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NHS

North of England Commissioning Support

Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use

NICE guidance (NG15) briefing for commissioners

Approved September 2015
Review date September 2017 or sooner if new evidence becomes available or national guidance changes

Introduction

'Antimicrobial stewardship: systems and processes for effective antimicrobial use' (NG15) has been produced by NICE to provide good practice recommendations on systems and processes for the effective use of antimicrobials. The guideline is aimed at all health and social care practitioners (including GPs, dentists, pharmacists and community nurses), commissioning and provider organisations, and aims to reduce inappropriate prescribing of antibiotics.

The main recommendations are designed to promote and monitor sensible antimicrobial use through stewardship teams to review prescribing and resistance data and to provide feedback, education, and training to prescribers. Specific guidance is given on clinical assessment and documentation of diagnosis, obtaining microbiological samples, delayed prescribing, and taking time to discuss with patients the likely cause of their symptoms.

Above all, prescribers need to ensure "the right antibiotic, at the right dose, at the right time", when a prescription is needed, and must resist the pressure to prescribe unless warranted. According to NICE, 9 out of 10 GPs say they feel pressurised to prescribe antibiotics, and 97% of patients who ask for antibiotics are prescribed them.

NICE estimates that successful implementation of the guideline could help reduce antibiotic prescribing by 25% which accounts for approximately 10 million antibiotic prescriptions.

NICE will be publishing a second guideline in early 2016 that will focus on changing people's knowledge, attitudes and behaviours in relation to the use of antibiotics, and also plans to develop a quality standard on antibiotic prescribing as part of a suite of new public health quality standards.

Antimicrobial stewardship
NICE define the term 'antimicrobial stewardship' as 'an organisational or healthcare-system-wide approach to promoting and monitoring judicious use of antimicrobials to preserve their future effectiveness'.
'Antimicrobials' includes all anti-infective therapies (antiviral, antifungal, antibacterial and antiparasitic medicines).

This paper is designed to provide an executive summary of the key points arising from NG15 in relation to medicines optimisation.

Recommendations for Commissioners

1. Antimicrobial stewardship programmes

Antimicrobial stewardship programmes should consider the following:

- Monitoring and evaluating antimicrobial prescribing and how this relates to local resistance patterns
- Regular feedback to individual prescribers in relation to their own prescribing, and related patient safety incidents, including C diff infections, at least annually
- Systems and processes for identifying and reviewing whether hospital admissions are linked to previous prescribing decisions in patients with potentially avoidable infections, (e.g. E coli bacteraemia, mastoiditis, pyelonephritis)
- Education and training on stewardship and resistance
- Integrating audit into existing quality improvement programmes.

Commissioners should ensure that antimicrobial stewardship programmes operate across all care settings. Roles, responsibilities and accountabilities need to be clearly defined; lead health and social care practitioners need to be involved in any stewardship programme.

2. Antimicrobial stewardship teams

Antimicrobial stewardship teams established by organisations should include an antimicrobial pharmacist and a medical microbiologist, and be able to co-opt additional members depending on the care setting and issues under consideration.

Antimicrobial stewardship teams should assist in delivering the antimicrobial stewardship programme actions outlined in (1), particularly in relation to:

- Reviewing prescribing and resistance data and feeding this information back to prescribers, and work with prescribers to explore reasons for very high or low volumes of prescribing
- Promoting existing educational resources to prescribers, and developing new resources
- Assisting in formulary decision making in relation to antimicrobials, and updating antibiotic prescribing guidance, and promoting compliance
- Exploring IT or decision support systems to support prescribers

Consideration should be given to develop systems and processes to ensure that when a patient's care is transferred to another care setting, the following information is provided

- 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

3. Communication

Consideration should be given to develop local networks across all care settings to communicate information and share learning on

- Antimicrobial prescribing
- Antimicrobial resistance
- Patient safety incidents

Peer review should be considered in order to encourage an open and transparent culture that enables health professionals to question antimicrobial prescribing practices of colleagues when not in line with local guidelines.

4. Laboratory testing

Trust pathology laboratories should ensure that testing and the order in which the susceptibility of organisms to antimicrobials is reported in line with local treatment guidelines, and choice of antimicrobial in those guidelines.

Recommendations for Prescribers and other Health and Social Care Practitioners

When prescribing antimicrobials, prescribers should follow local guidelines.

When deciding whether or not to prescribe an antimicrobial, prescribers should:

- Take into account the risk of antimicrobial resistance for individual patients and the population as a whole.
- Undertake a clinical assessment and document the diagnosis (and symptoms) in the patient's record
- Consider taking microbiological samples
    - When prescribing an antimicrobial for patients with recurrent/persistent infections, and review antimicrobial choice when results available
    - Before making a decision about prescribing in patients who have a non-severe infection, provided it is safe to withhold treatment until results are available.
- Consider point of care testing for patients with suspected lower respiratory tract infections
- Consideration needs to be given to
    - Possible interactions with other medicines or any food and drink
    - The patient's other illnesses e.g. renal impairment, or drug allergies
    - The risk of selection for organisms causing HCAIs e.g. *C diff*
- Not issue repeat prescriptions for antimicrobials unless needed for a particular clinical condition or indication; any repeat prescriptions should be reviewed after 6 months.

Information for patients and/or carers

If an immediate antimicrobial is not necessary, prescribers should discuss with patients/family members/carers:

- The nature of any infection, and why prescribing an antimicrobial may not be the best option, including discussion on the potential harms of unnecessary antimicrobial prescribing
- Possible alternatives to an immediate antimicrobial prescription
    - self-care information leaflet, and advice on self-care remedies
    - back-up (delayed) prescribing
- What actions to take if the condition deteriorates – safety netting advice

NICE baseline assessment tool

The baseline assessment tool for Antimicrobial stewardship (NICE medicines practice guideline NG15) has been designed by NICE to evaluate current practice and plan changes. CCGs are encouraged to complete the assessment tool to help identify areas of potential risk and actions required to implement the recommendation. Appendix 1 contains suggested actions for commissioners and prescribers to implement the NICE recommendations.

The baseline assessment tool is available to download from the NICE website.

Appendix 1

Suggestions for local implementation

	NICE recommendation	Local implementation suggestions
	Antimicrobial stewardship programmes	
1	Monitor and evaluate antimicrobial prescribing and how this relates to local resistance patterns	Local antimicrobial prescribing data is available through RAIDR and the NHS Information Services Portal.
2	Provide education and training to practitioners about antimicrobial stewardship and antimicrobial resistance	The antimicrobial stewardship eLearning programme is available to all healthcare professionals in the area through the NECS MO website. CCGs are encouraged to hold awareness raising and education sessions for clinicians at time out and educational events. Consider liaising with local microbiologists to deliver talks to GPs. The NECS MO team can support CCGs with education sessions.
3	Integrate audit into existing quality improvement programmes	Audit of appropriate antibiotic use is an integral part of most CCG's practice level workplans. Consider how audit results are shared wider and how actions are implemented.
4	Develop systems and processes for providing regular updates to individual prescribers and prescribing leads on: 1. Individual prescribing benchmarked against local and national antimicrobial prescribing rates and trends 2. Local and national antimicrobial resistance rates and trends 3. Patient safety incidents related to antimicrobial use	CCG and GP practice antimicrobial prescribing data is available through RAIDR and the NHS Information Services Portal. Individual prescriber level data is available through ePACT. Liaise with local infection prevention and control teams and HCAI groups to learn from *C.diff* cases, especially where this has involved inappropriate prescribing of antibiotics. Consider how lessons learnt from patient safety incidents related to antimicrobial use are shared and communicated with practices and individual prescribers.
5	Consider developing systems and processes for identifying and reviewing whether hospital admissions are linked to previous prescribing decisions in patients with potentially avoidable infections (e.g. *E.coli* bacteraemias, mastoiditis, pyelonephritis, empyema, quinsy or brain abscess)	Ensure root cause analysis is undertaken for all cases HCAI, including a comprehensive analysis of prescribing. Consider systems and processes to share learning from root cause analysis across the healthcare economy, for example discussion at local antimicrobial networks.
6	Update local formulary and prescribing guidance	An update of the North East and Cumbria antibiotic prescribing guideline for primary care will be launched in December 2015. Consider how this is promoted with GP practices and prescribers.
7	Work with prescribers to explore the reasons for very high, increasing or very low volumes of antimicrobial prescribing, or use of antimicrobials not recommended in guidelines	Practice pharmacy teams could help guide practices and prescribers to analyse and audit antibiotic prescribing within the practice as part of regular update meetings. Data is available for individual prescribers through ePACT.
8	Provide feedback and advise to prescribers who prescribe antimicrobials outside of local guidelines when it is not justified	

Appendix 1

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	Antimicrobial stewardship interventions	
9	Consider providing IT or decision support systems that prescribers can use to decide: 1. Whether to prescribe an antimicrobial or not 2. Whether alternatives to immediate antimicrobial prescribing may be appropriate (e.g. back-up (delayed) prescribing)	Prescribing decision support systems e.g. ScriptSwitch and OptimiseRx can be used to highlight inappropriate prescribing choices. Decision support tools e.g. the CENTOR criteria and FeverPAIN clinical score can be used to help guide prescribers in consultations towards an immediate, delayed, or no antibiotic prescribing strategy.
10	Consider developing systems and processes to ensure the following information is provided when a patient's care is transferred to another care setting: 1. Information about current or recent antimicrobial use 2. Information about when a current antimicrobial course should be reviewed 3. Information about who a patient should contact, and when, if they have concerns about infection	Liaise with other providers, including out of hours services, community services and hospital trusts, to ensure information on antibiotic prescribing is shared, especially on discharge.
	Communication	
11	Encourage and support prescribers only to prescribe antimicrobials when this is clinically appropriate	Ensure prescribers have access to the local antimicrobial prescribing guidelines, and consider implementing a delayed/ back-up prescription strategy for patients.
12	Encourage practitioners to work together to support antimicrobial stewardship by: 1. Communicating and sharing consistent messages about antimicrobial use 2. Sharing learning and experiences about antimicrobial resistance and stewardship 3. Referring appropriately between services without raising expectations that antimicrobials will subsequently be prescribed	The development of local networks across the health economy, including social care, can facilitate the sharing of key messages. Consider involving the lead antimicrobial pharmacist, microbiologist and infection control teams from your local secondary care trust. Local examples of this include HCAI partnership groups and antibiotic management team (AMT) meetings.
13	Consider developing local networks across care setting to communicate information and share learning on antimicrobial prescribing, antimicrobial resistance and patient safety incidents	
14	Consider developing local systems and processed for peer reviewing of prescribing. Encourage an open and transparent culture that allows health professionals to question antimicrobial practices of colleagues when these are not in line with guidelines and no reason is documented.	A number of CCGs have included peer review sessions as part of prescribing engagement schemes for 2015/16. Consider holding a facilitated meeting within your practice, involving all clinicians, focusing specifically on antibiotic prescribing. Your local medicines optimisation team may be able to supply audit and prescribing data to support these discussions.
15	Encourage senior health professionals to promote antimicrobial stewardship within their teams, recognising the influence that senior prescribers	Ensure CCGs are aware of the importance of antimicrobial stewardship at executive level. Area Prescribing Committees and other

Appendix 1

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	can have on prescribing practices of colleagues	prescribing committees are encouraged to have a regular focus on antimicrobial stewardship.
16	Raise awareness of current local guidelines on antimicrobial prescribing among all prescribers, providing updates if the guidelines change	CCGs may wish to hold awareness raising and education sessions for prescribers at time out and educational events. The NECS Medicines Optimisation Team can support CCGs with this. Encourage prescribers to access the guideline through the app or website which will automatically update if and when guidance changes.
	Laboratory testing	
17	Ensure that laboratory testing and the order in which the susceptibility of organisms to antimicrobials is reported is in line with treatment guidelines	CCGs and local antimicrobial networks are encouraged to liaise with local microbiologists and laboratories to understand patterns of resistance and preferred antibiotics for prescribing in primary care.
	Recommendations for prescribers	
18	Prescribers should follow local guidelines on prescribing the shortest effective course, the most appropriate dose, and route of administration	Primary care antibiotic guidelines are accessible on the NECS MO website. Ensure prescribers are aware of the guideline and how to access.
19	For patients in primary care who have recurrent or persistent infections, consider taking microbiological samples before making a decision about an antimicrobial, providing it is safe to withhold treatment until, the results are available.	Primary care practitioners should consider learning from the 'start smart and focus' approach used in secondary care. Consider discussion of this through your local antimicrobial networks.
20	Consider point of care testing in primary care for patients with suspected lower respiratory tract infections as described in the NICE guidance on pneumonia.	CCGs should consider the benefits of point of care CRP testing and the resource implications this could have for practices.