maintain trough above 10 mg/L to prevent development of resistance
Use of high-dose therapy to overcome high MICs	
Cefepime	2 g IV every 8 h (3-h infusion)

IV = intravenous; MIC = minimum inhibitory concentration.

TABLE 2. **Highly Bioavailable Antimicrobials That Are Good Candidates for Intravenous to Oral Switch Programs**

Fluoroquinolones (ciprofloxacin, levofloxacin, moxifloxacin)
Metronidazole
Macrolides (azithromycin, erythromycin)
Doxycycline
Clindamycin
Rifampin
Linezolid
Fluconazole

Mayo Clin Proc. 2011:86: 1113-1123.

PERSPECTIVE
For reprint orders, please contact: reprints@futuremedicine.com
Future MICROBIOLOGY

An integrated stewardship model: antimicrobial, infection prevention and diagnostic (AID)

Jan-Willem H Dik[1], Randy Poelman[2], Alexander W Friedrich*[3], Prashant Nannan Panday[4], Jerome R Lo-Ten-Foe[1], Sander van Assen[5], Julia EWC van Gemert-Pijnen[6], Hubert GM Niesters[2], Ron Hendrix[1,7] & Bhanu Sinha[1]

Implementar programas de Stewardship

Gerenciar uso de antimicrobianos

Minimizar os danos colaterais: menor toxicidade, *C.difficille*/ Internação

Melhorar resultados dos pacientes : tratamento ótimo

Reduzir incidência de infecções por MDRO

Impacto nos custos:

Menor custo devido menos dano colateral

Future Microbiol. (2015) 11(1), 93–102

PERSPECTIVES

Antimicrobial stewardship: attempting to preserve a strategic resource

Trevor Van Schooneveld, MD*

Department of Internal Medicine, Division of Infectious Disease, University of Nebraska Medical Center, Omaha, NE, USA

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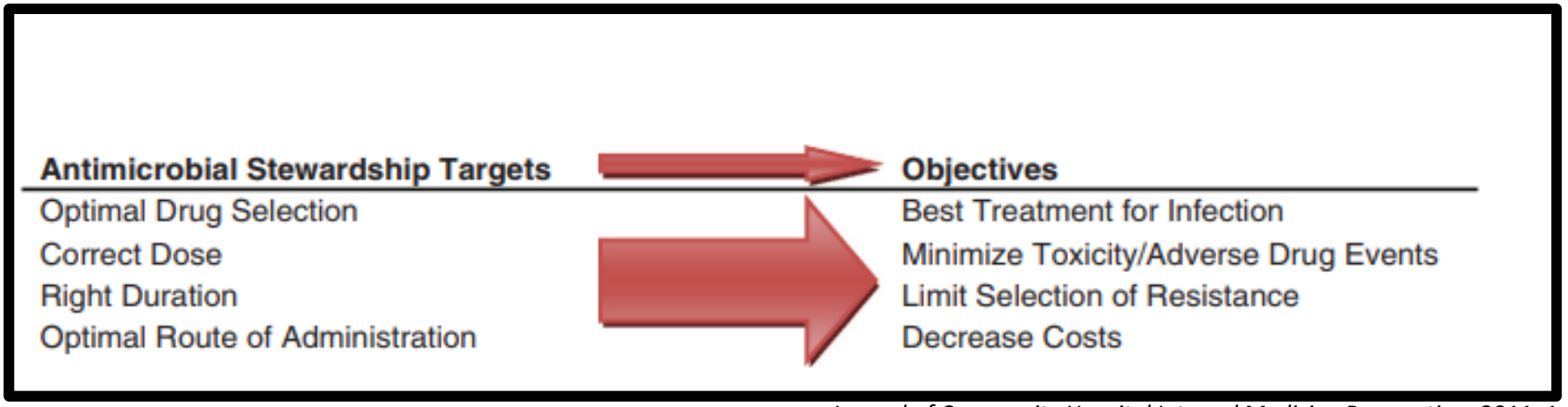
- ✓ Antimicrobianos ocupam um lugar único em nosso armamentarium
- ✓ Únicos medicamentos que perdem eficácia com maior uso.
- ✓ Eles também são considerados drogas "societárias", como uso antimicrobiano e uso indevido beneficiar ou prejudicar pacientes que não os recebem

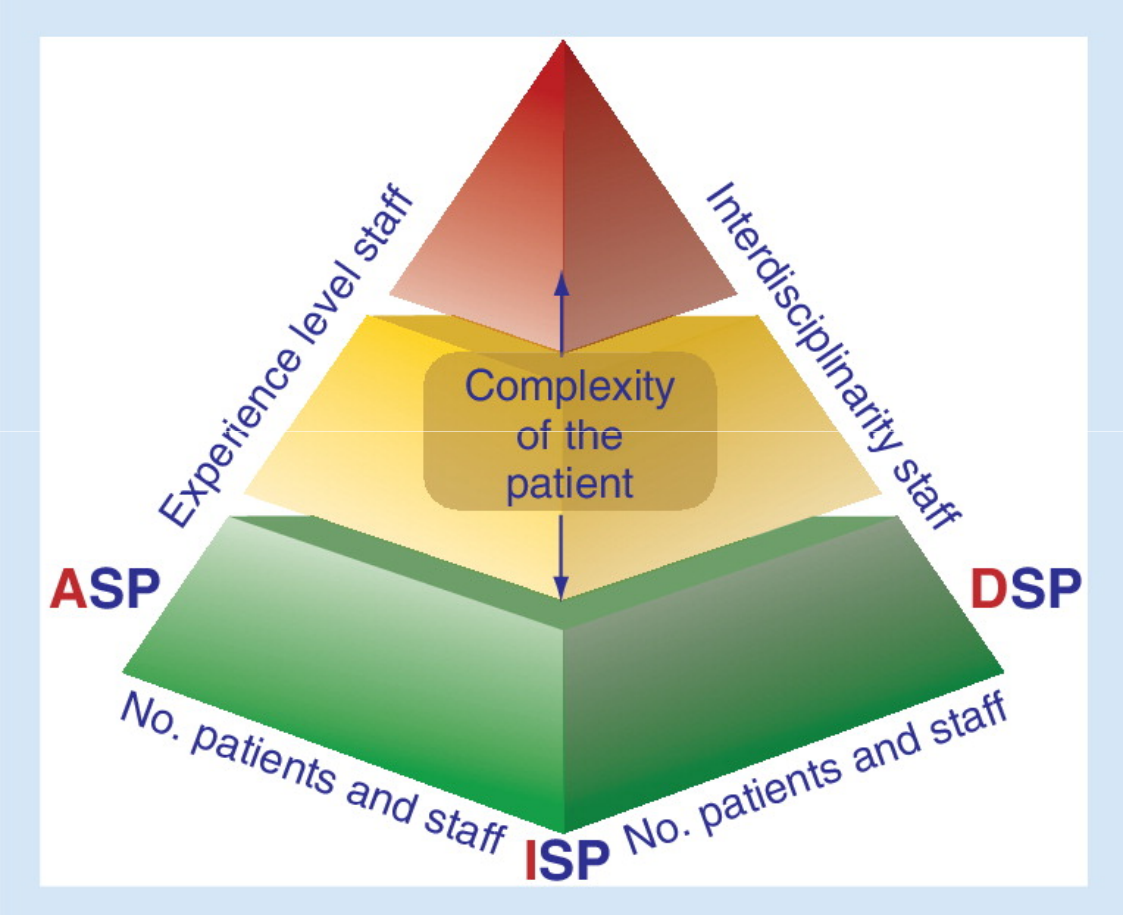
- ✓ O uso de antimicrobianos é o principal “player” da resistência antimicrobiana.



Journal of Community Hospital Internal Medicine Perspectives 2011, 1: 7209

Multistakeholder platform of the antimicrobial, infection prevention and diagnostic stewardship model

ASP: Antimicrobial Stewardship Program



DSP: Diagnostic Stewardship Program

ISP: Infection Prevention Stewardship Program

STAKEHOLDER: público estratégico

Future Microbiol. (2015) 11(1), 93–102

Master scheme antimicrobial, infection prevention and diagnostic stewardship model

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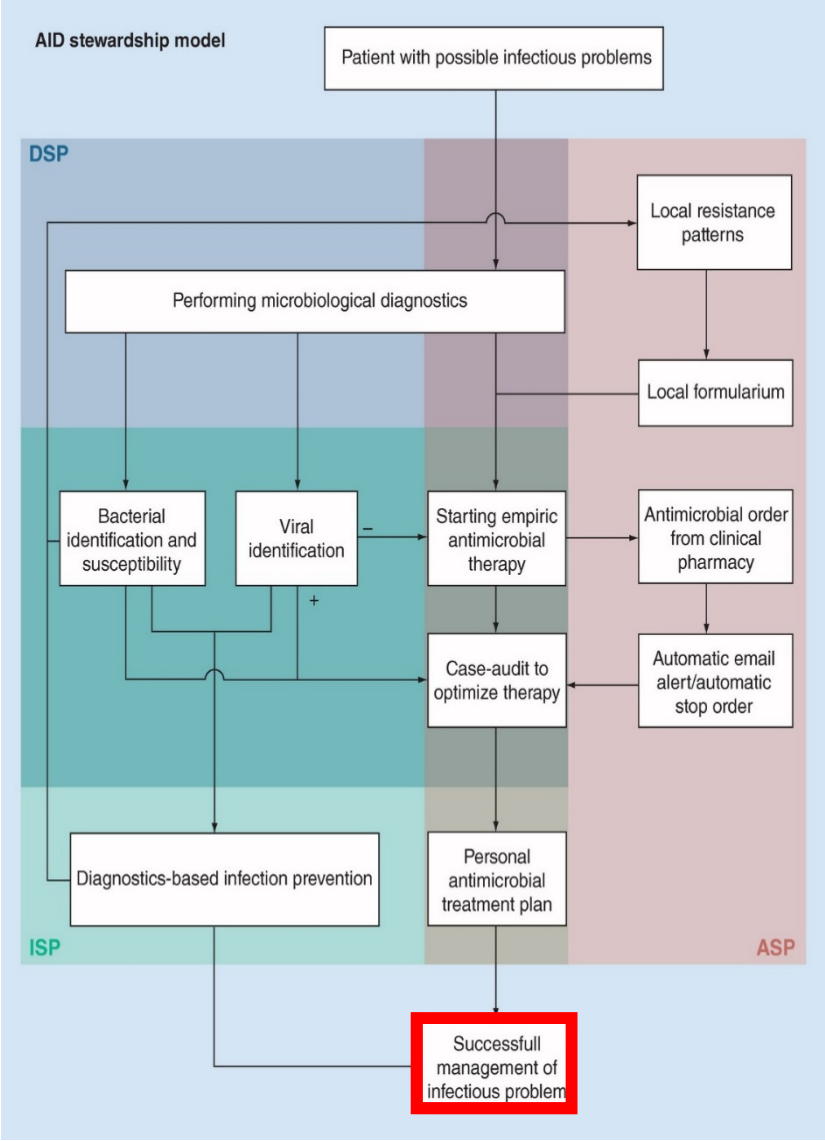
DSP: Diagnostic Stewardship Program



ISP: Infection Prevention Stewardship Program

ASP: Antimicrobial Stewardship Program

Future Microbiol. (2015) 11(1), 93–102

€hr concept within the antimicrobial, infection prevention and diagnostic stewardship model

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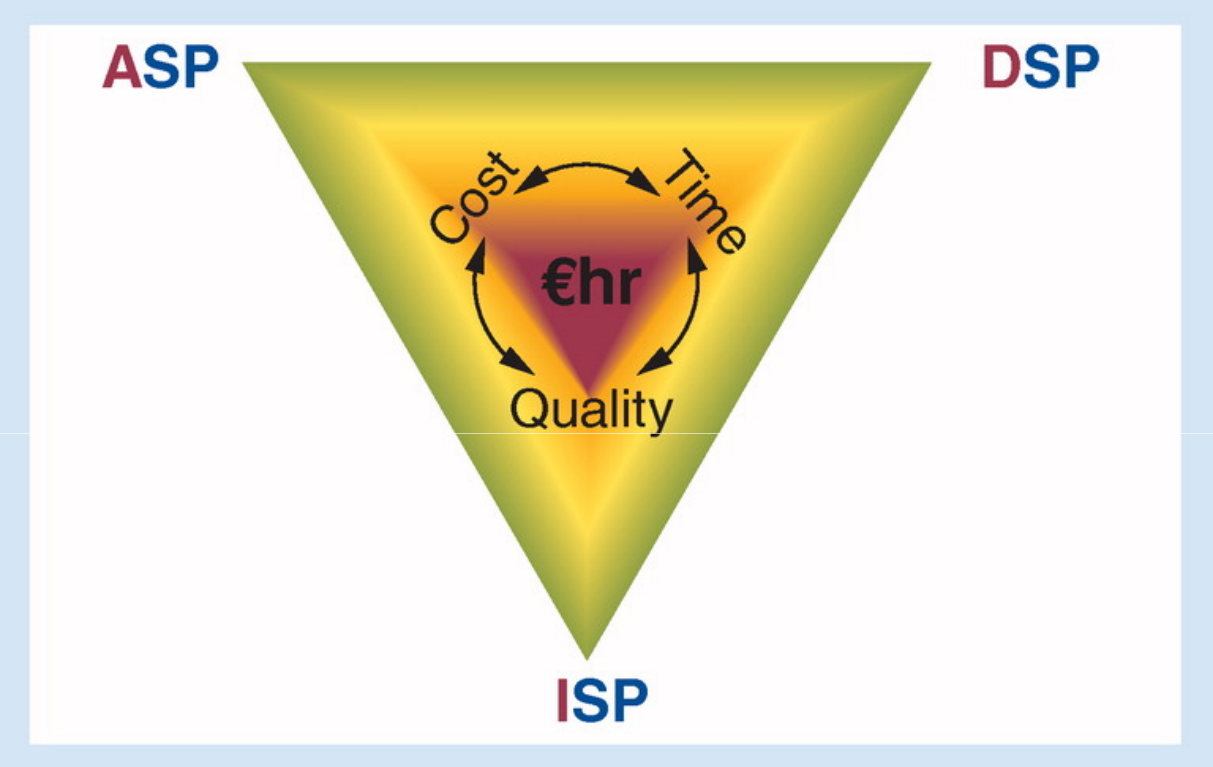

Eficácia gerencial:

Conceito de “h”, visualizando os aspectos mais importantes:

turnaround => tempo de retorno (h) e custos (€).

ASP: Antimicrobial Stewardship Program
DSP: Diagnostic Stewardship Program
ISP: Infection Prevention Stewardship Program

Future Microbiol. (2015) 11(1), 93–102

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Current evidence on hospital antimicrobial stewardship objectives: a systematic review and meta-analysis

Emelie C Schuts, BSc, Prof Marlies E J L Hulscher, PhD, Prof Johan W Mouton, MD, Cees M Verduin, MD, James W T Cohen Stuart, MD, Hans W P M Overdiek, PharmD, Paul D van der Linden, PharmD, Stephanie Natsch, Pharm D, Prof Cees M P M Hertogh, MD, Tom F W Wolfs, MD, Jeroen A Schouten, MD, Prof Bart Jan Kullberg, MD, Prof Jan M Prins, MD

Summary

Background

Antimicrobial stewardship is advocated to improve the quality of antimicrobial use. We did a systematic review and meta-analysis to assess whether antimicrobial stewardship objectives had any effects in hospitals and long-term care facilities on four predefined patients' outcomes: clinical outcomes, adverse events, costs, and bacterial resistance rates.

Methods

We identified 14 stewardship objectives and did a separate systematic search for articles relating to each one in Embase, Ovid MEDLINE, and PubMed. Studies were included if they reported data on any of the four predefined outcomes in patients in whom the specific antimicrobial stewardship objective was assessed and compared the findings in patients in whom the objective was or was not met. We used a random-effects model to calculate relative risk reductions with relative risks and 95% CIs.

Findings

We identified 145 unique studies with data on nine stewardship objectives. Overall, the quality of evidence was generally low and heterogeneity between studies was mostly moderate to high. For the objectives empirical therapy according to guidelines, de-escalation of therapy, switch from intravenous to oral treatment, therapeutic drug monitoring, use of a list of restricted antibiotics, and bedside consultation the overall evidence showed significant benefits for one or more of the four outcomes. Guideline-adherent empirical therapy was associated with a relative risk reduction for mortality of 35% (relative risk 0·65, 95% CI 0·54–0·80, p<0·0001) and for de-escalation of 56% (0·44, 0·30–0·66, p<0·0001). Evidence of effects was less clear for adjusting therapy according to renal function, discontinuing therapy based on lack of clinical or microbiological evidence of infection, and having a local antibiotic guide. We found no reports for the remaining five stewardship objectives or for long-term care facilities.

Interpretation

Our findings of beneficial effects on outcomes with nine antimicrobial stewardship objectives suggest they can guide stewardship teams in their efforts to improve the quality of antibiotic use in hospitals.

145 trabalhos

Objetivos: stewardship

Redução mortalidade 35% implementação de guia de tratamento empírico

https://doi.org/10.1016/S1473-3099(16)00065-7

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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, MD[†], Beryl Primrose Gladstone, PhD[†], Francesco Burkert, MD, Elena Carrara, MD, Federico Foschi, MD, Stefanie Döbele, MD, Prof Evelina Tacconelli, PhD
[†] Contributed equally

Programas de administração de antibióticos reduziram a incidência de infecções e colonização:

	Redução	IR	CI	p
Multidrug-resistant Gram-negative bacteria	51%	0·49	95% 0·35–0·68	p<0·0001
Extended-spectrum β-lactamase-producing Gram-negative bacteria	48%	0.52	95% 0·27–0·98	p=0·0428
Meticillin-resistant *Staphylococcus aureus*	37%	0.63	0·45–0·88	p=0·0065

Interpretation

Antibiotic stewardship programmes significantly reduce the incidence of infections and colonisation with antibiotic-resistant bacteria and *C difficile* infections in hospital inpatients. These results provide stakeholders and policy makers with evidence for implementation of antibiotic stewardship interventions to reduce the burden of infections from antibiotic-resistant bacteria.

Os programas de stewardship de antibióticos foram mais eficazes quando implementados ASSOCIADOS a medidas de controle de infecção (RI 0,69, 0,64-0,08; p = 0,0030), especialmente as intervenções de higienização das mãos (0,44, 0,201-0,44). p <0 · 0001), do que quando implementado sozinhos

Lancet Inf. Dis. Volume 17, No. 9, p990–1001, September 2017

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28 de setembro de 2018

RESEARCH ARTICLE Open Access

Effect of an intervention targeting inappropriate continued empirical parenteral vancomycin use: a quasi-experimental study in a region of high MRSA prevalence

- Hospital de Seoul , universitário
- 1778 leitos,
- pacientes adultos,
- Intervenção

Sem identificação Gram + → Vancomicina > 96 horas → Farmacêutica → Infectologista = Uso inapropriado → Solicita para assistente para descontinuar Vancomicina

- Outcomes: quantidade Vancomicina prescrita
- Quantidade de vancomicina inapropriadamente
- DDD – 1000 pacientes/dia (OMS)

Uso inapropriado: Cultura + sem indicação de Vancomicina

Choe et al. BMC Infectious Diseases (2018) 18:178

RESEARCH ARTICLE Open Access

Effect of an intervention targeting inappropriate continued empirical parenteral vancomycin use: a quasi-experimental study in a region of high MRSA prevalence

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Intervenção: comunicação direta do infectologista com médico prescritor

6 meses
Pré-intervenção
Jul14 a Jan 15

Consumo Vancomicina 37,6% DDDs/1000 pacientes/dia

2 meses

"Wash out"

6 meses
Pós-intervenção
Mar 15 a Set 15

Consumo Vancomicina 32,1% DDDs/1000 pacientes-dia ($p < 0,001$)

Consumo inapropriado reduziu 8,0 DDDs/1000 pacientes-dia para 5,8DDDs pacientes-dia (p=0,009)

Choe et al. BMC Infectious Diseases (2018) 18:178

Inappropriate Use of Antimicrobials for Lower Respiratory Tract Infections in Elderly Patients: Patient- and Community-Related Implications and Possible Interventions

Inger van Heijl[1,2] · Valentijn A. Schweitzer[2] · Lufang Zhang[2] · Paul D. van der Linden[1] · Cornelis H. van Werkhoven[2] · Douwe F. Postma[3]

D- Diagnóstico
D- Dose
D- via aDministração
D- Duração

- Idosos: suscetíveis a infecções
- Mudanças corporais, especialmente na função dos órgãos
- PK/ PD dos antimicrobianos
- Comorbidades
- Maior ocorrência efeitos adversos e Interações medicamentosas

- Restrição quinolona
- Baixa prevalência de atípicos => Overtreatment
- Potencial aumento de efeitos adversos (harm due)

Pathogens	Young patients[a,c] (%)	Elderly patients[b,c] (%)
Streptococcus pneumoniae	9–35	8.6–36
Staphylococcus aureus	0.3–4	0.0–5
Haemophilus influenzae	1–2	0.7–10
Gram-negatives	0–7	1.4–15
Enterobacteriaceae	0.4–1.3	0.9–2.6
Atypical pathogens	11–37	1–15
Legionella pneumophila	3.4–5.2	1–5
Mycoplasma pneumoniae	2.8–15	0–3.2
Coxiella burnetti	0.7–15.8	0–3.5
Chlamydia pneumoniae	0.1–8.2	0–6.7
Total viral pathogens	3.6–4	4.5–13.4
Influenza	1.2–3.0	0.3–4.8
Parainfluenza	1.3	1–8.6
Respiratory syncytial virus	0.0–0.4	0.7–1.8
Unknown	24–79	40–80

Drugs Aging
https://doi.org/10.1007/s40266-018-0541-7

Letter to the Editor

The State of Antimicrobial Stewardship in Michigan: Results of a Statewide Survey on Antimicrobial Stewardship Efforts in Acute Care Hospitals

Curtis D. Collins, PharmD, MS, BCPS (AQ-ID), FASHP; Dianne E. Miller, BS Pharm, CPIA†; Rachel M. Kenney, PharmD, BCPS (AQ-ID)‡; Ryan P. Mynatt, PharmD, BCPS (AQ-ID)§; Michael D. Tiberg, PharmD, BCPS (AQ-ID)‖; Kelli Cole, PharmD**; Jesse D. Sutton, PharmD††; and Jason M. Pogue, PharmD, BCPS (AQ-ID)‡‡,§§*

- Preocupação com o crescente aumento das infecções causadas por MDR organisms (MRSA, VRE, gram negativos e *C. dificille*)

- 2007: IDSA guidelines :
- 2 métodos principais:

- A) formulários restritivos com critérios (Ex.: Consulta infectologista)

- B) Educação, guidelines e fluxogramas, switch EV para VO, Descalonamento

Core Stewardship Team:

- ID physician
- ID-trained pharmacist
- Clinician microbiologist
- Information technology
- Hospital administration

Hosp Pharm 2015;50(3):180–184

XXIII Jornada Paranaense de Controle de Infecção Hospitalar
28 de setembro de 2018

Letter to the Editor

The State of Antimicrobial Stewardship in Michigan: Results of a Statewide Survey on Antimicrobial Stewardship Efforts in Acute Care Hospitals

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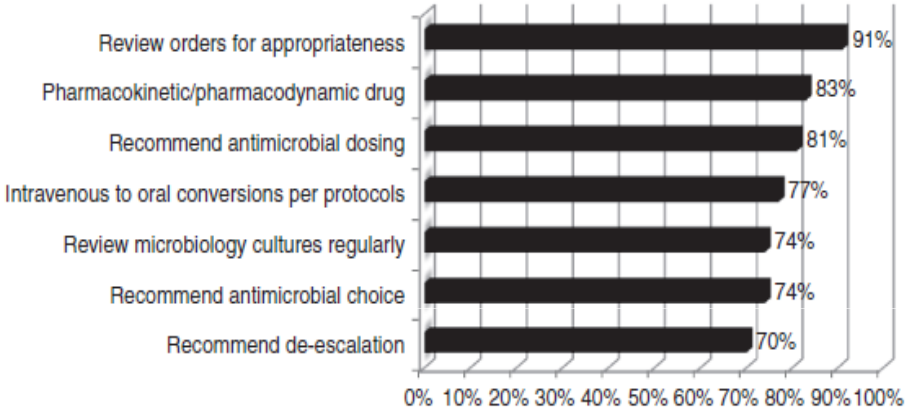

Figure 1. Pharmacist role in antimicrobial prescribing ($n = 43$).

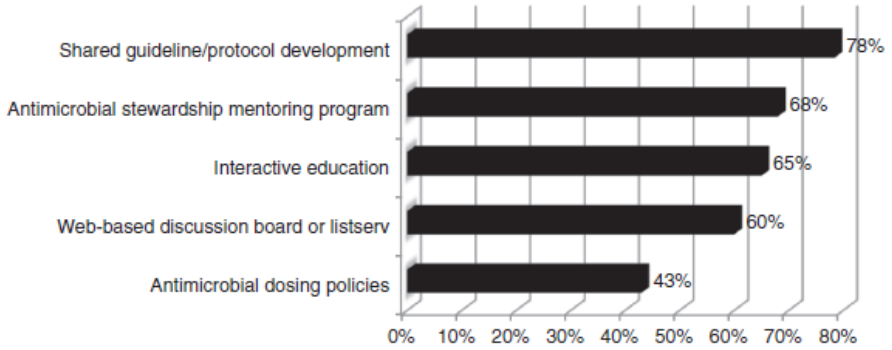

Figure 2. Respondent priorities for state-wide antimicrobial stewardship initiatives ($n = 37$).

Hosp Pharm 2015;50(3):180–184

Impact of Infectious Disease Consultation on Quality of Care, Mortality, and Length of Stay in *Staphylococcus aureus* Bacteremia: Results From a Large Multicenter Cohort Study

Anthony D. Bai,[1] Adrienne Showler,[2] Lisa Burry,[3,4] Marilyn Steinberg,[3] Daniel R. Ricciuto,[2,5] Tania Fernandes,[6] Anna Chiu,[6] Sumit Raybardhan,[7] Michelle Science,[8] Eshan Fernando,[2] George Tomlinson,[2,9] Chaim M. Bell,[2,3,10] and Andrew M. Morris[2,3,9]

- Impacto consulta infectologista no manejo e evolução de pacientes com bacteremia por *S. aureus (SAB)*

- *2007-2010 retrospectivo*
- *2 grupos:*
- *Consulta infecto x Sem consulta infecto*
- *847 SAB (506 ID x 341 nID)*

- *Inúmeras variáveis: remoção cateter, ecocardio, quantidade e local amostras HMC, doenças base, uso apropriado ATB...*

- *Consulta infecto (intervenção): risco reduzido de morrer 8,8%*

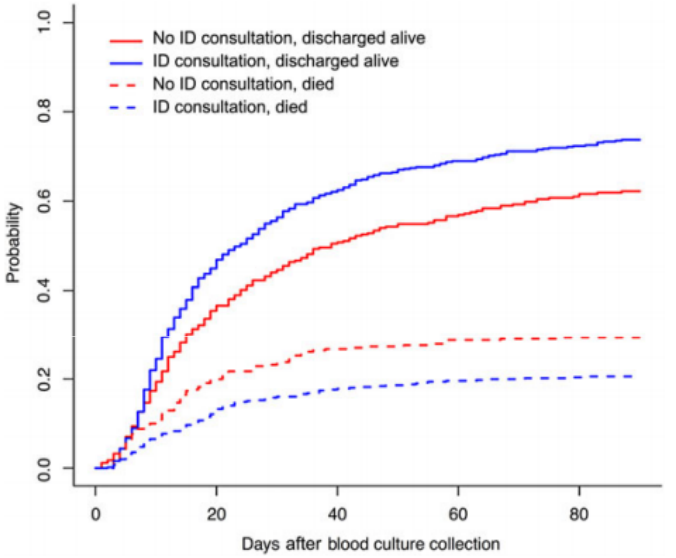

Figure 2. Unadjusted cumulative incidence curves for discharge and in-hospital mortality of patients in the infectious disease (ID) consultation group and patients in the no ID consultation group.

Conclusions. ID consultation is associated with better adherence to quality measures, reduced in-hospital mortality, and earlier discharge in patients with SAB.

Clinical Infectious Diseases® 2015;60(10):1451–61

Possibilidades de stewardship

- Evitar uso empírico : laboratório eficaz
- Evitar uso indiscriminado: Recomendações/ guias/protocolos
- Atuar a beira do leito: Descalonamento
- Evitar associações/ combinações (toxicidade, antagonismo/competição): farmacêutico
- Otimizar doses, dose ataque, duração, velocidade de infusão e ajustes individualizados
- Recomendar troca EV para VO, sempre que possível...

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TAKE HOME MESSAGES:

- Importância Stewardship: realidade, mais sim uma necessidade
- Resistência aos antimicrobianos é uma realidade
- Várias possibilidades no dia a dia
- Desafios

Mensagens:

- ✓ Publicações = Evidências
- ✓ “Engagement”
- ✓ Querer fazer ?

Precisamos fazer!

Obrigada!