Participación y liderazgo de las enfermeras en uso prudente de antibióticos

XI Jornada Catalana y IX Jornada Nacional
Associació Catalana Interdisciplinar de Control d'Infecció, 14 Junio 2024

Dr Enrique Castro-Sánchez

Brunel University London, Londres, Reino Unido
Imperial College London, Londres, Reino Unido

Declaración de intereses

Ponencia solo representa mi opinión y no necesariamente la de organizaciones para las que trabajo o tengo afiliación: Brunel University London; Imperial College London; Universitat de les Illes Balears; Universitat Oberta de Catalunya; Universidad Internacional de Valencia; Shifa al-Tameer Millat University; Primary Care International.


¡Es un momento fantástico para
pensar en liderazgo enfermero
en PROA!

Tenemos competencias europeas…

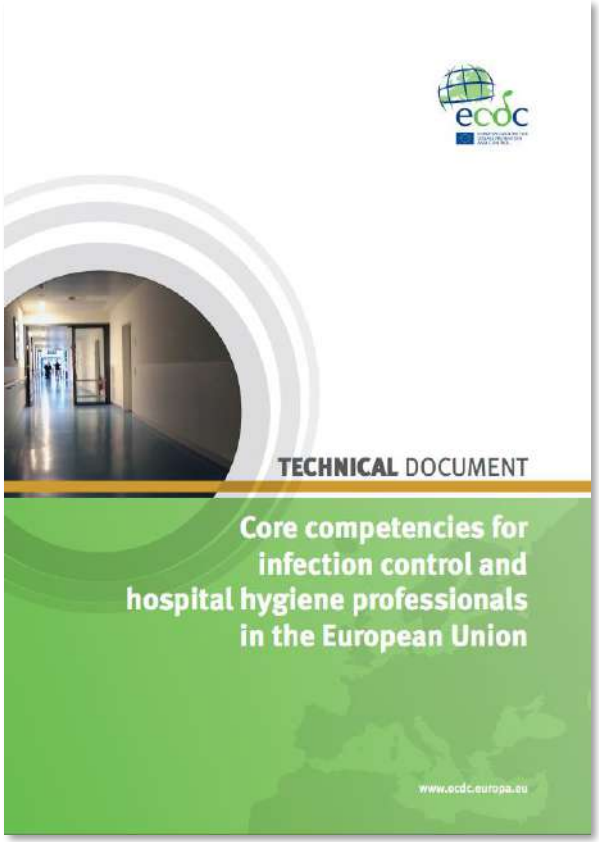
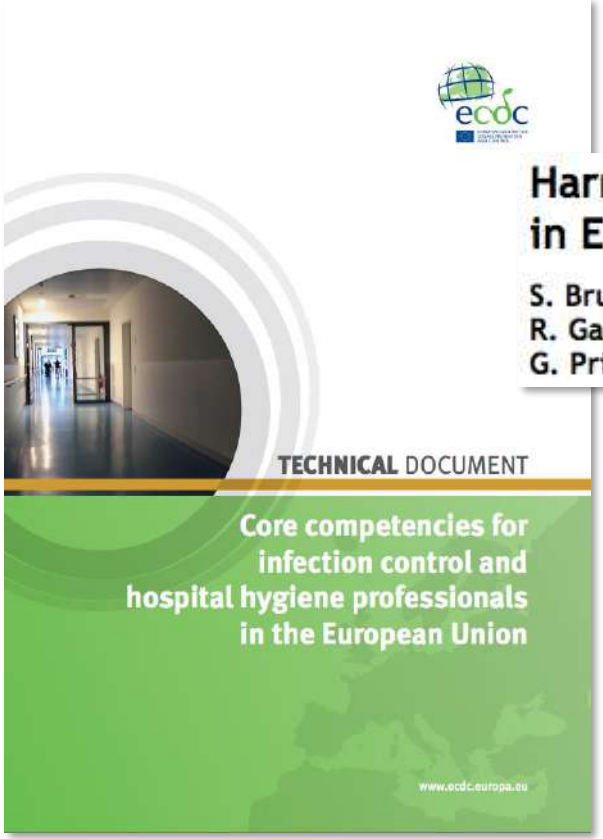


Table A1. Areas and domains of competency in infection control and hospital hygiene

Area	Domain
Area 1. Programme management	Elaborating and advocating an infection control programme
	Management of an infection control programme, work plan and projects
Area 2. Quality improvement	Contributing to quality management
	Contributing to risk management
	Performing audits of professional practices and evaluating performance
	Infection control training of employees
	Contributing to research
Area 3. Surveillance and investigation of healthcare-associated infections (HAIs)	Designing a surveillance system
	Managing (implementation, follow up, evaluation) a surveillance system
	Identifying, investigating and managing outbreaks
Area 4. Infection control activities	Elaborating infection control interventions
	Implementing infection control healthcare procedures
	Contributing to reducing antimicrobial resistance
	Advising appropriate laboratory testing and use of laboratory data
	Decontamination and sterilisation of medical devices
	Controlling environmental sources of infections

…y cierta armonización



Harmonizing and supporting infection control training in Europe

S. Brusaferro [a,*], L. Arnoldo [a], G. Cattani [a], E. Fabbro [a], B. Cookson [b], R. Gallagher [c], P. Hartemann [d], J. Holt [e], S. Kalenic [f], W. Popp [g], G. Privitera [h], V. Prikazsky [i], C. Velasco [i], C. Suetens [i], C. Varela Santos [i]

Journal of Hospital Infection 89 (2015) 351–356

TABLE 2. Ten key components and indicators of organizational maturity and structure for a successful implementation of infection prevention and control published by the European Centre for Disease Prevention and Control [14]

	Key component	Indicators
1	An effective infection control programme in an acute-care hospital must include as a minimum standard at least one full-time specifically trained infection control nurse per up to 250 beds, a dedicated physician trained in infection control, microbiological support, and data management support	Continuous review of surveillance and prevention programmes, outbreaks, and audits; infection control committee in place, inclusion of infection control on the hospital administration agenda, and defined goals; appropriate staffing and budget for infection control
2	Ward occupancy must not exceed the capacity for which it is designed and staffed; staffing and workload of frontline staff must be adapted to acuity of care, and the number of pool or agency nurses and physicians used kept to a minimum	Average bed occupancy at midnight, average numbers of frontline workers, and the average proportion of pool or agency professionals
3	Sufficient availability of and easy access to materials and equipment, and optimization of ergonomics	Availability of alcohol-based hand rub at the point of care and sinks stocked with soap and single-use towels
4	Use of guidelines in combination with practical education and training	Adaptation of guidelines to local situation, number of new staff trained with the local guidelines, teaching programmes based on local guidelines
5	Education and training involves frontline staff and is team and task oriented	Education and training programmes should be audited and combined with knowledge and competency assessments
6	Organizing audits as a standardized (scored) and systematic review of practice with timely feedback	Measurement of the number of audits (overall, and stratified by departments, units, and topics) for specified time periods
7	Participating in prospective surveillance and offering active feedback, preferably as part of a network	Participation in national and international surveillance initiatives, number and type of wards with surveillance, regular review of the feedback strategy
8	Implementing infection control programmes following a multimodal strategy, including tools such as bundles and checklists developed by multidisciplinary teams, and taking into account local conditions	Verification that programmes are multimodal; measurement of process indicators; measurement of outcome indicators
9	Identifying and engaging champions in the promotion of intervention strategies	Interviews with frontline staff and infection control professionals
10	A positive organizational culture by fostering working relationships and communication across units and staff groups	Questionnaires about work satisfaction, crisis management, and human resource assessments of absenteeism and staff turnover

…y muy buenos comienzos

DOMINIO
4. IMPLEMENTACIÓN Y SEGUIMIENTO DE LOS SISTEMAS DE VIGILANCIA DE LA INFECCIÓN. PRÁCTICAS PARA PREVENIR Y CONTROLAR LA INFECCIÓN
Competencia Aplicar los conocimientos sobre el control de la infección en entornos clínicos y no clínicos.
Actividades 4.1. Recopilar y analizar la información relevante para el desarrollo de un procedimiento de control de la infección. 4.2. Participar en programas institucionales de Vigilancia y control de las infecciones relacionadas con la asistencia. Programas de vigilancia basados en la prevalencia y/o incidencia. EPINE, EN-VIN-HELICS, VINCat, INCLIMECC, PIRASOA, PROA)

Gobiernos,
líderes de los sistemas sanitarios
y el sector privado
deberían
aumentar la financiación y oportunidades
para incrementar el número de
trabajadores sanitarios
esenciales
en la lucha contra las resistencias antimicrobianas

The Review on Antimicrobial Resistance. Final report. http://amr-review.org/Publications

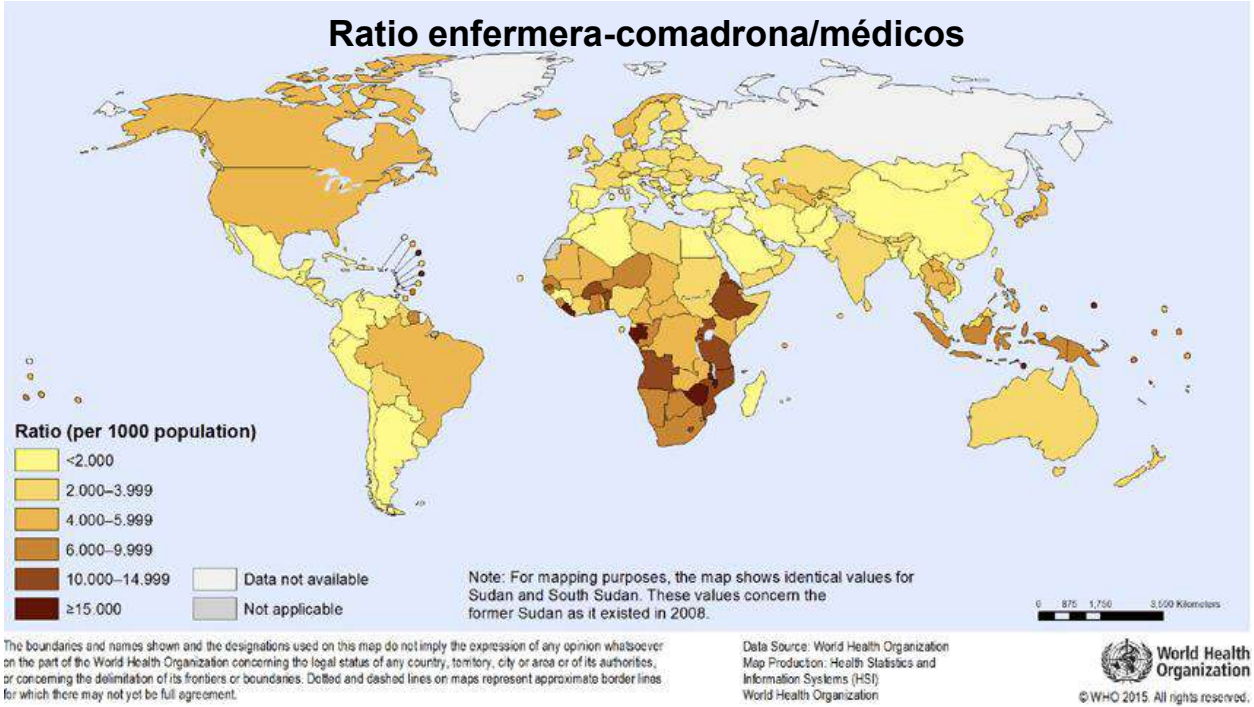
Gobiernos,
líderes de los sistemas sanitarios
y el sector privado
deberían
aumentar la financiación y oportunidades
para incrementar el número de
trabajadores sanitarios
esenciales
en la lucha contra las resistencias antimicrobianas

12 900 000

trabajadores sanitarios
para 2035

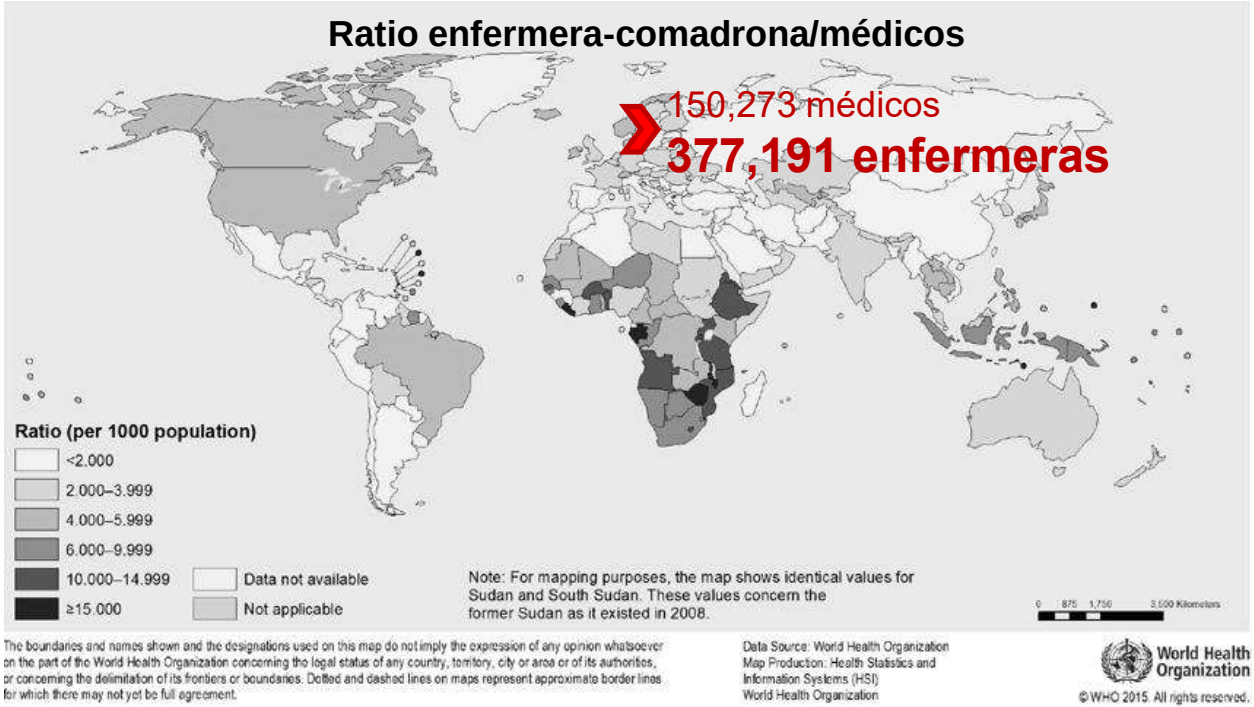
The Review on Antimicrobial Resistance. Final report. http://amr-review.org/Publications
WHO, A universal truth: No health without a workforce, 2014

Las enfermeras, el profesional sanitario más numeroso



http://www.nhsconfed.org/resources/key-statistics-on-the-nhs

Las enfermeras, el profesional sanitario más numeroso



http://www.nhsconfed.org/resources/key-statistics-on-the-nhs

Necesaria mayor participación en PROA

EDITORIAL

Antimicrobial stewardship programmes: the need for wider engagement

Esmita Charani, Alison H Holmes

Department of Infectious Diseases and Immunity, Imperial College London, The Centre for Infection Prevention and Management, London, UK

Correspondence to
Esmita Charani, Department of Infectious Diseases and Immunity, Imperial College London, The Centre for Infection Prevention and Management, 8th Floor, The Commonwealth Building, Du Cane Rd, London W12 0NN, UK;
e.charani@imperial.ac.uk

Received 30 August 2013
Accepted 30 August 2013
Published Online First 17 September 2013

Antimicrobial resistance has been recognised as a major global health threat[1] and is now on the political agenda with world leaders recognising the necessity to act to preserve the potency of antimicrobial agents and invest funds to discover new ones.[2] Despite the majority of antimicrobial prescribing and consumption occurring in primary care settings,[3] hospitalised populations experience the full force of antimicrobial resistance and difficult-to-treat multidrug resistant organisms.[4]

To optimise antimicrobial prescribing, reduce healthcare associated infections and minimise the emergence of antimicrobial resistance, hospitals in both developed and developing healthcare systems are increasingly implementing initiatives ranging from targeted interventions[5] to antimicrobial stewardship programmes.[6 7] Antimicrobial stewardship is the umbrella term used to define comprehensive quality improvement activities that together represent a cohesive programme aiming to optimise the use of

centres in the developed world and it follows that the solutions to these problems cannot be limited to them. The increasing globalisation of the world and population mobility ensures the rapid spread of new resistant organisms and infectious diseases[11] making them shared global problems. It is therefore encouraging to see antimicrobial stewardship initiatives being implemented across the globe.[7 12 13]

EMBEDDING PRACTICE WITHIN EXISTING SYSTEMS AND RESOURCES

Wide disparities exist in the availability of resources to implement antimicrobial stewardship initiatives in hospitals in both developed and developing healthcare systems. As an example of this disparity, Andersen and Knudsen report in the current issue of this journal[12] an intervention they implemented in a 500-bed Danish University hospital that did not have onsite clinical microbiology service or staff. They report on the steps undertaken to tackle multidrug resistant infec-

”…utilizar sistemas y estructuras existentes…”

Necesaria mayor participación en PROA

EDITORIAL

Antimicrobial stewardship programmes: the need for wider engagement

Esmita Charani, Alison H Holmes

Department of Infectious Diseases and Immunity, Imperial College London, The Centre for Infection Prevention and Management, London, UK

Correspondence to
Esmita Charani, Department of Infectious Diseases and Immunity, Imperial College London, The Centre for Infection Prevention and Management, 8th Floor, The Commonwealth Building, Du Cane Rd, London W12 0NN, UK;
e.charani@imperial.ac.uk

Received 30 August 2013
Accepted 30 August 2013
Published Online First
17 September 2013

Antimicrobial resistance has been recognised as a major global health threat[1] and is now on the political agenda with world leaders recognising the necessity to act to preserve the potency of antimicrobial agents and invest funds to discover new ones.[2] Despite the majority of antimicrobial prescribing and consumption occurring in primary care settings,[3] hospitalised populations experience the full force of antimicrobial resistance and difficult-to-treat multidrug resistant organisms.[4]

To optimise antimicrobial prescribing, reduce healthcare associated infections and minimise the emergence of antimicrobial resistance, hospitals in both developed and developing healthcare systems are increasingly implementing initiatives ranging from targeted interventions[5] to antimicrobial stewardship programmes.[6 7] Antimicrobial stewardship is the umbrella term used to define comprehensive quality improvement activities that together represent a cohesive programme aiming to optimise the use of

centres in the developed world and it follows that the solutions to these problems cannot be limited to them. The increasing globalisation of the world and population mobility ensures the rapid spread of new resistant organisms and infectious diseases[11] making them shared global problems. It is therefore encouraging to see antimicrobial stewardship initiatives being implemented across the globe.[7 12 13]

EMBEDDING PRACTICE WITHIN EXISTING SYSTEMS AND RESOURCES

Wide disparities exist in the availability of resources to implement antimicrobial stewardship initiatives in hospitals in both developed and developing healthcare systems. As an example of this disparity, Andersen and Knudsen report in the current issue of this journal[12] an intervention they implemented in a 500-bed Danish University hospital that did not have onsite clinical microbiology service or staff. They report on the steps undertaken to tackle multidrug resistant infec-

'AMS 2.0'

Núcleo central de:

- Medicina Enf Infecciosas
- Microbiología clínica
- Farmacia Hosp experta en infección

Nathwani et al., 2012

Necesaria mayor participación en PROA

EDITORIAL

Antimicrobial stewardship programmes: the need for wider engagement

Esmita Charani, Alison H Holmes

Department of Infectious Diseases and Immunity, Imperial College London, The Centre for Infection Prevention and Management, London, UK

Correspondence to
Esmita Charani, Department of Infectious Diseases and Immunity, Imperial College London, The Centre for Infection Prevention and Management, 8th Floor, The Commonwealth Building, Du Cane Rd, London W12 0NN, UK; e.charani@imperial.ac.uk

Received 30 August 2013
Accepted 30 August 2013
Published Online First 17 September 2013

Antimicrobial resistance has been recognised as a major global health threat[1] and is now on the political agenda with world leaders recognising the necessity to act to preserve the potency of antimicrobial agents and invest funds to discover new ones.[2] Despite the majority of antimicrobial prescribing and consumption occurring in primary care settings,[3] hospitalised populations experience the full force of antimicrobial resistance and difficult-to-treat multidrug resistant organisms.[4]

To optimise antimicrobial prescribing, reduce healthcare associated infections and minimise the emergence of antimicrobial resistance, hospitals in both developed and developing healthcare systems are increasingly implementing initiatives ranging from targeted interventions[5] to antimicrobial stewardship programmes.[6 7] Antimicrobial stewardship is the umbrella term used to define comprehensive quality improvement activities that together represent a cohesive programme aiming to optimise the use of

centres in the developed world and it follows that the solutions to these problems cannot be limited to them. The increasing globalisation of the world and population mobility ensures the rapid spread of new resistant organisms and infectious diseases[11] making them shared global problems. It is therefore encouraging to see antimicrobial stewardship initiatives being implemented across the globe.[7 12 13]

EMBEDDING PRACTICE WITHIN EXISTING SYSTEMS AND RESOURCES

Wide disparities exist in the availability of resources to implement antimicrobial stewardship initiatives in hospitals in both developed and developing healthcare systems. As an example of this disparity, Andersen and Knudsen report in the current issue of this journal[12] an intervention they implemented in a 500-bed Danish University hospital that did not have onsite clinical microbiology service or staff. They report on the steps undertaken to tackle multidrug resistant infec-

‘AMS 2.0’

Núcleo central de:

- Medicina Enf Infecciosas
- Microbiología clínica
- Farmacia Hosp experta en infección

Otros miembros pueden ser las enfermeras especializadas, por ejemplo, en Prevención y Control de Infecciones, o en PROA…

Nathwani et al., 2012

Necesaria mayor participación en PROA

EDITORIAL

Antimicrobial stewardship programmes: the need for wider engagement

Esmita Charani, Alison H Holmes

Department of Infectious Diseases and Immunity, Imperial College London, The Centre for Infection Prevention and Management, London, UK

Correspondence to
Esmita Charani, Department of Infectious Diseases and Immunity, Imperial College London, The Centre for Infection Prevention and Management, 8th Floor, The Commonwealth Building, Du Cane Rd, London W12 ONN, UK; e.charani@imperial.ac.uk

Received 30 August 2013
Accepted 30 August 2013
Published Online First 17 September 2013

Antimicrobial resistance has been recognised as a major global health threat[1] and is now on the political agenda with world leaders recognising the necessity to act to preserve the potency of antimicrobial agents and invest funds to discover new ones.[2] Despite the majority of antimicrobial prescribing and consumption occurring in primary care settings,[3] hospitalised populations experience the full force of antimicrobial resistance and difficult-to-treat multidrug resistant organisms.[4]

To optimise antimicrobial prescribing, reduce healthcare associated infections and minimise the emergence of antimicrobial resistance, hospitals in both developed and developing healthcare systems are increasingly implementing initiatives ranging from targeted interventions[5] to antimicrobial stewardship programmes.[6 7] Antimicrobial stewardship is the umbrella term used to define comprehensive quality improvement activities that together represent a cohesive programme aiming to optimise the use of

centres in the developed world and it follows that the solutions to these problems cannot be limited to them. The increasing globalisation of the world and population mobility ensures the rapid spread of new resistant organisms and infectious diseases[11] making them shared global problems. It is therefore encouraging to see antimicrobial stewardship initiatives being implemented across the globe.[7 12 13]

EMBEDDING PRACTICE WITHIN EXISTING SYSTEMS AND RESOURCES

Wide disparities exist in the availability of resources to implement antimicrobial stewardship initiatives in hospitals in both developed and developing healthcare systems. As an example of this disparity, Andersen and Knudsen report in the current issue of this journal[12] an intervention they implemented in a 500-bed Danish University hospital that did not have onsite clinical microbiology service or staff. They report on the steps undertaken to tackle multidrug resistant infec-

‘AMS 2.0’

Núcleo central de:

- Medicina Enf Infecciosas
- Microbiología clínica
- Farmacia Hosp experta en infección

Otros miembros pueden ser las enfermeras especializadas, por ejemplo, en Prevención y Control de Infecciones, o en PROA…

‘esfuerzo interprofesional

a lo largo del continuo de cuidados’

Nathwani et al., 2012

Roles PROA para enfermeras típicamente centrados en asistencia…

Clinical Infectious Diseases

INVITED ARTICLE

CLINICAL PRACTICE: Ellie J. C. Goldstein, Section Editor

The Critical Role of the Staff Nurse in Antimicrobial Stewardship—Unrecognized, but Already There

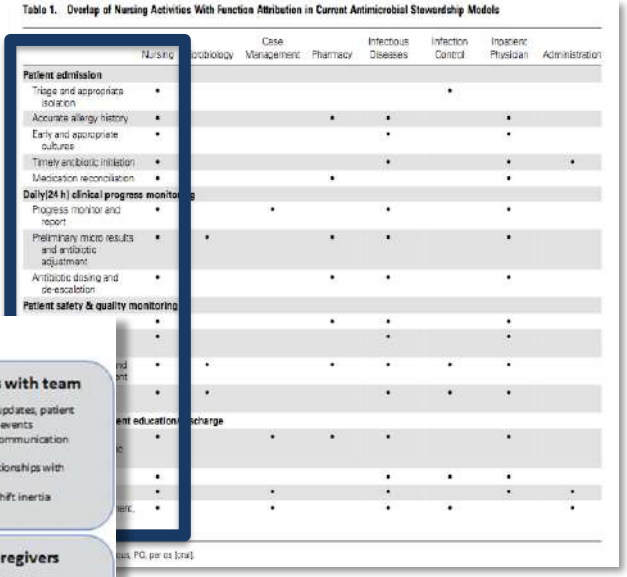
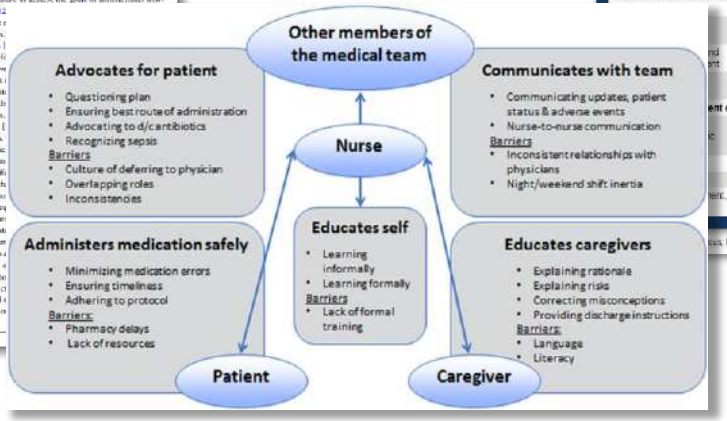


Table 1. Overlap of Nursing Activities With Function Attribution in Current Antimicrobial Stewardship Models

	Nursing	Microbiology	Case Management	Pharmacy	Infectious Diseases	Infection Control	Inpatient Physician	Administration
Patient admission								
Triage and appropriate isolation	•					•		
Accurate allergy history	•			•	•		•	
Early and appropriate cultures	•				•		•	
Timely antibiotic initiation	•				•		•	•
Medication reconciliation	•			•			•	
Daily(24 h) clinical progress monitoring								
Progress monitor and report	•		•		•		•	
Preliminary micro results and antibiotic adjustment	•	•		•	•		•	
Antibiotic dosing and de-escalation	•			•	•		•	
Patient safety & quality monitoring								
	•			•	•		•	
	•				•		•	
	•	•		•	•	•	•	
	•	•			•	•	•	
ent education/ scharge								
	•		•	•	•		•	
	•				•	•	•	
	•		•		•		•	•
	•		•		•	•	•	•



Hamdy RF et al. J Pediatr Nurs. 2019;48:10-17.

…con otros roles no asistenciales ya emergiendo (algo tímidamente)…

Table 1
Recommendations for action

Area of nursing	Nursing organizations and constituencies	Recommended action
Practice	American Nurses Association; Nursing staff, managers, and directors across clinical care settings	• Adopt antibiotic stewardship as a patient safety imperative • Provide robust education offerings on topics related to antibiotic resistance and antibiotic stewardship • Promote antibiotic time-outs • Partner and collaborate with antibiotic stewardship teams • Raise nursing awareness and provoke action • Promote the CDC Get Smart About Antibiotics Program
	American Nurses Credentialing Center	• Include antibiotic stewardship in Magnet Recognition Program criteria
	American Association of Nurse Practitioners; Nurse practitioners; Other professional specialty nursing organizations	• Raise nurse practitioner awareness and provoke action • Develop resources to support nurse practitioner engagement in antibiotic stewardship activities • Provide robust education offerings on topics related to antibiotic resistance and antibiotic stewardship
	American Organization of Nurse Executives; Chief nursing officers	• Spearhead strategic nursing engagement in organizational antibiotic stewardship programs • Leverage organizational resources • Ensure that nurses are recognized as influential members of patient care team in combating antibiotic resistance • Ensure nursing is represented on antibiotic stewardship teams
Education	American Association of Colleges of Nursing; Nursing faculty and curriculum committees; Association for Professionals in Infection Control and Epidemiology	• Position nursing as a leading partner in advancing strategies to reduce antibiotic resistance • Assure that basic and graduate level nursing curriculum includes benefits, risks, and management of antibiotic use, appropriate antibiotic use and administration, and role of nurses in antibiotic stewardship programs • Develop educational materials to support nurses for their role in antibiotic stewardship (eg, for nurse practitioner students, include curriculum regarding appropriate antibiotic prescribing and monitoring, including inappropriate antibiotic use, particularly for viral illnesses) • Deploy infection preventionists as staff educators and members of antibiotic stewardship programs
Research	National Institute of Nursing Research; Nurse researchers; Professional specialty nursing organizations	• Assess the impact of nurse involvement in antibiotic stewardship on antibiotic use patterns • Examine antibiotic prescribing patterns among nurse practitioners
	Association for Professionals in Infection Control and Epidemiology	• Examine the impact of infection preventionist involvement in antibiotic stewardship on antibiotic use patterns • Examine the impact of infection prevention policies and programs • Describe how infection preventionists are engaging nursing in antibiotic stewardship efforts
Policy	American Academy of Nursing; Nursing policy leaders	• Support and disseminate information regarding the *National Action Plan for Combating Antibiotic-Resistant Bacteria* • Support the Centers for Medicare & Medicaid Service's proposed antibiotic stewardship Condition of Participation and The Joint Commission's Antimicrobial Stewardship Standard (MM.09.01.01) • Suggest and promote nurse membership to national committees and agencies involved with antibiotic stewardship and related policies (eg, urge the Secretary of Health and Human Services to appoint a nurse member to the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria, created by Executive Order 13676 in September 2015)

Barreras que resolver para impulsar la enfermería en PROA

- **Fundamentales**
- **Ownership/ ‘de marca’**
- **Educativas**
- **Liderazgo**

Barreras que resolver para impulsar la enfermería en PROA

- **Fundamentales**
- **Ownership/ ‘de marca’**
- **Educativas**
- **Liderazgo**

¿Creen las enfermeras que ‘deberían hacer’ PROA?

REALMENTE NO

¿Creen las enfermeras que ‘deberían hacer’ PROA?

	Oyó sobre PROA	Participaría en PROA
Anestesistas	38%	51%
Farmacéuticas	80%	100%
Médicos	64%	55%
Cirujanos	37%	48%
Enfermeras	**22%**	**43%**

Cotta et al, 2014. Healthcare Inf 19(3)

Barreras que resolver para impulsar la enfermería en PROA

- **Fundamentales**
- **Ownership/ ‘de marca’**
- **Educativas**
- **Liderazgo**

¿‘Hacen’ las enfermeras PROA?

REALMENTE NO

¿‘Hacen’ las enfermeras PROA?

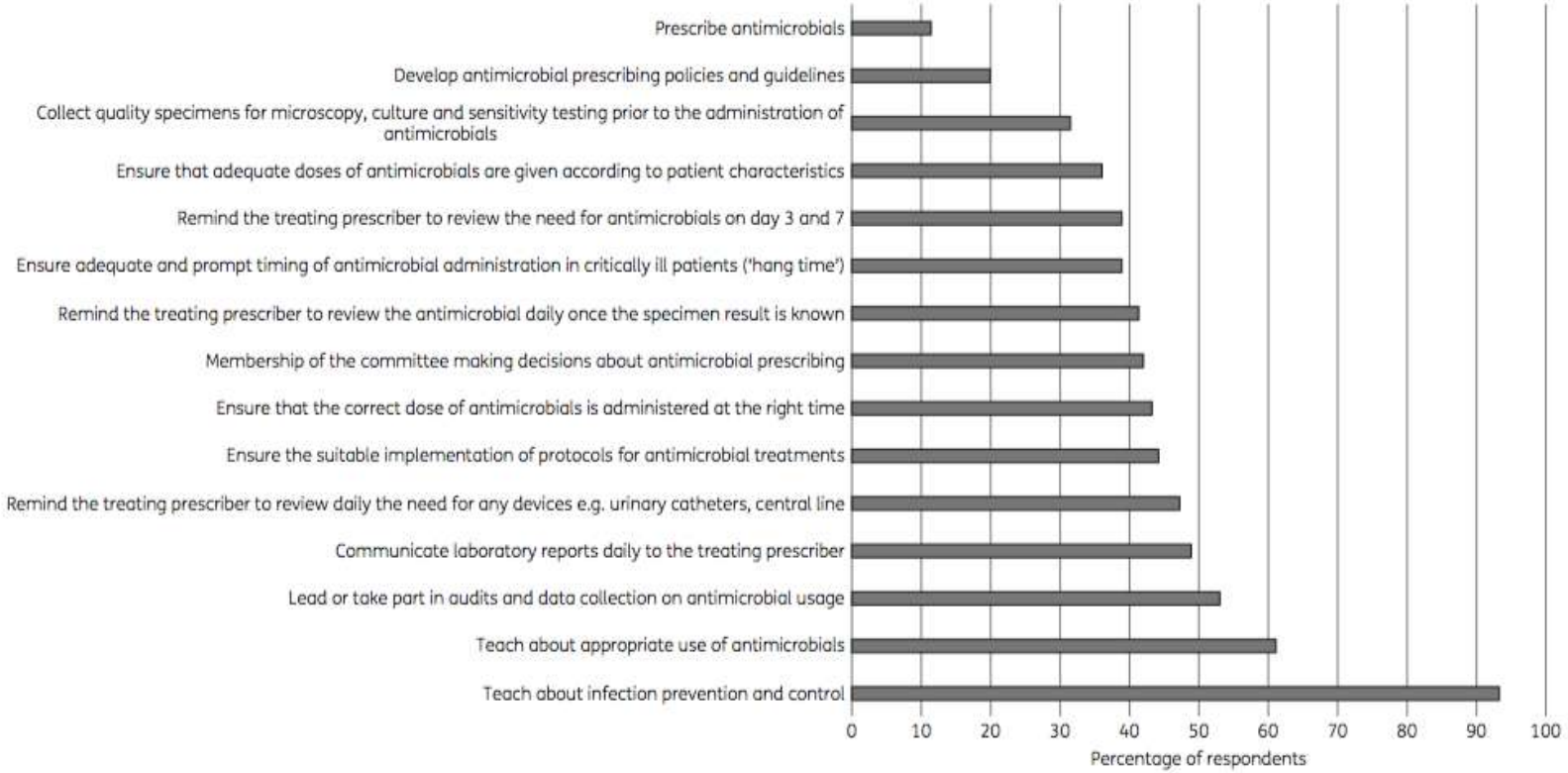


Figure 1. AMS tasks undertaken as part of the job. Some performed more than one type of task.

Bulabula et al., *JAC*, dky023,

¿‘Hacen’ las enfermeras PROA?

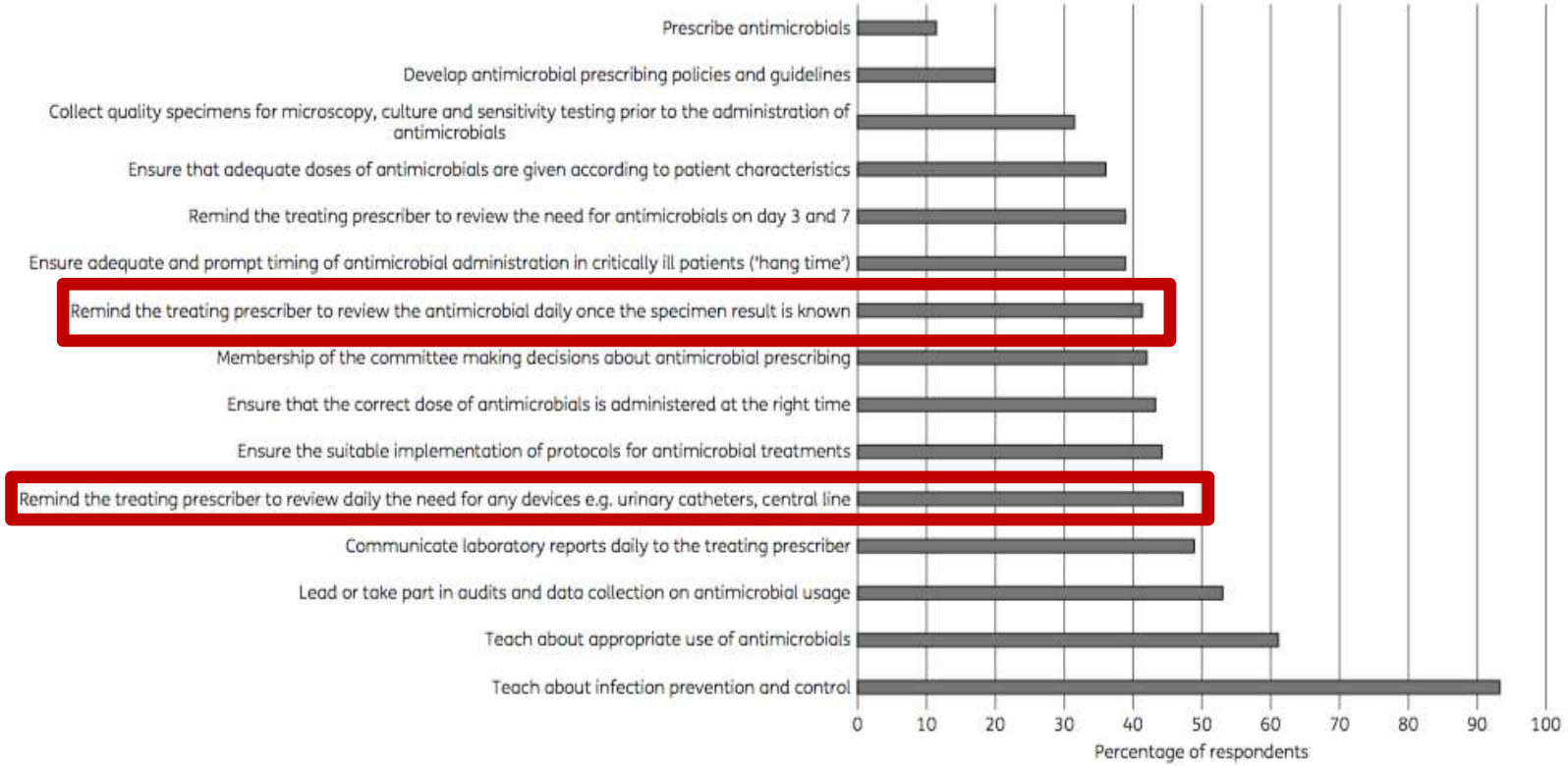


Figure 1. AMS tasks undertaken as part of the job. Some performed more than one type of task.

Bulabula et al., *JAC*, dky023,

Esto no es PROA. Son cuidados excelentes

01 Minimizar prescripción innecesaria de ABs

02 Asegurar administración a tiempo de ABs

03 Adoptar medidas adecuadas PyCI

04 Obtener muestras biológicas

05 Concentraciones terapéuticas, tras ajuste/administración adecuadas

06 Uso IV solo en pacientes graves, o si no toleran oral

07 Revisar resultados laboratorio diariamente, desescalada a tiempo

08 Revisar tratamiento IV diariamente, cambio IV-oral a tiempo

09 Profilaxis quirúrgica de dosis única, según sea adecuado

Esto no es PROA. Son cuidados excelentes

01 Minimizar prescripción innecesaria de A +1

02 Asegurar administración a tiempo de AB +1

03 Adoptar medidas adecuadas PyC +1

04 Obtener muestras biológica +1

05 Concentraciones terapéuticas, tras ajuste/administra ón adecuadas +1/2

06 Uso IV solo en pacientes graves, o si no toleran oral

07 Revisar resultados laboratorio diariamente, desescalada a tiempo +1

08 Revisar tratamiento IV diariamente, cambio IV-oral a tiempo +1

09 Profilaxis quirúrgica de dosis única, según sea adecuado +1

Y esto no es uso subóptimo de antibióticos, sino enfermería subóptima

Table 1. Potential under-dosing of antibiotics attributable to residual volume

	Recommended dose	Recommended dilution	Infusion volume	Infusion volume administered to patient	Drug compound administered to patient	Drug compound left in iv administration set	Infusion volume	Infusion volume administered to patient	Drug compound administered to patient	Drug compound left in iv administration set
Antibiotic[43]										
piperacillin/tazobactam	4 g/0.5 g 8 hourly	50–100 mL NaCl	50 mL	30.5 mL	61%	39%	50 mL	20 mL	40%	60%
ampicillin	1 g 6 hourly	100 mL NaCl	100 mL	80.5 mL	80.5%	19.5%	100 mL	70 mL	70%	30%
cefazolin	1–2 g 8 hourly	50–100 mL NaCl	50 mL	30.5 mL	61%	39%	50 mL	20 mL	40%	60%
ertapenem	1 g daily	50 mL NaCl	50 mL	30.5 mL	61%	39%	50 mL	20 mL	40%	60%
imipenem	1 g 8 hourly	100 mL NaCl	100 mL	80.5 mL	80.5%	19.5%	100 mL	70 mL	70%	30%
meropenem	1 g 8 hourly	NaCl no recommended volume	50 mL	30.5 mL	61%	39%	50 mL	20 mL	40%	60%
clarithromycin	500 mg 12 hourly	250 mL NaCl	250 mL	230.5 mL	92.2%	7.8%	250 mL	220 mL	88%	12%
vancomycin	500 mg 12 hourly	100 mL NaCl	100 mL	80.5 mL	80.5%	19.5%	100 mL	70 mL	70%	30%
colistin	360 mg 12 hourly	NaCl no recommended volume	50 mL	30.5 mL	61%	39%	50 mL	20 mL	40%	60%
Administration set					1				2	
Length of set					205 cm				270 cm	
Volume of set					14.5 mL				25 mL	
Estimated volume in drip chamber					± 5 mL				± 5 mL	
Total fluid in iv admin line					**19.5 mL**				**30 mL**	

Rout et al., J Antimicrob Chemother 2019; 74: 3418–3422

¿‘Hacen’ las enfermeras PROA? Es mucho más que ‘recetación’

Courtenay et al. J Interprof Care, 2018

El Combur-Test, ¿causa fundamental de las resistencias antimicrobianas…?

Bacteriuria asintomática vs ITU

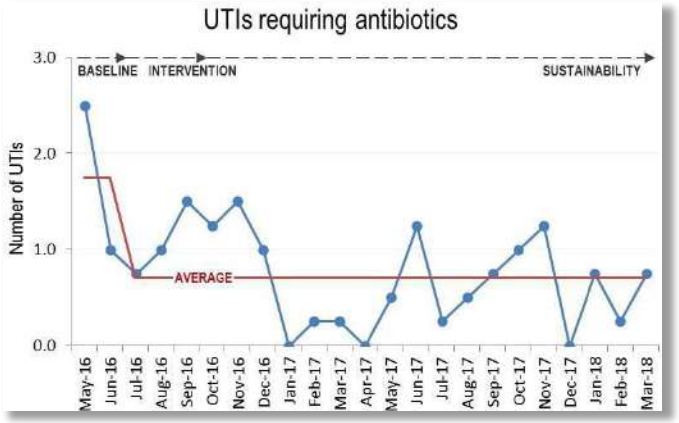
- Piuria en análisis de orina = aumento x4 en antibioterapia *a pesar de no realizar urocultivo, que este sea negativo, o presente bajo número de colonias* (Lee et al, 2015)
- Bacteriuria aislada a menudo induce antibioterapia, a pesar de la ausencia de síntomas (Walker et al, 2000)

Combur/urocultivo por enfermera basado en '**intuición**' (i.e., color, olor…) (Drekonja et al, 2019)

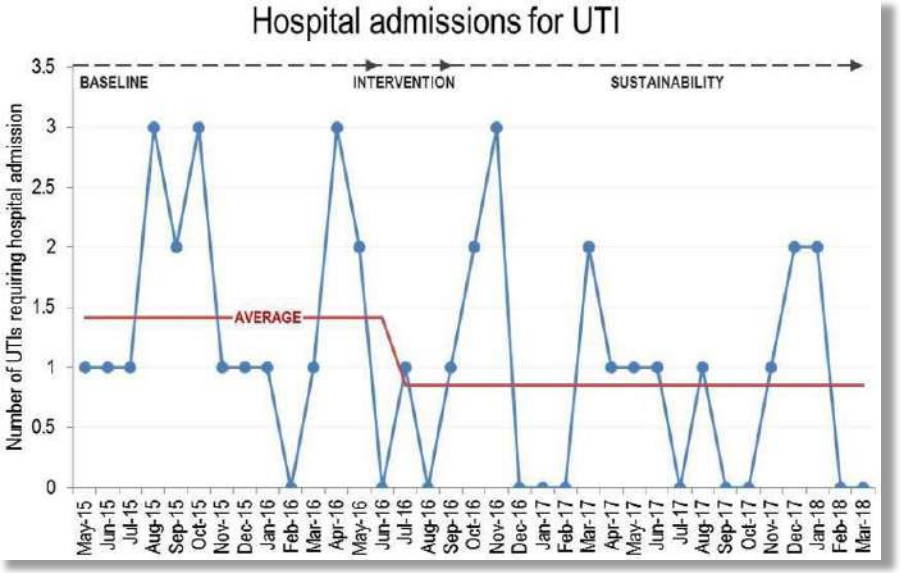
"El paciente confuso" (Stone et al, 2015)

Lee et al. BMC Infect Dis 2015;15:289; Walker et al. CMAJ. 2000;163:273–277; Drekonja et al. Infect Control Hosp Epidemiol. 2019;40:963-967; Stone et al. Infect Control Hosp Epidemiol. 2015;33:965–977.

Disminuyendo las ITUs en residencias de mayores mejorando la hidratación



Media mensual de ITUs necesitando antibioterapia en fase basal, intervención, y fase post-intervenciónn.



Media mensual de ingresos hospitalarios por ITU en fase basal, intervención, y fase post-intervenciónn.

Lean et al. BMJ Open Quality 2019;8:e000563. doi:10.1136/ bmjoq-2018-000563

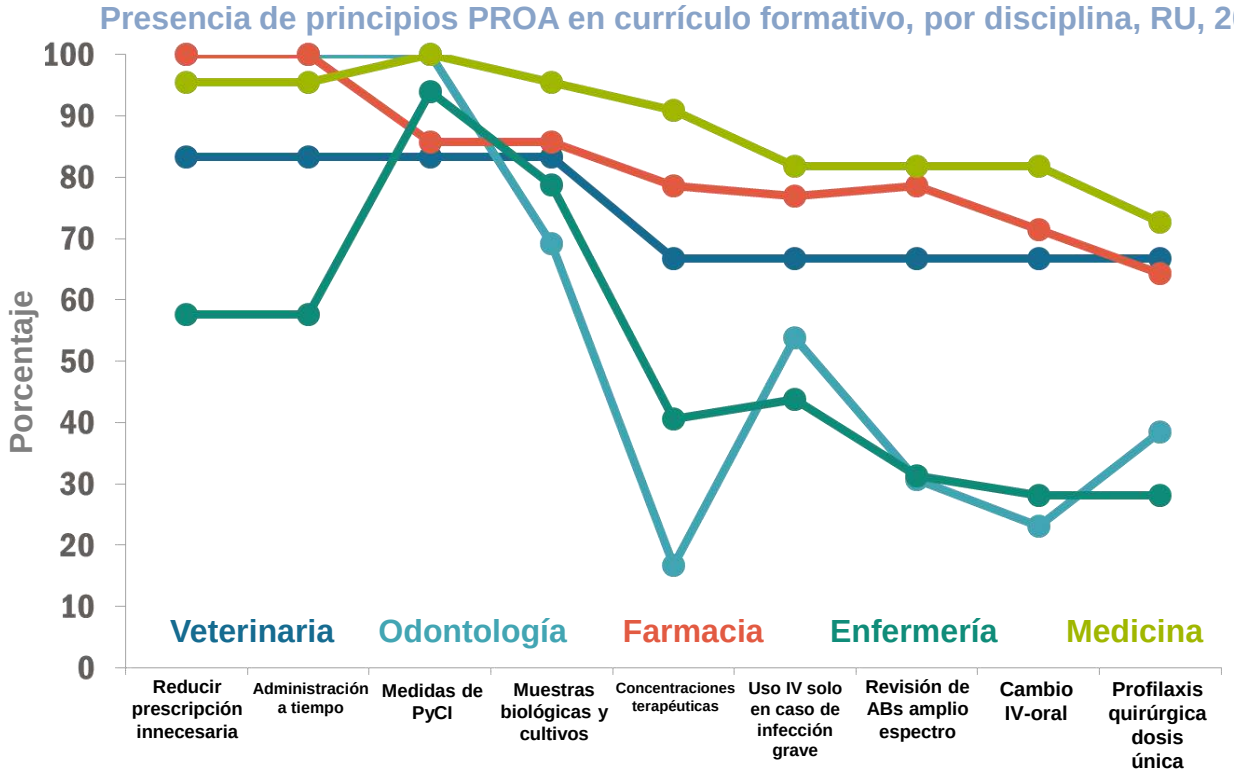
Barreras que resolver para impulsar la enfermería en PROA

- **Fundamentales**
- **Ownership/ ‘de marca’**
- **Educativas**
- **Liderazgo**

¿’Saben’ las enfermeras lo que deberían hacer en PROA?

REALMENTE NO

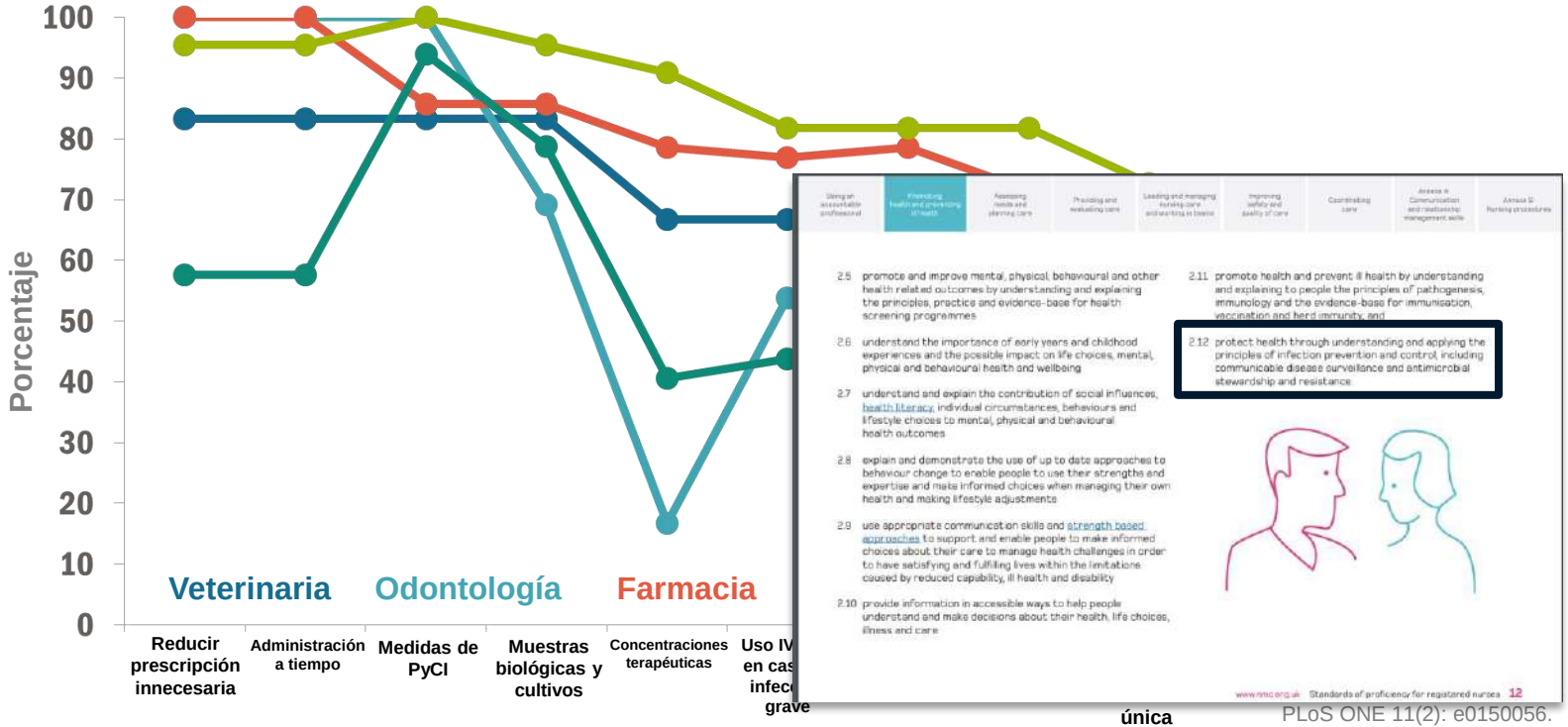
¿’Saben’ las enfermeras lo que deberían hacer en PROA?



Castro-Sánchez E et al, 2016. PLoS ONE 11(2): e0150056.

¿’Saben’ las enfermeras lo que deberían hacer en PROA?

Presencia de principios PROA en currículo formativo, por disciplina, RU, 2013



2.5 promote and improve mental, physical, behavioural and other health related outcomes by understanding and explaining the principles, practice and evidence-base for health screening programmes

2.6 understand the importance of early years and childhood experiences and the possible impact on life choices, mental, physical and behavioural health and wellbeing

2.7 understand and explain the contribution of social influences, health literacy, individual circumstances, behaviours and lifestyle choices to mental, physical and behavioural health outcomes

2.8 explain and demonstrate the use of up to date approaches to behaviour change to enable people to use their strengths and expertise and make informed choices when managing their own health and making lifestyle adjustments

2.9 use appropriate communication skills and strength based approaches to support and enable people to make informed choices about their care to manage health challenges in order to have satisfying and fulfilling lives within the limitations caused by reduced capability, ill health and disability

2.10 provide information in accessible ways to help people understand and make decisions about their health, life choices, illness and care

2.11 promote health and prevent ill health by understanding and explaining to people the principles of pathogenesis, immunology and the evidence-base for immunisation, vaccination and herd immunity, and

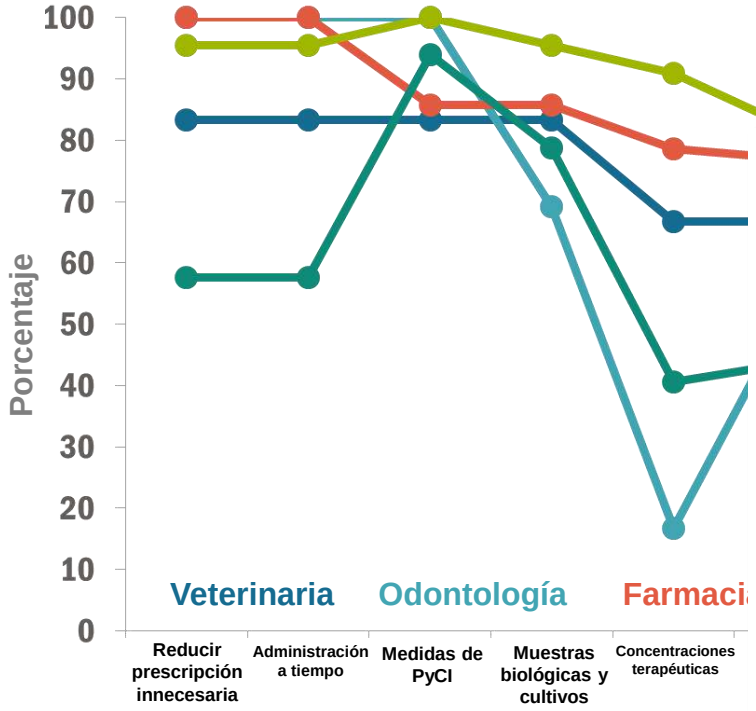
2.12 protect health through understanding and applying the principles of infection prevention and control, including communicable disease surveillance and antimicrobial stewardship and resistance

www.nmc.org.uk Standards of proficiency for registered nurses 12

PLoS ONE 11(2): e0150056.

¿’Saben’ las enfermeras lo que deberían hacer en PROA?

Presencia de principios PROA en currículo formativo, por disciplina, RU, 2013



SHORT REPORT

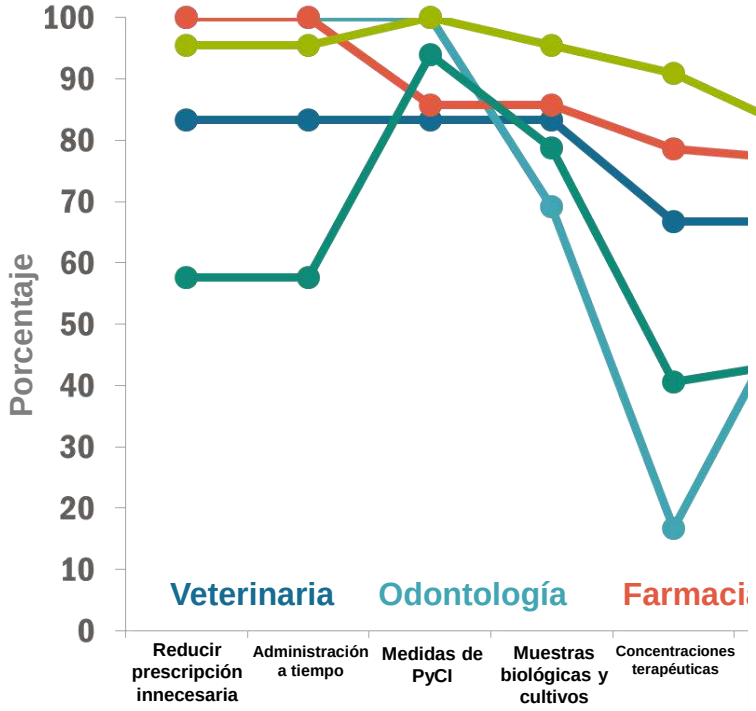
Defining antimicrobial stewardship professional education in the Unit

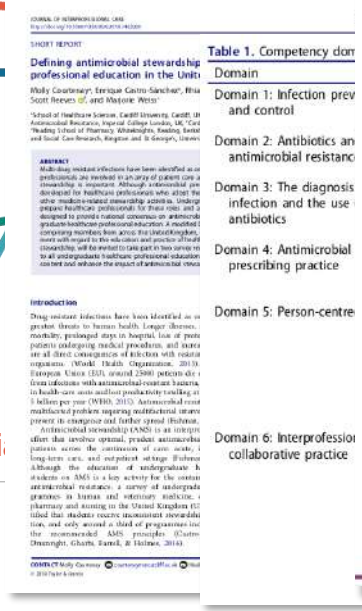
Table 1. Competency domains, and examples of their associated descriptors.

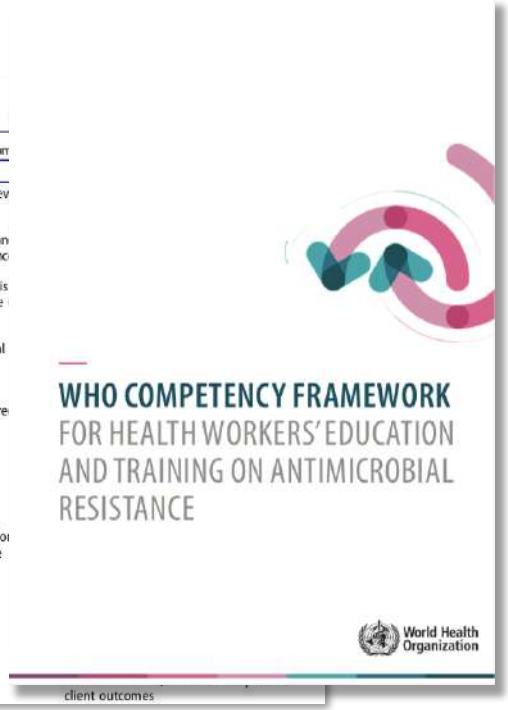
Domain	Descriptor examples
Domain 1: Infection prevention and control	Describe the different types of organisms that may cause infections Describe what a micro-organism is Recognise the symptoms of infection
Domain 2: Antibiotics and antimicrobial resistance	Describe at least two different ways that antibiotics may kill bacteria Explain how microbiology samples may aid diagnosis of infection
Domain 3: The diagnosis of infection and the use of antibiotics	Discuss the use of rapid point-of-care diagnostic testing in infection diagnosis Describe why, and how, it is important to switch from IV antibiotics to oral therapy
Domain 4: Antimicrobial prescribing practice	Explain how you would recognise and manage sepsis
Domain 5: Person-centred care	Support participation of patients/carers as integral partners when planning/delivering their care Share information with patients/carer in a respectful manner and in such a way that is understandable, encourages discussion, and enhances participation in decision-making
Domain 6: Interprofessional collaborative practice	Demonstrate an understanding of the roles, responsibilities, and competencies of other health professionals involved in antimicrobial treatment policy decisions Explain why it is important that healthcare professionals, involved in the delivery of antimicrobial therapy, have a common understanding of antimicrobial treatment policy decisions, the quality of antimicrobial use, and effective patient/client outcomes

¿’Saben’ las enfermeras lo que deberían hacer en PROA?

Presencia de principios PROA en currículo formativo, por disciplina, RU, 2013







¿’Saben’ las enfermeras lo que deberían hacer en PROA?

- Sabemos lo que aprenden en las clases universitarias, pero…
- de momento nadie ha investigado lo que ocurre durante las **prácticas clínicas** (50% de todas las horas del grado!)

Version 2- 2023-11-15
Ethics Ref: 42400-MHR-Oct/2023- 47631-1

Brunel University London

INVESTIGACIÓN

"Aprendiendo sobre uso prudente de antibióticos en las practicas clínicas de estudiantes de enfermería: una exploración cualitativa"

¡Se buscan estudiantes de enfermería!

¿De qué trata el estudio?

Las infecciones resistentes a los antibióticos amenazan la salud mundial. Este estudio intenta comprender si, y cómo, los estudiantes de enfermería aprenden sobre estas infecciones y antibióticos durante sus prácticas clínicas.

¿Por qué participar?

- Contribuir información útil que mejore la educación actual y futura sobre los antibióticos.
- Ayudar a abordar el desafío de las infecciones resistentes o difíciles de tratar.

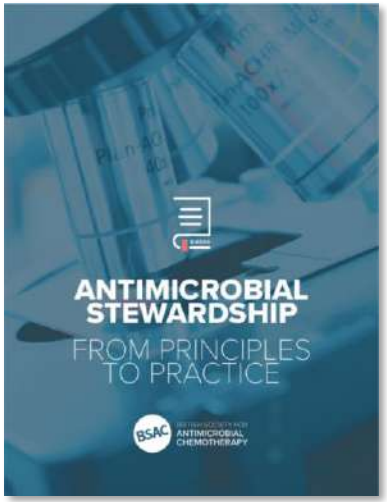
¿Quién puede participar?

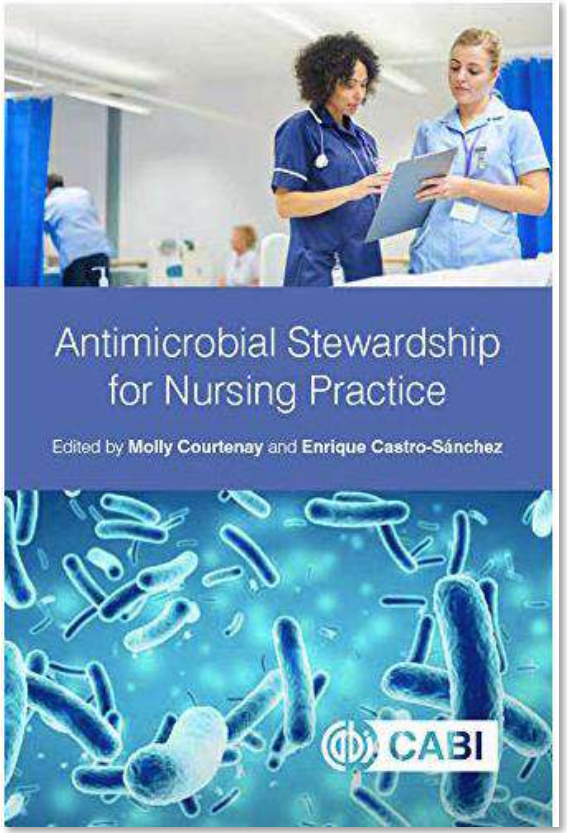
- Estudiantes de enfermería de cualquier país, y cualquier curso, que
  - hayan completado al menos un periodo de prácticas clínicas, en cualquier servicio o nivel asistencial,
    - y puedan asistir a una entrevista en castellano o inglés por MS Teams, de 45-60 minutos.

¿Interesante? ¿Querrías más información? Contacto:
Dr Enrique Castro-Sánchez
enrique.castro-sanchez@brunel.ac.uk

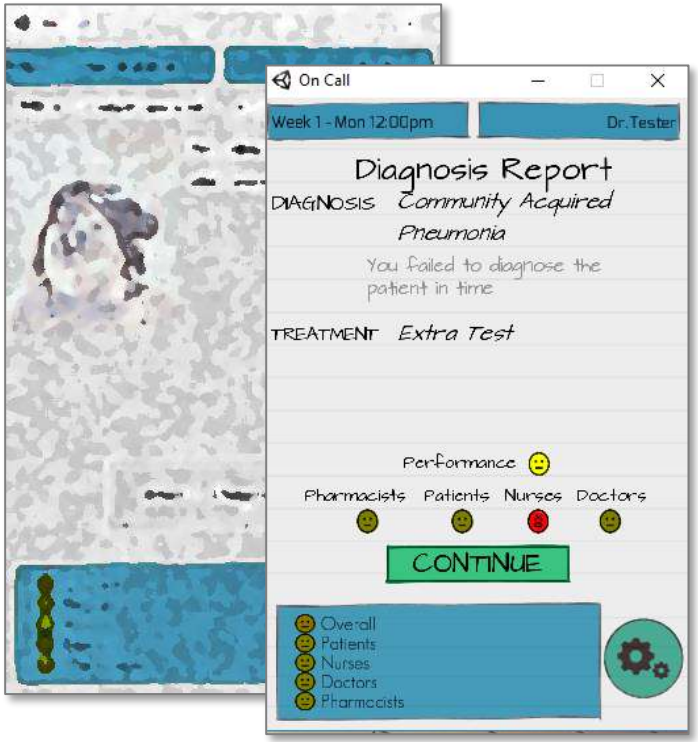
This study has been approved by the College of Business, Arts and Social Sciences Research Ethics Committee, Brunel University London

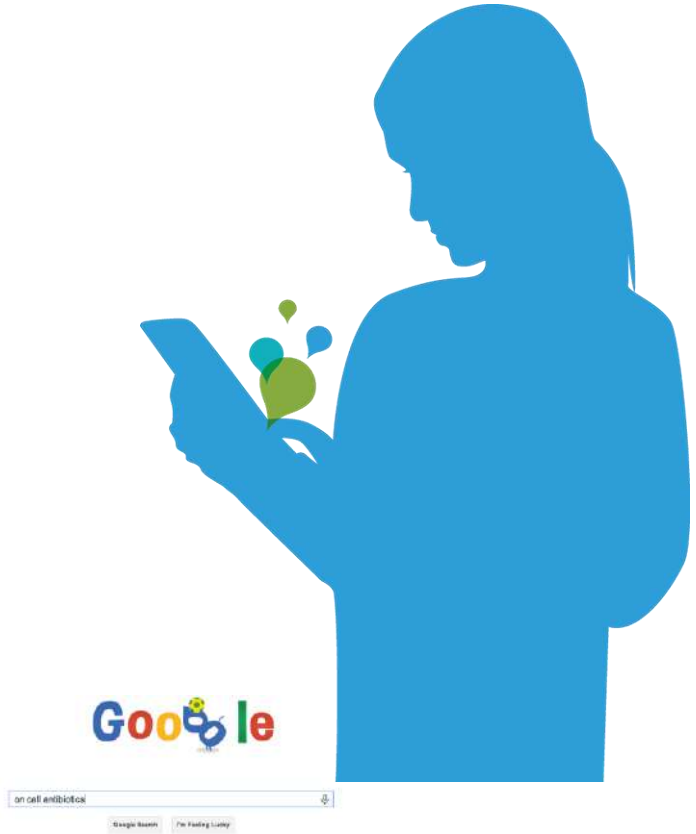
¿’Saben’ las enfermeras lo que deberían hacer en PROA?





¿’Saben’ las enfermeras lo que deberían hacer en PROA?





Castro-Sánchez E et al (2014) “On call: antibiotics”- development and evaluation of a serious antimicrobial prescribing game for hospital care. Games for Health. Springer Vieweg 2014; 1–8.

Barreras que resolver para impulsar la enfermería en PROA

- **Fundamentales**
- **Ownership/ ‘de marca’**
- **Educativas**
- **Liderazgo**

Algunos documentos oficiales no parecen tenerlo muy claro……

4.7. **Nurses**

The role of nurses within the clinical team is critical because of their regular contacts with patients and their role in administering medicines. Nurses make sure that antimicrobials are taken according to the prescription; they also monitor the response to antimicrobials (including potential adverse effects). In general, nurses are responsible for the administration of antimicrobials and for monitoring the patient and patient safety.

The role of nurse prescribers is also critical.

Nurses should:

— Be actively involved in antimicrobial management as part of the multidisciplinary care team.

— Ensure timely administration of antimicrobials according to prescription.

— Provide advice and educate the patient on the proper use of antimicrobials.

— Utilise protocols and tools that enable you to independently detect patients with severe infections and then trigger diagnostic and treatment algorithms.

— Remind the clinician to reassess the antimicrobial treatment after 48 to 72 hours.

"[…] sin embargo, dado el contexto de las GPCs, queda claro que la contribución enfermera no se entiende por parte de la Comisión Europea y necesita clarificarse. Lo que esa participación activa significa, dentro de la multitud de sistemas sociosanitarios europeos y practicas enfermeras, requiere más debate e incluso consenso […]"

Castro-Sanchez et al, Clinical Microbiology & Infection 2018, https://doi.org/10.1016/j.cmi.2018.02.030

Algunos documentos oficiales no parecen tenerlo muy claro……

4.7. Nurses

The role of nurses within the clinical team is critical because of their regular contacts with patients and their role in administering medicines. Nurses make sure that antimicrobials are taken according to the prescription; they also monitor the response to antimicrobials (including potential adverse effects). In general, nurses are responsible for the administration of antimicrobials and for monitoring the patient and patient safety.

The role of nurse prescribers is also critical.

Nurses should:

— Be actively involved in antimicrobial management as part of the multidisciplinary care team.

— Ensure timely administration of antimicrobials according to prescription.

— Provide advice and educate the patient on the proper use of antimicrobials.

— Utilise protocols and tools that enable you to independently detect patients with severe infections and then trigger diagnostic and treatment algorithms.

— Remind the clinician to reassess the antimicrobial treatment after 48 to 72 hours.

"[…] sin embargo, dado el contexto de las GPCs, queda claro que la contribución enfermera no se entiende por parte de la Comisión Europea y necesita clarificarse. Lo que esa participación activa significa, dentro de la multitud de sistemas sociosanitarios europeos y practicas enfermeras, requiere más debate e incluso consenso […]"

Nurses: an underused, vital asset against drug-resistant infections

Christopher J L Murray and colleagues[1] have consolidated the evidence on the burden of drug-resistant infections, highlighting key pathogens and their unjust distribution worldwide, which demands a multifaceted, planetary response. The success of this response would benefit from an interprofessional approach, which formalises the involvement of nurses, the largest and often most trusted health workforce, yet underutilised against drug-resistant infections.

Although the worldwide nursing shortage threatens their contribution in antimicrobial resistance and activities to meet the Sustainable Development Goals, expanding antimicrobial stewardship nursing practice could future-proof health-care provision allowing medical specialists to focus on complex drug-resistant infections.

Regardless of the increasing number of nurses prescribing antimicrobials, or their influence on prescribing as knowledge brokers,[2] at least three of the strategies proposed by Murray and colleagues[1]—infection prevention and control, vaccination, and minimised use in humans—have substantial input from nurses. Addressing infections has historically been embraced by nurses, with many infection outcomes being influenced by nursing care. However, the value of nurses in stewardship should not just be centred on clinical work. Nurses are involved across the entire health economy and are excellent advocates to promote self-care and a salutogenic approach, and foster health literacy of antimicrobial resistance through effective communication and education. Nursing leadership and activism have been robust in advocating for improvements to determinants of infections.[3]

Further nursing action in antimicrobial stewardship requires closing the gaps in education[2] and awareness of antimicrobial competencies[2] and stewardship models that recognise the nursing contribution. Additionally, antimicrobial stewardship nursing research could benefit from investment to achieve its full potential.

The planetary threat of drug-resistant infections should encourage the inclusion of nurses in the global response, eager as they are to embrace their potential.

We declare no competing interests.

*Enrique Castro-Sánchez, Jo Bosanquet, Molly Courtenay, Rose Gallagher, Fiona Gotterson, Elizabeth Manias, Jo McEwen, Val Ness, Rita Olans, Maria Clara Padoveze, Briette du Toit, Miquel Bennasar-Veny
enrique.castro.sanchez@uwl.ac.uk

Richard Wells Centre, University of West London, Brentford TW8 9GB, UK (EC-S); South Kensington Campus, Imperial College London, London, UK (EC-S); The Foundation of Nursing Studies, London, UK (JB); School of Healthcare Sciences, Cardiff University, Cardiff, UK (MC); Royal College of Nursing, London, UK (RG); Department of Infectious Diseases, Faculty of Medicine, Dentistry and Health Sciences, the University of Melbourne, Melbourne, VIC, Australia (FG); National Centre for Antimicrobial Stewardship, Peter Doherty Institute for Infection and Immunity, Melbourne, VIC, Australia (FG); School of Nursing and Midwifery, Faculty of Health, Deakin University, Geelong, VIC, Australia (EM); Ninewells Hospital, Dundee, UK (JM); Department of Nursing and Community Health, School of Health and Life Sciences, Glasgow Caledonian University, Glasgow, UK (VN); School of Nursing, MGH Institute of Health Professions, Boston, MA, USA (RO); School of Nursing, University of São Paulo, São Paulo, Brazil (MCP); Infection Control Africa Network, Cape Town, South Africa (BdT); Department of Nursing and Physiotherapy, Research Group on Global Health, University of the Balearic Islands, Palma de Mallorca, Spain (MB-V); Health Research Institute of the Balearic Islands, Palma, Spain (MB-V)

1 Murray CJL, Ikuta KS, Sharara F, et al. Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis. Lancet 2022; 399: 629–55.
2 Gotterson F, Buising K, Manias E. Nurse role and contribution to antimicrobial stewardship: an integrative review. Int J Nurs Stud 2021; 117: 103787.
3 Rosa WE, Hannaway CJ, McArdle C, et al. Nurses for health equity: guidelines for tackling the social determinants of health. 2021. https://www.wish.org.qa/reports/nurses-for-health-equity-guidelines-for-tackling-the-social-determinants-of-health/ (accessed July 17, 2022).

www.thelancet.com Vol 400 September 3, 2022

Castro-Sanchez et al, Clinical Microbiology & Infection 2018, https://doi.org/10.1016/j.cmi.2018.02.030

Algunos documentos oficiales no parecen tenerlo muy claro……

"Planteamiento global y multidisciplinario, que incluya todos agentes implicados como sanitarios con capacidad para prescribir (médicos y veterinarios), farmacéuticos, farmacólogos clínicos, microbiólogos, profesionales dedicados a la medicina preventiva, profesionales de enfermería.

Entre afectados por amenaza, pero también responsables de combatirla y, por tanto, participes del Plan, están:

>Médicos, veterinarios clínicos, farmacéuticos, profesionales de enfermería y actores en asistencia sanitaria y uso racional de medicamentos

Completar formación continuada en Medicina, Odontología, Farmacia, Enfermería, Veterinaria"

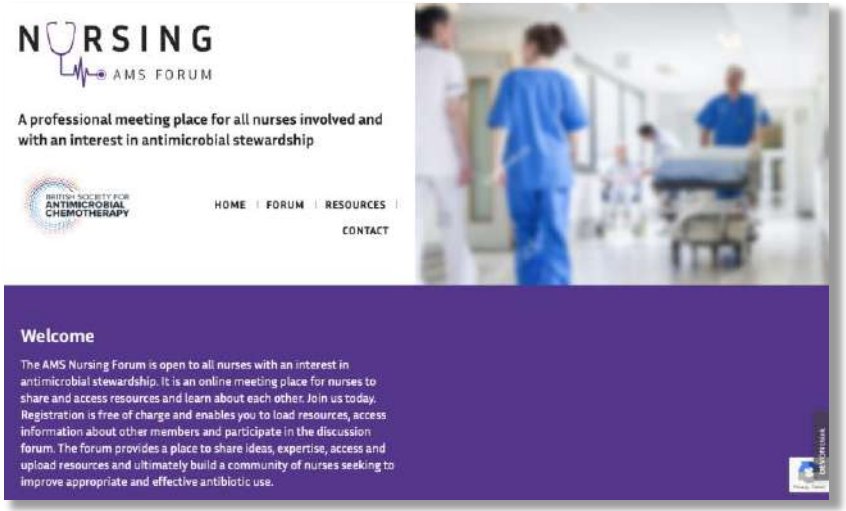
Networking ayudaría…

6th Infection Control Africa Network Congress 2016

Indaba Hotel & Conference Centre • Fourways
Johannesburg • South Africa
25 – 28 September

Monday 26 September

SESSION 3	AMS WORKSHOP – ROLE OF THE CLINICAL NURSE IN AMS IN AFRICA
VENUE	AUDITORIUM
Chair	*Ravathi Gunturu*
14h00 – 16h00	14h00-14h20 The role of the registered nurse in the implementation of an antimicrobial stewardship programme ***- Briette du Toit (South Africa)*** 14h20-14h40 Successful participation of nurses in AMS programmes worldwide: Examples, barriers and facilitators ***- Enrique Castro Sanchez (UK) (Supported by BSAC)*** 14h40-15h00 Playing the part: Nurses in antimicrobial stewardship ***- Rachel Kamau (Kenya)*** 15h00-15h30 Main barriers to ASPs and how to overcome them ***- Gabriel Levy Hara (Argentina)*** 15h30 – 16h00 Discussion on AMS – the role of the clinical nurse; led by ***Ravathi Gunturu, Gabriel Levy Hara, Enrique Castro Sanchez, Briette du Toit, Dilip Nathwani, Timothy Walsh, Shaheen Mehtar***



Networking ayudaría…

1ª Reunión Internacional de Enfermería en PROA, 2016

Brunel University London

College of Business, Arts and Social Sciences

2nd International Nursing Summit on Antimicrobial Stewardship (AMS)
Wednesday 22nd November 2023, 13:00 – 17:00 UTC+00:00
Webinar on Microsoft Teams, register here

To celebrate World AMR Awareness Week 2023, the College of Business, Arts and Social Sciences at Brunel University London is hosting the 2nd International Nursing Summit on AMS on 22nd Nov 2023. The Summit brings together clinical experts, leaders, researchers, and educators, all involved in AMS nursing.

13:00 WELCOME	
Enrique Castro-Sánchez, Brunel University London, UK.	
13:05 EDUCATIONAL DEVELOPMENTS IN AMS NURSING	
13:10 **Ber Oomen**, European Specialist Nurses Organisation, Belgium	
13:20 **Vanessa Vázquez Torres**, Spanish Society of Infection Prevention and Control Nurses, Spain	*Challenges integrating Infection Prevention and Control nurse experts into AMS teams*
13:30 **Jo McEwen**, NHS Tayside, Scotland	*AMS nursing in Scotland: an overview of education gaps and activities.*
13:40 Panel Q&A	
13:55 AMS NURSING: NATIONAL EXPERIENCES	
14:00 **Rose Gallagher**, Royal College of Nursing, UK	*AMS in action – the nursing contribution and future opportunities.*
14:10 **Elsa Afonso**, Anglia Ruskin University, UK	*How to take AMS into the undergraduate nursing curriculum?.*
14:20 **Susan Bowler**, Nottingham University Hospitals NHS Trust, UK	*Nurse evaluation of a local antibiotic Intravenous to Oral Switch (IVOS) prompt tool.*
14:30 Panel Q&A	
14:45 BREAK	
14:55 EMERGING AREAS OF AMS NURSING	
15:00 **Vasiliki Parlama**, Brunel University London, UK	*Antibiotic stewardship programmes in intensive care units.*
15:10 **Rita Bos**, HBO-AGZ Avans Hogeschool, Breda, Netherlands	*Dutch nurses' perceptions and views on their role regarding appropriate antimicrobial use.*
15:20 **Melly Courtenay**, Cardiff University, UK	*Consensus-based national AMS competencies for UK undergraduate healthcare professional education.*
15:30 Panel Q&A	
15:45 AMS NURSING: INTERNATIONAL EXPERIENCES	
15:50 **Fatima Aldawood**, Ministry of National Guard Health Affairs, Saudi Arabia	*An antimicrobial stewardship nurse in Saudi Arabia.*
16:00 **Ermira Tartari Bonnici**, University of Malta, Malta	*Antimicrobial Stewardship: an Erasmus+ blended intensive programme for healthcare professionals.*
16:10 **Maria Clara Padoveze**, University of Sao Paolo, Brazil	*The experience of Brazilian Nurses Network Tackling Antimicrobial Resistance (REBRAN).*
16:20 Panel Q&A	
16:35 CLOSING REMARKS	
16:50 CLOSING	

2ª Reunión Internacional de Enfermería en PROA, 2023

Modelos de enfermería PROA

	Domains						
Antimicrobial stewardship nursing model	**Interprofessional working**	**Strategic influence- Relation with other structures**	**Clinical outcomes** (What measure of impact? Process?)	**Individual identity**	**Funding/ Managerial structures**	**Setting of practice** (hospital, community…)	**Role components** (clinical, educational, quality, policy, managerial)
Vertical (i.e. nurse consultant)	Yes	High strategic influence; focal relation with comparable figures/ roles within own profession (i.e. nurse consultant) or others (i.e. pharmacy consultant); collaboration/leadership across aligned areas (i.e. AMS & IPC/AMS & sepsis etc).	May be difficult to robustly attribute impact or clinical improvements to the role in view of indirect work (i.e. influencing others) Feasible to attribute process improvements.	Novel professional figure/role, supported by similar professionals in other clinical areas, or professionals from other disciplines.	Mainstream human resources funding. May be difficult to evaluate value-for-money. Appointed by board-level managers from own or other professions.	Hospital or community, but most likely hospital.	All, with emphasis on planning/ evaluation/ management of organisational practice.
Hybrid (i.e. nurse specialist)	Yes	Some strategic influence as part of specialist services; advisory relation with own and other professions across multiple areas.	Easy to attribute impact or clinical improvements due to focus on planning and delivery of clinical services, education.	Traditional role with some expanded or novel skills/ responsibilities which may have been jurisdiction of other professionals or disciplines.	Funding may be short-term or pilot before substantive, based on results. Appointed by manager or lead of specialist team, which may not be a nurse (i.e. consultant pharmacist or physician in AMS)	Hospital or community.	All, with mixture of planning, evaluation and delivery of services.
Horizontal (i.e. staff nurse)	No	Limited or minimal strategic influence; most relations within own ward/team, with frequent contact with specialist/advisory roles (i.e. IPC specialists).	Feasible to attribute impact or clinical improvements in antimicrobial stewardship interventions deployed	Traditional role, supported by similar professionals in same or other clinicals areas.	Mainstream human resources funding. Appointed by ward manager/nurse in charge.	Hospital or community.	Mainly clinical, educational, quality and managerial service delivery.

Castro-Sanchez et al, 2019, ARIC

Modelos de enfermería PROA

- **Modelo vertical**
  - 1 solo profesional
  - EIR/consultora
  - Visibilidad
  - Resto de estructuras sin modificar
  - ¿Impacto?
  - ¿Sostenibilidad?

Castro-Sanchez et al, 2019, ARIC

Modelos de enfermería PROA

Sue Bowler (izqda.)

Enfermera Especialista PROA (IV-oral), Nottingham University Hospitals NHS Trust, Reino Unido

Foto cortesía Sue Bowler, 2023

Modelos de enfermería PROA

Modelo horizontal

- No hay un profesional solo, es un rol PROA distribuido
- Incluido en práctica generalista
- ¿Visibilidad?
  - Resto de estructuras sin modificar
  - Sostenibilidad
- Sinergias con otros roles (farmacia, etc.)

Castro-Sanchez et al, 2019, ARIC

Modelos de enfermería PROA

Modelo híbrido

- No hay un solo profesional, sino que se aumentan competencias entre especialistas existentes
- Visibilidad
- Algunos cambios estructurales
- Sostenibilidad
- Sinergias con otros roles (farmacia, etc.)

Castro-Sanchez et al, 2019, ARIC

Modelos de enfermería PROA

Modelo híbrido

- No hay un solo profesional, sino que se aumentan competencias entre especialistas existentes
- Visibilidad
- Algunos cambios estructurales
- Sostenibilidad
- Sinergias con otros roles (farmacia, etc.)

Castro-Sanchez et al, 2019, ARIC

Hay modelos excelentes ahí fuera, no todo es USA, RU, Australia…

Silla en la mesa PROA–sí, pero ¿para qué?

Evidenciar modelos, publicar, coste-efectividad

Abogar/lobby por roles PROA

Prevenir infección es PROA y es enfermería

Silla en la mesa PROA–sí, pero ¿para qué?

Mejor PyCI en países pobres prevendría 337 000 muertes asociadas a resistencias
(IC 95% 250 200–465 200)

Acceso universal a agua potable e inodoros prevendría 247 800 muertes asociadas a resistencias
(IC 95% 160 000–337 800)

Asegurar inmunización infantil prevendría 181 500 muertes asociadas a resistencias
(IC 95% 153 400–206 800)

Lewnard JA et al. Lancet. 2024 Jun 1;403(10442):2439-2454. doi: 10.1016/S0140-6736(24)00862-6

Muchas gracias

- **Transdisciplinariedad en PROA es esencial**
- **Actualmente, roles enfermeros PROA muy centrados en asistencia- ¿oportunidad perdida?**
- **Determinantes organizacionales (cultura, legislación, modelo profesional…) han de evaluarse antes de iniciar/expandir roles enfermeros PROA.**

Dr Enrique Castro-Sánchez
Profesor de salud planetaria, Brunel University London, Londres, Reino Unido
Profesor en PyCI y PROA, Imperial College London, Londres, Reino Unido
Profesor visitante, grupo Salud Global, Universitat de les Illes Balears, Palma, España
Profesor visitante, Shifa al-Tameer Millat University, Islamabad, Pakistán
enrique.castro-sanchez@brunel.ac.uk
@castrocloud