

NICE guideline NG15: Antimicrobial stewardship:
systems and processes for effective antimicrobial
medicine use

Prescribing and medicines optimisation issues

August 2015

NICE guideline NG15

- Antimicrobial stewardship means 'an organisational or healthcare-system-wide approach to promoting and monitoring judicious use of antimicrobials to preserve their future effectiveness'
 - includes all anti-infective therapies and all formulations

This slide set is an implementation tool and should be used alongside the published guidance. It does not supersede or replace the guidance itself

See the guideline for full recommendations

All slides refer to the NICE guideline unless otherwise stated

NICE guideline NG15

Audience for this guideline

- Health and social care practitioners
- Organisations commissioning, providing or supporting the provision of care
- People of all ages using antimicrobials or those caring for them
 - The guideline may also be relevant to individual people and organisations delivering non-NHS healthcare services, and to other devolved administrations.

It is anticipated that health and social care providers and commissioners of services will need to work together to ensure that patients benefit from the good practice recommendations in this guideline

Related NICE guidelines (1)

- Medicines optimisation: NG5
- Pneumonia: CG191
- Drug allergy:CG183
- Managing medicines in care homes: SC1
- Patient group directions: MPG2
- Infection: CG139
- Patient experience in adult NHS services: CG138
- Developing and updating local formularies: MPG1

Related NICE guidelines (2)

- Service user experience in adult mental health: CG136
- Prevention and control of healthcare-associated infections: PH36
- Medicines adherence: CG76
- Surgical site infection: CG74
- Respiratory tract infections – antibiotic prescribing: CG69

Under development

- Antimicrobial stewardship: changing risk-related behaviours
NICE guideline, publication expected **March 2016**

Related NICE quality standards

- Antibiotics for neonatal infection: QS75
- Infection prevention and control: QS61
- Surgical site infection: QS49

Key messages

- Healthcare professionals should encourage sensible use of antibiotics and cut back on unnecessary prescribing of them to help tackle the rise in antibiotic resistance
- NG15 recommends setting up multidisciplinary antimicrobial stewardship (AMS) teams working across all care settings
- AMS teams should be able to review prescribing and resistance data frequently and feed this information back to prescribers

Contents

- Recommendations (and who they apply to)
- Implementation: getting started
- Possible implementation issues for medicines optimisation
- Possible issues for individual patient decision-making
- UK strategy, reports and tools

Contents

- **Recommendations (and who they apply to)**
- Implementation: getting started
- Possible implementation issues for medicines optimisation
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Who should take action?

Who should take action?	Recommendations
Commissioners ; this may include <ul style="list-style-type: none"> • CCGs • commissioners and senior managers in local authorities 	1.1.1
Organisations ; this may include, but is not limited to: <ul style="list-style-type: none"> • CCGs • commissioners and senior managers in local authorities • NHS providers of health and social care services or other service 	1.1.2–1.1.22 1.2.1–1.2.4
Local decision-making groups	1.2.5–1.2.12
All prescribers	1.1.24–1.1.39
All health and social care practitioners (including prescribers)	1.1.23

'Offer' and 'consider'

- For **all** recommendations, NICE expects that there is discussion with the patient about the risks and benefits of the interventions, and their values and preferences
- NICE uses '**offer**' (and similar words such as 'refer') when it is confident that, for the vast majority of patients, an intervention will do more good than harm, and be cost effective
 - It uses similar forms of words (for example, 'Do not offer...') when it is confident that an intervention will not be of benefit for most patients
- NICE uses '**consider**' when it is confident that an intervention will do more good than harm for most patients, and be cost effective, but other options may be similarly cost effective
 - The choice of intervention, and whether or not to have the intervention at all, is more likely to depend on the patient's values and preferences than for a strong recommendation

Recommendations

- All antimicrobials
 - Recommendations for organisations (commissioners and providers)
 - Recommendations for prescribers and other health and social care practitioners
- New antimicrobials
 - Recommendations for organisations (commissioners and providers)
 - Recommendations for local decision-making groups

All antimicrobials: organisations

- Antimicrobial stewardship programmes
- Antimicrobial stewardship teams
- Antimicrobial stewardship interventions
- Communication
- Laboratory testing

Antimicrobial stewardship programmes (1)

Recommendations 1.1.1, 1.1.2, 1.1.4, 1.1.5

- Commissioners should ensure that antimicrobial stewardship (AMS) operates **across all care settings** as part of an antimicrobial stewardship programme
- Establish an **AMS programme**, taking account of the resources needed to support AMS across all care settings
 - Ensure that roles, responsibilities and accountabilities are clearly defined
 - Involve lead health and social care practitioners in establishing processes for developing, reviewing, updating and implementing local antimicrobial guidelines in line with national guidance and informed by local prescribing data and resistance patterns

Antimicrobial stewardship programmes (2)

Recommendation 1.1.3

Consider including the following in an AMS programme:

- **monitoring and evaluating antimicrobial prescribing** and how this relates to local resistance patterns
- **providing regular feedback** to individual prescribers in all care settings about:
 - their antimicrobial prescribing
 - patient safety incidents related to antimicrobial use
- providing **education and training** to health and social care practitioners
- **integrating audit** into existing quality improvement programmes

Antimicrobial stewardship programmes (3)

Recommendations 1.1.6, 1.1.7

- Consider developing systems and processes for providing regular updates (at least every year) to individual prescribers and prescribing leads on:
 - **individual prescribing** benchmarked against local and national antimicrobial prescribing rates and trends
 - local and national antimicrobial **resistance rates and trends**
 - **patient safety incidents** related to antimicrobial use
- Consider developing systems and processes for identifying and reviewing whether hospital admissions are linked to previous prescribing decisions in patients with **potentially avoidable infections**

All antimicrobials: organisations

- Antimicrobial stewardship programmes
- Antimicrobial stewardship teams
- Antimicrobial stewardship interventions
- Communication
- Laboratory testing

Antimicrobial stewardship teams (1)

Recommendation 1.1.8

- Organisations establishing AMS teams should ensure that the team has **core members** and can co-opt **additional members** depending on the care setting and the antimicrobial issue being considered
- **Core members** should include an **antimicrobial pharmacist** and a **medical microbiologist**

Antimicrobial stewardship teams (2)

Recommendation 1.1.9

- Support AMS teams by developing processes that promote AMS or by allocating resources, to:
 - review prescribing and resistance data and identify ways of feeding this information back to prescribers in all care settings
 - promote education for prescribers in all care settings
 - assist the local formulary decision-making group with recommendations about new antimicrobials
 - update local formulary and prescribing guidance
 - work with prescribers to explore the reasons for variation in prescribing
 - provide feedback and advice to prescribers who prescribe antimicrobials outside of local guidelines when it is not justified.

All antimicrobials: organisations

- Antimicrobial stewardship programmes
- Antimicrobial stewardship teams
- Antimicrobial stewardship interventions
- Communication
- Laboratory testing

Antimicrobial stewardship interventions (1)

Recommendations 1.1.10, 1.1.11

- Consider using the following AMS interventions:
 - **review of prescribing by antimicrobial stewardship teams** to explore the reasons for variations in antimicrobial prescribing volume, or use of antimicrobials not recommended in guidelines
 - **promotion of antimicrobials** recommended in local or national guidelines
 - **IT or decision support systems**, to help prescribers decide whether to prescribe an antimicrobial or not and whether alternatives to an immediate prescription may be appropriate
 - **education-based programmes** for health and social care practitioners, for example, academic detailing, clinical education or educational outreach

Antimicrobial stewardship interventions (2)

Recommendation 1.1.12

- Consider developing systems and processes to ensure that the following information is provided when a patient's care is transferred to another care setting:
 - information about **current or recent antimicrobial use**
 - information about when a current antimicrobial course should be **reviewed**
 - information about **who a patient should contact, and when**, if they have concerns about infection

Antimicrobial stewardship interventions (3)

Recommendations 1.1.13–1.1.15

Consider

- prioritising the monitoring of antimicrobial resistance, to support AMS across all care settings
- supplying antimicrobials in pack sizes that correspond to local and national guidelines on course lengths.
- evaluating the effectiveness of AMS interventions by reviewing rates and trends of antimicrobial prescribing and resistance

All antimicrobials: organisations

- Antimicrobial stewardship programmes
- Antimicrobial stewardship teams
- Antimicrobial stewardship interventions
- Communication
- Laboratory testing

Communication (1)

Recommendations 1.1.16, 1.1.17

- Encourage and support prescribers **only to prescribe antimicrobials when this is clinically appropriate**
- Encourage health and social care practitioners across all care settings to work together to support AMS by:
 - **Communicating and sharing consistent messages** about antimicrobial use
 - **sharing learning** and experiences about antimicrobial resistance and stewardship
 - **referring appropriately between services** without raising expectations that antimicrobials will subsequently be prescribed

Communication (2)

Recommendations 1.1.18, 1.1.19

- Consider **developing local networks** across all care settings to communicate information and share learning on:
 - antimicrobial prescribing
 - antimicrobial resistance
 - patient safety incidents
- Consider developing local systems and processes for **peer review of prescribing**
 - Encourage an **open and transparent culture** that allows health professionals to question antimicrobial prescribing practices of colleagues when these are not in line with guidelines and no reason is documented

Communication (3)

Recommendations 1.1.20, 1.1.21

- Encourage senior health professionals to promote AMS stewardship within their teams
 - recognise the influence that senior prescribers can have on prescribing practices of colleagues
- Raise awareness of current local guidelines on antimicrobial prescribing among all prescribers
 - provide updates if the guidelines change

All antimicrobials: organisations

- Antimicrobial stewardship programmes
- Antimicrobial stewardship teams
- Antimicrobial stewardship interventions
- Communication
- Laboratory testing

Laboratory testing

Recommendation 1.1.22

- Ensure that laboratory testing and **the order in which the susceptibility of organisms to antimicrobials is reported** is in line with:
 - national and local treatment guidelines
 - the choice of antimicrobial in the local formulary
 - the priorities of medicines management and AMS teams

Recommendations

- **All antimicrobials**
 - Recommendations for organisations (commissioners and providers)
 - **Recommendations for prescribers and other health and social care practitioners**
- **New antimicrobials**
 - Recommendations for organisations (commissioners and providers)
 - Recommendations for local decision-making groups

Antimicrobial guidelines

Recommendation 1.1.23

- Health and social care practitioners should support the implementation of local antimicrobial guidelines and recognise their importance for AMS
 - This includes practitioners in the wider care team, such as case managers, care coordinators, GPs, hospital doctors, microbiologists, pharmacists, nurses and social workers

Antimicrobial prescribing (1)

Recommendations 1.1.24–1.1.26

- When prescribing antimicrobials, prescribers should follow local or national guidelines on:
 - prescribing the **shortest effective course**
 - the most **appropriate dose**
 - **route** of administration
- When deciding whether or not to prescribe an antimicrobial, take into account the risk of antimicrobial resistance **for individual patients and the population as a whole**
- When prescribing any antimicrobial, **document the clinical diagnosis (including symptoms)** in the patient's record and clinical management plan

Antimicrobial prescribing (2)

Recommendations 1.1.27, 1.1.28

- For patients in hospital who have suspected infections, take microbiological samples before prescribing an antimicrobial and review the prescription when the results are available.
- For patients in primary care who have recurrent or persistent infections, consider taking microbiological samples when prescribing an antimicrobial and review the prescription when the results are available

Antimicrobial prescribing (3)

Recommendations 1.1.29, 1.1.30

- For patients who have non-severe infections, consider taking microbiological samples before making a decision about prescribing an antimicrobial
 - providing it is safe to withhold treatment until the results are available.
- Consider point-of-care testing in primary care for patients with suspected lower respiratory tract infections
 - as described in the NICE guideline on pneumonia (CG191)

Antimicrobial prescribing (4)

Recommendations 1.1.31

- Prescribers should take time to **discuss with the patient** and/or their family members or carers (as appropriate):
 - the likely nature of the condition
 - why prescribing an antimicrobial may not be the best option
 - **alternative options** to prescribing an antimicrobial
 - their views on antimicrobials, taking into account their priorities or concerns and whether they want or expect an antimicrobial
 - **the benefits and harms** of immediate antimicrobial prescribing
 - what they should do if their condition deteriorates (**safety netting advice**) or they have problems as a result of treatment
 - whether they need any written information about their medicines and any possible outcomes

Antimicrobial prescribing (5)

Recommendations 1.1.32, 1.1.33

- When an antimicrobial is a treatment option, **document** in the patient's records (electronically wherever possible):
 - **the reason** for prescribing, or not prescribing, an antimicrobial
 - the **plan of care** as discussed with the patient, their family member or carer (as appropriate), including the planned duration of any treatment
- **Do not issue an immediate prescription for an antimicrobial to a patient who is likely to have a self-limiting condition**

Antimicrobial prescribing (6)

Recommendations 1.1.34

- If immediate antimicrobial prescribing is not the most appropriate option, discuss with the patient and/or their family members or carers (as appropriate) other options such as:
 - self-care with over-the-counter preparations
 - back-up (delayed) prescribing
 - other non-pharmacological interventions, for example, draining the site of infection

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Antimicrobial prescribing (7)

Recommendations 1.1.35, 1.1.36

- When a decision to prescribe an antimicrobial has been made, take into account the benefits and harms including:
 - possible interactions with other medicines or any food and drink
 - the patient's other illnesses (such as dose modification in renal impairment)
 - any drug allergies
 - the risk of selection for organisms causing healthcare-associated infections, for example, *C. difficile*
- When prescribing is outside local or national guidelines, document the reasons for the decision in the patient's records

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Antimicrobial prescribing (8)

Recommendation 1.1.37

- **Do not** issue repeat prescriptions for antimicrobials unless needed for a particular clinical condition or indication
- **Avoid** issuing repeat prescriptions for longer than **6 months without review** and ensure adequate monitoring for individual patients to reduce adverse drug reactions and to check whether continuing an antimicrobial is really needed

Prescribing intravenous antimicrobials

Recommendations 1.1.38, 1.1.39

- Use an intravenous (IV) antimicrobial from the **agreed local formulary and in line with local or national guidelines** for a patient who needs an empirical IV antimicrobial but has no confirmed diagnosis
- Consider reviewing IV antimicrobial prescriptions at **48–72 hours in all health and care settings**
 - Include response to treatment and microbiological results in any review, to determine if the antimicrobial needs to be continued and, if so, whether it can be **switched to an oral antimicrobial**

Recommendations

- All antimicrobials
 - Recommendations for organisations (commissioners and providers)
 - Recommendations for prescribers and other health and social care practitioners
- New antimicrobials
 - Recommendations for organisations (commissioners and providers)
 - Recommendations for local decision-making groups

New antimicrobials: organisations (1)

Recommendations 1.2.1, 1.2.2

- Consider establishing processes for reviewing national horizon scanning to plan for new antimicrobials
- Consider using an existing local decision-making group
- The group should include representatives from different care settings and other local organisations

New antimicrobials: organisations (2)

Recommendation 1.2.3

- Consider using multiple approaches to support the introduction of a new antimicrobial, including:
 - **electronic alerts** to notify prescribers about the antimicrobial
 - **prescribing guidance** about when and where to use the antimicrobial in practice
 - issuing new or updated **formulary guidelines** and antimicrobial prescribing guidelines
 - **peer advocacy** and advice from other prescribers
 - providing **education** or informal teaching on ward rounds
 - shared **risk management strategies** for antimicrobials that are potentially useful but may be associated with patient safety incidents

New antimicrobials: organisations (3)

Recommendation 1.2.4

- Once a new antimicrobial has been approved for local use, consider ongoing monitoring by:
 - conducting an **antimicrobial use review** (reviewing whether prescribing is appropriate and in line with the diagnosis and local and national guidelines)
 - **costing** the use of the new antimicrobial
 - reviewing the use of **non-formulary** antimicrobial prescribing
 - evaluating **local prescribing and resistance patterns**
 - **reviewing clinical outcomes** such as response to treatment, treatment rates, emerging safety issues, tolerability and length of hospital stay

Recommendations

- All antimicrobials
 - Recommendations for organisations (commissioners and providers)
 - Recommendations for prescribers and other health and social care practitioners
- New antimicrobials
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 - Recommendations for local decision-making groups

Local decision-making groups (1)

Recommendations 1.2.5, 1.2.6

- Consider co-opting members with appropriate expertise in AMS when considering whether to approve the introduction of a new antimicrobial locally
 - this may include those involved in the AMS team
- Ensure that local formularies, prescribing guidelines and care pathways are updated when new antimicrobials are approved for use

Local decision-making groups (2)

Recommendation 1.2.7

- When evaluating a new antimicrobial, take into account:
 - the need for the new antimicrobial and the population in which it will be used, including any urgent clinical need for the new antimicrobial
 - its clinical effectiveness and the specific organisms or conditions for which it will be used
 - the dosage, formulation and route of administration
 - likely tolerability and adherence
 - any drug interactions, contraindications or cautions
 - local rates and trends of resistance
 - whether use should be restricted: if so, how this will be monitored
 - plans for its introduction and any additional monitoring needed

Local decision-making groups (3)

Recommendations 1.2.8–1.2.12

- Assess the benefits and risks of restricting access to a new antimicrobial. If access is restricted:
 - **document** the rationale for and the nature of the restriction
 - **review** the restriction regularly
- Ensure that there is a plan for the **timely introduction, adoption and diffusion** of a new antimicrobial when this has been recommended for use
 - Discuss with commissioners early in the approval process if **funding concerns** are likely to cause delay
- Indicate where prescribers can find accurate, evidence-based and up-to-date information about the new antimicrobial

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Implementation: getting started

The challenge

- Changing prescribing practice for antimicrobials

The benefits

- Reducing the use of antimicrobials where they are not indicated will:
 - slow down the emergence of **antimicrobial resistance**
 - ensure that antimicrobials remain an **effective treatment** for infection
 - **improve clinical outcomes** for the population as a whole
 - **conserve healthcare resources**

Using education and feedback to change prescribing practice

Section 2..1.1

- Education and feedback have been recommended as a way of **changing prescribers' attitudes and supporting antimicrobial stewardship**
- Potential barriers that may affect prescribers acting on messages about antimicrobial stewardship include:
 - the possible risk of adverse outcomes from not treating
 - not seeing the direct impact of their prescribing on antimicrobial resistance
 - lack of critical evaluation, review and reflection on their own prescribing practice

Using education and feedback to change prescribing practice: who and how?

- Managers and leads of services
- Commissioners
- Those responsible for planning pre- and post-registration training for prescribers

Education and feedback (1)

Section 2.1.1

- **Managers and leads of services** could support a change in prescribing practice by:
 - allocating resources for **education and feedback** in their local area
 - using governance processes such as **audit** so that prescribers follow antimicrobial guidelines
 - creating an **open and transparent culture** so that prescribers can question prescribing when this doesn't follow antimicrobial guidelines
 - providing **regular updates** across the service on individual prescribing, antimicrobial resistance and patient safety incidents

(continued next slide)

Education and feedback (2)

Section 2.1.1

- **Managers and leads of services** could support a change in prescribing practice by:
 - including **AMS interventions** in education programmes
 - encouraging prescribers to reflect on their **personal practice**
 - including objectives for AMS in prescribers' **annual reviews**
 - signposting prescribers to **relevant resources**
 - using the **NICE baseline assessment tool** to evaluate current practice and plan changes

Education and feedback (3)

Section 2.1.1

- **Commissioners** could support a change in prescribing practice by:
 - using contracts to ensure that prescribers have **the training and skills for antimicrobial stewardship**
 - using contracts to ensure that there are programmes for education and feedback: these could include the **Start Smart - Then Focus toolkit**
 - working with NHS England primary care commissioners to use the **TARGET resource** for commissioners
 - ensuring that providers have **data about rates and trends** of antimicrobial prescribing
 - **encouraging local learning networks**, possibly across clinical areas or services, linking to NHS England where required

Education and feedback (4)

Section 2.1.1

- **Those responsible for planning pre- and post-registration training** for prescribers could support a change in prescribing practice by:
 - including information about **AMS in training courses**
 - providing opportunities for prescribers to demonstrate via **CPD/revalidation** that they are following the principles of AMS

Using information systems to change prescribing practice

Section 2.1.2

- Information systems can help antimicrobial stewardship by capturing data to allow feedback on:
 - rates and trends of antimicrobial prescribing
 - rates and trends of antimicrobial resistance
 - patient use of standard and back-up (delayed) prescriptions
- However the relevant data are not always captured or easily accessible

Using information systems to change prescribing practice: who and how?

- Commissioners
- Commissioners and managers of services

Information systems (1)

Section 2.1.2

- **Commissioners** could support the use of information systems to change prescribing practice by:
 - offering a central facility, which **presents national and local data** on antimicrobial prescribing and resistance in a format that is easy to use
 - encouraging the introduction of **electronic prescribing** where systems are not in place
 - learning from services such as orthopaedic wound clinics
 - commissioning the planning and designing of **information systems** to support AMS by establishing working groups across all services

Information systems (2)

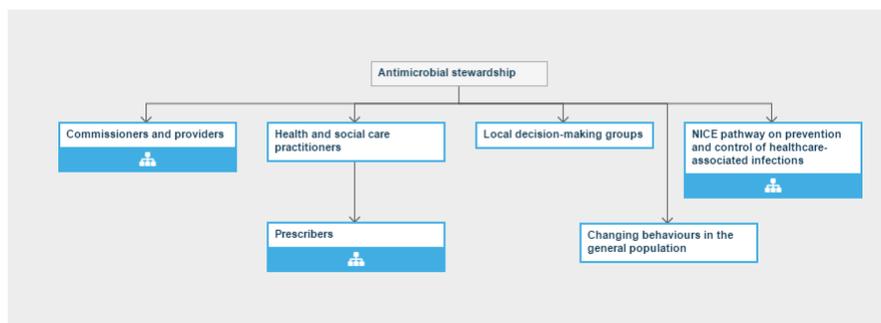
Section 2.1.2

- **Commissioners and managers of services** could support the use of information systems to change prescribing practice by:
 - including the information standard '**Prescriber ID**' (when available) as part of the set-up of the cost centre and registering of prescribers' codes
 - **circulating the data** they receive about rates and trends of prescribing within their organisation
 - using data on rates and trends of prescribing in programmes for **educating prescribers** about antimicrobial stewardship

Antimicrobial stewardship NICE pathway

<http://pathways.nice.org.uk/pathways/antimicrobial-stewardship>

Antimicrobial stewardship overview

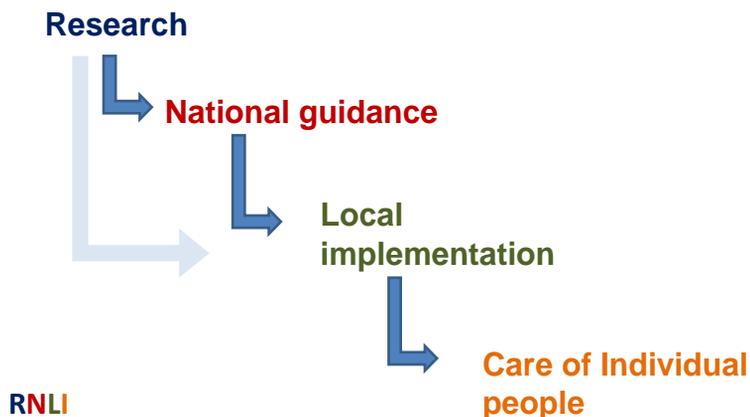


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Evidence into practice

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Possible implementation issues for medicines optimisation (N → L)

- National guidance on antimicrobials
 - how are the recommendations on AMS being implemented locally?
- Prescribing data
 - what are your local prescribing patterns for antibiotics compared to the national picture
 - are these shared with prescribers as recommended?
- For primary care
 - how has the 'TARGET' Toolkit been used?
- For secondary care
 - how have the 'Start smart – then focus' recommendations been implemented?

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Evidence into practice

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Possible issues for individual patient decision-making (L → I)

- Prescribing data
 - what are the local variations in prescribing patterns?
 - how can inappropriate variation be reduced?
- For primary and secondary care organisations
 - how have patients and carers been involved in antimicrobial stewardship?
 - how can you ensure cross-sector coordination of key messages?

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UK Five Year Antimicrobial Resistance Strategy 2013 to 2018 (1)

Department of Health 2013

- The overarching goal of the strategy is to slow the development and spread of antimicrobial resistance (AMR)
- It focuses activities around 3 strategic aims:
 - improve the knowledge and understanding of AMR
 - conserve and steward the effectiveness of existing treatments
 - stimulate the development of new antibiotics, diagnostics and novel therapies

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UK Five Year Antimicrobial Resistance Strategy 2013 to 2018 (2)

Department of Health 2013

The 7 key areas for future action:

1. Improving infection prevention and control practices
2. Optimising prescribing practice
3. Improving professional education, training and public engagement
4. Developing new drugs, treatments and diagnostics
5. Better access to and use of surveillance data
6. Better identification and prioritisation of AMR research needs
7. Strengthened international collaboration

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English surveillance programme antimicrobial utilisation and resistance (1)

ESPAUR report 2010 to 2013

From 2010 to 2013

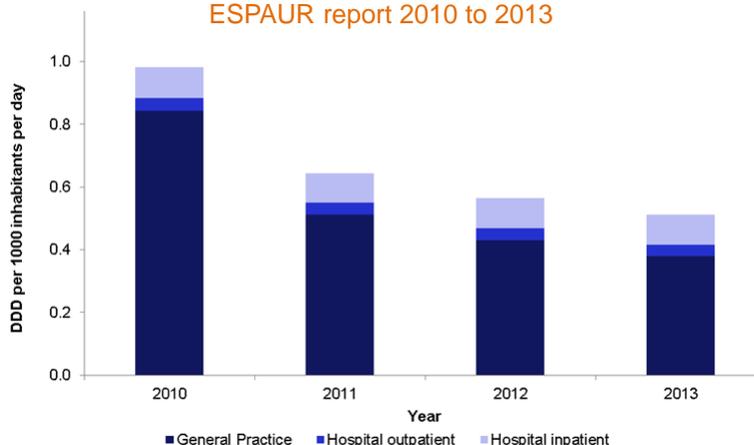
- Total antibiotic consumption **increased by 6%**
 - 4% in general practice
 - 12% for hospital inpatients
 - 32% for other community prescriptions (e.g. dentists)
- Marked regional variations
 - Highest combined general practice and hospital antibiotic consumption was in Merseyside, over 30% higher than Thames Valley (lowest consumption): 30.4 DDD versus 22.8 DDD per 1,000 inhabitants per day
 - Complex story: need to look at the detail of what is prescribed

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English surveillance programme antimicrobial utilisation and resistance (2)

ESPAUR report 2010 to 2013

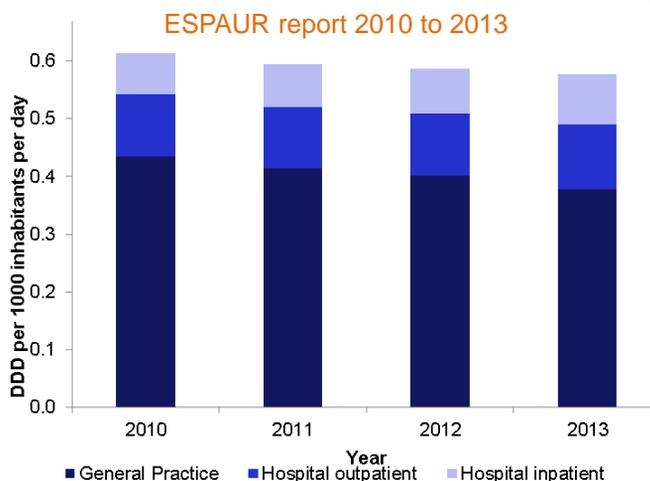


Consumption of **cephalosporins** prescribed by general practice and in Hospitals expressed as DDD per 1000 inhabitants per day, England, 2010-2013

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English surveillance programme antimicrobial utilisation and resistance (3)



Consumption of **quinolones** prescribed by general practice and in Hospitals, expressed as DDD per 1000 inhabitants per day, England, 2010-2013

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English surveillance programme antimicrobial utilisation and resistance (4)

ESPAUR report 2010 to 2013

From 2010 to 2013

- Co-amoxiclav use **increased by 13%** (1.9 to 2.2 DDD per 1000 inhabitants per day) in primary and secondary care
 - In 2013, 59% of co-amoxiclav use was in general practice
 - Co-amoxiclav was the most commonly prescribed antibiotic in hospitals (21% of total consumption in inpatients).
- Piperacillin-tazobactam use increased by 46% (0.06 to 0.09 DDD per 1000 inhabitants per day)
- Similar increase was seen for carbapenems (mainly meropenem)

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Antimicrobial prescribing and stewardship competencies

Department of Health and Public Health England 2013

- Competency 1: Infection prevention and control
- Competency 2: Antimicrobial resistance and antimicrobials
- Competency 3: Prescribing antimicrobials
- Competency 4: Antimicrobial stewardship
- Competency 5: Monitoring and learning

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TARGET Antibiotics Toolkit

Royal College of General Practitioners, Public Health England,
Antimicrobial Stewardship in Primary Care collaboration

- TARGET stands for: Treat Antibiotics Responsibly, Guidance, Education, Tools
- The Toolkit includes:
 - Background information
 - Resources for commissioners
 - Leaflets to share with patients
 - National Antibiotic Management Guidance
 - Audit Toolkits
 - Training resources
 - Resources for clinical and waiting areas
 - Self assessment checklist
 - Useful links

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‘Start smart – then focus’ (1)

Department of Health Advisory Committee on Antimicrobial Resistance
and Healthcare Associated Infection (ARHAI)

‘Start smart’

- Start antibiotic treatment within 1 hour of diagnosis (or as soon as possible) in people with life-threatening infections, in line with local antibiotic prescribing guidance
- Obtain microbiological cultures before starting treatment if possible
- Documentation (for example the indication, route, dose, duration and review date for the antibiotic) is very important

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‘Start smart – then focus’ (2)

Department of Health Advisory Committee on Antimicrobial Resistance
and Healthcare Associated Infection (ARHAI)

‘Then focus’

- Review the clinical diagnosis and continuing need for antibiotics within 48–72 hours, with 5 options to consider:
 - stop antibiotics if there is no evidence of infection
 - switch antibiotic formulation from intravenous to oral
 - change antibiotic – ideally to a narrower spectrum, but broader if required
 - continue antibiotics and document next review date
 - outpatient parenteral antibiotic therapy

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Summary

- Antibiotics are unlike other medicines: the more we use them the less effective they become
 - Overuse gives resistant bacteria greater chance to survive and spread
- The UK five year antimicrobial resistance strategy aims to slow the development and spread of resistance
 - Resistance cannot be eradicated, but the risk can be limited and its impact on health now and in the future can be reduced
- NICE AMS guideline requires a **system-wide approach** with individuals and organisations promoting and monitoring the judicious use of antimicrobials
 - It is hoped that this will help preserve their future effectiveness