NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

HEALTH AND SOCIAL CARE DIRECTORATE

QUALITY STANDARD CONSULTATION

SUMMARY REPORT

1 Quality standard title

Antimicrobial stewardship

Date of Quality Standards Advisory Committee post-consultation meeting:
20 January 2016

2 Introduction

The draft quality standard for antimicrobial stewardship was made available on the NICE website for a 4-week public consultation period between 26 November and 24 December 2015. Registered stakeholders were notified by email and invited to submit consultation comments on the draft quality standard. General feedback on the quality standard and comments on individual quality statements were accepted.

Comments were received from 33 organisations, which included service providers, national organisations, professional bodies, pharmaceutical companies and others.

This report provides the Quality Standards Advisory Committee with a high-level summary of the consultation comments, prepared by the NICE quality standards team. It provides a basis for discussion by the Committee as part of the final meeting where the Committee will consider consultation comments. Where appropriate the quality standard will be refined with input from the Committee.

Consultation comments that may result in changes to the quality standard have been highlighted within this report. Comments suggesting changes that are outside of the process have not been included in this summary. The types of comments typically not included are those relating to source guidance recommendations and suggestions for non-accredited source guidance, requests to broaden statements out of scope, requests to include thresholds, targets, large volumes of supporting information, general comments on the role and purpose of quality standards and requests to change NICE templates. However, the Committee should read this summary alongside the full set of consultation comments, which are provided in appendices 1 – 2.

3 Questions for consultation

Stakeholders were invited to respond to the following general questions:

1. Does this draft quality standard accurately reflect the key areas for quality improvement?

2. If the systems and structures were available, do you think it would be possible to collect the data for the proposed quality measures?

3. Do you have an example from practice of implementing the NICE guideline(s) that underpins this quality standard? If so, please submit your example to the NICE local practice collection on the NICE website. Examples of using NICE quality standards can also be submitted.

Stakeholders were also invited to respond to the following statement specific questions:

4. For draft developmental quality statement 6: Does this reflect an emergent area of service delivery or technology? If so, does this indicate outstanding performance only carried out by a minority of providers that will need specific, significant changes to be put in place, such as redesign of services or new equipment? Can you provide any examples of current practice in this area?

4 General comments

The following is a summary of general (non-statement-specific) comments on the quality standard.

- Support for the quality standard and areas prioritised by the committee
- Numerous comments about data collection and outcome measures; predominant opinion that most of the data could be collected easily if electronic prescribing was available but concerns about the burden of data collection and analysis in current circumstances
- Main concerns – cost and resource implications of the quality standard and capacity of the antimicrobial stewardship teams (statements 5 and 6 in particular)
- Focus of the quality standard – perceived as mainly focused on primary care while more can also be done in secondary care
- Quality Standard Advisory Committee – perceived as missing representation from dentistry, Infection Management Group or Royal Pharmaceutical Society
- Scope of the quality standard - concerns about applying this QS to publicly funded health and social care settings only

Consultation comments on data collection

- Data collection felt to be feasible
- Data collection easier for organisation already using electronic data collection
- Cost and resource implications especially for those organisations without IT infrastructure in place
- Acknowledgement needed in regards to dentistry starting point being very different to GP and hospital data collection

5 Summary of consultation feedback by draft statement

5.1 Draft statement 1

People presenting to primary care prescribers with self-limiting conditions receive advice about self-management and why antimicrobials are not recommended for the treatment of their condition.

Consultation comments

Stakeholders made the following comments in relation to draft statement 1:

- Toothache should not be included as one of the self-limiting conditions
- Point of care test should be carried out at this stage to confirm the nature of infection
- Statement should focus on preventing presentations and patient education rather than GPs needing to have the discussion
- The role of the pharmacist should be emphasised as they are often the first point of contact and prevent presentations to GP practices
- Infections may be a better word than condition
- Slight amendments to statement, rationale, audience descriptors and definition wording suggested
- The statement should refer to TARGET and primary care education packages

5.2 Draft statement 2

People presenting in primary care are informed about the option of back-up (delayed) prescribing if there is uncertainty about whether their condition is self-limiting.

Consultation comments

Stakeholders made the following comments in relation to draft statement 2:

- Statement should include giving advice on when dispensing would be appropriate
- Statement not appropriate for application in dentistry – lack of evidence
- Concept of back-up prescribing questioned – relies on self-assessment and may lead to people collecting prescription and using it for something different and inappropriate at a later date
- Slight amendments to statement, rationale and audience descriptors wording suggested

5.3 Draft statement 3

People prescribed an antimicrobial have the clinical indication, dose and duration of treatment documented in their clinical record.

Consultation comments

Stakeholders made the following comments in relation to draft statement 3:

- Suggestions for additional elements to be recorded: severity, route of administration, review date, interval, drug allergies and treatment outcome
- Information should be recorded on prescription charts and in patient records
- People at higher risk of developing complications or those who have been exposed to resistant bacteria should have a microbiological sample taken in the same way as hospitalized patient
- This should already be happening in dentistry as per the General Dental Council's (GDC) Standards (2014)
- It should be explicit that all the information should be recorded regardless of the setting
- Slight amendments to statement, rationale and audience descriptors suggested

5.4 Draft statement 4

People in hospital prescribed an antimicrobial have a microbiological sample taken and their treatment reviewed when the results are available.

Consultation comments

Stakeholders made the following comments in relation to draft statement 4:

- Microbiological sample should be replaced with diagnostic sample
- In some circumstances it is necessary to give antibiotics before the results are available – delaying antibiotic may be harmful
- Taking samples is not applicable in dentistry
- Taking microbiological samples should be extended to include primary care and dental practices
- Review should happen at 48-72 hrs or when results available
- Accuracy of the test results – contamination of samples being a major issue
- Slight amendments to statement, rationale and audience descriptors wording suggested

5.5 Draft statement 5

Antimicrobial stewardship teams or individuals responsible for antimicrobial stewardship collect data and provide feedback on prescribing practice at individual, team and organisational level.

Consultation comments

Stakeholders made the following comments in relation to draft statement 5:

- Data collection and feedback should take place at commissioning area level as well
- Data collection and audit should be the responsibility of clinical teams while feedback should be the responsibility of the AMS teams/individuals
- Too time and resource intensive; AMS teams would be better used for training purposes and ensuring up to date prescribing guidelines are in place
- Concerns that the statement is too vague and should focus on whose responsibility it is to collect the data.
- Slight amendments to the statement and rationale wording suggested

5.6 Draft statement 6 (developmental statement):

Prescribers in secondary care and dental practices use electronic prescribing systems.

Consultation comments

Stakeholders made the following comments in relation to draft statement 6:

- Very strong support for the statement
- A good opportunity to influence functionality and flexibility of the desired electronic systems
- Statement should be extended to include the use of emergent technologies that support antimicrobial stewardship including decision support aids and apps available on mobile technology
- Concerns about cost implications

Consultation question 4

Stakeholders made the following comments in relation to consultation question 4:

- Area for major investment and development for most areas
- Requires funding and centralised approach to ensure all systems are consistent and work together
- It will take a long time to implement
- If there is no funding, there should be no consequences for not implementing the statement

6 Suggestions for additional statements

The following is a summary of stakeholder suggestions for additional statements.

- Use of rapid diagnostic testing (point of care C-reactive protein testing)
- Use of narrow spectrum antibiotics once microbiological test results are available
- Antimicrobial prophylaxis
- Antibiotics and repeat prescription
- Local antimicrobial prescribing guidelines
- Training and education of both healthcare practitioners and members of the public

Appendix 1: Quality standard consultation comments table – registered stakeholders

No	Stakeholder	Statement No	Comments
1	Royal College of Anaesthetists Professional Standards Committee	General	Trusts will have to pick up significant costs of establishing antibiotic stewardship groups, with medical, nursing and A&C time. My understanding is that this is not centrally funded. Nowhere in the document is there reference/ evidence for reducing LoS which will be required to fund this project
2	Royal College of Nursing	General	If the patient / their families / carers can read, written material in the person's language can be utilised in the absence of an interpreter.
3	Faculty of General Dental Practice (UK) and Faculty of Dental Surgery RCSEng	General	We agree with the statement that "People using antimicrobials and their families or carers (if appropriate) should have access to an interpreter or advocate if needed."
4	British Dental Association	General	The BDA is concerned that NICE is developing standards with significant implications for dentistry apparently without including any dental expertise within the relevant advisory committee. This has led to some misconceptions and confusion about what is applicable to dentistry, as discussed below.
5	Baxter Healthcare Ltd	General	Baxter Healthcare Ltd. welcomes the opportunity to respond to the NICE consultation on draft quality standards on Antimicrobial Stewardship. Baxter broadly supports the selection of key themes included in the quality standard.
6	Faculty of General Dental Practice (UK) and Faculty of Dental Surgery RCSEng	General	The Faculty of Dental Surgery (FDS) is a professional body committed to enabling dental surgeons to achieve and maintain excellence in practice and patient care. We currently have over 5,500 fellows and members, based in the UK and across the world. The Faculty of General Dental Practice (UK) is based at The Royal College of Surgeons of England. We are the largest of the UK dental faculties and provide a national voice for over 4,700 fellows and members. Around 95% of dental care in the UK is provided in the primary dental care setting. The FGDP(UK) improves the standard of primary care dentistry delivered to patients through standard setting, postgraduate training and assessment, publications, policy development, and research. The FGDP(UK) offers continuing professional development and training opportunities for all registered dental professionals.

7	MSD UK	General	For the NICE quality statements 3, 4, and 5 the data source is describe as “local data collection”. MSD understand that data collection will vary site-to-site, and would hope that data collection ties into existing data collection methods. In addition to data collection further information on the reporting of these outcomes/ result data would be useful, i.e. will this be a 3 monthly report to allow for changes in prescribing behaviour? A clear link between the collection of data and the implications of its use to improve; antimicrobial prescribing, and antimicrobial resistance is needed. For example, will this information be used: To grade organisation, teams, or individuals against set thresholds values? Implement fines or penalties if thresholds are not met?
8	The British Society for Antimicrobial Chemotherapy (BSAC)	General	There is an urgent need to address the structure of AMS teams and to translate this to “real-life” clinical practice, specifically the Antimicrobial Pharmacist (AMP) role and how much time do AMPs need to spend to conduct their AMS-related duties in relation to the hospital size. The ASAT which was published by Cooke et al in JAC in 2010 and is referenced in the Start Smart Then Focus toolkit (March 2015) advises 1WTE antimicrobial pharmacist for every 500 beds. However this (to our knowledge) is the only document which advises on AMP staffing. It will be helpful to have clarity on the AMP staffing level expected for hospitals. Specific advice is also needed on how Pharmacy and Microbiology should constructively work together in perhaps co-funding AMS teams, similarly to what happens with Infection Control teams. Other organisations have integrated AMS teams with infection control (IC), thus providing Board level access through the DIPC as the overall leader of the team. Infection Control teams are generally independently resourced, with their own dedicated budget and infection control nurses are expected to perform this job 100% of the time with no additional nursing responsibilities. The role of the AMPs and clinical leads (consultants) needs to be refined so that antibiotic stewardship can be delivered effectively and at a level commensurate with the current concerns with emerging resistance. The quality standards can play a major part in getting health institutions to identify resources that can be used to deliver this work by providing (desirable) service specifications for individuals in this role.

9	Association of Teaching Hospital Pharmacists	General	Domain 1 from the NHS Outcomes Framework refers to preventing people from dying prematurely with over-arching indicators of life expectancy and potential years of life lost. Similarly, Domain 4 from the Public Health Outcomes Framework for England focuses on preventing people dying prematurely. Relevant specific indicators include reducing mortality from all causes considered preventable and reducing infant mortality and excess winter deaths. These domains and indicators should be prominently cited as directly relevant to the antimicrobial stewardship quality standard. This is important to challenge the perception that antimicrobial stewardship may result in harm to individual patient by virtue of limiting antimicrobial use.
10	DH Advisory Committee On Antimicrobial Resistance and Healthcare Associated Infections (ARHAI)	General	Domain 1 from the NHS Outcomes Framework refers to preventing people from dying prematurely with over-arching indicators of life expectancy and potential years of life lost. Similarly, Domain 4 from the Public Health Outcomes Framework for England focuses on preventing people dying prematurely. Relevant specific indicators include reducing mortality from all causes considered preventable and reducing infant mortality and excess winter deaths. These domains and indicators should be prominently cited as directly relevant to the antimicrobial stewardship quality standard. This is important to challenge the perception that antimicrobial stewardship may result in harm to individual patient by virtue of limiting antimicrobial use.
11	The British Society for Antimicrobial Chemotherapy (BSAC)	General	“Antimicrobial stewardship is a system-wide approach to promoting and monitoring the judicious use of antimicrobials with the aim of preserving their future effectiveness”. This should read: “Antimicrobial stewardship is a system-wide approach to promoting and monitoring the judicious use of antimicrobials with the aim of preserving their future effectiveness, maximising patient outcomes and minimising adverse events”
12	The British Society for Antimicrobial Chemotherapy (BSAC)	General	Tables 1 & 2: should mention “preserving the effectiveness of antimicrobials”. There seems to be a disconnect between the introductory text and the indicators and improvement areas in the tables.

13	Astellas Pharma Ltd	General	Astellas Pharma Ltd (Astellas) welcomes the opportunity to respond to the draft quality standard on antimicrobial stewardship. Our anti-infective portfolio includes a targeted treatment for Clostridium difficile infection (CDI) that was launched in 20121. The observed increase in vancomycin resistant enteroccoci (VRE)2 means that optimal prescribing decisions and use of antibiotics in CDI is a particular priority for this quality standard. Our response to the draft quality standard hinges on the need to ensure that the final set of quality statements reflects existing guidance to the NHS on the choice of antibiotic once the infection has been diagnosed set out in: The UK Five Year Antimicrobial Resistance Strategy: 2013 to 2018; Start Smart - Then Focus: Antimicrobial Stewardship Toolkit for English Hospitals and NICE Quality Standard 61: Infection Prevention and Control.
14	The British Society for Antimicrobial Chemotherapy (BSAC)	General	Table 1 (and throughout) Latin names of microbes including *C. difficile* should be in italics.
15	Royal College of Nursing	General	Suggest include link to: Department of Health and Public Health England (2013) Antimicrobial prescribing and stewardship competencies This reference is available on page 23.
16	Royal College of Nursing	General	"…in all publicly funded health and social care settings…" We suggest this be amended to include ' and private sector where publicly funded NHS treatment is contracted to reduce the emergence…'
17	Royal College of Nursing	General	It may be prudent to state that information should be available in different formats (verbal, written flyers, posters, social media etc. where necessary.)
18	Royal College of Nursing	General	Whilst this is a strategic document, some signposting towards where best practice can be benchmarked would be useful.
19	United Lincolnshire Hospitals NHS Trust	General	NG15 will be very useful in shaping organisational strategy for antimicrobial stewardship. As the actual guidance did not provide much insight into expectations, elaboration of the recommendations in a quality standards format is welcomed. Whilst the actual quality measurements proposed would be ideal, the practicalities of measuring them need further consideration in our Trust and the wider Healthcare economy. ULHT services span over four CCG areas. They may be responding to this consultation individually. In order to consider the primary care elements of this consultation I have collaborated with the Interface Lead Pharmacist of the NHS Arden and GEM Commissioning Support Unit, to provide insight on application of such measures to our setting in Lincolnshire.

20	Association of Teaching Hospital Pharmacists	General	Thank you for the opportunity to comment on the draft Antimicrobial stewardship NICE quality standard. The Quality Standards Advisory Committee and NICE project team are to be congratulated on their faithful and pragmatic interpretation of the relevant NICE Guideline on Antimicrobial Stewardship.
21	DH Advisory Committee On Antimicrobial Resistance and Healthcare Associated Infections (ARHAI)	General	Thank you for the opportunity to comment on the draft Antimicrobial stewardship NICE quality standard. The Quality Standards Advisory Committee and NICE project team are to be congratulated on their faithful and pragmatic interpretation of the relevant NICE Guideline on Antimicrobial Stewardship. ARHAI suggests that this quality standard would be best supported by the production of short evidence based complete guidance for all major clinical infection syndromes by NICE.
22	The British Society for Antimicrobial Chemotherapy (BSAC)	General	The quality standard is expected to contribute to improvements in the following outcomes: · antimicrobial prescribing rates · antimicrobial resistance." Adverse events should also be included. Also, patient outcomes and clinical effectiveness (as measure by rates of sepsis, hospital admissions, survival) should be mentioned already here.
23	Healthcare Infection Society	General	Why does this apply only to publicly funded health and social care settings? The development of resistance can occur in any setting including the independent sector.
24	Royal College of Anaesthetists Professional Standards Committee	General	5 Treating and caring for people in a safe environment and protecting them from avoidable harm. *Should this include HCAI MSSA and E.Coli?*
25	Royal College of Anaesthetists Professional Standards Committee	General	4.2.1. Summary of suggestions. e-prescribing has significant issues and there is not universally applicable system, this advice needs to be more 'may be useful'
26	Public Health England	General	The national antimicrobial stewardship toolkit for primary care TARGET is not included - http://www.rcgp.org.uk/clinical-and-research/toolkits/target-antibiotics-toolkit.aspx • Public Health England (2015) Antimicrobial stewardship: Start smart - then focus • Department of Health (2015) The Health and Social Care Act 2008: code of practice on the prevention and control of infections and related guidance

27	MRSA Action UK	General	Training and competencies are essential for good stewardship, revise the word ‘should’ to ‘must’: Training and competencies The quality standard should be read in the context of national and local guidelines on training and competencies. All prescribers of antimicrobials should must have sufficient and appropriate training and competencies to deliver the actions and interventions described in the quality standard.
28	The Royal College of Surgeons of Edinburgh	General	Remove “ae” from “People who go to ae healthcare professionals with a condition…”
29	MSD UK	General	In the policy context section of the QS document, page 23 of 28, the Public health England report (2014) ESPAUR is referenced. This report was updated on the 16th November 2015 and can be found at the following link: https://www.gov.uk/government/news/espaur-report-reveals-continued-rise-in-antibiotic-resistant-infections
30	Faculty of General Dental Practice (UK) and Faculty of Dental Surgery RCSEng	General	It is disappointing that NICE has developed these draft quality standards to date without dental input and expertise. Dentists prescribe around 10% of antimicrobials in the UK yet there are no dental professionals among the 18-strong advisory committee. The consultation document seems to assume in places that policy developed by other healthcare professionals will automatically be suitable for dentists, but this is not always the case. As with other areas of healthcare, there is growing concern about, and evidence of, inappropriate prescribing within dentistry, and the appointment of one or more dental professionals to the advisory committee could have helped ensure a document more pertinent to dentistry and ultimately therefore better help to reduce inappropriate antimicrobial prescribing by dentists.
31	The British Society for Antimicrobial Chemotherapy (BSAC)	General	Representation from UKCPA-Infection Management Group or Royal Pharmaceutical Society would be helpful since the document includes antimicrobial pharmacists and this would give an “all-rounded” approach
32	Royal College of Nursing	General	For consistency the quality statements should use a unidirectional measure - so if 100% is good, 0% would normally indicate a negative. So the statements should be written to reflect that.
33	Royal College of Paediatrics and Child Health	General	The RCPCH would be interested in seeing the embargoed version before publication.

34	Royal College of Paediatrics and Child Health	General	It is disappointing that there was no specific paediatric person on the committee.
35		General	Some of the comments that are made below are simply a reflection of the lack of any dental representation within the Quality Standards Advisory Committee that was tasked by NICE to draft these initial Antimicrobial Stewardship (AMS) quality standards. Rectification of this deficiency is strongly recommended when the current committee reconvenes to consider the responses it has received from the various stakeholders who have replied, so that the suggestions that are made in respect of either primary and or secondary care dental practice may be appropriately considered for potential incorporation into the final version of NICE's AMS quality standards publication.
36	Randox Laboratories Ltd	General	There is a global issue with antimicrobial resistance and individuals being prescribed antibiotics when they are not required, or being prescribed the incorrect antibiotic, have contributed to this. The best way to improve the situation is to ensure accurate diagnosis is performed on anyone presenting to a GP with respiratory infection, for example. The technology exists on the market to diagnose the infectious agent(s) (bacterial and viruses) from upper and lower respiratory tract infections from a nasal/throat swab or sputum sample or bronchiolar lavage. A sample can be taken from a person arriving at the GP and diagnosis made as to the exact infectious agent(s) (often co-infections are identified) causing the infection ensuring appropriate treatment is given if required. This provides confidence to (i) the GP in determining if treatment is or isn't necessary and enabling the correct treatment(s) to be identified and also (ii) the patient as they learn the cause of their infection and understand if treatment is or isn't being offered. At scale, diagnostics become much more cost effective.
37	Royal College of Physicians	General	We would like to formally endorse the response submitted by the British Thoracic Society.
38	Royal College of Nursing	General	CG69: We note that this Guidance was published in 2008. It would be helpful to know if there are there any plans to review it.

39	Faculty of Intensive Care Medicine	General	This document is mostly aimed at community practice and doesn't contain any strong, evidence recommendations for hospital practice therefore there are limited comments from a critical care perspective. The only specific comment receive was regarding a role for inflammatory markers in helping to decide when antibiotics should be commenced and stopped. There is a role for this in primary care but there is potentially a greater role in critical care and also probably in secondary and tertiary care in general.
40	NICE Public Health and Social Care Internal Guidelines Development team	General	Thank you for allowing us the opportunity to comment on this draft quality standard. We are currently working on the public health guideline on 'Antimicrobial stewardship: changing risk related behaviours in the general population' which is due to be published in March 2016. We have focused on draft quality standards 1 and 2 as these are the most relevant to the draft public health guideline in this area.
41	Department of Health	No comments	I wish to confirm that the Department of Health has no substantive comments to make, regarding this consultation.
42	Faculty of General Dental Practice (UK) and Faculty of Dental Surgery RCSEng	Question 1	There is insufficient emphasis on the training and education of both healthcare practitioners and patients. We support the recommendations from the British Dental Association's Antimicrobial Resistance in Dentistry Summit (2014) that training in stewardship be developed for the whole dental team, education materials be developed for patients, and stewardship be embedded in the Good Practice Scheme.

43	Astellas Pharma Ltd	Question 1	The draft quality standard supports the ambition to improve the appropriate use of antibiotics. Overall, the statements are focused on managing inappropriate use (in particular, unnecessary antibiotic prescribing) in primary care, reflecting the fact that in 2013, 78.5% of prescribing was in general practice. In addition, effective surveillance is a critical component of a system-wide approach to good antimicrobial stewardship and the quality standard rightly focuses on improving data collection efforts (statements 3 and 6). However, Astellas's view is that there are important aspects of antimicrobial stewardship that are not currently addressed within the quality standard: 1. As well as reducing unnecessary use where an antibiotic is not indicated, the quality standard should also seek to improve prescribing decisions once an infection has been accurately diagnosed. The purpose of this is to i) ensure that the infection is treated with the antibiotic that is mostly likely to achieve a sustained cure – hence limiting any unnecessary antibiotic exposure and ii) to ensure that wherever possible, the most targeted antibiotic is used so that broad spectrum agents are preserved for infections where they are most needed. To help address this, Astellas would support the reiteration of the antimicrobial stewardship guidance, 'right drug, right dose at the right time and right duration'3 within the quality standard. 2. Further to point ii) above, Astellas would support more directive guidance on the use of narrow spectrum antibiotics in cases where the infection is confirmed through microbiological samples and an effective, targeted agent is available. This is implied in quality statement 4 which states that "Analysing microbiological samples allows more targeted and effective prescribing of appropriate, potentially narrow-spectrum antimicrobials or stopping the antimicrobials if test results indicate they are not necessary or ineffective" To address points 1 and 2 above, we recommend that an additional quality statement is included in the quality standard, after quality statement 2, on choice of antibiotic for a confirmed infection. The detail of the additional quality statement should make clear that each prescribing decision should take into account: - Existing NICE or PHE guidance on the management of the infection and the use of indicated products - The 'right drug, right dose at the right time and right duration' approach, in particular, the importance of prescribing targeted antibiotics in cases where the infection is confirmed through microbiological samples and an effective, targeted agent is available - The need to limit overall antibiotic exposure by prescribing the drug which is most likely to deliver a sustained cure (to avoid further antibiotic treatment due to a lack of efficacy and to reduce the risk of recurrence and reinfection) - The ability of the antibiotic to deliver improved clinical outcomes and mitigate healthcare costs across the pathway (such as length of stay)

44	DH Advisory Committee On Antimicrobial Resistance and Healthcare Associated Infections (ARHAI)	Question 1	This does cover the relevant areas except antimicrobial prophylaxis. Surgeons still give prophylaxis for much longer than the NICE recommended duration because of the lack of clarity from clinical trial evidence.
45	British In Vitro Diagnostics Association (BIVDA)	Question 1	On the whole, BIVDA agrees that the draft quality standard accurately reflects the key areas for quality improvement. In particular, we think that Quality Statement 1 is of key importance as it is vital that the public are made aware of both the uses and limitations of antimicrobials. At present, patients may pressure their healthcare professional to prescribe them antimicrobials when they are not required. As identified by NICE, 9 out of 10 GPs say that they feel pressured to prescribe antibiotics and 97 per cent of patients who ask for antibiotics are prescribed them (NICE, August 2015). If patients are educated about antimicrobials and the problems of over-prescribing, this may result in less pressure from patients and in turn, lower prescribing rates. BIVDA strongly supports continued efforts to improve data collection. Therefore, we consider Quality Statement 5 to be a key priority so that greater understanding of both good and inappropriate prescribing can be identified and if necessary, challenged. However, BIVDA is concerned that the draft quality standard neglects the role in vitro diagnostics (IVDs) has to play in antimicrobial stewardship. Cutting-edge diagnostics, incorporating the latest genetic advancements, are reducing the time needed to identify thousands of bacterial strains to mere hours, as well as rapidly ruling out infection to enabling early cessation of intravenous antimicrobials, preventing the need for overprescribing and giving patients access to the right drugs at the right time. We want to ensure that the NHS is making the most of IVDs, particularly within primary care. At present, opportunities are being missed to both better patient outcomes and target antimicrobial usage where required. Therefore, we would welcome the inclusion of a quality statement that encourages healthcare professionals, particularly GPs, to consider the role of point-of-care diagnostics can play in their in diagnosis and treatment of patients and the positive effects this could have on the prescribing of antimicrobials.
46	The Royal College of Surgeons of Edinburgh	Question 1	Yes

47	British Association of Oral Surgeons	Question 1	There is insufficient emphasis on training and education of the healthcare teams and patients Mandatory training for dental teams must be established as there is no revalidation yet as there is in medicine Training in stewardship as recommended As in BDA AMR in dentistry Summit 2014
48	Baxter Healthcare Ltd	Question 1	Whilst we believe that the draft quality standard does reflect the key areas for quality improvement, we feel that focus still remains predominantly on primary care. We believe that more could be done in secondary care setting to ensure effective use of antimicrobials.
49	British Thoracic Society	Question 1	The comments are quite general, but well formed. There will be an issue of collecting the data for numerator / denominator as sources are generally poor. There is no mention on the length of the antibiotic course, the antibiotic chosen, the need to complete antibiotic courses. It would also be helpful if reference could be made to antibiotics not being on repeat prescription.
50	United Kingdom Clinical Pharmacy Association	Question 1	The standard does address key areas but we suggest some rewording to broaden and clarify multi-professional approach to stewardship.
51		Question 1	Yes
52	The British Society for Antimicrobial Chemotherapy (BSAC)	Question 1	Does this draft quality standard accurately reflect the key areas for quality improvement? No, as stated above
53	Royal College of Surgeons	Question 1	Yes. The only thing missing is in the realm of prophylactic antibiotics where standards, indications and guidelines vary and misuse is common. It is not always either possible to collect bacteriology samples prior to prescription of antibiotics and there are emergency indications such as meningitis where initiating treatment is the priority.

54	Royal College of General Practitioners	Question 1	Does this draft quality standard accurately reflect the key areas for quality improvement? Yes these areas are important areas for quality improvement. The RCGP recognises the importance of limiting antibiotic resistance and the responsibility of members of the health care system in the UK to help in this aim. Amongst its outputs, the RCGP has produced e-learning modules and the TARGET Toolkit. The TARGET Antibiotics Toolkit aims to help influence prescribers' and patients' personal attitudes, social norms and perceived barriers to optimal antibiotic prescribing. It includes a range of resources that can each be used to support prescribers' and patients' responsible antibiotic use, helping to fulfil CPD and revalidation requirements. The TARGET Antibiotics Toolkit is designed to be used by the whole primary care team within the GP practice or out of hours setting. These resources can be used flexibly, either as standalone materials or as part of an integrated package. Using the resources in the TARGET Antibiotics Toolkit enable primary care organisations to demonstrate compliance with the Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance.
55	Public Health England	Question 1	The quality standard reflects the key areas, however we have provided suggestions on rewording required for a number of the QS to ensure they are clear and reflect published evidence and national guidance/requirements. Particularly, the importance of a multi-professional approach to antimicrobial stewardship that is also highlighted in the NICE AMS guidance.

56	DH Advisory Committee On Antimicrobial Resistance and Healthcare Associated Infections (ARHAI)	Question 1	It is most surprising that a quality standard has not been included with regard to antimicrobial guidelines. A fundamental antimicrobial stewardship strategy is providing prescribers with evidence-based guidelines for the treatment of common infections. This is all the more critical in the speciality of infection because infection is a common diagnosis and patients are typically cared for by non-specialists. Infection management is characterised by uncertainty over microbial aetiology and variability in antibiotic susceptibility, making high-quality local guidelines an essential component of effective and safe patient care. Infection guidelines are generally well-accepted by prescribers and measurement of adherence to guidelines is recommended in Public Health England guidance Start Smart Then Focus as well as the NICE Guideline on Antimicrobial Stewardship. This is undoubtedly an area for quality improvement because anecdotal evidence suggests that local guidelines are frequently inaccessible, out-of-date and do not explicitly incorporate local susceptibility data. We suggest the following standards as likely to have a positive impact upon patient care: i. Local antimicrobial prescribing guidelines are provided for the treatment of common infections, in an accessible format, updated at least every 2 years and reporting local susceptibility data for relevant pathogens and recommended antimicrobials. ii. Adherence to local prescribing guidelines is audited to provide adequate assurance to organisational management and commissioners that prescribing of antimicrobials is safe, effective and appropriate.
57	Scottish Antimicrobial Prescribing Group (SAPG)	Question 1	The standard does address key areas but we suggest some rewording to broaden and clarify multi-professional approach to stewardship:

58	Faculty of General Dental Practice (UK) and Faculty of Dental Surgery RCSEng	Question 2	With respect to dentistry, yes - if the systems and structures were available, data collection and monitoring of antimicrobial prescribing to support the proposed quality measures would be possible. However it must be recognised that dentistry, particularly primary care dentistry, is starting from a different place compared with many other healthcare settings. Dental practices are individual businesses, which are not networked into the main electronic patient record system, and which are not yet party to the NHS culture of sharing patient information.
59	Scottish Antimicrobial Prescribing Group (SAPG)	Question 2	We are unsure how all prescribers will ensure they have systems in place to allow and facilitate local data collection for these quality standards.
60	The Royal College of Surgeons of Edinburgh	Question 2	Yes it would, but there would be significant costs associated with this undertaking for primary dental care practices and secondary care Hospital Dental Services (Orthodontics and Oral/Maxillofacial Surgery) departments, bearing in mind that the vast majority do not currently have the degree of IM&T infrastructure to facilitate the electronic transfer of clinical prescribing data.
61	British Association of Oral Surgeons	Question 2	If the IT and IG systems were in place data collection and monitoring would be possible But dentistry is starting from a lower baseline compared with other healthcare settings. Currently dentistry is not ‘networked’ into the main electronic patient record system. Dental practices are individual mixed businesses. A culture of sharing patient information does not yet exist in primary care dentistry. See Response to section 6 for further suggestions
62	Astellas Pharma Ltd	Question 2	Astellas’s view is that in principle, it should be possible to collect the data for the proposed quality measures. It is worth noting however, that rates of diagnosis and surveillance for community acquired infection and those in managed care settings (e.g nursing homes) are likely to under-represent the true burden of infection and therefore, it is recommended that particular attention is paid to improving reporting in this area.

63	Baxter Healthcare Ltd	Question 2	Yes. Baxter strongly believes that it would be possible to collect the data for the proposed quality measures if the right systems and structures were available and implemented correctly and timely. This is why it is important that the quality standards are introduced for measures that **can** be collected and advances in technology are utilised to collect timely data and facilitate it. We note that timeliness of feedback is currently an issue for the NHS, particularly in the second care setting. For the data to be truly impactful, feedback needs to be timely. Robust and accurate data will continue to play a critical role as it has the potential to save time and money to the NHS at a time when demand for NHS services continue to rise coupled with increased financial pressure.
64	British In Vitro Diagnostics Association (BIVDA)	Question 2	Assuming the systems and structures were available, we believe it would be possible to collect the data for the proposed quality measures. The presence of an antimicrobial resistance individual or team responsible for antimicrobial stewardship within each organisation should help to assist with this aim. We would propose regarding quality statement 4 on microbiological samples that in addition to people in hospital having a microbiological sample taken and their treatment being reviewed when the results are available, that the proportion of hospital admissions whose antimicrobial therapy was actually altered following review of microbiological results is also recorded.
65	Scottish Antimicrobial Prescribing Group (SAPG)	Question 2	For statement 1 advice should be both verbal and written so data on use of leaflets could be collected but unlikely to be an accurate measure. For statement 2 this could be recorded on GP prescribing systems and a report produced For statement 3 this type of data features in Start Smart Then Focus recommendations and many hospitals collect in a limited number of wards but mainly on paper based systems Would need electronic systems and additional resource to cover all prescribers. For statement 4 difficult to collect data as microbiology samples not routinely collected in all types of infection as diagnosis is based on clinical picture and in some cases where a sample may be indicated patients cannot produce one e.g. sputum. Also the denominator (the number of hospital admissions with an antimicrobial prescription) is not easy to capture without electronic prescribing. Would be challenging to capture without some electronic system to highlight when a micro result became available and to communicate this to the prescribing team. For statement 5 again this type of data features in Start Smart Then Focus recommendations and many hospitals collect in a limited number of wards but mainly on paper based systems. Would need electronic systems and additional resource to cover all prescribers.

66	United Kingdom Clinical Pharmacy Association	Question 2	For statement 1 advice should be both verbal and written so data on use of leaflets could be collected For statement 2 this could be recorded on GP prescribing systems and a report produced For statement 3 this type of data features in Start Smart Then Focus recommendations and many hospitals collect in a limited number of wards but mainly on paper based systems For statement 4 difficult to collect data as microbiology samples not routinely collected in all types of infection as diagnosis is based on clinical picture and in some cases where a sample may be indicated patients cannot produce one e.g. sputum. Also you need experts involved to decide if a suitable sample has been sent which limits the people that can collect the data. For statement 5 again this type of data features in Start Smart Then Focus recommendations and many hospitals collect in a limited number of wards but mainly on paper based systems. Some thought needs to be given to resource for this type of work which is usually undertaken by antimicrobial pharmacists and there are no defined standards for workforce requirement relative to hospital size.
67	The British Society for Antimicrobial Chemotherapy (BSAC)	Question 2	If the systems and structures were available, do you think it would be possible to collect the data for the proposed quality measures? Yes, as long as the data is there it is always possible to pull it out. Perhaps the a better question to be asked would be what the current limitations for recording the required data so it could be pulled out when required.
68	Royal College of Surgeons	Question 2	Yes, this seems feasible
69	Royal College of General Practitioners	Question 2	If the systems and structures were available, do you think it would be possible to collect the data for the proposed quality measures? Some of this data is available but difficult to access such the PACT data for each individual GP. There is no current coded way of identifying back-up (delayed) scripts for Statement 2. Similarly the antibiotic scripts issued by out of hours primary care services are not currently collated.
70	Public Health England	Question 2	Yes
71	Association of Teaching Hospital Pharmacists	Question 2	Providing feedback on prescribing data to individual prescribers in secondary care requires electronic prescribing systems with integrated reporting software to permit feedback to be provided within an acceptable resource budget.
72	DH Advisory Committee On Antimicrobial Resistance and Healthcare Associated Infections (ARHAI)	Question 2	Providing feedback on prescribing data to individual prescribers in secondary care requires electronic prescribing systems with integrated reporting software to permit feedback to be provided within an acceptable resource budget.

73	The Royal College of Surgeons of Edinburgh	Question 3	The impact of clinical audit on antibiotic prescribing in general dental practice. RAC Chate et al. Brit Dent J 2006; 201 (10): 635-641 This publication illustrated the positive affect clinical audit with feedback education had on improving the accuracy and clinical appropriateness of the antimicrobial prescribing practices of 212 general dental practitioners (GDPs) in the East of England (~ 0.7-1.0% of the UK's total number of GDPs). The security of individual practitioner anonymity afforded by a properly conducted audit exercise, undoubtedly facilitated a willingness for the dental participants to engage, learn and improve, in a much less threatening way than would be the case, were an electronic system to be created to monitor and police the antimicrobial prescribing patterns of each listed practitioner.
74	British Association of Oral Surgeons	Question 3	See electronic form
75	Astellas Pharma Ltd	Question 3	Astellas has recently supported a service evaluation across seven hospital trusts to establish the performance of, and potential cost efficiencies from, optimal antibiotic prescribing for CDI in real-world NHS settings. The five site to have currently reported are: · St George's Healthcare NHS Trust · Guy's and St Thomas' NHS Foundation Trust · Leeds Teaching Hospitals NHS Trust · University Hospitals of Leicester NHS Trust · County Durham & Darlington NHS Foundation Trust · University Hospitals of Morecambe Bay NHS Foundation Trust · Derby Hospitals NHS Foundation Trust Astellas Pharma Ltd has made a significant investment to support these service evaluations as part of its commitment to understanding the challenges and opportunities to optimise antibiotic prescribing.
76	The British Society for Antimicrobial Chemotherapy (BSAC)	Question 3	No.
77	Royal College of Surgeons	Question 3	No comment

78	Royal College of General Practitioners	Question 3	Do you have an example from practice of implementing the NICE guidelines that underpin this quality standard? If so, please submit your example to the NICE local practice collection on the NICE website. Examples of using NICE quality standards can also be submitted. The TARGET Toolkit supports recommendations made in the recent NICE guideline: Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use published August 2015 and is linked within the guideline.
79	Public Health England	Question 3	The national antimicrobial stewardship (AMS) surveys in England have highlighted that although electronic prescribing is not available in all settings within hospitals, many hospitals have electronic prescribing available on certain wards, usually Intensive care unit or adult medicine. There are plans within several organisations to implement and/or increase electronic prescribing.
80	British Association of Oral Surgeons	Question 4	We cannot provide any examples
81	Baxter Healthcare Ltd	Question 4	There should be measures in place to make sure the review process in question is conducted correctly and timely. How the evidence is going to be provided for the review process also needs to be clarified. How does NICE seek to ensure hospitals fulfil this responsibility? Will hospitals be required to provide evidence to prove that they have conducted the review process? We as Baxter feel that the Start Smart, then Focus guidance has not been implemented sufficiently and appropriately in hospitals. We are concerned that the electronic prescribing systems currently used in secondary care provide only part of the technological solution to best practice Antimicrobial Stewardship. E-Prescribing may not cover the 'Focus' part of the equation. The introduction of electronic systems that combine the ePrescribing data with other data such as Microbiology and lab tests is required to improve the compliance to the standard e.g. identifying drug-bug mismatches as early as possible. It is important to understand that a Clinician is time-challenged, systems that identify the highest priority interventions are a necessity for the most effective Stewardship programme to be implemented.
82	United Kingdom Clinical Pharmacy Association	Question 4	Statement 6 (developmental statement): Prescribers in secondary care and dental practices use electronic prescribing systems. In England about 40% of Acute Trusts have eprescribing and it can be detrimental to stewardship due to systems being too generic to realise the potential benefits. In Scotland currently a minority of hospitals have electronic prescribing but national implementation is expected within the next 5 years. Both medical and dental practices already have electronic prescribing systems with national systems available to evaluate data.

83	Scottish Antimicrobial Prescribing Group (SAPG)	Question 4	Statement 6 (developmental statement): Prescribers in secondary care and dental practices use electronic prescribing systems. Would require significant resources to fully implement. In Scotland currently a minority of hospitals have electronic prescribing but national implementation is expected within the next 5 years. Both medical and dental practices already have electronic prescribing systems with national systems available to evaluate data. ems.
84	The British Society for Antimicrobial Chemotherapy (BSAC)	Question 4	For draft developmental statement 6: Does this reflect an emergent area of service delivery or technology? Yes If so, does this indicate outstanding performance only carried out by a minority of providers that will need specific, significant changes to be put in place, such as redesign of services or new equipment? No, the majority will need it. Can you provide any examples of current practice in this area? No
85	Royal College of Surgeons	Question 4	No comment
86	Royal College of General Practitioners	Question 4	For draft developmental statement 6: Does this reflect an emergent area of service delivery or technology? If so, does this indicate outstanding performance only carried out by a minority of providers that will need specific, significant changes to be put in place, such as redesign of services or new. This area would be useful particularly using summary care records and should be extended to out of hours primary care so that all antibiotic prescriptions are recorded in one system and so can be monitored.
87	DH Advisory Committee On Antimicrobial Resistance and Healthcare Associated Infections (ARHAI)	Question 4	This will rapidly become universal practice but the software solutions vary and there is no regulation in the area so information use will be variable

88	Faculty of General Dental Practice (UK) and Faculty of Dental Surgery RCSEng	Question 4	The collection and monitoring of prescribing data for all dental care would be a significant aid to stewardship, and we welcome this developmental statement, recognising that its realisation would greatly support Quality Statement 5. As the British Dental Association's Antimicrobial Resistance in Dentistry Summit (2014) concluded, "without the ability to prescribe electronically, the collection and provision of comprehensive prescribing data is an excessively onerous and time-consuming task". However there are not currently the systems in place to enable this. Most dental practices do not have access to NHS patient health records, and for the electronic collection of prescription data to be implemented, significant funding would need to be provided to enable primary dental care to acquire the necessary technology to participate. Contracting of dentistry would also have to be modernised to allow monitoring and recording of prescribing. Mechanisms to overcome the lack of information governance and IT access have been recommended in the NHS dental specialist commissioning guides, and we would recommend NICE also consider these by way of answer to whether the sector will need "specific, significant changes to be put in place, such as redesign of services or new equipment" (Consultation Question 4). However, even if all this were achieved within NHS dentistry, it should be noted that there could still remain a significant data gap with regard to private dental practice, where it is common practice to purchase and dispense antimicrobials outwith NHS systems.
89	Royal College of Nursing	Question 4	Would it be possible to commission a survey of secondary care institutions; dental surgeries etc. to establish the true extant of where we are with electronic prescribing; its adoption; utility and limitations and any stumbling blocks?
90	Royal College of Nursing	Statement 1	CG69 - Use reference format or signpost as source for consistency NG15 - Use reference format or signpost as source for consistency
91	Royal College of Nursing	Statement 1	Minor typographical error noted, suggest change to: 'People who go to a healthcare facility…'
92	The Royal College of Surgeons of Edinburgh	Statement 1	Toothache is listed as a self-limiting condition, but it is not. Apart form referred "dental" pain from otitis media or maxillary sinusitis, no other oro-dental pain is self-limiting. Reversible or irreversible dental pulpitis will not be resolved by anything other than appropriate dental surgery interventions and neither will apical or lateral periodontitis. A patient's toothache/oro-dental pain may cycle through episodes of remission and resurgence, but this is not equivalent to a self-limiting infection. As such, the direct or delayed provision of antimicrobials to treat the patient's pain would be regarded as inappropriate and sub-optimal treatment.

93	British Thoracic Society	Statement 1	Collecting data on the number of patients with a self-limiting condition given advice will be challenging and not immediately clear how this will be achievable There should also be emphasis on seeking advice from local pharmacists regarding possible self-limiting illnesses rather than making a GP appointment. Query some time out for scripts as patients may not collect or collect and not use until later. In relation to COPD, it is to be hoped that self-management advice is provided well in advance of that first presentation as well as at the time. Antibiotics for self medication should be available for selected patients
94	Royal College of Anaesthetists Professional Standards Committee	Statement 1	I think that collection of data for this quality standard clearly relies on accurate coding of these presenting conditions. I think that finding the denominator values will be relatively straightforward but how do the authors propose that data is collected for the numerator? It may be quite labour intensive to go through all consultation/ clinical encounter records to ascertain whether, or not, advice and education was given to patients about this. In principle I believe that it's really important to be doing this and that we should make attempts to capture this data. I think that it's also worth mentioning that sometimes it IS appropriate to prescribe antimicrobials on the first encounter with these patients but that this must be considered on an individual patient basis and reasons as to why antibiotics have been prescribed should be clearly documented.
95	Healthcare Infection Society	Statement 1	Consider recommending the use of Point of Care testing for CRP to support clinical decision making in primary care
96	Public Health England	Statement 1	Rationale: Some people with a self-limiting condition, such as cold, flu, cough, ear or toothache, may expect to be prescribed an antimicrobial and may not know that their condition is likely to get better without treatment. Healthcare professionals in primary care should manage these expectations by explaining that these conditions are self-limiting, the likely length of duration and describing the adverse consequences of using antimicrobials when they are not needed, both for the person and the population as a whole. Healthcare professionals should also give verbal and written advice on what the person can do to help their condition improve (self-care).
97	Public Health England	Statement 1	What the quality statement means for patients, service users and carers People who go to healthcare professionals (HCPs) with a condition that is likely to get better on its own (such as cold, flu, cough, tooth or earache)
98	Royal College of Anaesthetists Professional Standards Committee	Statement 1	In the definition of self-limiting illnesses there are no examples to cover the 'tooth ache' pain, please consider adding.

99	The Royal College of Surgeons of Edinburgh	Statement 1	“Some people with a self-limiting condition, such as cold, flu, cough, ear or toothache, may expect to be prescribed an antimicrobial and may not know that their condition is likely to get better without treatment.” is not correct. Whilst pain of dental origin that does not involve any infective cause e.g. erupting teeth, orthodontic treatment, mucosal trauma etc will improve/resolve with time, dental pain resulting from an infective cause is not a self-limiting condition. This type of pain results from either pulpitis or an abscess. A pulpitis requires dental treatment (root canal treatment or extraction) and without any intervention the pain may subside once the pulp dies, but an abscess will develop. Once an abscess forms, this will not be self-limiting and without a combination of root canal treatment / extraction +/- an antmicrobial to address the infection, this can progress to a serious infection requiring hospital admission. Therefore this statement needs to be changed
100	United Lincolnshire Hospitals NHS Trust	Statement 1	Does the Quality Standard accurately reflect the Key areas for Quality Improvement? This would reflect a key area for improvement rather well especially in areas such as Lincolnshire where patient education is poor. However, the means of measuring the numerators would have to consider the difficulties in time constraints and staffing of over stretched services. In the time GPs have for consultation, would there be scope for meaningful dialogue in this aspect for every patient that presented? In an area like ours, it would be better to focus on patient education schemes that aim more broadly instead, to deter patients from presenting unnecessarily in the first place.
101	United Lincolnshire Hospitals NHS Trust	Statement 1	If the systems and structures were available, would it be possible to collect the data for the proposed quality measures? Measure for denominators could be collected from GP surgeries and health practices if coding set up on each system to identify presentation of self-limiting condition. Measure for numerators would be subjective unless standardised written material was to be provided (in which case this would be best done as a national scheme to avoid mixed messages). How would such data be validated? Systems and structures for measurement should preferably be electronic to capture maximum data but must extend to all parties suggested by the paper (including pharmacies). At present such systems are not shared, and pharmacy services for formal consultation of patients vary in provision and record keeping. Even if a tick box was introduced to the consultation screen of the electronic systems used, prescribers are unlikely to self-report non-compliance with a process and this may just become a tick box exercise, giving little value to the results of measuring such.

102	United Lincolnshire Hospitals NHS Trust	Statement 1	Do we have any examples from practice of implementing the NICE guidelines that underpin this Quality Standard? No as not primary care
103	United Kingdom Clinical Pharmacy Association	Statement 1	Statement 1. People presenting to primary care healthcare professionals with self-limiting infections receive verbal and where possible written advice about self-management, likely duration of illness, why antimicrobials are not recommended for the treatment of their condition and what to do if their symptoms become worse
104	Scottish Antimicrobial Prescribing Group (SAPG)	Statement 1	Statement 1. People presenting to primary care prescribers healthcare professionals with self-limiting conditions receive advice about self-management, likely duration of illness and, why antimicrobials are not recommended for the treatment of their condition and what to do if their symptoms become worse
105	British Dental Association	Statement 1	Toothache is not a self-limiting condition and should not be described as such. Whilst it is true in many cases that antibiotics are not the appropriate treatment for toothache, it does require clinical intervention from a dentist and cannot be self-managed. This is a time-consuming procedure, and commissioners should not be misled into considering toothache alongside coughs, colds, etc. when planning services. The BDA has been campaigning for the provision of appropriately funded clinical time for dentists to treat emergency cases. We would urge NICE to discuss toothache in an entirely separate category from self-limiting infections within QS1. We also reiterate our call for the central provision of simple, authoritative information for patients, explaining why antibiotics are not appropriate for many cases of toothache. Practitioners should be able to refer patients to these resources to support clinical decisions.

106	British Association of Oral Surgeons	Statement 1	People presenting to primary care prescribers with self-limiting conditions receive advice about self-management and why antimicrobials are not recommended for the treatment of their condition. In this consultation Toothache is described as a 'self limiting' condition, is it? There are several conditions that cause toothache these include; · Dentine sensitivity (requires reassurance, topical treatments +/- fluoride) · Acute reversible pulpitis (requires dental treatment restoration of caries or tooth fracture) · Irreversible pulpitis (dead pulpal tissue requires extirpation (removal) or the tooth needs to be extracted) · Dental abscess (root canal treatment or dental extraction) · Spreading local infection to sublingual. submandibular, parapharyngeal spaces causing respiratory distress, pyrexia septicaemia. Irreversible pulpitis if left untreated surgically will lead to a dental abscess Dental abscess may not always be symptomatic but if left untreated will cause spreading infection that can be life threatening Therefore as surgical/ dental intervention is required for remedying the dental pain, I am not convinced that Toothache is a 'self limiting' condition Antibiotics should NOT be prescribed for these conditions with exception spreading infecting when extraction is not immediately possible Antimicrobial Prescribing for General Dental Practitioners, FDG(UK) 2012 Therefore access for acute dental treatment is imperative to limit progression of dental pain conditions to needing admission and antibiotics. These issues were highlighted in the British Dental Association AMR in dentistry Summit 2014

107	Faculty of General Dental Practice (UK) and Faculty of Dental Surgery RCSEng	Statement 1	While we agree with the quality statement itself, dental infections and conditions are not self-limiting. They require definitive management by dental/surgical intervention by dental professionals, and are not therefore comparable to coughs and colds. This statement is therefore not relevant for dentistry. In particular, the specific reference to toothache as a self-limiting condition (see "What the quality statement means for patients service users and carers", p8) is inaccurate. Toothache is a symptom of several conditions (including dentine sensitivity, acute reversible pulpitis, irreversible pulpitis, dental abscess, and local infection spreading to sublingual, submandibular or parapharyngeal spaces), none of which are self-limiting and all of which require professional intervention. Toothache should therefore be removed from the list of self-limiting conditions contained in the statement. Nonetheless, we agree that antibiotics should not be prescribed for these conditions, and therefore for toothache, with the exception of preventing the spreading of an existing infection when the appropriate professional intervention is not immediately possible. We also recognise the need, where antibiotics are not being prescribed, to educate and inform patients about the reasons for this. The profession would welcome assistance in the education of the public in this regard as this would help reverse the current momentum of expectation for antimicrobial dispensing during clinical consultations. The definition given of self-limiting conditions (p9) should also be corrected to refer to those that are likely to resolve without any treatment, not just those that will resolve without antimicrobial treatment.
108	Association of Teaching Hospital Pharmacists	Statement 1	Suggest remove "toothache" from the following statement: "People who go to ae healthcare professionals with a condition that is likely to get better on its own (such as cold, flu, cough, tooth or earache) are given advice on what they can do to help their condition improve and why it's important only to use antimicrobials when they are really needed." Toothache frequently requires intervention by a dentist and is unlikely to get better on its own. It is of course unlikely to need antibiotics.

109	DH Advisory Committee On Antimicrobial Resistance and Healthcare Associated Infections (ARHAI)	Statement 1	Suggest remove “toothache” from the following statement: “People who go to ae healthcare professionals with a condition that is likely to get better on its own (such as cold, flu, cough, tooth or earache) are given advice on what they can do to help their condition improve and why it’s important only to use antimicrobials when they are really needed.” Toothache frequently requires intervention by a dentist and is unlikely to get better on its own. It is of course unlikely to need antibiotics.
110	Royal College of Surgeons	Statement 1	In page 9, the definition given of self-limiting conditions should also be corrected to refer to those that are likely to resolve without any treatment, not just those that will resolve without antimicrobial treatment.
111	Public Health England	Statement 1	Statement 1. People presenting to health care professionals in primary care with self-limiting conditions receive verbal and, where possible, written advice about self-management and why antimicrobials are not recommended for the treatment of their condition. It is important that the multidisciplinary reality of primary care is reflected. Many nurses and most pharmacists in primary care do not prescribe but have a key role in helping patients to self-manage the self-limiting conditions. All National Health Service (NHS) and other national campaigns focused on antimicrobial resistance (AMR) are actively promoting and encouraging patients go to the pharmacy in the first place with self-limiting infections. Should conditions be clarified as infections?
112	MSD UK	Statement 1	No comments
113	Randox Laboratories Ltd	Statement 1	How do you know the condition is self-limiting and will not occur in a more virulent form?
114	DH Advisory Committee On Antimicrobial Resistance and Healthcare Associated Infections (ARHAI)	Statement 1	Need to refer to TARGET and primary care education packages
115	NHS Trust Development Authority	Statement 1	Whilst we agree that this is an area for quality improvement, we do not believe that there are currently systems in place to enable the impact of this quality standard to be evaluated effectively as suggested. For example, community pharmacies and other primary care providers, such as health visitors, do not routinely collect information about advice given. We believe that collecting and collating this data locally would require a significant change in current practices and could also have a potentially large impact on local resources.

116	NICE Public Health and Social Care Internal Guidelines Development team	Statement 1	This is broadly consistent with the draft public health guideline for consultation. However for internal information only and not for publication (as the PH guideline is still in development), it was decided not to refer to coughing as an example of a self-limiting illness in the guideline. This is due to concerns re coughing potentially being a symptom of a more serious condition and concerns about contradicting other public health messages re cancer prevention, which encourage the public to seek medical advice for a persistent cough
117	Royal College of Nursing	Statement 2	Is this all people or just those presenting with self-limiting conditions? It would be helpful to clarify.
118	British Dental Association	Statement 2	We agree that healthcare professionals should retain a discretionary ability to issue post-dated antibiotic prescriptions in some unusual circumstances. Although clinical intervention, requiring appropriately funded time, should be the first line of treatment for toothache, situations could arise in which the clinician's professional judgement may justify the issuing of a delayed prescription, which should be provided along with guidance to the patient. An example would be a post-operative delayed prescription for a patient who is about to travel and might not be able to access dental care easily in the event of a complication.
119	British Association of Oral Surgeons	Statement 2	People presenting in primary care are informed about the option of back-up (delayed) prescribing if there is uncertainty about whether their condition is self-limiting. We support this statement however suitable access to dental care has to be in place. Current evidence does not support this practice within dentistry.
120	Faculty of General Dental Practice (UK) and Faculty of Dental Surgery RCSEng	Statement 2	Dentists should not consider the option of delayed prescribing in anything other than rare and exceptional circumstances, and this should be noted in the statement. We are not aware of evidence supporting the practice of delayed prescribing within dentistry, and there should be little or no need for it. As FGDP (UK) guidance notes, "antimicrobial prescribing in primary care is only indicated…for the definitive management of active infectious disease" (Antimicrobial Prescribing for General Dental Practitioners, 2012, FGDP(UK)). Following appropriate examination and definitive treatment, if there is uncertainty about whether a condition will resolve, patients should be given clear advice on re-attending for further assessment. The need for delayed prescribing would only arise where known future circumstances will make it impossible for the patient to access an appropriate dental professional for further assessment.

121	Randox Laboratories Ltd	Statement 2	Without confirmation of the exact cause of infection patients are put at risk. A diagnostic confirming the exact cause of the infection should be performed. Prescribing of inappropriate antibiotics if an antibiotic is required will increase the problem of antimicrobial resistance and potentially harm the patient. The patient may also experience extra time off work, affecting the economy, and spread of the infection.
122	British Thoracic Society	Statement 2	This may be helpful but is would be useful to know what proportion of the prescriptions are filled and in what timescale. Post dating the prescriptions would ensure they are not used as a backdoor to immediate antibiotic treatment.
123	British Thoracic Society	Statement 2	Can any of this be monitored through the patient's mobile phones? Many GP services already use them to keep in touch with their patients and it could be used as a feedback tool if patients were send a text after 48 hours (or other timeframe) asking simple yes no questions – have your symptoms improved / resolved? Did you get the antibiotics prescribed for you? Did you take the tablets? Have you completed the course? Or similar.
124	Association of Teaching Hospital Pharmacists	Statement 2	Quality measures must be carefully considered for this quality statement. The proposed measures are not currently fit-for-purpose. The most appropriate measure would be to estimate what proportion of patients eligible for delayed prescribing are offered delayed prescribing. However, it is potentially prohibitively resource-intensive to identify patients eligible for delayed prescribing by means of retrospective audit. How will collection of delayed prescriptions be interpreted? If all patients collect their delayed prescription, it could mean that the GP is underprescribing antibiotics or was insufficiently persuasive when making the case for delayed prescribing. One potential workable solution would be to recommend that every consultation where an antibiotic is prescribed includes a discussion about the option of delayed prescribing even if simply to rule it out. The quality measure could then be that all patients given an antibiotic prescription, when questioned, recall discussing delayed prescribing with their GP and why it was or wasn't appropriate in their individual case.

125	Royal College of Anaesthetists Professional Standards Committee	Statement 2	I think that back up (delayed) prescribing is very useful. It gives patients a 'what if' plan in the cases where their condition does not self-limit but continues to worsen and ensures that they can receive this prescription in a timely fashion without being reliant on ability to obtain a further GP appointment and the further potential disruption that this may cause to their working and family life. It's a great way of safety netting. I am again presuming with this statement that collection of data for the numerator (relating to whether patients were given information on when to use their delayed prescription) may be quite time consuming and potentially require someone to go through all patient notes to ascertain instructions given to patients as to when they could collect their delayed prescription.
126	DH Advisory Committee On Antimicrobial Resistance and Healthcare Associated Infections (ARHAI)	Statement 2	Quality measures must be carefully considered for this quality statement. The proposed measures are not currently fit-for-purpose. The most appropriate measure would be to estimate what proportion of patients eligible for delayed prescribing are offered delayed prescribing. However, it is potentially prohibitively resource-intensive to identify patients eligible for delayed prescribing by means of retrospective audit. How will collection of delayed prescriptions be interpreted? If all patients collect their delayed prescription, it could mean that the GP is underprescribing antibiotics or was insufficiently persuasive when making the case for delayed prescribing. One potential workable solution would be to recommend that every consultation where an antibiotic is prescribed includes a discussion about the option of delayed prescribing even if simply to rule it out. The quality measure could then be that all patients given an antibiotic prescription, when questioned, recall discussing delayed prescribing with their GP and why it was or wasn't appropriate in their individual case. In the use of back-up prescribing there is a risk of hoarding of unused antibiotic so there needs to be a means of monitoring and returning unused drug.
127	Public Health England	Statement 2	Rationale When there is clinical uncertainty about whether a condition is self-limiting, back–up (delayed) prescribing provides healthcare professionals an alternative to immediate antimicrobial prescribing. It allows the person to self-manage as a first step, but also to have access to antimicrobials if their condition gets worse without the need to re-consult.

128	MRSA Action UK	Statement 2	Statement 2. People presenting in primary care are informed about the option of back-up (delayed) prescribing if there is uncertainty about whether their condition is self-limiting. Page 12 definitions: The wording should be revised to ensure good stewardship remains regarding back-up prescribing. Suitably qualified professionals should have the final discretion on the issuing of the prescription, on this basis the prescription should be made available to the pharmacist: Definitions of terms used in this quality statement Back-up (delayed prescribing) A back-up (delayed) prescription is a prescription (which can be post-dated) given to a patient or carer, with the assumption that it will not be dispensed immediately, but in a few days if symptoms worsen. When using a back-up (delayed) antibiotic prescribing strategy, patients should be offered: • reassurance that antibiotics are not needed immediately because they are likely to make little difference to symptoms and may have side effects, for example, diarrhoea, vomiting and rash • advice about using the back-up (delayed) prescription if symptoms are not starting to settle as expected or if a significant worsening of symptoms occurs • advice about re-consulting if there is a significant worsening of symptoms before using the back-up (delayed) prescription. A back-up (delayed) prescription with instructions about use be left at an agreed location (for example, the local pharmacy) to be collected at a later date.
129	United Lincolnshire Hospitals NHS Trust	Statement 2	Does the Quality Standard accurately reflect the Key areas for Quality Improvement? Good idea but not sure how well it reflects the actual key area for Quality Improvement, which should be prescriber education and understanding. This initiative helps the cause but does not accurately reflect it.
130	United Lincolnshire Hospitals NHS Trust	Statement 2	If the systems and structures were available, would it be possible to collect the data for the proposed quality measures? Process A numerator is quite subjective unless this information is given in a standardised written format, denominator is not currently possible as present data captured is based on how many of these prescriptions have been dispensed rather than issued. Process B – numerator data already being collected but same issue for denominator as Process A. Some coding system would be needed to identify and extract all patients issued delayed prescriptions for antimicrobials. Note validity of data will vary as some practices hold on to the prescription so the patient has to come back to collect, whereas others issue to patient immediately, in which case they are free to

			have it dispensed even if they do not use it for that episode.
131	United Lincolnshire Hospitals NHS Trust	Statement 2	Do we have any examples from practice of implementing the NICE guidelines that underpin this Quality Standard? Not from ULHT as not primary care, but available from NHS Arden and GEM CSU
132	The Royal College of Surgeons of Edinburgh	Statement 2	In conceptual terms, we would challenge the rationale behind the concept of delayed/back-up prescribing for a number of reasons. The first is that the process is reliant on the patient being able to “diagnose” whether their condition is remitting or worsening, when this can and should only be done by an appropriately trained professional. We acknowledge that the process would avoid the inconvenience and costs associated with a follow-up clinical review, but from an ideal patient management perspective, that really shouldn’t be the driver for creating such a system. The second is that, once the post-dated prescription becomes “in-date,” even if the patient feels better, they are still likely to submit the prescription for dispensing, just in case the problem comes back again some time later. Thereafter, they will have in their possession an antimicrobial that they could use completely inappropriately for some other un-related illness or condition, thereby compounding the issue of the emergence of antimicrobial resistance
133	Public Health England	Statement 2	Statement 2. People presenting in primary care are provided a back-up (delayed) prescription of the appropriate antibiotic if there is uncertainty about whether their condition is self-limiting and there is a risk of the infection worsening.
134	United Kingdom Clinical Pharmacy Association	Statement 2	Statement 2. People presenting to primary care prescribers are offered the option of back-up (delayed) prescribing if there is uncertainty about whether their condition is self-limiting.
135	Scottish Antimicrobial Prescribing Group (SAPG)	Statement 2	Statement 2. People presenting in to primary care prescribers are informed about offered the option of back-up (delayed) prescribing if there is uncertainty about whether their condition is self-limiting.
136	Royal College of Paediatrics and Child Health	Statement 2	The draft guideline suggests that people presenting in Primary Care are informed about the option of back-up (delayed) prescribing if there is uncertainty about whether their condition is self limiting.
137	NHS Trust Development Authority	Statement 2	We agree that this is an area for quality improvement. However, we suggest that the quality statement should be extended to include the phrase “People accepting the offer of a back-up prescription should be advised under what circumstances it would be appropriate to present the prescription for dispensing”.
138	MSD UK	Statement 2	No comments

139	Royal College of Surgeons	Statement 2	There must be a definite ability for the doctor to review the patient's condition or contact them in case of changes to advice. For example, this might work while you wait for microscopy results for a potential UTI, but if you were unable to recall the patient and they later developed pyelonephritis from an untreated infection this is neither better for the patient nor cost effective
140	NICE Public Health and Social Care Internal Guidelines Development team	Statement 2	This is broadly consistent with the draft public health guideline for consultation.
141	The Royal College of Surgeons of Edinburgh	Statement 3	The Quality Measure of "Evidence of local arrangements and processes to ensure that all prescribers document the clinical indication, dose and duration of treatment in patients' records when prescribing an antimicrobial" through "Local data collection" will be amenable to clinical audit at either a district, regional or national level.
142	Public Health England	Statement 3	Rationale: Recording in patients' records the clinical indication (that is, the results of clinical assessment, symptoms and diagnosis) for an antimicrobial, and the prescribed dose and duration of treatment, allows monitoring of prescribing practice and identification of appropriate and inappropriate prescribing. We believe this should include an additional reason for why recording is important. More than monitoring prescribing practice, recording information allows better patient management during follow up of care or especially if transfer of care to another HCP occurs. Antibiotics in hospitals are often continued unnecessarily because clinicians caring for the patient do not have information indicating why the antibiotics were initially commenced and how long they were planned to be continued. This problem is compounded where primary responsibility for patient care is frequently transferred from one clinician to another. Ensuring that all antibiotic prescriptions are always accompanied by an indication and a clear duration or review date will help clinicians change or stop therapy when appropriate. In children the dose of antimicrobials should be prescribed according to the individuals weight/age - refer to local formulary or British National Formulary for children (BNFc)

143	MRSA Action UK	Statement 3	Patients at higher risk of developing complications or have been exposed to resistant bacteria should have a microbiological sample taken in the same way as hospitalized patients: Statement 3 People prescribed an antimicrobial have the clinical indication, dose and duration of treatment documented in their clinical record, and those at higher risk* of developing complications with the use of broad spectrum antimicrobials have a microbiological sample taken and their treatment reviewed when the results are available. [*Higher risk defined as recently hospitalised patients, care home / nursing home patients, people who have been previously diagnosed with meticillin-resistant Staphylococcus aureus (MRSA); Clostridium difficile (C. diff); multi-drug-resistant tuberculosis (MDR-TB); Carbapenemase-producing Enterobacteriaceae (CPE). Intelligence on local knowledge of resistance using local formulary and prescribing guidance must be taken into account when deciding higher risk groups.]
144	United Lincolnshire Hospitals NHS Trust	Statement 3	Does the Quality Standard accurately reflect the Key areas for Quality Improvement? Yes, key area for improvement and this reflects Quality improvement well giving a better picture of prescriber understanding and clinical appropriateness, as well as background to patient case on which future prescribing decisions can be made.
145	United Lincolnshire Hospitals NHS Trust	Statement 3	If the systems and structures were available, would it be possible to collect the data for the proposed quality measures? This could be measured in ULHT, but would be very time consuming unless electronic prescribing was implemented. Currently snapshot audits provide indicators of compliance. Measurement in primary care would be possible, but requires implementation of this initiative to start with and some means of collecting the data in a standardised format. There is lack of resources in this area for primary care to allow data to be collected via existing systems.
146	United Lincolnshire Hospitals NHS Trust	Statement 3	Do we have any examples from practice of implementing the NICE guidelines that underpin this Quality Standard? Can provide an illustration of the antimicrobial prescription sections of ULHT hospital drugs charts Can provide snapshot audit data for areas within ULHT

147	The Royal College of Surgeons of Edinburgh	Statement 3	Supported, but it is worthwhile noting under the General Dental Council's (GDC) October 2014 Standards document for dental registrants, that paragraph 4.1 already stipulates dentists must "make and keep contemporaneous, complete and accurate patient records." So, the suggested requirement that "People prescribed an antimicrobial have the clinical indication, dose and duration of treatment documented in their clinical record," in relation to dentists, will be superfluous because this should be being undertaken already, where paragraph 4.1.4 of the GDC's Standards document specifies "You must ensure that all documentation that records your work, including patient records, is clear, legible, accurate, and can be readily understood by others. You must also record the name or initials of the treating clinician."
148	Public Health England	Statement 3	Statement 3 People prescribed an antimicrobial have the clinical indication (and disease severity where appropriate), dose and duration of treatment documented in their clinical record.
149	United Kingdom Clinical Pharmacy Association	Statement 3	Statement 3 People prescribed an antimicrobial have the clinical indication, dose, interval, route and duration of treatment or review date documented in their clinical record.
150	Scottish Antimicrobial Prescribing Group (SAPG)	Statement 3	Statement 3 People prescribed an antimicrobial have the clinical indication, dose, interval, route and duration of treatment or review date documented in their clinical record.
151	Royal College of Paediatrics and Child Health	Statement 3	Should also include route of administration
156	NHS Trust Development Authority	Statement 3	This quality statement should also include the review date & requirement that all information should be clearly documented on the prescription chart (for inpatients) in addition to the medical record.
157	British Dental Association	Statement 3	The BDA fully supports the requirement to document symptoms, treatment and justifications; this is expected by the General Dental Council. Medical history should also be included, e.g. allergies to antibiotics.
158	British Association of Oral Surgeons	Statement 3	People prescribed an antimicrobial have the clinical indication, dose and duration of treatment documented in their clinical record. We support this statement. There is evidence highlighting that this is not yet routine practice in dentistry

159	Association of Teaching Hospital Pharmacists	Statement 3	It is recognised in Public Health England guidance document Start Smart Then Focus that at the time an antimicrobial is prescribed in secondary care, the diagnosis may be uncertain and subject to review over the next 48-72 hours. Documenting a course length at this time can frequently lead to over-treatment or under-treatment. In secondary care, the appropriate time to set a course length is at the 48-72 hour point, when further diagnostic information is available and the patient's response to treatment can be evaluated. In primary care, a decision about course length is implicit in the prescription. Consider amending this standard to say "expected duration of treatment or review date" rather than "duration of treatment".
160	The British Society for Antimicrobial Chemotherapy (BSAC)	Statement 3	This is very much aspirational. However, for robust data this requires electronic prescribing which most service providers don't presently have access to.
161	MSD UK	Statement 3	MSD welcomes the strong emphasis on the completion of patient's records, namely the information relating to antimicrobial prescribing. Capturing data such as; treatment dose, duration, and treatment switching is important for both the care of patients, clinical practice of the prescriber, and also potential ramifications that relate to inappropriate prescribing, poor outcomes, and/ or resource/cost implications. Please see general comment above for data collection and the implications of its collection/ use.

162	Astellas Pharma Ltd	Statement 3	Astellas welcomes the draft statement that people prescribed an antimicrobial should have the clinical indication, dose and duration of treatment documented in their clinical record. Data collection, and monitoring, of antibiotic use is fundamental to identifying inappropriate prescribing practices and monitoring the effective use of existing antibiotics. In order for this data collection to go further and provide a meaningful assessment of the effectiveness of antimicrobial stewardship programmes, Astellas recommends that the statement is strengthened to include data collection on resistance and outcomes associated with each prescribing decision, such as recurrent episodes of the infection and sustained cure. Auditing these records within and across settings will deepen understanding about those antimicrobials which are both clinically effective and least susceptible to resistance, and allow local stewardship programmes to be revised accordingly. This will require electronic prescribing and data systems to be aligned for local audit use, and should be considered in conjunction with statements 5 and 6 on data collection and the opportunities around developing electronic prescribing systems to make this a reality. Astellas recommends rewording the statement as follows: People prescribed an antimicrobial have the clinical indication, dose and duration of treatment documented in their clinical record alongside the clinical outcome at the end of the prescribed antibiotic regimen. Astellas also recommends including the following structure to measure impact: Evidence of local arrangements and processes to ensure that all prescribers record clinical outcomes (such as sustained cure) and observed resistance at the end of the prescribed antibiotic regimen in a patient's clinical record.
163	British Thoracic Society	Statement 3	This is part of good medical practice but we suspect current practice could be improved. Electronic records and electronic prescribing in secondary care (see below) will help but is not available in all trusts. A purpose designed script capturing much of this information should be used, with indication, proposed duration and ? recording what microbiological samples have been sent. This could / is easily audited. Within secondary care this can be achieved either electronically or with the assistance of pharmacists and audits
164	Royal College of Surgeons	Statement 3	No comments
165	Randox Laboratories Ltd	Statement 3	A diagnostic confirming the exact cause of the infection should be performed so that the correct antibiotic is prescribed if it is required. Co-infections often need several treatments. This removes the problem of antibiotic resistance developing further.

166	North Bristol NHS Trust	Statement 3	Please define 'clinical record'. Does this mean on the drug chart or in the medical notes – or both?
167	Faculty of General Dental Practice (UK) and Faculty of Dental Surgery RCSEng	Statement 3	We support this statement, and note that the accurate recording of prescribing is already required of dental professionals (Responsible Prescribing, 2008, General Dental Council). However we also note that ESPAUR data shows that it is not yet routine practice in dentistry. We therefore also support the expectation that commissioners will only commission providers who meet the antimicrobial recording requirements, as this will encourage best practice. For the same reason, we further believe that data on antimicrobial prescribing by individual practitioners should be collected.
168	Royal College of Anaesthetists Professional Standards Committee	Statement 3	Nil to add
169	DH Advisory Committee On Antimicrobial Resistance and Healthcare Associated Infections (ARHAI)	Statement 3	It is recognised in Public Health England guidance document Start Smart Then Focus that at the time an antimicrobial is prescribed in secondary care, the diagnosis may be uncertain and subject to review over the next 48-72 hours. Documenting a course length at this time can frequently lead to over-treatment or under-treatment. In secondary care, the appropriate time to set a course length is at the 48-72 hour point, when further diagnostic information is available and the patient's response to treatment can be evaluated. In primary care, a decision about course length is implicit in the prescription. Consider amending this standard to say "expected duration of treatment or review date" rather than "duration of treatment". This needs to be incorporated into electronic prescribing protocols but often is not. Appropriate practice can be encouraged by use of antimicrobial App on smart phones. Documentation of expected duration or review date should be a KPI.
170	Royal College of Nursing	Statement 3	It should be explicit in this statement that this occurs regardless of the care setting (e.g. GP, care home record, hospital etc.)
171	Royal College of Nursing	Statement 3	We would suggest the inclusion of a review date in this statement. This is desirable, particularly for individuals with chronic conditions that may end up on antibiotics for long durations.

172	The Royal College of Surgeons of Edinburgh	Statement 4	As it stands, the proposed quality statement “People in hospital prescribed an antimicrobial have a microbiological sample taken and their treatment reviewed when the results are available” would also potentially apply to hospital dental service practitioners working in secondary care. As such, it would not always be appropriate to legislate in this way. This is because spreading dental infections that place a patient’s health in jeopardy through either a developing toxaemia or a restricted airway are often associated with a cellulitis that tracks along fascial planes and despite incisions of facial swellings, they do not always yield inflammatory material that may be cultured to determine the identity of the prevalent microbial species and or any antimicrobial sensitivities. In addition, patients with maxillary sinusitis that produce referred maxillary molar dental pain are similarly inaccessible for sample collection, that is, not without an invasive procedure. Patients who may present with Acute Ulcerative Gingivitis (AUG) also have such characteristic gram-negative, obligate anaerobic microbial fauna (e.g. fusobacteria and spirochaetes) that treatment with a suitable antibiotic, such as metronidazole, is invariably successful, without the need for culture swabs being taken of the inflammatory gingival exudate from around the infected gums. I would therefore suggest this statement is changed, so that it reads “People in hospital prescribed an antimicrobial should normally have a microbiological sample taken, whenever practicable and their treatment reviewed when the results are available, if clinically appropriate.”
173	Royal College of Surgeons	Statement 4	This is not always feasible. If someone is systemically unwell you may start antibiotics started prior to getting samples. Often microbiological results are returned after patients are discharged from hospital. If required there should be a clear process for contacting the GP and patient if required
174	The British Society for Antimicrobial Chemotherapy (BSAC)	Statement 4	“Statement 4 People in hospital prescribed an antimicrobial have a microbiological sample taken and their treatment reviewed when the results are available.” This should read: “Statement 4 People in hospital prescribed an antimicrobial have diagnostic samples taken and their treatment reviewed when the results are available.”
175	Royal College of Nursing	Statement 4	Denominator only considers those prescribed antibiotics. A truer picture would include those that may have been considered for or requested antibiotics but a conscious decision taken not to prescribe?

176	Public Health England	Statement 4	Quality statement People in hospital prescribed an antimicrobial have a microbiological sample taken before treatment occurs where clinically appropriate and their treatment reviewed when the results are available. Rationale: Analysing microbiological samples allows more targeted and effective prescribing of appropriate, potentially narrow-spectrum antimicrobials or stopping the antimicrobials if test results indicate they are not necessary or ineffective. In hospital, microbiological samples should be taken before antimicrobials are prescribed, but it is sometimes necessary to start antimicrobial treatment before the microbiological results are available. Knowing the antibiotic susceptibility of an infecting organism can help clinicians to prescribe the most appropriate antibiotic. This is useful for narrowing of broad-spectrum therapy, changing therapy to effectively treat resistant pathogens and stopping antibiotics when cultures suggest an infection is unlikely. Cultures are also important for epidemiological surveillance. Do not delay treatment for patients with life-threatening infections e.g. severe sepsis.
177	Healthcare Infection Society	Statement 4	Would insert the word ‘appropriate’ in relation to microbiological samples
178	United Lincolnshire Hospitals NHS Trust	Statement 4	Does the Quality Standard accurately reflect the Key areas for Quality Improvement? Yes but the Quality standards also need to consider the cohort of patients that will have been started on an antimicrobial in primary care. Often this is without taking microbiological samples, and consequently we have limited insight to the nature of the infection when collecting such samples at a later date.
179	Royal College of Paediatrics and Child Health	Statement 4	It may be difficult to ascertain the time ‘when the results are available’. Laboratory reporting systems should state when the result was released so it is clear if there is a delay in between the result being released and being acted on – this may be a delay in the result being reviewed by the clinical team and it would be important to identify a lab-related delay in obtaining the result and a clinical-related delay in identifying/acting on the result.

180	United Lincolnshire Hospitals NHS Trust	Statement 4	If the systems and structures were available, would it be possible to collect the data for the proposed quality measures? At present capacity of existing systems we could only provide snapshots of such practice. Being able to report on the measures suggested on a more reliable and regular basis would be too great a task unless electronic prescribing was implemented.
181	United Lincolnshire Hospitals NHS Trust	Statement 4	Do we have any examples from practice of implementing the NICE guidelines that underpin this Quality Standard? Can provide snapshot audit data for areas within ULHT
182	Royal College of Nursing	Statement 4	The statement seems to suggest only people in hospitals need to have a microbiological sample taken. Primary care and dental care also send samples on clinical indication. Should the same rules of review apply?
183	Public Health England	Statement 4	Statement 4 People in hospital prescribed an antimicrobial have a microbiological sample taken where clinically appropriate before treatment commences and their treatment reviewed at 48 - 72 hours or when the results are available. Antibiotics are generally started before a patient's full clinical picture is known. By 48 - 72 hours, when additional information is available, including microbiology, radiographic and clinical information, it is important for clinicians to re-evaluate why the therapy was initiated in the first place and to gather evidence on whether there should be changes to the therapy.
184	United Kingdom Clinical Pharmacy Association	Statement 4	Statement 4 People in hospital prescribed an antimicrobial where clinically appropriate have a microbiological sample taken prior to starting treatment and their treatment is reviewed at 48-72 hours or when the results are available.
185	Scottish Antimicrobial Prescribing Group (SAPG)	Statement 4	Statement 4 People in hospital prescribed an antimicrobial where clinically appropriate have a microbiological sample taken prior to starting treatment and their treatment is reviewed when the results are available.
186	Royal College of Paediatrics and Child Health	Statement 4	Rather than ‘a microbiological sample’ would be better to say ‘all appropriate microbiological samples’ as >1 may be needed, and occasionally none are needed. When collecting data it would be necessary to include indication for prescription of antimicrobial in order to properly analyse the sample collection data.

187	NHS Trust Development Authority	Statement 4	We suggest that the quality statement should be amended to read “People in hospital prescribed an antimicrobial have a microbiological sample taken ideally before the administration of antimicrobial therapy and their treatment reviewed when the results are available.” We believe that this is particularly important when antimicrobial therapy is commenced on the basis of an empirical clinical diagnosis of infection to reduce the tendency for “defensive prescribing” particularly by junior medical staff. We do not believe that hospital information systems are currently sophisticated enough to collect the data required for the proposed quality measures..
188	The British Society for Antimicrobial Chemotherapy (BSAC)	Statement 4	Two main points: 1. This statement does not seem to include complex community patients who may harbour resistant bacteria. These should be included. 2. There are some guidelines that are in conflict with this statement. For example, the BTS pneumonia guidelines. Also, it should be diagnostic samples - plural and diagnostic instead of microbiological as microbiological does not include antigen based tests and other markers (at least in common thinking).
189	MSD UK	Statement 4	The use of a microbiological sample to inform treatment decisions is in line with good AMS. However, MSD also appreciate that in specific circumstances it is not always feasible to allow culturing of a microbiological sample. Therefore, how will these patients (empiric use) be excluded from the denominator? i.e. What will be the justification/ hospital code within the patient notes to prevent inclusion into the denominator?
190	British Dental Association	Statement 4	We support the statement as it currently stands.
191	British Association of Oral Surgeons	Statement 4	People in hospital prescribed an antimicrobial have a microbiological sample taken and their treatment reviewed when the results are available. This seems a reasonable suggestion however there is limited evidence that C&S of dental abcesses alters outcomes of treatment.

192	Astellas Pharma Ltd	Statement 4	Astellas welcomes the draft quality statement that people in hospital should have a microbiological sample taken and their treatment reviewed when the results are available. As the supportive text within the draft document indicates, routine diagnostic testing can play a vital role in reducing the risk of AMR, by ensuring that prescribers use a targeted antibiotic when clinically indicated, or stopping the antimicrobials if test results indicate they are not necessary or ineffective. Astellas recommends that, to strengthen prescribing decisions following testing, the quality standard should be amended to incorporate potential action arising from the results. This would ensure that the standard reflects guidance within the Five Year Antimicrobial Resistance Strategy4 and Public Health England's antimicrobial prescribing toolkit Start Smart Then Focus5. Astellas recommends rewording the statement as follows: People in hospital prescribed an antimicrobial have a microbiological sample taken and their treatment reviewed when the results are available. The results should be used to inform the use of a narrow spectrum antibiotic where clinically indicated, or to stop the antimicrobials if results indicate they are not necessary or ineffective. Astellas also recommends the following structure to measure impact: Evidence of local arrangements and processes to ensure that people in hospital who are prescribed an antimicrobial have a microbiological sample taken. The results should be used to inform the use of a narrow spectrum antibiotic where clinically indicated, or to stop the antimicrobials if results indicate they are not necessary or ineffective with treatment decisions documented in a patient's records.
193	British Thoracic Society	Statement 4	This is a cause for concern as delaying treatment in patients with suspected sepsis, pneumonia, meningitis etc before samples are taken may lead to harm. While samples are should be taken it is perhaps important to note that, where indicated, empirical treatment should start and be modified 24-48 hours after sample results are available. There is published evidence that delay in starting antibiotics leads to worse outcomes.
194	Randox Laboratories Ltd	Statement 4	The diagnostic test should be performed prior to prescribing of antibiotic if possible.

195	North Bristol NHS Trust	Statement 4	Could this be changed to: “People in hospital prescribed an antimicrobial have a microbiological sample taken *where relevant* and their treatment reviewed when the results are available”? This is a good aim as this does not happen invariably, clinicians are not good at chasing results for a sample they have submitted particularly after patient has moved wards or appears to be improving on current treatment (whether or not it includes antimicrobials)
196	Association of Teaching Hospital Pharmacists	Statement 4	Consider subtle but critical amendment to say “prescribed an antimicrobial empirically”. This is to avoid encouraging unnecessary repeat testing.
197	Faculty of General Dental Practice (UK) and Faculty of Dental Surgery RCSEng	Statement 4	We recognise the need for antimicrobial prescribing to be specific to the pathogen, and therefore agree with this statement. However, should it later be suggested that microbiological sampling be extended to primary care dentistry, we would not support that. The correct treatment of infections is removal of the cause (and prescribing empirically where antibiotics are appropriate). The additional cost of sampling would not be justified, and the additional waiting time for results could harm the patient
198	Royal College of Anaesthetists Professional Standards Committee	Statement 4	Again, I think that this statement asks important questions but I do feel that trying to ascertain whether all these actions have been taken will be time consuming and require triangulation of data from a variety of written and electronic sources. It may be easier to obtain this information in areas which use electronic prescribing as well as electronic sample and specimen reporting systems.
199	DH Advisory Committee On Antimicrobial Resistance and Healthcare Associated Infections (ARHAI)	Statement 4	Consider subtle but critical amendment to say “prescribed an antimicrobial empirically”. This is to avoid encouraging unnecessary repeat testing. Use of CRP, procalcitonin and PCR kits to rule out active infection and earlier stopping of antibiotics should be considered
200	Royal College of Nursing	Statement 4	Statement 4 People in hospital prescribed an antimicrobial have a microbiological sample taken and their treatment reviewed when the results are available. It should be explicitly stated that where possible the specimen is sent prior to commencing antibiotics. Where this is not possible, specimens should still be sent but the prescribing of antibiotics prior to taking specimens is recorded.
201	The British Society for Antimicrobial Chemotherapy (BSAC)	Statement 5	Does Statement 5 also apply to Primary care? If so this should be made clear.
202	Royal College of Nursing	Statement 5	Denominator is described as number of prescribers, teams or organisations. This seems too wide a spectrum if one is going to do comparative work.

203	United Lincolnshire Hospitals NHS Trust	Statement 5	Does the Quality Standard accurately reflect the Key areas for Quality Improvement? Yes. This is key to surveillance and driving improvements
204	United Lincolnshire Hospitals NHS Trust	Statement 5	If the systems and structures were available, would it be possible to collect the data for the proposed quality measures? Numerator measurement: Primary care are already do this well as mostly electronic prescribing. However, data collection at ULHT is more difficult due to complexity of teams with junior doctors into being flagged up by the system, specialities sharing wards, and the use of ward stock. Current system for extracting data at ULHT is very time consuming, as are manual audits, making it impractical to provide regular feedback to all prescribers, or even teams. Previous information analysis assistance in this aspect has now been lost due to financial constraints. Electronic prescribing would allow such measurement and feedback but requires a significant investment to be made for the organisation to implement this. An annual subscription programme is available from a third party data analysis company which is available at a much lesser cost, and would allow data collection and feedback to at least consultant led teams in a timely and repeatable manner. In the current financial climate of the NHS, even this will have to undergo a bidding process to secure the funding within the Trust. Denominator information is easy to provide.
205	United Lincolnshire Hospitals NHS Trust	Statement 5	Do we have any examples from practice of implementing the NICE guidelines that underpin this Quality Standard? Some examples of data collected and feedback at organisational level in past. Developing new system of data collection and feedback within current resources. Will be limited but can provide examples once in place as part of antimicrobial stewardship strategy.
206	The Royal College of Surgeons of Edinburgh	Statement 5	The Rationale states “Robust and focused data collection and feedback on antimicrobial prescribing across health and care systems enables recognising good practice and challenging inappropriate prescribing. It also allows identifying training needs and areas for quality improvement.” We would suggest that the rationale statement should be made less threatening, by substituting the word “challenging” with the word “questioning,” on the basis that there may be good, justifiable clinical reasons why a clinician may prescribe an antimicrobial with an atypical prescription, in relation to a drug’s dose, duration and or frequency

207	The Royal College of Surgeons of Edinburgh	Statement 5	With this draft quality statement, “Service providers (hospitals, GP practices, walk-in centres, dental practices, pharmacies, podiatry services) ensure that systems are in place for antimicrobial stewardship teams or individuals responsible for antimicrobial stewardship within the service to collect data and provide feedback on prescribing at individual, team and organisational level.” One possibility would be to replicate appropriate clinical audits with feedback education (as described above, e.g. Chate et al 2006), because anonymised exercises are less threatening than electronic surveillance of an individual clinician’s prescribing profile. This could be done at least in the first instance, until a general improvement in prescribing accuracy and compliance with published guidelines had been achieved. In this way, with a general raising of prescribing standards, as a precursor to the introduction of a mandatory antimicrobial prescribing surveillance scheme, this delay could result in greater clinician acceptance and be associated with less monitoring and less remedial education costs for certain individuals. Indeed, there could also be merit in suggesting that antimicrobial stewardship should become another one of the GDC’s recommended Core CPD topics for dentists, with a prescribed amount of hours of relevant education and or active participation in audit per each registrant’s 5-yearly CPD certification cycle.
208	Public Health England	Statement 5	Statement 5 Antimicrobial stewardship teams or individuals responsible for antimicrobial stewardship collect data and provide feedback on prescribing practice at individual, team and organizational level.
209	United Kingdom Clinical Pharmacy Association	Statement 5	Statement 5 Antimicrobial stewardship teams or individuals responsible for antimicrobial stewardship support the collection of audit data, ideally by the clinical team, and provide feedback on prescribing practice at individual, team and organisational level. The process described has limited detail and just suggests you measure how many people receive feedback. It doesn’t give any detail about the quality or quantity of the data that is reported. You could report just grams of antibiotic used and it would satisfy the criteria, but not be particularly useful.
210	Scottish Antimicrobial Prescribing Group (SAPG)	Statement 5	Statement 5 Antimicrobial stewardship teams or individuals responsible for antimicrobial stewardship support the collection of audit datacollect, ideally by the clinical team, data and provide feedback on prescribing practice at individual, team and organisational level.
211	Royal College of Paediatrics and Child Health	Statement 5	There is no comment here on collecting/analysing data on local microbiology or adherence to local/national guidelines, which should be considered part of the role of the antimicrobial stewardship team

212	NHS Trust Development Authority	Statement 5	We strongly agree that this is an area for improvement. It is our experience that antimicrobial stewardship teams are not universally in place in NHS providers and where they are, their performance is variable. It is certainly the case that information systems are often poor and many do not currently enable feedback of prescribing data to teams let alone individuals. It is our view that the importance of individual prescriber responsibility is reinforced to ensure practice is in line with the standards.
213	MSD UK	Statement 5	MSD believe that statement 5 is instrumental in changing the behaviour of prescribers and those responsible for good AMS at the organisational-, team-, and individual-level. Please see general comment above, which relates to the collection of local data and how this will be used to achieve the objectives of this quality standard.
214	British Dental Association	Statement 5	The BDA supports local (practice-level) prescribing data collection and benchmarking. Exercises of this type have been shown to be effective in reducing antibiotic prescribing, particularly among the highest prescribing individuals, in dental practices in Scotland and Wales, in addition to some pilot sites in England. Careful consideration would need to be given to how this would work in practice without making it excessively burdensome for dentists; they are currently not linked to NHS data systems used by medical practices or pharmacies.
215	British Association of Oral Surgeons	Statement 5	Antimicrobial stewardship teams or individuals responsible for antimicrobial stewardship collect data and provide feedback on prescribing practice at individual, team and organisational level. We support this statement

216	Astellas Pharma Ltd	Statement 5	Astellas welcomes the draft statement that antimicrobial stewardship teams or individuals responsible for antimicrobial stewardship should collect data on prescribing practice at individual, team and organisational level. Astellas has made recommendations about the content of these reviews (including data on use, resistance and outcomes) as part of its response to quality statement 3. Astellas further recommends that these data should be reviewed beyond organisational boundaries, to ensure that prescribing and outcomes data can capture the impact of prescribing when patients transfer between primary, community and hospital settings. This is a particular challenge for healthcare associated infections, including CDI, which can develop and be treated within different providers as people move between care settings. A whole-system approach will ensure that stewardship teams in an area can work together to review prescribing practices and improve the efficacy of stewardship programmes beyond boundaries. Astellas therefore recommends that the draft statement is revised to specifically include review at the local commissioning level. Astellas recommends rewording the statement as follows: Antimicrobial stewardship teams or individuals responsible for antimicrobial stewardship collect data and provide feedback on prescribing practice at individual, team, organisational level and across organisations by commissioning area. Astellas also recommends including the following structure to measure impact: Evidence of local arrangements and processes to ensure that antimicrobial stewardship teams or individuals responsible for antimicrobial stewardship collect data and provide feedback on prescribing practice at individual, team, organisational level and across organisations by commissioning area.
217	British Thoracic Society	Statement 5	This should be routinely taking place in acute trusts with a recognised lead and easily audited to ensure appropriate stewardship
218	Royal College of Surgeons	Statement 5	No comments
219	Randox Laboratories Ltd	Statement 5	Prescribing should be based on diagnosis.
220	North Bristol NHS Trust	Statement 5	The collection of audit data should not be the responsibility of the trust stewardship team. These teams are usually very poorly resourced and do not have the time or resources to do this. Audits should be the responsibility of the clinical teams. A suggested re-wording would be: “Antimicrobial stewardship teams or individuals responsible for antimicrobial stewardship *support the collection of audit data by the clinical team* and provide feedback on prescribing practice at individual, team and organisational level *where possible*.”

221	Association of Teaching Hospital Pharmacists	Statement 5	Providing feedback at the individual prescriber level in hospitals, in the absence of comprehensive electronic prescribing systems, is prohibitively time-consuming and resource-intensive and this quality standard would lead to inappropriate prioritisation of this work over other important activities such as education or writing and updating local guidelines that may have a greater beneficial impact upon patient outcomes. Software systems in primary care make this possible with a relatively modest investment of resource. Also, in hospitals, prescriptions written by junior medical staff are often strongly influenced by more senior staff in the team. We feel strongly that this standard will drive an inefficient use of NHS resources and taxpayer funds in the hospital setting for an undefined gain. Consider a revision of this standard to providing feedback at organisation level as a minimum and ideally team level for hospitals. ePACT data in primary care permits feedback to individual GPs.
222	Faculty of General Dental Practice (UK) and Faculty of Dental Surgery RCSEng	Statement 5	We agree with this statement. Collection of prescribing data is a valuable tool at all these levels, can be used comparatively to allowing benchmarking and identification of outliers, trends and educational needs, and provides useful data for policy-makers. Robust data on individual dental prescribing is particularly important and has been shown to reduce antibiotic prescribing.
223	Royal College of Anaesthetists Professional Standards Committee	Statement 5	Having a dedicated team of people in the role outlined is of paramount value in terms of ensuring continuing assessment of quality in a healthcare system with regard to all of the quality statements outlined. The question for managers in healthcare will come down to one of finance and how, in this cash strapped NHS, they can convince commissioners to fund such a role. Do authors have evidence as to how employment of such teams could help to improve financial strain? If so, would it not be worth signposting managers to these documents so that they can easily formulate business cases for these new roles? Would something like this have revalidation implications with respect to the analysis of your prescribing practices?

224	DH Advisory Committee On Antimicrobial Resistance and Healthcare Associated Infections (ARHAI)	Statement 5	Providing feedback at the individual prescriber level in hospitals, in the absence of comprehensive electronic prescribing systems, is prohibitively time-consuming and resource-intensive and this quality standard would lead to inappropriate prioritisation of this work over other important activities such as education or writing and updating local guidelines that may have a greater beneficial impact upon patient outcomes. Software systems in primary care make it possible to provide feedback to individual GPs with a relatively modest investment of resource. Importantly, in hospitals, prescriptions written by junior medical staff are often strongly influenced by more senior staff in the team and would be more appropriately assigned to the team rather than the individual doctor. I feel strongly that this standard will drive an inefficient use of NHS resources and taxpayer funds in the hospital setting for an undefined gain. Consider a revision of this standard to providing feedback at organisation level as a minimum and ideally team level for hospitals. ePACT data in primary care permits feedback to individual GPs. PHE is constructing an openly accessible data portal for Launch from April 2016 which will include HCAI and GP prescribing data in the first instance and will be further developed as datasets become available/validated, such a resource will be important aid to this process.
225	Royal College of Nursing	Statement 5	This statement is too vague. All Healthcare professionals have responsibility for antimicrobial stewardship. Suggestions as to who collects data should be more explicit.
226	Royal College of Nursing	Statement 5	Is there a desire to utilise this data beyond an individual, team and organisational level? For a single practitioner, the data would be more meaningful when compared against similar practices/ practitioners/ client groups.
227	NHS England	Statement 6	This is a good idea, however please be aware that when hospitals introduce electronic prescribing they do not always do so in ED and the wards at the same time, and if use e-prescribing in one but not the other, this could have a potentially deleterious effect on good patient care
228	Royal College of Nursing	Statement 6	Denominator: Number of secondary care services is too wide a descriptor (within the same services one may find a mixture of electronic and manual prescribing). It would be difficult to obtain a comparative figure.

229	MRSA Action UK	Statement 6	Fully support this developmental statement, and would seek assurance that pharmacies who are making decisions on prescribing have electronic prescribing systems. Quality statement 6 (developmental statement): electronic prescribing systems Developmental quality statements set out an emergent area of service delivery or technology currently found in a minority of providers and indicating outstanding performance. They will need specific, significant changes to be put in place, such as redesign of services or new equipment. Pharmacies who prescribe antimicrobials must have access to electronic prescribing to ensure good antimicrobial stewardship.
230	United Lincolnshire Hospitals NHS Trust	Statement 6	Does this reflect an emergent area of service delivery or technology? If so, does this indicate outstanding performance carried out only by a minority of providers that will need specific, significant changes to be put into place, such as redesign of services or new equipment? Yes, would need to redesign service delivery in the organisation and synchronise the use of various technologies in place.
231	United Lincolnshire Hospitals NHS Trust	Statement 6	Can you provide any examples of current practice in this area? No as we do not have electronic prescribing in this organisation, but have seen examples of successful application of its use in Birmingham Hospitals.
232	The Royal College of Surgeons of Edinburgh	Statement 6	The rationale already acknowledges that secondary care services and dental practices currently do not have access to electronic prescribing technology and it is recognised that the provision of such IM&T support systems would have significant costs. My only concern is that if such a facility were created, it should not be allowed to evolve into a system that, by default, could reject an “atypical” antimicrobial prescription from being dispensed. Clinical judgement and the freedom to vary an antimicrobial prescription’s dose, duration and frequency of administration must be safeguarded, for those exceptional circumstances when the treatment of an individual patient’s infection might otherwise be compromised as a result.
233	Public Health England	Statement 6	Statement 6 (developmental statement): Prescribers in secondary care and dental practices use electronic prescribing systems.
234	Royal College of Paediatrics and Child Health	Statement 6	We currently use electronic prescribing – when it is used it would be ideal if it is possible to obtain datasets on prescribing practice for audit as part of antimicrobial stewardship

235	NHS Trust Development Authority	Statement 6	We agree that this is an area for improvement. However, we would suggest that the scope of the quality standard should be more ambitious and extended to include the use of emergent technologies that support antimicrobial stewardship. We would cite the use of decision support aids and apps available on mobile technology as examples
236	MSD UK	Statement 6	MSD endorse the use of electronic prescribing systems. However, what proportion of trusts currently have/ use electronic prescribing, and how will this be used to support AMS? Statement six refers to personal, team, and organisational accountability, but this is not made clear in the process section of this report.
237	British Dental Association	Statement 6	We welcome NICE's view of electronic prescribing for dentists as an aspirational statement. Systems are not currently in place to enable this in either primary or secondary dental services in England and Wales. We note that electronic prescribing would not necessarily facilitate data collection for private dental practices, where antibiotics are often stocked and dispensed directly without a written prescription. Electronic systems would need to be compatible with current dental software systems. Appropriate funding will be required.
238	British Association of Oral Surgeons	Statement 6	(developmental statement). Prescribers in secondary care and dental practices use electronic prescribing systems. Prescribing data for all dental care should be collected and monitored NHS and private work in Primary and secondary care data must be recorded and monitored for dentistry. Management of acute dental care in A&E and GMP settings must also be collected and monitored It must be recognised that most dental practices DO NOT have access to electronic patient NHS records. Mechanisms to overcome the lack of IG and IT access have been recommended in the NHS dental specialist commissioning guides. Contracting of dentistry must be modernised to allow monitoring and recording of prescribing From the BDA AMR Summit 2014 See electronic form
239	British Thoracic Society	Statement 6	Full electronic prescribing is still only used in the minority of NHS secondary care trusts. However all discharge medications are electronic, so this data could be reviewed in the first instance. To roll out full inpatient electronic prescribing across trusts is a major undertaking, and will take time and significant investment in resources. We are unsure if it the remit of NICE to state that e prescribing should be available as a QS without ensuring resources are available. Potentially trusts could be penalised for this failing.
240	Royal College of Surgeons	Statement 6	No comments

241	Association of Teaching Hospital Pharmacists	Statement 6	This represents a vital opportunity to influence the design of e-prescribing systems to make it possible to support stewardship by: (a) incorporating alerts at the time of prescribing to promote appropriate antimicrobial use (e.g. requiring record of indication or provisional diagnosis); (b) identifying patients who would benefit immediately from specialist input or intervention (e.g. because of prolonged course length); and (c) providing routine surveillance data on antimicrobial prescribing by healthcare team for assurance purposes. A NICE quality standard could provide much-needed impetus to software developers to add such functionality that has potential to make a significant difference to patient outcomes. Consider adding the text “incorporating functionality to support antimicrobial stewardship” to the standard.
242	Royal College of Anaesthetists Professional Standards Committee	Statement 6	Yes, I do think that this statement reflects an emergent area of service delivery and is something which should be encouraged to be adopted. There are many advantages of such a system including being able to add a prompt for high risk / very broad spectrum antibiotics (such as meropenem) to add in a microbiologist’s name for authorization prior to prescription. This encourages mindful prescribing. Many systems will also mandate a stop / review date as well as listing an indication for the antimicrobial therapy as part of the prescribing process. I think that, speaking personally, trusts in which I’ve worked which are currently not undertaking electronic prescribing have plans underway to get this up and running as soon as possible. Of course, there re financial implications for such a system and it’s vital to ensure that a functional system is procured. If not, prescribers and administrators of drugs may find new systems more of a hindrance than a help.
243	DH Advisory Committee On Antimicrobial Resistance and Healthcare Associated Infections (ARHAI)	Statement 6	This represents a vital opportunity to influence the design of e-prescribing systems to make it possible to support stewardship by: (a) incorporating alerts at the time of prescribing to promote appropriate antimicrobial use (e.g. requiring record of indication or provisional diagnosis); (b) identifying patients who would benefit immediately from specialist input or intervention (e.g. because of prolonged course length); and (c) providing routine surveillance data on antimicrobial prescribing by healthcare team for assurance purposes. A NICE quality standard could provide much-needed impetus to software developers to add such functionality that has potential to make a significant difference to patient outcomes. Consider adding the text “incorporating functionality to support antimicrobial stewardship” to the standard.
244	Royal College of Nursing	Statement 6	The RCN supports this statement.

245	Alere Ltd	Additional areas	On the whole, Alere agrees that the draft quality standard addresses some areas for quality improvement. However, there is a lack of utilisation of rapid diagnostics in the quality standard and recognition of the key role that they can play in antimicrobial stewardship. In Quality Statement 1 and Quality Statement 2, the importance of accurately diagnosing patients with self-limiting infection is required in order for these statements to be appropriately implemented. Many GPs are unsure regarding the severity of infection or the presence of a self-limiting infection, particularly for respiratory tract infection (Van Vugt, 2013) which represents a significant proportion of GP appointments. This was recognised in NICE Clinical Guideline for Pneumonia CG 191 published in December 2014, where point of C-reactive protein (CRP) should be considered when a GP is unable to make a diagnosis based on signs and symptoms alone and unsure whether to prescribe antibiotics. It is surprising that this guideline is not referenced in the draft Quality Standard, or that point of care CRP testing is not indicated within this Quality Standard. As well as the NICE Guideline CG 191, this in included in the RCP TARGET Toolkit and also in the Public Health England Health Matters: Antimicrobial Resistance review. In addition, the recent report by the Antimicrobial Resistance Review team chaired by Jim O'Neill (Rapid Diagnostics: Stopping unnecessary use of antibiotics), concluded that use of rapid diagnostics are a central part of the solution for reducing antibiotic prescribing and improving diagnostic precision. Therefore it is important that the NHS is making the most of rapid diagnostic tests, particularly within primary care.
246	Alere Ltd	Additional areas	We believe that this quality standard (QS) has omitted a key area that would enhance the quality agenda for healthcare professionals, people and commissioners. Point of care C-reactive protein testing (POC CRP) in primary care could reduce the number of antibiotic prescriptions by up to 10 million each year, which would make a significant contribution to the UK's AMR strategy. In addition, POC CRP in primary care could save £56 million a year in prescription and dispensing costs. We therefore propose the following draft for the quality statement: Quality Statement People presenting to primary care prescribers with a suspected lower respiratory tract infection are tested for levels of C-reactive protein to confirm that their condition is self-limiting. Rationale When there is clinical uncertainty about whether a condition is self-limiting, the additional use of POC CRP gives healthcare professionals an additional diagnostic confirmation of the need for antimicrobial prescribing. Quality measure Structure:

			a) Evidence of local arrangements to ensure that healthcare professionals test for POC CRP in individuals presenting with LRTIs where pneumonia is not evident. b) Evidence of local arrangements within the commissioning framework to ensure that POC CRP testing is reviewed to ensure effective practice. c) Evidence of a reduction in inappropriate antibiotic use Process: a) Proportion of people aged 18 years and over in the locally defined target population who receive POC CRP. Numerator – the number of people in the denominator who receive POC CRP. Denominator – the number of people aged 18 years and over in the locally defined target population. b) Proportion of people aged 18 years and over in the locally defined target population who are not prescribed antibiotics. Numerator – the number of people in the denominator who are not prescribed antibiotics. Denominator – the number of people aged 18 years and over in the locally defined target population whose POC CRP <20mg/l. Outcome: Decrease in the quantity and frequency of inappropriate antibiotic use in the locally defined target population. What the quality statement means for service providers, healthcare professionals and commissioners Service providers ensure that healthcare staff are aware of the role of CRP POCT in reducing inappropriate antibiotic use and the impact. Healthcare professionals ensure they opportunistically carry out CRP POCT in people presenting with LRTIs and where a clinical diagnosis of pneumonia is not evident. Commissioners ensure they commission services that increase the uptake of CRP POCT and develop commissioning frameworks that review this practice to ensure effectiveness. People aged 18 and over are asked questions about their experience when presenting with a suspected LRTI/pneumonia. What the quality statement means for patients, service users and carers Adults presenting with a lower respiratory tract infection and in whom a clinical diagnosis of pneumonia is not evident are offered a point-of-care C-reactive protein test to confirm that their condition is self-limiting. Source guidance: Pneumonia: diagnosis and management of community and hospital acquired pneumonia in adults (2014) NICE guideline CG191, recommendation 1.1.1

247	Association of Teaching Hospital Pharmacists	Additional areas	It is most surprising that a quality standard has not been included with regard to antimicrobial guidelines. A fundamental antimicrobial stewardship strategy is providing prescribers with evidence-based guidelines for the treatment of common infections. This is all the more critical in the speciality of infection because infection is a common diagnosis and patients are typically cared for by non-specialists. Infection management is characterised by uncertainty over microbial aetiology and variability in antibiotic susceptibility, making high-quality local guidelines an essential component of effective and safe patient care. Infection guidelines are generally well-accepted by prescribers and measurement of adherence to guidelines is recommended in Public Health England guidance Start Smart Then Focus as well as the NICE Guideline on Antimicrobial Stewardship. This is undoubtedly an area for quality improvement because anecdotal evidence suggests that local guidelines are frequently inaccessible, out-of-date and do not explicitly incorporate local susceptibility data. We would suggest the following standards as likely to have a positive impact upon patient care: i. Local antimicrobial prescribing guidelines are provided for the treatment of common infections, in an accessible format, updated at least every 2 years and reporting local susceptibility data for relevant pathogens and recommended antimicrobials. ii. Adherence to local prescribing guidelines is audited to provide adequate assurance to organisational management and commissioners that prescribing of antimicrobials is safe, effective and appropriate.

248	Association of Teaching Hospital Pharmacists	Additional areas	Published surveys indicate that doctors and medical students do not feel well-informed about antimicrobial resistance and would welcome further training. The NICE quality standard offers an opportunity to encourage healthcare providers to introduce mandatory training on antimicrobial stewardship for individual practitioners via existing electronic learning solutions (available from multiple providers such as the Royal College of Physicians and e-Learning for Health from Health Education England). Training on hand hygiene and infection prevention has been mandatory in hospitals for many years so it seems inconsistent that antimicrobial stewardship is not awarded parity in view of the relative frequency of infection and antimicrobial exposure in secondary care patients. We recommend that a quality standard is added such as: i. Education on antimicrobial resistance, antimicrobial stewardship and appropriate antimicrobial prescribing is available to all hospital staff as part of the organisation's mandatory e-learning programme, to be completed every 3 years by at least 90% of staff (of all grades) who prescribe antimicrobials.
249	DH Advisory Committee On Antimicrobial Resistance and Healthcare Associated Infections (ARHAI)	Additional areas	Published surveys indicate that doctors and medical students do not feel well-informed about antimicrobial resistance and would welcome further training. The NICE quality standard offers an opportunity to encourage healthcare providers to introduce mandatory training on antimicrobial stewardship for individual practitioners via existing electronic learning solutions (available from multiple providers such as the Royal College of Physicians and e-Learning for Health from Health Education England). Training on hand hygiene and infection prevention has been mandatory in hospitals for many years so it seems inconsistent that antimicrobial stewardship is not awarded parity in view of the relative frequency of infection and antimicrobial exposure in secondary care patients. We recommend that a quality standard is added such as: i. Education on antimicrobial resistance, antimicrobial stewardship and appropriate antimicrobial prescribing is available to all hospital staff as part of the organisation's mandatory e-learning programme, to be completed every 3 years by at least 90% of staff (of all grades) who prescribe antimicrobials.

Registered stakeholders who submitted comments at consultation

- Alere Ltd

- Association of Teaching Hospital Pharmacists
- Astellas Pharma Ltd
- Baxter Healthcare Ltd
- British Association of Oral Surgeons
- British Association of Oral Surgeons
- British Dental Association
- British In Vitro Diagnostics Association (BIVDA)
- British Thoracic Society
- Department of Health
- DH Advisory Committee On Antimicrobial Resistance and Healthcare Associated Infections (ARHAI)
- Faculty of General Dental Practice (UK) and Faculty of Dental Surgery RCSEng
- Faculty of Intensive Care Medicine
- Healthcare Infection Society
- MRSA Action UK
- MSD UK
- NHS England
- NHS Trust Development Authority
- NICE Public Health and Social Care Internal Guidelines Development team
- North Bristol NHS Trust

- Public Health England
- Randox Laboratories Ltd
- Royal College of Anaesthetists Professional Standards Committee
- Royal College of General Practitioners
- Royal College of Nursing
- Royal College of Paediatrics and Child Health
- Royal College of Physicians
- Royal College of Surgeons
- Scottish Antimicrobial Prescribing Group (SAPG)
- The British Society for Antimicrobial Chemotherapy (BSAC)
- The Royal College of Surgeons of Edinburgh
- United Kingdom Clinical Pharmacy Association
- United Lincolnshire Hospitals NHS Trust

Appendix 2: Quality standard consultation comments table – non-registered stakeholders

ID	Stakeholder	Statement number	Comments
1	Thermo Fisher Diagnostics Ltd	Statement 4	There is evidence that up to half of positive blood cultures are due to sample contaminants rather than a genuine infection - Bates DW, Goldman L, Lee TH. Contaminant blood cultures and resource utilization. The true consequences of false-positive results. JAMA. 1991;265:365-369., Rupp ME, Archer GL. Coagulase-negative staphylococci: pathogens associated with medical progress. Clin Infect Dis. 1994;19:231-243. & Weinstein MP. Blood culture contamination: persisting problems and partial progress. J Clin Microbiol. 2003;41:2275-2278. We would argue that there should be an intermediate step, whereby patients are tested for the presence of an infection specific biomarker such as Procalcitonin. Serum or plasma Procalcitonin levels between 0.05 and 0.5 ng/ml may be indicative of possible local infection, while levels above 0.5 ng/ml are indicative of a systemic bacterial infection. Normal levels of PCT below 0.05ng/ml suggest no systemic inflammatory response due to bacterial infection. PCT is not elevated in cases of viral infection. Use of PCT/CRP in combination could be expected to differentiate between viral and fungal v bacterial infection. A low PCT/high CRP combination could indicate an inflammatory response due to fungal or viral causes while a high PCT/high CRP would suggest an inflammatory response due to bacterial cause. Meisner, Michael, Procalcitonin – Biochemistry and Clinical Diagnosis, 1st Ed. Bremen UNI-MED, 2010 ISBN 978-3-8374-1241-3 and references within. There is evidence that PCT levels above 1.0 ng/ml correlate 100% to positive blood cultures. We would not suggest that PCT should replace microbiological investigations, but could obviate the need for costly and often inconclusive cultures. Early and appropriate intervention with antimicrobial therapy is essential to avoid disease progression and potentially life threatening developments, the use of cultures as a means of determining who receives such therapy and when seems somewhat doubtful and somewhat risky, and the clinical value of such investigations could be improved with additional use of established biomarkers.
2	Colchester Hospital University NHS Foundation Trust	Question 1	Yes
3	Colchester Hospital University NHS Foundation Trust	Question 2	Yes it would, but there would be significant costs associated with this undertaking for primary dental care practices and secondary care Hospital Dental Services (Orthodontics and Oral/Maxillofacial Surgery) departments, bearing in mind that the vast majority do not currently have the degree of IM&T infrastructure to facilitate the electronic transfer of clinical prescribing data.
4	Colchester Hospital University NHS	Question 3	The impact of clinical audit on antibiotic prescribing in general dental practice RAC Chate et al. Brit Dent J 2006; 201 (10): 635-641 This publication powerfully illustrated the positive affect clinical audit with feedback education had on

ID	Stakeholder	Statement number	Comments
	Foundation Trust		improving the accuracy and clinical appropriateness of the antimicrobial prescribing practices of 212 general dental practitioners (GDPs) in the East of England (~ 0.7-1.0% of the UK's total number of GDPs). The security of individual practitioner anonymity afforded by a properly conducted audit exercise, undoubtedly facilitated a willingness for the dental participants to engage, learn and improve, in a much less threatening way than would be the case, were an electronic system to be created to monitor and police the antimicrobial prescribing patterns of each listed practitioner.
5	Colchester Hospital University NHS Foundation Trust	Statement 1	Toothache is listed as a self-limiting condition, but it is not. Apart form referred "dental" pain from otitis media or maxillary sinusitis, no other oro-dental pain is self-limiting. Reversible or irreversible dental pulpitis will not be resolved by anything other than appropriate dental surgery interventions and neither will apical or lateral periodontitis. A patient's toothache/oro-dental pain may cycle through episodes of remission and resurgence, but this is not equivalent to a self-limiting infection. As such, the direct or delayed provision of antimicrobials to treat the patient's pain would be regarded as inappropriate and sub-optimal treatment.
6	Colchester Hospital University NHS Foundation Trust	Statement 2	In conceptual terms, I challenge the rationale behind the concept of delayed/back-up prescribing for a number of reasons. The first is that the process is reliant on the patient being able to "diagnose" whether their condition is remitting or worsening, when this can and should only be done by an appropriately trained professional. I appreciate the process would avoid the inconvenience and costs associated with a follow-up clinical review, but from an ideal patient management perspective, that really shouldn't be the driver for creating such a system. The second is that, once the post-dated prescription becomes "in-date," even if the patient feels better, they are still likely to submit the prescription for dispensing, just in case the problem comes back again some time later. Thereafter, they will have in their possession an antimicrobial that they could use completely inappropriately for some other un-related illness or condition, thereby compounding the issue of the emergence of antimicrobial resistance.
7	Colchester Hospital University NHS Foundation Trust	Statement 3	The Quality Measure of "Evidence of local arrangements and processes to ensure that all prescribers document the clinical indication, dose and duration of treatment in patients' records when prescribing an antimicrobial" through "Local data collection" will be amenable to clinical audit at either a district, regional or national level.
8	Colchester Hospital University NHS Foundation Trust	Statement 3	Supported, but it is worthwhile noting under the General Dental Council's (GDC) October 2014 Standards document for dental registrants, that paragraph 4.1 already stipulates dentists must "make and keep contemporaneous, complete and accurate patient records." So, the suggested requirement that "People prescribed an antimicrobial have the clinical indication, dose and duration of treatment documented in their clinical record," in relation to dentists, will be superfluous because this should be being undertaken already, where paragraph 4.1.4 of the GDC's Standards document specifies "You must ensure that all documentation that records your work, including patient records, is clear, legible, accurate, and can be readily understood by others. You must also record the name or initials of the treating clinician."
9	Colchester Hospital University NHS	Statement 4	As it stands, the proposed quality statement "People in hospital prescribed an antimicrobial have a microbiological sample taken and their treatment reviewed when the results are available" would also potentially apply to hospital

ID	Stakeholder	Statement number	Comments
	Foundation Trust		dental service practitioners working in secondary care. As such, it would not always be appropriate to legislate in this way. This is because spreading dental infections that place a patient's health in jeopardy through either a developing toxaemia or a restricted airway are often associated with a cellulitis that tracks along fascial planes and despite incisions of facial swellings, they do not always yield inflammatory material that may be cultured to determine the identity of the prevalent microbial species and or any antimicrobial sensitivities. In addition, patients with maxillary sinusitis that produce referred maxillary molar dental pain are similarly inaccessible for sample collection, that is, not without an invasive procedure. Patients who may present with Acute Ulcerative Gingivitis (AUG) also have such characteristic gram-negative, obligate anaerobic microbial fauna (e.g. fusobacteria and spirochaetes) that treatment with a suitable antibiotic, such as metronidazole, is invariably successful, without the need for culture swabs being taken of the inflammatory gingival exudate from around the infected gums. I would therefore suggest this statement is changed, so that it reads "People in hospital prescribed an antimicrobial should normally have a microbiological sample taken, whenever practicable and their treatment reviewed when the results are available, if clinically appropriate."
10	Colchester Hospital University NHS Foundation Trust	Statement 5	The Rationale states "Robust and focused data collection and feedback on antimicrobial prescribing across health and care systems enables recognising good practice and challenging inappropriate prescribing. It also allows identifying training needs and areas for quality improvement." I would suggest that the rationale statement should be made less threatening, by substituting the word "challenging" with the word "questioning," on the basis that there may be good, justifiable clinical reasons why a clinician may prescribe an antimicrobial with an atypical prescription, in relation to a drug's dose, duration and or frequency
11	Colchester Hospital University NHS Foundation Trust	Statement 5	With this draft quality statement, "Service providers (hospitals, GP practices, walk-in centres, dental practices, pharmacies, podiatry services) ensure that systems are in place for antimicrobial stewardship teams or individuals responsible for antimicrobial stewardship within the service to collect data and provide feedback on prescribing at individual, team and organisational level." One possibility would be to replicate appropriate clinical audits with feedback education (as described above, e.g. Chate et al 2006), because anonymised exercises are less threatening than electronic surveillance of an individual clinician's prescribing profile. This could be done at least in the first instance, until a general improvement in prescribing accuracy and compliance with published guidelines had been achieved. In this way, with a general raising of prescribing standards, as a precursor to the introduction of a mandatory antimicrobial prescribing surveillance scheme, this delay could result in greater clinician acceptance and be associated with less monitoring and less remedial education costs for certain individuals. Indeed, there could also be merit in suggesting that antimicrobial stewardship should become another one of the GDC's recommended Core CPD topics for dentists, with a prescribed amount of hours of relevant education and or active participation in audit per each registrant's 5-yearly CPD

ID	Stakeholder	Statement number	Comments
			certification cycle.
12			The rationale already acknowledges that secondary care services and dental practices currently do not have access to electronic prescribing technology and it is recognised that the provision of such IM&T support systems would have significant costs. My only concern is that if such a facility were created, it should not be allowed to evolve into a system that, by default, could reject an “atypical” antimicrobial prescription from being dispensed. Clinical judgement and the freedom to vary an antimicrobial prescription’s dose, duration and frequency of administration must be safeguarded, for those exceptional circumstances when the treatment of an individual patient’s infection might otherwise be compromised as a result.

Non-registered stakeholders who submitted comments at consultation

- Thermo Fisher Diagnostics Ltd
- Colchester Hospital University NHS Foundation Trust