NHS England

Clostridium difficile infection objectives for NHS organisations in 2016/17 and guidance on sanction implementation

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Clostridium difficile infection objectives for NHS organisations in 2016/17 and guidance on sanction implementation.

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Equality and health inequalities statement

Promoting equality and addressing health inequalities are at the heart of NHS England's values. Throughout the development of the policies and processes cited in this document, we have:

- Given due regard to the need to eliminate discrimination, harassment and victimisation, to advance equality of opportunity, and to foster good relations between people who share a relevant protected characteristic (as cited under the Equality Act 2010) and those who do not share it; and
- Given regard to the need to reduce inequalities between patients in access to, and outcomes from healthcare services and to ensure services are provided in an integrated way where this might reduce health inequalities.

Contents

1. Introduction

1.1 *Clostridium difficile* infection (CDI) remains an unpleasant, and potentially severe or fatal infection that occurs mainly in elderly and other vulnerable patient groups especially those who have been exposed to antibiotic treatment.

1.2 The NHS has made great strides in reducing the numbers of CDIs, however, the rate of improvement for CDI has slowed over recent years and some infections are a consequence of factors outside the control of the NHS organisation that detected the infection. Further improvement on the current position is likely to require a greater understanding of the individual causes of CDI cases, in order to understand if there were any lapses in the quality of care provided in each case, and if so, to take appropriate steps to address any problems identified. To support this, in 2014/15 NHS England introduced a change in the methodology for calculating organisational CDI objectives and encouraged commissioners to consider sanctions for breach of CDI objectives only where those CDIs were associated with lapses in care.

1.3 This approach remains unchanged for 2016/17, however, due to an overall small rise in the median rate of CDIs, NHS England is carrying over the CDI objectives for 2015/16 into 2016/17.

1.4 Guidance for testing and reporting of CDI cases remains unchanged and the safety and care of patients must be the over-riding concern of everyone. The current protocol for testing and diagnosing CDI (published in March 2012) is based on peer reviewed, published research. It is recognised that no test, or combination of tests, is infallible and the clinical condition of the patient should always be taken into consideration when making management and clinical choices. The guidance can be accessed at https://www.gov.uk/government/publications/updated-guidance-on-the-diagnosis-and-reporting-of-clostridium-difficile

2. CDI objectives and sanction regime

Acute providers

2.1 For 2016/17, organisations will continue to be encouraged to assess each CDI case to determine whether the case was linked with a lapse in the quality of care provided to patients. The Co-ordinating Commissioner under each commissioning contract will continue to be able to consider the results of these assessments and exercise discretion in deciding whether any individual case of CDI affecting a patient under its contract should count towards the aggregate number of cases on the basis of which contractual sanctions are calculated.

2.2 For 2016/17, the contractual sanction that can be applied to each *CDI* case in excess of an acute organisation's objective will remain £10,000.

2.3 CDI objectives for acute organisations (and CCGs) in 2016/17 are the same as those for 2015/16.

2.4 The decision to carry over the 2015/16 objectives has been prompted by the fact that there has been a slight increase in the median CDI rate from the year to November 2014 to the year to November 2015. The current methodology for calculating new CDI objectives relies on requiring organisations that are worse than the median in terms of their rate of CDI to improve by the same amount that the wider median CDI rate has improved from one year to the next. If there is no improvement in this wider rate, it cannot be used to calculate revised objectives. It has therefore been decided to carry over the 2015/16 CDI objectives into 2016/17.

2.5 This should not be interpreted as suggesting that an 'irreducible minimum' of CDI cases has been reached for all organisations. Efforts must continue to reduce CDI across the NHS.

2.6 Annex E lists the CDI objectives for Trusts and CCGs for 2016/17

Application of contractual sanctions

2.7 Co-ordinating commissioners, in reaching their decision on whether an individual case of CDI should count towards the aggregate number of cases on the basis of which contractual sanctions are calculated, should take into account information about the extent to which individual CDIs are linked, or not, with lapses in care by the relevant organisation reporting the infection.

2.8 Confirmed CDI cases should be assessed by the reporting provider and the relevant Co-ordinating Commissioner, to determine whether the case was linked with lapses in care by the provider reporting the infection. The provider should involve the relevant Co-ordinating Commissioner in this process in the first instance if possible and, regardless, submit information on each case to their relevant Co-ordinating Commissioner. The Co-ordinating Commissioner may also wish to undertake further assessment of the data on individual cases submitted by the provider.

2.9 For each case where the provider assessment indicates that the case was not linked to a provider lapse of care, the Co-ordinating Commissioner will then determine whether it accepts this argument – and inform the provider accordingly. If it accepts that there has been no lapse of care, then that case should not count towards the total number of actual CDI cases on which any sanction will be based (figure A in the formula in Schedule 4F of the NHS Standard Contract). The decision as to whether a case involves a lapse in care is for the Co-ordinating Commissioner to make at its entire discretion and is not subject to challenge through contract dispute resolution procedures. The flowchart in Annex A summarises this process.

2.10 For example, a single provider may have a target of 25 CDI cases for 2016/17. It may report 30 actual cases in total, but its subsequent assessment of the cases may indicate that only 20 out of the 30 cases were linked with lapses in care by that provider. In this situation, the Co-ordinating Commissioner should use this second number (20 in this

case) as the basis for determining whether any contractual sanction should be applied. If it does so, as this number falls below target, no sanction will apply.

2.11 The provider and Co-ordinating Commissioner should ensure that the process of case assessment is undertaken on an ongoing basis throughout the year as this process will ensure relevant lessons are learned promptly and provide a basis upon which organisations can target further improvement activity to increase patient safety. This will also mean that a clear position on the application of any financial sanctions can be determined promptly at the year-end.

Where a provider has multiple contracts

2.12 Most acute providers will have a number of separate contracts and therefore a number of separate Co-ordinating Commissioners. The CDI objective continues to apply at the level of the provider as a whole, however, and this will require a slightly more complex process, which should be considered amongst co-commissioners at the beginning of the financial year.

2.13 For any specific CDI case, the provider should submit the case assessment information to the Co-ordinating Commissioner for the contract under which the patient was treated for the relevant episode of care.

2.14 That Co-ordinating Commissioner should decide, at its own discretion as outlined above, whether it accepts that there has been no lapse of care and whether, therefore, the individual case should not count towards the provider's actual number of CDI cases for the purposes of calculation of sanctions.

2.15 The level of any overall sanction for the provider as a whole will then be calculated on the basis of the aggregate position against target for the provider as a whole. The figure used for actual cases in the contractual formula (figure A in Schedule 4F) will reflect the decisions reached separately on individual cases by each Co-ordinating Commissioner.

2.16 The split of any overall sanction between separate contracts will then be determined through application of the formula in Schedule 4F of the contract (based on the bed day split between contracts).

2.17 The parties to the provider's various contracts will need to work closely together to make this process work efficiently and to avoid any duplication in the reporting requirements placed on the provider.

Application to independent sector providers

2.18 The process outlined above applies to NHS Trust and FT providers. Where the provider is an independent sector provider, the same principles will apply, in that the Co-ordinating Commissioner will have discretion to determine whether or not an individual case is to count towards the figure A in Schedule 4F.

Application to community providers

2.19 Commissioners are advised to apply exactly the same principles as outlined for infections identified as acute related infections to those identified from within the community in order to encourage learning and improvement. This should include cases associated with community providers, relevant independent contractors and other health or social care providers. Following identification of a sample positive for *C. difficile* obtained within four days (where day one is day of admission)of admission to an acute setting or from a community setting or independent provider, providers and commissioners should assess the care provided to determine if there were lapses in care. Any learning should support the development of an action plan and subsequent improvement in care as well as forming part of the relevant contract management processes.

2.20 There are currently no national CDI objectives for community services providers, and no financial sanctions related to CDI are mandated in the NHS Standard Contract for community services providers.

3. Assessing whether a CDI was associated with a lapse in care

3.1 Organisations should be encouraged to examine their infection cases to learn any lessons necessary to continuously improve the safety of patients, be focussed on clinical learning and not an attempt to avoid contractual sanctions.

3.2 Each identified CDI case should be assessed with the relevant clinical teams to see if there were any aspects of care that could have been done differently and therefore might have led to a different outcome. The assessment documentation should then be reviewed again by a team from or acting on behalf of the relevant commissioner. This assessment should involve input from a qualified infection prevention clinician and a pharmacist, and should also seek advice and input from local Public Health England experts. If commissioners do not have the relevant expertise in-house, they should seek input from elsewhere. The flowchart in Annex A summarises this process.

3.3 A lapse in care would be indicated by evidence that policies and procedures consistent with local guidance, written in line with national guidance[1] and standards, were not followed by the relevant provider. First and foremost, organisations should be encouraged to examine their infection cases to learn any lessons necessary to continuously improve patient safety.

3.4 The elements of care provision that should be assessed to judge whether an infection was associated with a lapse in care are set out in Annex B. It must be noted that lack of

[1] Updated Guidance on the Diagnosis and Reporting of Clostridium Difficile
https://www.gov.uk/government/publications/updated-guidance-on-the-diagnosis-and-reporting-of-clostridium-difficile

compliance with any one of these elements would not in itself indicate that the infection was definitely caused by the provider organisation, only that best practice was not followed at all times. Where a lack of compliance with any of these elements or indeed any others considered relevant is identified, it is the primary responsibility of the provider organisation to take immediate action to reduce any risks to patients. Failure to do so would be unacceptable to commissioners and regulators and most importantly, patients.

3.5 Please refer to Annex B for CDI case checklist, intended to provide a standard way of assessing whether cases do, or do not, represent a lapse in care.

3.6 Please refer to Annex C for an example assessment tool that organisations and commissioners can adapt according to local policy.

3.7 A process of assessing each infection allows infection prevention teams to focus their efforts on areas where problems have been identified and ensure that lessons are learned to support future prevention of infections. This approach supports continual learning and improvement of patient safety and it is critical that appropriate action planning and implementation follows identification of cases involving lapses in care.

3.8 It is important that the objective/sanction regime for CDIs is applied through an intelligent commissioning process that is sensitive to and understands the local context while being resolutely focussed on delivering continual improvement in the quality of care for patients. To this end we recommend that the relevant commissioner is involved in the assessment process in order to generate a common understanding of how findings are reached and what informs the decision making. Ultimately, it is the relevant commissioner who decides whether or not to include any particular CDI case when considering which CDI cases count for the purposes of the contractual sanctions. There is no arbitration process.

3.9 It is also important to emphasise that commissioners should have effective systems for monitoring trust compliance in the application of the recommended, evidence-based *C. difficile* case definition and testing algorithm[1], [2]. A consistent approach across trusts is essential in terms of supporting the process of learning to enhance patient safety, and to ensure fair and effective application of the objective/sanction process. We recommend that reviewing compliance with the guidance is part of the commissioners' quality assessment process. A series of questions to aid this process has been agreed by the DH Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infections (ARHAI) and can be found at Annex D.

3.10 There is currently no requirement for national reporting of the results of the assessment of whether a CDI case was linked to a lapse in care. However, all CDIs, whether deemed to be associated with a lapse in care or not, should still be reported as per national reporting requirements[2]. Where they are associated with lapses in care they are patient safety incidents and should also be reported via local risk management systems to the

[2] Inclusion criteria for reporting C. difficile infection to the surveillance system https://www.gov.uk/government/publications/clostridium-difficile-infection-criteria-for-reporting

National Reporting and Learning System[3]. Staff reporting CDIs as patient safety incidents are encouraged to update incident reports with any learning from their local assessment processes. All CDIs that are deemed Serious Incidents according to existing national definitions[4] (typically CDIs with identified lapses in care and that led to death or serious harm) should be reported to the Strategic Executive Information System (STEIS), and the 'lessons learned' field in STEIS completed.

3.11 Providers and commissioner should publish the results of CDI assessments on their own websites regardless as this will provide patients and others with a richer understanding of the CDI cases reported by organisations.

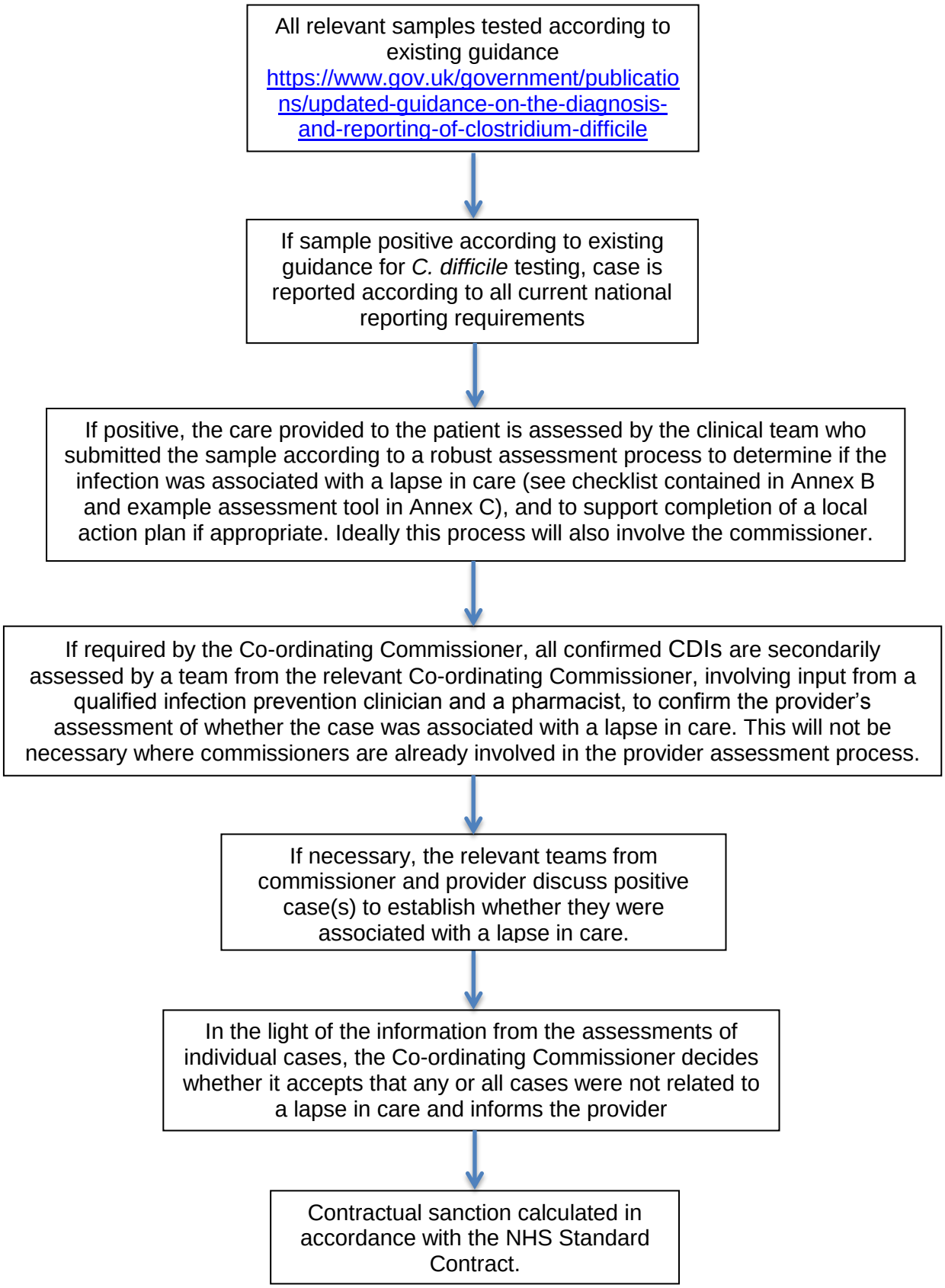
4. Setting objectives for CCGs

4.1 *C. difficile* objectives have been carried over for CCGs in the same way as for acute providers and are provided in Annex E:

4.2 CCGs should use the objectives provided as thresholds of levels of ambition for planning purposes and NHS England regions, Health and Wellbeing Boards and others should use the objectives as benchmarks for assessing CCGs in tackling CDIs in their areas.

[3] Report a patient safety incident http://www.nrls.npsa.nhs.uk/report-a-patient-safety-incident/
[4] See the *Serious Incident Framework* at https://www.england.nhs.uk/patientsafety/serious-incident/

Annex A – Example assessment process for determining which *Clostridium difficile* infections are relevant for the application of sanctions



Annex B – *Clostridium difficile* case checklist

The purpose of this checklist is to guide your local assessment of *Clostridium difficile* cases so that the minimum information needed to determine the learning required to prevent *Clostridium difficile* cases can be captured. It should ensure a consistent approach to information contained in *Clostridium difficile* case assessments across the whole health economy to identify recurring themes and reduce HCAI. **It will also help you to understand what your local co-ordinating commissioners will be looking for should you wish to discuss cases you consider to have occurred despite no lapses in care, as outlined in this guidance**.

This checklist was developed by the Public Health England CDI 'Lapse in Care' sub-group

1.0 Local *C. difficile* infection assessment – what to include

1.1 HDCS Case Number.

1.2 Date of Birth.

1.3 Male/Female.

1.4 Date of current admission during which *C. difficile* infection (CDI) was diagnosed.

1.5 Initial reason for this admission, underlying conditions, and whether diarrhoea was present when admitted.

1.6 The patient pathway should be clearly stated.

1.7 Were any of the following risk factors for developing diarrhoea identified on admission or at the time when the specimen was taken, including:

- Recent laxatives / enemas / anti-emetics / protein pump inhibitors
- Enteral nutrition
- Inflammatory bowel disease
- Previous gastrointestinal surgery
- Gastrointestinal malignancy
- Ileostomy / colostomy
- Other gastrointestinal infection e.g. norovirus
- Chemotherapy / graft versus host disease
- Other immunosuppressive illness or therapies e.g. steroids

1.8 Was bowel habit recorded on admission? Was the Bristol Stool Chart (BSC) used? Was it used immediately when symptoms began? Summarise the BSC results. Were other measures used to monitor for the presence of diarrhoea in this patient?

1.9 On what date were diarrhoeal symptoms first documented in relation to the current episode of CDI? Was the patient source isolated at the time? If no, how soon after onset of diarrhoeal symptoms was the patient source isolated? What was/were the

reasons for delay in source-isolation? *If there is insufficient information available to determine the timeliness of interventions then this is a potentially important short-coming.*

1.10 On what date and in which location was sample taken? Was there a delay in sampling according to your local guidance? *As a minimum, national guidance should have been followed.*

1.11 On what date and at what time was the sample received in the laboratory? On what date and at what time was the result was reported to the sender?

1.12 Were the sampling, testing and reporting arrangements in this case clearly compliant with the 2012 Department of Health guidance 'Updated guidance on the diagnosis and reporting of *Clostridium difficile"*?

1.13 How long did the patient remain under appropriate source-isolation after the CDI diagnosis? If the patient was removed from source isolation what was the rationale? Was this consistent with your local guidance?

1.14 If there was any non-compliance above – explain why.

2.0 Chronology of patient pathway

2.1 Provide an outline timeline where the patient was in the three months prior to the latest CDI diagnosis e.g. Home, hospital, care home, etc. Ideally, identify if they had any contact with known CDI cases or carriers of *C. difficile* (e.g. GDH-positive, toxin-negative cases) in these locations and, if so, any relevant ribotyping/MLVA results that are available.

2.2 Had the patient had any previous confirmed episodes of CDI? If yes, when did they occur? If performed, what are/were the ribotyping/MLVA typing results of the current and any past episodes of CDI? Had the patient been told of the CDI diagnosis and understood the condition?

2.3 If you suspect that the latest case is a 'recurrence', outline if the previous episode(s) were correctly treated as per your local CDI treatment guideline. Was the patient treated with any other antimicrobials between this and the previous episode(s)? Was this treatment in line with local guidelines?

2.4 Has the patient received other treatment (e.g. enteral feeding) and/or medication (e.g. PPIs) possibly relevant to the development of this episode of CDI? Were these in line with local guidelines?

2.5 If there was any non-compliance above – explain why.

3.0 Antimicrobial Therapy

3.1 List all antimicrobial therapy (antibiotic, dose, duration) in the previous 3 months.

3.2 Concerning the current episode/admission, were the indication(s) for antimicrobial treatment duration and the review date written in the patient's notes or drug chart? Was the indication(s) for this treatment appropriate at the point it was prescribed?

3.3 Was initial empiric therapy appropriately modified in response to microbiological results?

3.4 Were all antimicrobials prescribed compliant with local guidelines? If not, were they still clinically justified (please provide an explanation)?

3.5 If there was any non-compliance above, explain why.

4.0 Treatment of CDI and outcome

4.1 Was the patient treated for CDI on this occasion? If not, what were the clinical factors that were used to determine treatment was not required?

4.2 Was the patient told of the CDI diagnosis and did he/she demonstrate an understanding of the condition?

4.3 Does your local CDI treatment guideline contain a measure of severity? If so, how was this case categorised?

4.4 If this case was treated, what treatment (drug, dose, duration) was used? Was this treatment compliant with your local guidance?

4.5 What was the clinical outcome? Did the patient die within 30 days of CDI diagnosis? If so, was this death linked to CDI? Did CDI appear on the Death Certificate (which part); please provide details of all conditions listed?

4.6 If there was any non-compliance above – explain why

5.0 Environmental Factors

5.1 Were there any cleanliness/environmental issues reported in relation to the area(s) in which the patient was cared for prior to the development of CDI (including the results of recent audits)? Please provide details of any issues.

5.2 Outline details of any additional cleaning measures that have been deployed in this/these area(s) over the previous three months (e.g. hydrogen peroxide vaporization) either as a pre-emptive measure (e.g. whole ward decant/deep clean) or as terminal side room cleaning in relation to previous episodes of CDI

5.3 What audit/monitoring measures were in place to assess the efficacy of cleaning? How robust (quantitative/qualitative) are these?

5.4 What monitoring of hand hygiene compliance was in place at the time including how robust this monitoring was e.g. who did this? What were the results?

5.5 If there was any non-compliance above, explain why.

6.0 Organisation issues

6.1 Were there any organisational factors that might have influenced this case? This could include whether staffing levels/skill mix were in line with local agreements where this patient was managed.

6.2 Is there evidence that mandatory training and IPC training have been undertaken by staff relevant to this case?

6.3 Is there evidence that communication and documentation related to this patient was adequate?

6.4 If there was any non-compliance above, explain why and how this could / could not be related to the development of *C. difficile* infection.

7.0 Optimisation of diarrhoea control in the organisation

7.1 Does the organisation have a protocol for the management of patients with diarrhoea? Was this being followed in the clinical area relevant to this case?

More specifically:

7.1.1 Was the documentation of patients with diarrhoea adequate/complete?

7.1.2 Was the rate of diarrhoea increased in the clinical area relevant to the index case (during the 1 month beforehand)? Was a reason for this found and what measures were put in place to address this? Were these patients managed in accordance with local guidance in relation to sampling and source isolation of suspected infectious causes of diarrhoea?

7.2 If there was any non-compliance above, explain why.

8.0 Lessons Learned

8.1 Outline the lessons learned from this episode of CDI. Are there any recurring themes seen across this and other assessments? How have these been addressed?

8.2 Provide a commentary on any recurring themes from previous CDI case assessments. What is the hypothesis for why these cases are still happening? What action(s) has the organisation put in place to prevent further cases of CDI? What factors appear to be responsible for their lack of success?

9.0 Preventability

9.1 State whether you have identified any ‘lapses in care’ that could have contributed to the development of this CDI case.

9.2 In order to facilitate learning and optimisation of patient care, please identify any other lapses in care i.e. that did not contribute to the development of this CDI case.

9.3 If you consider this CDI case occurred despite no lapses in care (and so was deemed not to be ‘preventable’), outline your reason(s) why.

Annex C – See separate example *Clostridium difficile* infection assessment tool and action plan

Organisations may wish to use this example assessment tool to collect the minimum information needed to determine the learning required to prevent CDI cases. Use of this example assessment tool will support a consistent approach to gathering information generated by CDI assessments across the whole health economy and is encouraged in order to support the identification of recurring themes and therefore the reduction of HCAIs.

Organisations and commissioners are encouraged to use this tool but are free to adapt it according to local guidance.

Annex D - Key baseline questions before assessing the effectiveness of *C. difficile* infection treatment and prevention practices.

Developed by Department of Health Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infections.

These questions have been developed to support organisations to understand whether patients presenting with diarrhoea are appropriately assessed and their illness investigated. It is important that when a patient presents with diarrhoea, the possibility that there may be an infectious cause is considered. Patients with suspected potentially infectious diarrhoea should be isolated, and have appropriate investigation(s) to determine the aetiology.

If patients with suspected *C. difficile* infection (CDI) are not investigated appropriately then there is a risk of sub-optimal treatment and risk of transmission of *C. difficile* to other patients. The timely submission of a faecal sample for microbiological testing is a fundamental part of the investigation of potentially infectious diarrhoea.

Furthermore, reported numbers of cases may provide false assurance that there is minimal risk of CDI in patients and/or transmission of *C. difficile* between patients.

There are three key elements to measuring the burden of CDI. A consistent approach to;

- **which patients are sampled;**
- **how laboratory testing is carried out; and**
- **which results are reported;**

will ensure the prompt recognition and isolation of infected patients in the interests of patient safety, and will ensure that recorded numbers of CDIs reflect the true rate of infection.

Clear guidance on these three elements was issued to the NHS in 2012[5].

Failure to diagnose CDI carries increased potential risk for patients because treatment and prevention practices may be compromised.

Failure to detect all possible cases of CDI increases the chance of transmission of *C. difficile*, including the spread of epidemic/virulent strains.

The 7 questions below (Table 1) are designed to determine whether the recorded number of cases accurately reflects CDI burden.

[5] Updated Guidance on the Diagnosis and Reporting of Clostridium Difficile https://www.gov.uk/government/publications/updated-guidance-on-the-diagnosis-and-reporting-of-clostridium-difficile

Table 1: Questions to determine whether the recorded number of cases accurately reflects CDI burden Question		
Question	**How to assess compliance**	**Notes**
1. Are faecal samples sent for *C. difficile* testing from all patients who develop diarrhoea, regardless of when this occurs, who do not have a clear, non-infection, alternative explanation for its cause?	Ideally via audit data that show how many patients have new onset diarrhoea (as defined in guidance: Bristol Stool Chart types 5-7), and what proportion of these are sampled appropriately. This assessment should include whether necessary samples are sent to Microbiology and when are they sent – should be on the same day as new symptoms commence.	Guidance states: **If a patient has diarrhoea (Bristol Stool Chart types 5-7) that is not clearly attributable to an underlying condition (e.g. inflammatory colitis, overflow) or therapy (e.g. laxatives, enteral feeding) then it is necessary to determine if this is due to CDI. If in doubt please seek advice.** Assumptions that CDI is not the cause of new diarrhoeal episodes need to be robust and documented in the patient's notes. There should be a medical assessment of cases to assure that diarrhoea is not of infective origin; reasonable alternative explanations are quoted in the above excerpt from guidance.
2. What is the evidence that this is understood and practised consistently by all healthcare staff across the organisation?	Direct questioning of healthcare workers or via audit data as above.	As this is starting point for the entire testing pathway, it is important that healthcare workers understand which patients require samples to be sent to Microbiology.
3. Are all diarrhoeal samples received in the laboratory from hospital patients aged >2 years, community patients aged >65 years, and community patients aged <65 years wherever	There should be laboratory standard operating procedure (sometimes referred to an Examination procedure) that clearly states which samples received in the laboratory are tested for evidence of CDI.	Guidance states: **Diarrhoeal samples should be tested for *C. difficile* from:** • **hospital patients aged >2 years, and,** • **community patients, aged >65 years, and** • **community patients aged**

clinically indicated tested for *C. difficile*?	There will likely be different rules in place for how hospital inpatient *vs* community patient samples are processed as set out in DH CDI testing guidance (see right). Have laboratories audited their practice to show that appropriate samples are tested for CDI and inappropriate samples are not tested for CDI (e.g. samples from infants, non-diarrhoeal samples)?	**<65 years wherever clinically indicated.**
4. Is all *C. difficile* testing consistent with the recommended two-stage algorithm?	There should be laboratory standard operating procedure that clearly states how samples received in the laboratory are tested for evidence of CDI. Have laboratories audited their practice to show that samples are tested appropriately?	Guidance states: **The first test should be either a GDH or toxin gene (PCR) test; if this is positive, the second test should be a toxin (EIA or cytotoxin) test. If the first test is negative a second test is not needed. Additional tests may be used, but not instead of the recommended approach.** If samples from patients with diarrhoea are not tested appropriately for evidence of CDI then there is a risk of false-negative and/or false-positive results.
5. Are all toxin positive patients reported to PHE?	The number of laboratory reported CDI positive samples should match the number of cases reported to PHE (after applying de-duplication according to 28 day rule). What is the organisation's rationale for not reporting toxin positive cases (see 6. below)?	Guidance states: **All GDH EIA (or NAAT) positive, toxin positive patients/reports should be reporting to PHE.**

6. Are clinical criteria or other tests outside of the algorithm referred to in question 4 above used to determine which toxin positive results are reported to PHE?	The number of laboratory reported CDI positive cases should match the number of cases reported to PHE (after applying de-duplication according to 28 day rule).	**See 5. above.** **The results of other tests and/or clinical criteria should NOT be used to determine which positive patients are reported to PHE.**
7. Are toxin positive results obtained >28 days after a previous positive result on the same patient reported to PHE.	The number of laboratory reported CDI positive cases should match the number of cases reported to PHE (after applying de-duplication according to 28 day rule).	**See 5. above.** **Patients with repeat positive results more than 28 days apart should also be reported.** Such results likely indicate recurrence of CDI. Such recurrences are due to relapse or re-infection, and some may be preventable.

Annex E – *Clostridium difficile* Infection Objectives for non-teaching, teaching and specialist acute trusts, and CCGs for 2016/17

Principles and methodology

The objectives for all organisations in 2016/17 are the same as for 2015/16 although updated for trust and CCG mergers. The methodology used to calculate the objectives for 2015/16 is set out below for information.

Three cohorts of acute trusts have been recognised for the purposes of calculating median CDI rates– acute teaching hospitals, specialist hospitals and non-teaching (such as, small, medium, large and mixed service) acute hospitals as defined by the Hospital Estates and Facilities ERIC return. CCGs form their own separate cohort.

For one of these cohorts, specialist trusts, due to the heterogeneity of these organisations meaning a single median for this group is arbitrary, CDI objectives have been set by requiring all specialist trusts to reduce their current CDI case total for the 12 months to November 2014 by one case. This reflects the principle of continuous improvement. The calculations below are therefore not relevant to specialist trusts.

For the two non-specialist trust cohorts (teaching and non-teaching acute trusts) and CCGs, the median CDI rate for the most recent available 12 months (to November 2014) is calculated for each cohort separately. The median CDI rate is also calculated for each cohort for their previous 12 month median CDI rate. For each cohort, the rate of CDI improvement from the preceding 12 months (to November 2013) to the most recent 12 months (to November 2014) are then calculated to give a cohort rate of CDI improvement. These values are set out in the table below;

Cohort	CDI rate for year to November 2014	CDI rate for year to November 2013	Reduction in CDI rate from 2013 year to 2014
Non-teaching acute trusts	**13.1** CDI cases per 100,000 bed days	**14.9** CDI cases per 100,000 bed days	**12.5%**
Teaching acute trusts	**16.3** CDI cases per 100,000 bed days	**16.9** CDI cases per 100,000 bed days	**3.6%**
CCGs	**24.3** CDI cases per 100,000 population	**25.8** CDI cases per 100,000 population	**5.6%**

All organisations with a CDI rate for the year to November 2014 below (better than) their cohort median for the same period, had a CDI objective for 2015/16 set as their number of CDI cases reported during the year to November 2014 minus one.

All organisations with a CDI rate for the year to November 2014 above (worse than) their cohort median for the same period had a CDI objective set as their CDI rate for the year to November 2014 minus the percentage reduction in median CDI rate seen for their cohort between the preceding year and the current year. This means their objective reflected the rate of improvement seen for their cohort of trusts over the previous year. This reflects the need for those organisations with CDI rates worse than average to improve at a faster rate than those that are better than average, but that this rate of improvement should reflect the most recent available information about what is achievable.

Where this methodology required an organisation to improve from above their cohort median to below it, their objective becomes their cohort median unless the reduction required to move below the median is less than one CDI case. If so, the organisation has an objective of their current number of cases reported during the year to November 2014 minus one case. This avoids requiring organisations performing worse than average to leapfrog those performing better than average.

The tables below set out the objectives for all organisation cohorts:

Non-teaching Acute Trusts			
Org code	**Name**	**CDI case objective for 2016/17**	**CDI rate objective for 2016/17**
REM	Aintree University	46	19.5
RCF	Airedale	6	5.3
RTK	Ashford and St. Peter's Hospitals	17	9.9
RF4	Barking, Havering and Redbridge University Hospitals	30	8.6
RFF	Barnsley Hospital	13	8.8
R1H	Barts Health	82	13.0
RDD	Basildon and Thurrock University Hospitals	31	13.6
RC1	Bedford Hospital	10	8.3
RMC	Bolton	19	9.5
RXQ	Buckinghamshire Healthcare	32	13.1
RJF	Burton Hospitals	20	13.4
RWY	Calderdale and Huddersfield	21	8.6
RFS	Chesterfield Royal Hospital	31	16.4
RLN	City Hospitals Sunderland	34	15.4
RDE	Colchester Hospital University	18	9.1
RJR	Countess Of Chester Hospital	24	12.8
RXP	County Durham and Darlington	19	5.9

RJ6	Croydon Health Services	16	9.6
RN7	Dartford and Gravesham	24	12.5
RP5	Doncaster and Bassetlaw Hospitals	40	13.8
RBD	Dorset County Hospital	14	13.6
RWH	East and North Hertfordshire	11	4.9
RJN	East Cheshire	14	12.0
RVV	East Kent Hospitals University	46	13.9
RXR	East Lancashire Hospitals	28	9.3
RXC	East Sussex Healthcare	41	16.8
RVR	Epsom and St. Helier University Hospitals	39	15.9
RDU	Frimley Health	31	7.6
RR7	Gateshead Health	19	11.6
RLT	George Eliot Hospital	13	12.5
RTE	Gloucestershire Hospitals	37	11.5
RN3	Great Western Hospitals	20	9.4
RN5	Hampshire Hospitals	34	13.2
RCD	Harrogate and District	12	11.7
RR1	Heart Of England	64	13.0
RQQ	Hinchingbrooke Health Care	11	15.6
RQX	Homerton University Hospital	7	5.6
RGQ	Ipswich Hospital	18	9.4
R1F	Isle of Wight	7	7.3
RGP	James Paget University Hospitals	17	13.1
RNQ	Kettering General Hospital	26	13.4
RAX	Kingston Hospital	9	6.5
RJ2	Lewisham and Greenwich	39	13.0
R1K	London North West Healthcare	37	9.4
RC9	Luton and Dunstable University Hospital	6	3.1
RWF	Maidstone and Tunbridge Wells	27	11.5
RPA	Medway	20	10.9
RBT	Mid Cheshire Hospitals	24	13.1
RQ8	Mid Essex Hospital Services	13	7.3
RXF	Mid Yorkshire Hospitals	27	8.3

RD8	Milton Keynes University Hospital	39	25.8
RVJ	North Bristol	43	13.0
RNL	North Cumbria University Hospitals	25	13.2
RAP	North Middlesex University Hospital	34	25.8
RVW	North Tees and Hartlepool	13	6.8
RNS	Northampton General Hospital	21	8.2
RBZ	Northern Devon Healthcare	7	6.9
RJL	Northern Lincolnshire and Goole	21	8.5
RTF	Northumbria Healthcare	30	9.4
RW6	Pennine Acute Hospitals	55	13.3
RGN	Peterborough & Stamford Hospitals	29	14.4
RK9	Plymouth Hospitals	35	13.2
RD3	Poole Hospital	15	9.2
RHU	Portsmouth Hospitals	40	12.2
RHW	Royal Berkshire	27	12.2
REF	Royal Cornwall Hospitals	23	10.6
RH8	Royal Devon and Exeter	31	12.7
RA2	Royal Surrey County Hospital	21	13.6
RD1	Royal United Hospitals Bath	22	10.9
RNZ	Salisbury	19	13.0
RXK	Sandwell and West Birmingham Hospitals	30	12.3
RK5	Sherwood Forest Hospitals	48	19.4
RXW	Shrewsbury and Telford Hospital	25	9.9
RE9	South Tyneside	8	6.5
RJC	South Warwickshire	6	3.6
RAJ	Southend University Hospital	30	17.3
RVY	Southport and Ormskirk Hospital	36	24.0
RBN	St. Helens and Knowsley Hospitals	41	17.5
RWJ	Stockport	17	7.8
RTP	Surrey and Sussex Healthcare	15	7.6
RMP	Tameside Hospital	46	29.9
RBA	Taunton and Somerset	12	7.0
RNA	The Dudley Group	29	13.0

RAS	The Hillingdon Hospitals	8	6.3
RQW	The Princess Alexandra Hospital	10	6.5
RCX	The Queen Elizabeth Hospital, King's Lynn	53	38.0
RFR	The Rotherham	26	13.0
RDZ	The Royal Bournemouth and Christchurch Hospitals	14	6.9
RL4	The Royal Wolverhampton	35	13.1
RKE	The Whittington Hospital	17	17.3
RA9	Torbay and South Devon	18	14.2
RWD	United Lincolnshire Hospitals	59	16.9
RKB	University Hospitals Coventry and Warwickshire	42	11.3
RTX	University Hospitals Of Morecambe Bay	44	20.1
RBK	Walsall Healthcare	18	11.1
RWW	Warrington and Halton Hospitals	27	14.2
RWG	West Hertfordshire Hospitals	23	10.9
RGR	West Suffolk	16	12.5
RYR	Western Sussex Hospitals	39	13.0
RA3	Weston Area Health	18	21.4
RWP	Worcestershire Acute Hospitals	32	11.8
RRF	Wrightington, Wigan and Leigh	19	12.7
RLQ	Wye Valley	18	21.7
RA4	Yeovil District Hospital	8	7.9

Teaching Acute Trusts			
Org code	**Name**	**CDI case objective for 2016/17**	**CDI rate objective for 2016/17**
RXL	Blackpool Teaching Hospitals[6]	40	15.0
RAE	Bradford Teaching Hospitals	51	26.8
RXH	Brighton & Sussex University Hospitals	46	17.2
RGT	Cambridge University Hospitals	49	15.6
RW3	Central Manchester University Hospitals	66	16.4
RQM	Chelsea and Westminster Hospital[7]	16	5.0
RTG	Derby Teaching Hospitals[8]	53	16.6
RJ1	Guy's and St. Thomas'	51	16.0
RWA	Hull and East Yorkshire Hospitals	53	15.0
RYJ	Imperial College Healthcare	69	23.1
RJZ	King's College Hospital	72	15.2
RXN	Lancashire Teaching Hospitals	66	22.5
RR8	Leeds Teaching Hospitals	119	21.1
RM1	Norfolk and Norwich University Hospitals	49	15.1
RX1	Nottingham University Hospitals	91	17.7
RTH	Oxford University Hospitals	69	15.0
RAL	Royal Free London	66	41.9
RQ6	Royal Liverpool and Broadgreen University Hospitals	44	17.1
RM3	Salford Royal	21	9.4
RHQ	Sheffield Teaching Hospitals	87	14.9
RJ7	St. George's Healthcare	31	10.2
RTD	The Newcastle Upon Tyne Hospitals	77	16.3
RRV	University College London Hospitals	97	36.4
RJE	University Hospitals Of North Midlands [9]	82	17.8

[6] Previously incorrectly included within 'non-teaching acute Trust' objective table (corrected 28/04/2016)
[7] Note: the total CDI cases for Chelsea and Westminster reflect the merger between this trust and West Middlesex on 01/09/2015
[8] Objective amended as previously incorrectly categorised as a non-teaching acute Trust (corrected 28/4/2016)
[9] Objective amended as previously incorrectly categorised as a non-teaching acute Trust (corrected 28/4/2016)

RM2	University Hospital of South Manchester	39	15.2
RHM	University Hospital Southampton	43	11.8
RRK	University Hospitals Birmingham	63	17.3
RA7	University Hospitals Bristol	45	17.2
RWE	University Hospitals of Leicester	61	11.7
RBL	Wirral University Teaching Hospital	29	11.7
RTR	South Tees Hospitals	50	14.9
RCB	York Teaching Hospital[10]	48	14.5

Specialist Trusts			
Org code	**Name**	**CDI case objective for 2016/17**	**CDI rate objective for 2016/17**
RBS	Alder Hey Children's	0	0.0
RQ3	Birmingham Children's Hospital	0	0.0
RLU	Birmingham Women's	0	0.0
RP4	Great Ormond Street Hospital for Children	15	13.8
RBQ	Liverpool Heart and Chest Hospital	4	8.6
REP	Liverpool Women's	1	2.7
RP6	Moorfields Eye Hospital	0	0.0
RGM	Papworth Hospital	5	7.0
RPC	Queen Victoria Hospital	0	0.0
RT3	Royal Brompton and Harefield	23	19.4
RAN	Royal National Orthopaedic Hospital	2	3.8
RCU	Sheffield Children's	3	7.4
RBV	The Christie[11]	19	38.9
REN	The Clatterbridge Cancer Centre	1	5.8
RL1	The Robert Jones and Agnes Hunt Orthopaedic Hospital	2	3.8
RPY	The Royal Marsden	31	51.4
RRJ	The Royal Orthopaedic Hospital	2	6.3
RET	The Walton Centre	10	19.9

[10] Objective amended as previously incorrectly categorised as a non-teaching acute Trust (corrected 28/4/2016)

[11] Amended following agreement between provider and commissioner

CCGs			
CCG code	**Name**	**CDI case objective for 2016/17**	**CDI rate objective for 2016/17**
02N	Airedale, Wharfdale and Craven	36	22.7
09C	Ashford	31	25.5
10Y	Aylesbury Vale	49	24.6
07L	Barking and Dagenham	37	19.0
07M	Barnet	79	21.4
02P	Barnsley	63	26.7
99E	Basildon and Brentwood	45	17.8
02Q	Bassetlaw	22	19.4
11E	Bath and North East Somerset	47	26.1
06F	Bedfordshire	73	17.1
07N	Bexley	56	23.7
13P	Birmingham Crosscity	183	25.2
04X	Birmingham South and Central	46	22.9
00Q	Blackburn with Darwen	40	27.1
00R	Blackpool	58	41.0
00T	Bolton	80	28.6
10G	Bracknell and Ascot	18	13.4
02W	Bradford City	23	27.8
02R	Bradford Districts	116	34.7
07P	Brent	56	17.7
09D	Brighton and Hove	52	18.7
11H	Bristol	131	29.9
07Q	Bromley	76	23.9
00V	Bury	45	24.1
02T	Calderdale	39	18.9
06H	Cambridgeshire and Peterborough	188	22.0
07R	Camden	90	39.2
04Y	Cannock Chase	48	35.9
09E	Canterbury and Coastal	35	17.3

99F	Castle Point and Rochford	44	25.5
09A	Central London (Westminster)	40	24.6
00W	Central Manchester	41	22.5
10H	Chiltern	61	19.1
00X	Chorley and South Ribble	59	34.8
07T	City and Hackney	31	11.7
09G	Coastal West Sussex	155	32.3
03V	Corby	18	28.0
05A	Coventry and Rugby	107	24.8
09H	Crawley	17	15.6
07V	Croydon	55	14.8
01H	Cumbria	201	39.9
00C	Darlington	17	16.1
09J	Dartford, Gravesham and Swanley	61	24.2
02X	Doncaster	81	26.7
11J	Dorset	204	27.0
05C	Dudley	76	24.2
00D	Durham Dales, Easington and Sedgefield	74	27.1
07W	Ealing	67	19.6
06K	East and North Hertfordshire	112	20.5
01A	East Lancashire	58	15.6
03W	East Leicestershire and Rutland	78	24.2
02Y	East Riding of Yorkshire	85	27.0
05D	East Staffordshire	31	24.9
09L	East Surrey	43	24.2
09F	Eastbourne, Hailsham and Seaford	59	32.2
01C	Eastern Cheshire	50	25.6
07X	Enfield	76	23.7
03X	Erewash	19	20.0
10K	Fareham and Gosport	30	15.2
02M	Fylde & Wyre	44	26.5
11M	Gloucestershire	157	25.9
06M	Great Yarmouth and Waveney	70	32.7

03A	Greater Huddersfield	40	16.6
01E	Greater Preston	49	24.3
08A	Greenwich	62	23.5
09N	Guildford and Waverley	20	9.6
01F	Halton	36	28.6
03D	Hambleton, Richmondshire and Whitby	45	29.3
08C	Hammersmith and Fulham	35	19.6
03Y	Hardwick	43	39.4
08D	Haringey	50	19.0
03E	Harrogate and Rural District	34	21.5
08E	Harrow	32	13.1
00K	Hartlepool and Stockton-on-Tees	72	25.2
09P	Hastings and Rother	44	24.2
08F	Havering	51	21.1
05F	Herefordshire	46	24.7
06N	Herts Valleys	131	22.8
01D	Heywood, Middleton and Rochdale	49	23.1
99K	High Weald Lewes Havens	35	20.7
08G	Hillingdon	37	12.9
09X	Horsham and Mid Sussex	46	20.4
07Y	Hounslow	37	14.1
03F	Hull	82	31.8
06L	Ipswich and East Suffolk	107	27.0
10L	Isle of Wight	28	20.2
08H	Islington	60	27.8
11N	Kernow	136	25.0
08J	Kingston	30	18.0
01J	Knowsley	56	38.3
08K	Lambeth	75	23.9
01K	Lancashire North	72	45.2
02V	Leeds North	58	29.0
03G	Leeds South and East	104	43.1
03C	Leeds West	90	28.1

04C	Leicester City	74	22.2
08L	Lewisham	53	18.5
03T	Lincolnshire East	65	28.3
04D	Lincolnshire West	45	19.6
99A	Liverpool	138	29.3
06P	Luton	28	13.5
04E	Mansfield and Ashfield	94	48.5
09W	Medway	55	20.3
08R	Merton	28	13.8
06Q	Mid Essex	71	18.6
04F	Milton Keynes	81	31.0
04G	Nene	164	26.2
04H	Newark & Sherwood	39	33.3
10M	Newbury and District	25	23.6
13T	Newcastle Gateshead[12]	142	29.0
08M	Newham	35	11.0
10N	North & West Reading	23	23.0
04J	North Derbyshire	107	39.3
00J	North Durham	42	17.3
06T	North East Essex	45	14.2
99M	North East Hampshire and Farnham	33	15.9
03H	North East Lincolnshire	35	21.9
10J	North Hampshire	60	27.5
03J	North Kirklees	38	20.2
03K	North Lincolnshire	31	18.4
01M	North Manchester	39	22.9
06V	North Norfolk	58	34.4
11T	North Somerset	87	42.2
05G	North Staffordshire	61	28.4
99C	North Tyneside	74	36.6

[12] Newcastle Gateshead CCG was formed from the combination of Newcastle West, Newcastle North & East and Gateshead CCGs on 1st April 2015. Therefore the current counts etc for Newcastle Gateshead CCG are the sum of the counts for each of these three CCGs.

09Y	North West Surrey	54	15.9
99P	North, East, West Devon	219	25.0
00L	Northumberland	77	24.4
06W	Norwich	52	26.7
04K	Nottingham City	51	16.4
04L	Nottingham North and East	47	31.8
04M	Nottingham West	21	18.9
00Y	Oldham	91	40.0
10Q	Oxfordshire	145	22.2
10R	Portsmouth	50	24.1
08N	Redbridge	26	9.0
05J	Redditch and Bromsgrove	36	20.1
08P	Richmond	31	16.2
03L	Rotherham	63	24.4
04N	Rushcliffe	24	21.3
01G	Salford	62	25.9
05L	Sandwell and West Birmingham	109	22.7
03M	Scarborough and Ryedale	31	28.1
03N	Sheffield	194	34.6
05N	Shropshire	73	23.7
10T	Slough	22	15.4
05P	Solihull	58	27.8
11X	Somerset	131	24.3
01R	South Cheshire	52	29.3
99Q	South Devon and Torbay	97	35.3
05Q	South East Staffs and Seisdon Peninsula	47	20.9
10V	South Eastern Hampshire	50	23.8
12A	South Gloucestershire	94	34.9
10A	South Kent Coast	44	21.6
99D	South Lincolnshire	34	23.8
01N	South Manchester	47	29.1
06Y	South Norfolk	65	27.4
10W	South Reading	20	18.3

01T	South Sefton	54	34.0
00M	South Tees	91	33.2
00N	South Tyneside	53	35.7
05R	South Warwickshire	60	23.1
04Q	South West Lincolnshire	25	20.4
05T	South Worcestershire	63	21.4
10X	Southampton	46	19.0
99G	Southend	36	20.5
04R	Southern Derbyshire	114	22.0
01V	Southport and Formby	38	33.2
08Q	Southwark	45	15.1
01X	St Helens	75	42.6
05V	Stafford and Surrounds	59	38.9
01W	Stockport	69	24.2
05W	Stoke on Trent	87	33.7
00P	Sunderland	82	29.7
99H	Surrey Downs	76	26.7
10C	Surrey Heath	19	20.1
08T	Sutton	41	20.9
10D	Swale	14	12.8
12D	Swindon	44	20.1
01Y	Tameside and Glossop	97	38.2
05X	Telford and Wrekin	20	11.9
10E	Thanet	41	30.0
07G	Thurrock	29	18.0
08V	Tower Hamlets	36	13.2
02A	Trafford	64	27.8
03Q	Vale of York	78	22.3
02D	Vale Royal	20	19.6
03R	Wakefield	72	21.8
05Y	Walsall	56	20.6
08W	Waltham Forest	46	17.3
08X	Wandsworth	50	16.1

02E	Warrington	46	22.4
05H	Warwickshire North	70	37.2
02F	West Cheshire	78	34.1
07H	West Essex	49	16.7
11A	West Hampshire	133	24.3
99J	West Kent	94	20.1
02G	West Lancashire	46	41.3
04V	West Leicestershire	77	20.4
08Y	West London (K&C & Qpp)	51	23.2
07J	West Norfolk	100	58.3
07K	West Suffolk	45	20.1
02H	Wigan Borough	81	25.3
99N	Wiltshire	103	21.5
11C	Windsor, Ascot and Maidenhead	33	23.6
12F	Wirral	75	23.4
11D	Wokingham	28	17.7
06A	Wolverhampton	71	28.2
06D	Wyre Forest	15	15.2