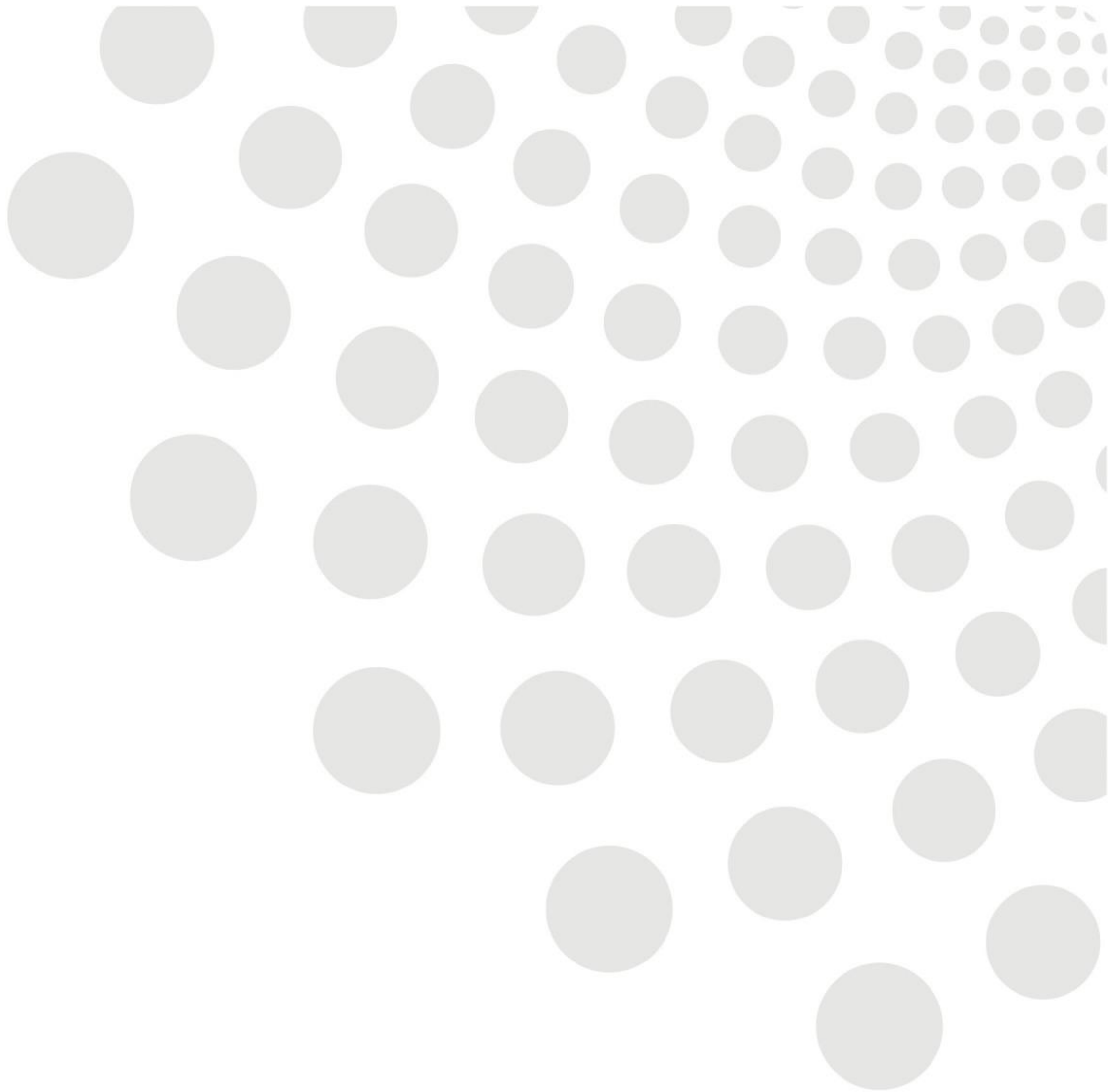


Infection Prevention Team Report
Q4/Annual report 2017/18
HCAI update

Anita Watson, Lead Nurse, Infection Prevention and Control

Lancashire County Council

www.lancashire.gov.uk

1. Introduction

The purpose of this report is to provide the annual update for 2017/18 on Healthcare Associated Infections (HCAIs) for the CCGs within the footprint of Lancashire County Council (LCC) and Blackburn with Darwen (BwD) Council. In addition to the significant unpleasant impact on patients, HCAIs carry a financial burden due to the costs of unscheduled care and additional prescribing. Some of these infections are inevitable despite exemplary healthcare, but the vision of the Infection Prevention Society is that no person is harmed by a preventable infection. This vision is mirrored by the local Infection Prevention teams.

2. Trajectories

There are many HCAIs, but the national focus for mandatory surveillance is on Meticillin resistant *Staphylococcus Aureus* (MRSA); Meticillin sensitive *Staphylococcus Aureus* (MSSA); Gram-negative bacteraemia including *Escherichia coli* (*E. coli*), *Pseudomonas* and *Klebsiella*; and *Clostridium difficile* infections (CDI). Laboratories within the acute trusts submit their data onto the Data Capture System (DCS) managed by Public Health England. This data is checked and locked down on the 15th of each month.

There is a zero tolerance for MRSA bacteraemia. Acute Trusts can be financially penalised if a MRSA bacteraemia occurs due to lapses in care.

Each CCG and Acute Trust have a CDI objective which is reviewed annually, but from 2015/16 the objective has remained the same. Acute Trusts face financial penalties if they breach the objective due to lapses in care.

As from 2016/17 the CCGs have a percentage of the Quality Premium linked to reducing the numbers of E coli bacteraemia. The Acute Trust do not have a trajectory, but it is recognised that health economy working is essential to making an impact on these infections.

There is no trajectory linked to MSSA bacteraemia.

The trajectories for Morecambe Bay CCG (MB CCG) have now been revised to take into account the increased population since the merger with south Cumbria.

3. MRSA

In Q4 there were 2 additional MRSA bacteraemia bringing the annual total to 15. The breakdown of the annual cases to date show 5 were residents from East Lancashire (EL) CCG, 4 from Fylde and Wyre (F&W) CCG, 2 from Blackburn with Darwen (BwD) CCG, 3 from MBCCG, 1 from Greater Preston (GP) CCG and 1 from West Lancashire (WL) CCG. The total for the 7 CCGs is 16, but this includes one resident from Cumbria included in MBCCG figures. The team are looking at the trends of any lapses in care to identify any lessons that can be learned across Lancashire, but due to the small number it is difficult to determine these trends.

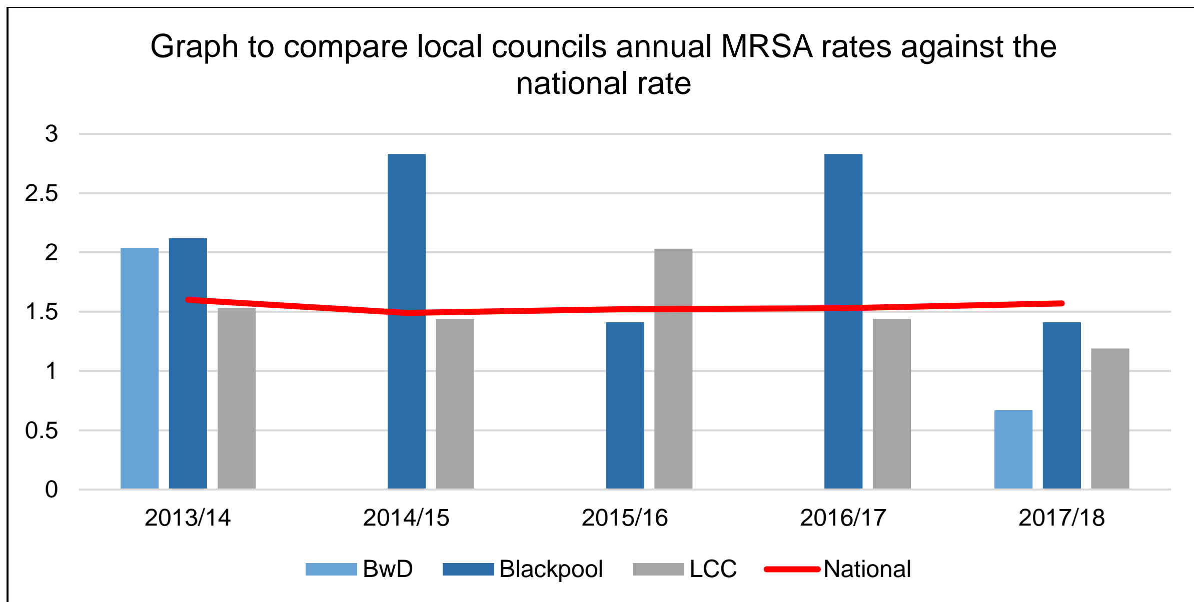
A breakdown is attached below:

	CCG	Acute Trust	Where assigned	Main contributory factor	Lessons learned
Q1	EL	ELHT	CCG	Eczema	Unable to identify

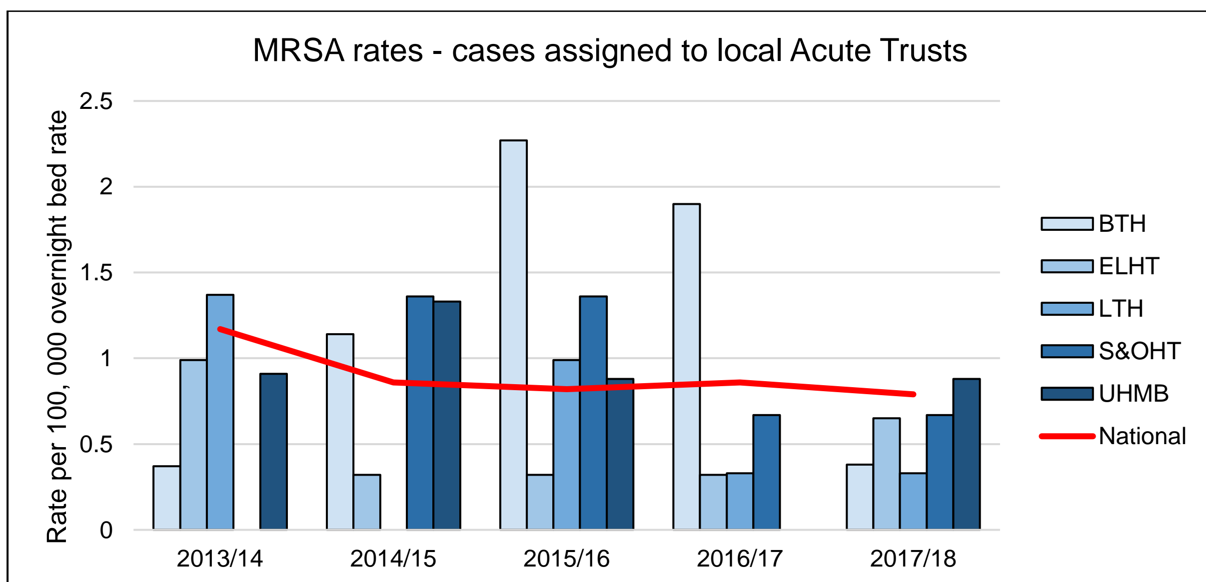
	EL	ELHT	Acute	CVA – Aspiration pneumonia	Prevention of aspiration pneumonia.
	EL	ELHT	CCG	Renal	Management of renal failure.
Q2	BwD	LTH	Acute	Renal dialysis / fistula Decolonisation / Rescreening Poor communication - MRSA +ve at another Trust, but no alert on clinical records.	Reliance on patient to complete decolonisation treatment despite poor compliance with other treatment. Clearer lines of communication
	EL	Southend	Acute	The cannula site appeared infected but was disputed as the possible cause.	Documentation
	MB	UHMB	Acute	Intravenous device	Poor cannula care
	WL	S&O	Acute	Delay in admission screening results. Poor cannula care	Improved labelling of samples Documentation of VIP scores reflecting status of cannula site
Q3	F&W CCG	BTH	CCG	No obvious cause. Patient has polymyalgia and recently treated with antibiotics and prednisolone	Communication between GP and OOH.
	F&W CCG	BTH	CCG	Previous laminectomy - ongoing tingling in legs.	Unable to identify
	BwD CCG	ELHT	Acute	Stroke – rapid decline. Aspiration pneumonia	No sputum specimen sent. Blood cultures not sent promptly.
	F&W CCG	BTH	CCG	Ca prostate. Frequent urinary catheter changes. Urine noted to be cloudy and smelly, but not tested prior to re-catheterising 48 hours before bacteraemia. MRSA status not known	DN to test urine prior to re-catheterising. DN to enquire about extra training for urinary catheterisation.
	F&W CCG	BTH	CCG	Diabetic – poor review Delayed referral to Dermatologist for ulcerated area on chest wall	Communication and prompt follow up for review
	GP CCG	LTH	CCG	Pressure sores. End stage pulmonary fibrosis	Clinical review for patients who have LTC with family members as carers. Pressure sores
Q4	EL CCG	ELHT	3rd party – Care Home	Care Home resident – chest infection or parotitis	Improved oral hygiene required
	MB CCG	BTH	Acute	Emergency cardiac surgery. Many invasive devices – all managed appropriately. Symptoms may be due to influenza and/or pneumonia	Unable to identify

All cases are initially apportioned to the Acute Trust or non-Acute Trust based on the date of sampling compared to the admission date. The cases undergo a Post Infection Review (PIR) which identifies if there have been any lapses in care. The case is then assigned to the organisation identified as having the most lessons to learn.

The following graph compares the MRSA rates within the LA to the national rate. The data includes all cases regardless of final assignment. The annual rate for all LA in Lancashire is lower than the national rate.



The graph below shows the rate of MRSA bacteraemia assigned to local Acute Trusts against the national average. This should not to be used to compare the performance between Trusts as demographics and the specialities provided impact on the rates. During 2017-18 all local Trusts have had a least one bacteraemia despite the zero tolerance, but all are near or below the national rate. When the cases have undergone a PIR robust action plans have been developed and reviewed.

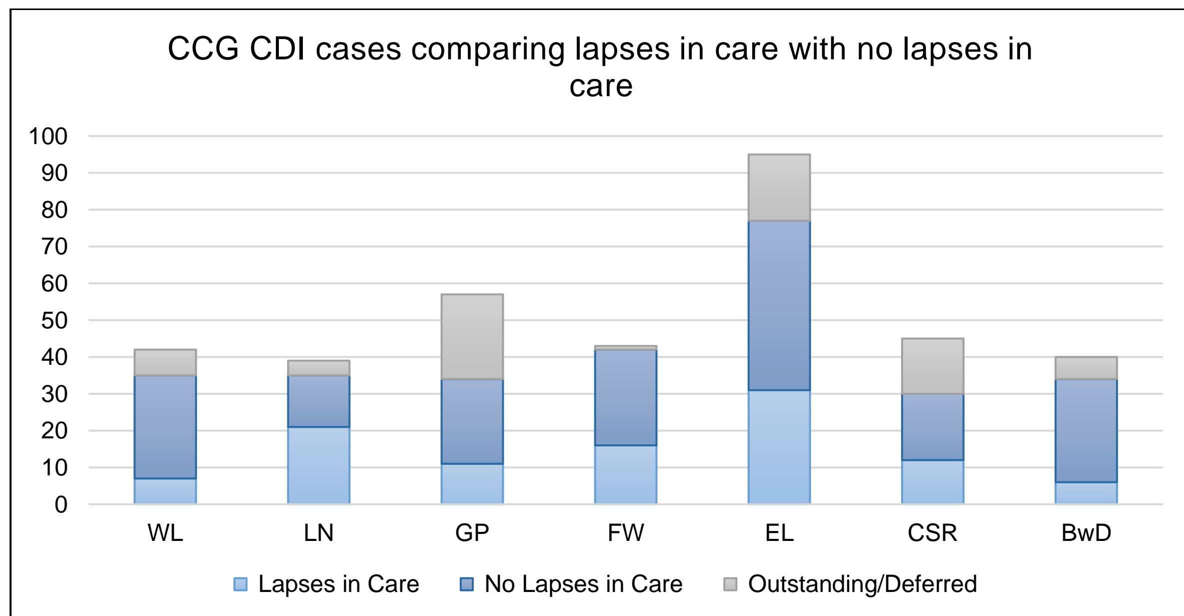


4. CDI

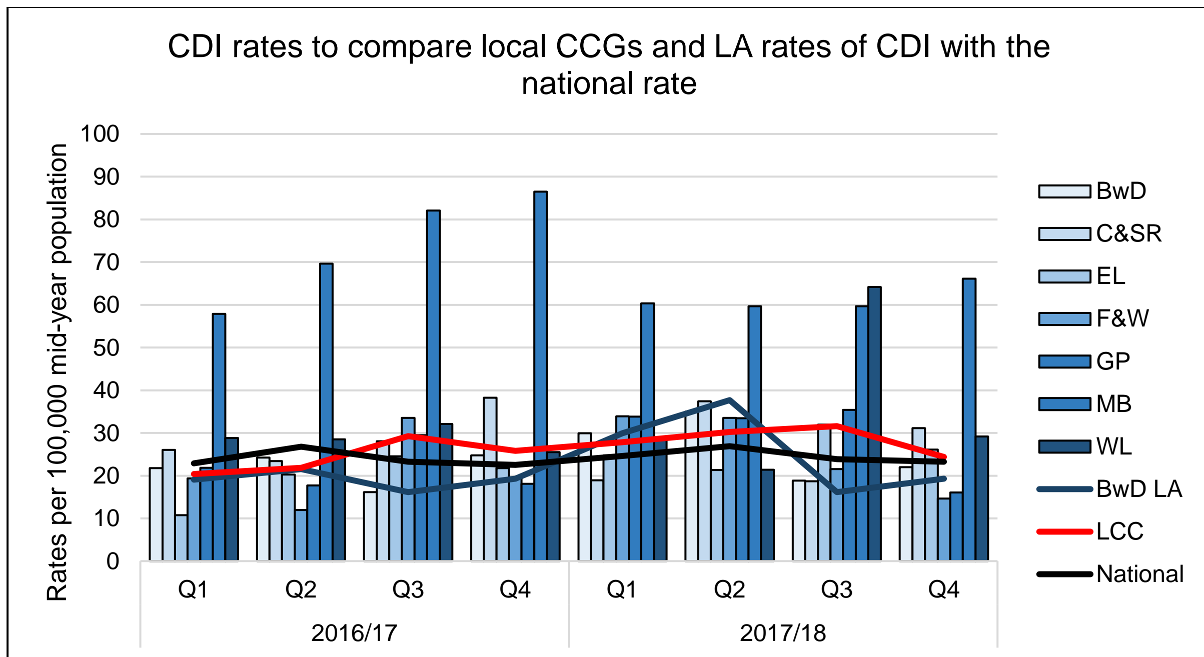
Across the 7 CCGs there have been 93 cases of CDI reported during Q4; this is against a combined cumulative objective of no more than 92. This brings the total for 2017/18 to 422 with 2 CCGs breaching their annual trajectory. The distribution of these is demonstrated in the table below.

	BwD CCG	CSR CCG	EL CCG	F&W CCG	GP CCG	MB CCG	WL CCG	Total
Q1 cases	11	8	23	14	17	24	8	105
Q2 cases	13	16	20	14	17	24	6	110
Q3 cases	7	8	30	9	18	24	18	114
Q4 cases	8	13	24	6	8	26	8	93
Cumulative total for Q1-4	39	45	97	43	60	98	40	422
Cumulative objective for Q1-4	40	59	58	44	49	133	46	429

All of these cases undergo a PIR to determine if the cause of the infection was due to lapses in care. The Infection Prevention Nurses within LCC support the majority of the CCGs by performing the PIR for non-acute cases and to initiate any remedial actions. The cases that are due to lapses in care are the focus for further action. The continued analysis of these cases has not raised any new issues; the lapses in care still involve poor compliance with prescribing antibiotics against the formulary, a lack of review of proton pump inhibitor prescribing, and not following national guidance in the management of the infection.



The following graph compares the rates for CDI for the local CCGs with the national rates. The rate for the CCG shows all cases within their population, both those apportioned to the Acute and those apportioned to the non-Acute Trusts. The graph highlights that the majority of local CCGs had higher than national rates during Q4.

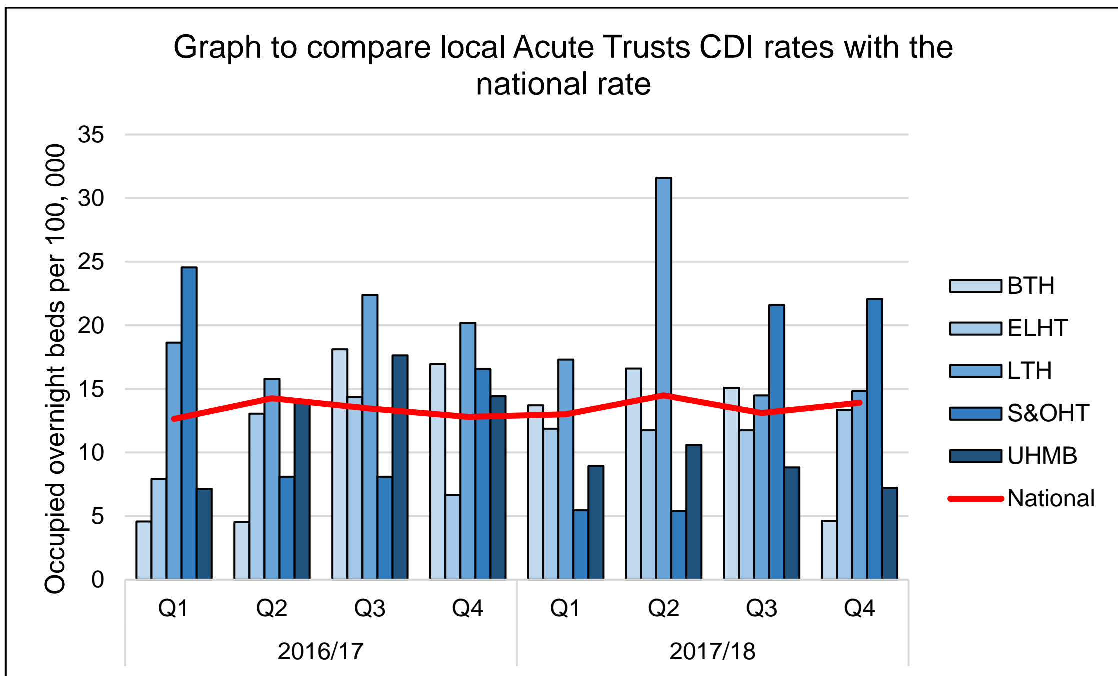


The Acute Trusts CDI objective includes infections diagnosed 3+ days following admission. The Acute Trusts perform a PIR prior to review by a CCG panel to agree if there have been lapses in care. Acute Trusts are penalised for each breach of their objective; infections with no identifiable lapses in care, are discounted when considering their total for the penalty. The table below shows all cases including those that the PIR may demonstrate that there were no lapses in care impacting on the outcome for the patient.

	BTH	ELHT	LTH	S&OHT	UHMB	Total
Q1	9	9	13	2	5	38
Q2	11	9	24	2	6	52
Q3	10	9	11	8	5	43
Q4	3	10	11	8	4	36
Total to date	33	37	59	20	20	169
Cumulative objective for Q1-4	40	28	66	36	44	214

The chart shows that ELHT breached their objective. When the no lapses in care are discounted no local Trust breached their objective.

The graph below compares local Trusts against the national rates. As with MRSA data, comparisons should not be drawn between Acute Trusts, due to the varying demographics of their catchment population and the specialist services they provide; therefore, this data should be used with caution.

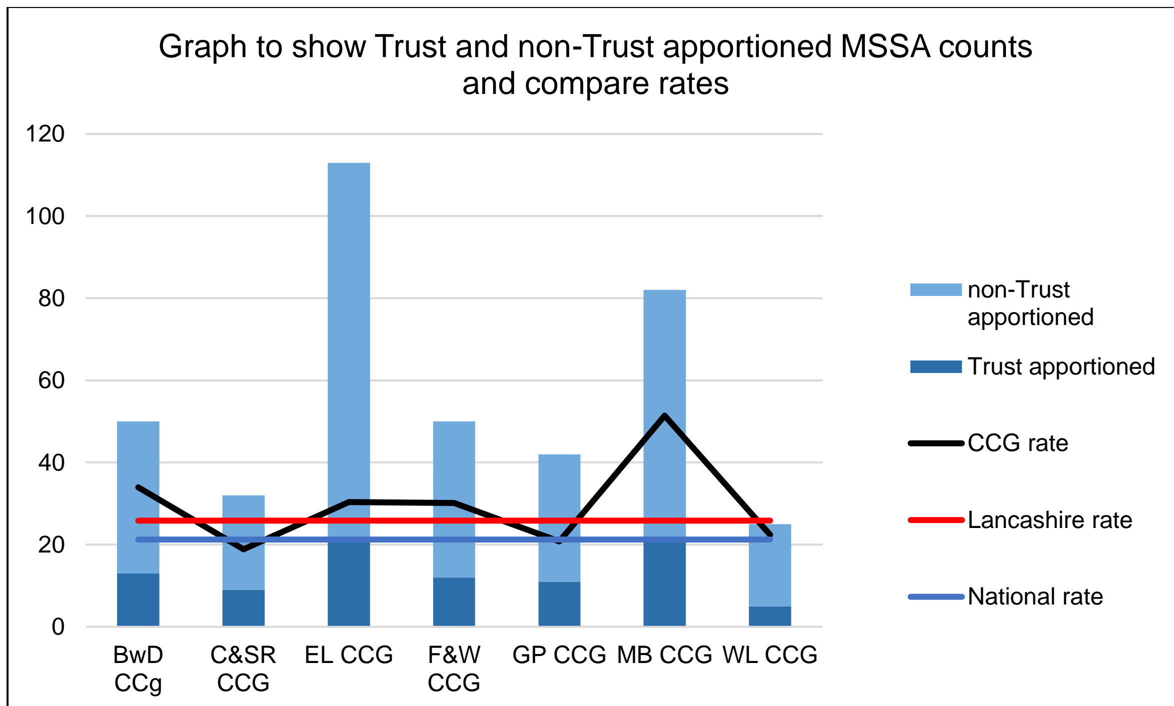


The rates across Lancashire have increased slightly during 2017/18 compared to 2016/17 (to 28.56 per 100, 000 population from 24.32), but is still lower than the 2014/5 and 2015/16 rates.

5. MSSA

There is no trajectory for MSSA bacteraemia, but surveillance continues. During 2017/18 there were 305 cases across Lancashire. There has been a steady year on year increase since 2013/14 when there were 229 cases. Whilst there are more cases of MSSA than MRSA the mortality rate from these bacteraemia is not as high.

MSSA are divided into Trust and non-Trust apportioned with the majority of cases arising in community settings. The following graph shows the distribution between the Acute and non-Acute cases for 2017/18 and compares the rates between the CCGs, Lancashire and national rate. EL CCG has the highest numbers, whereas MB CCG has the highest rates. Generally the rate in Lancashire is higher than the national rate.



6. *E coli*

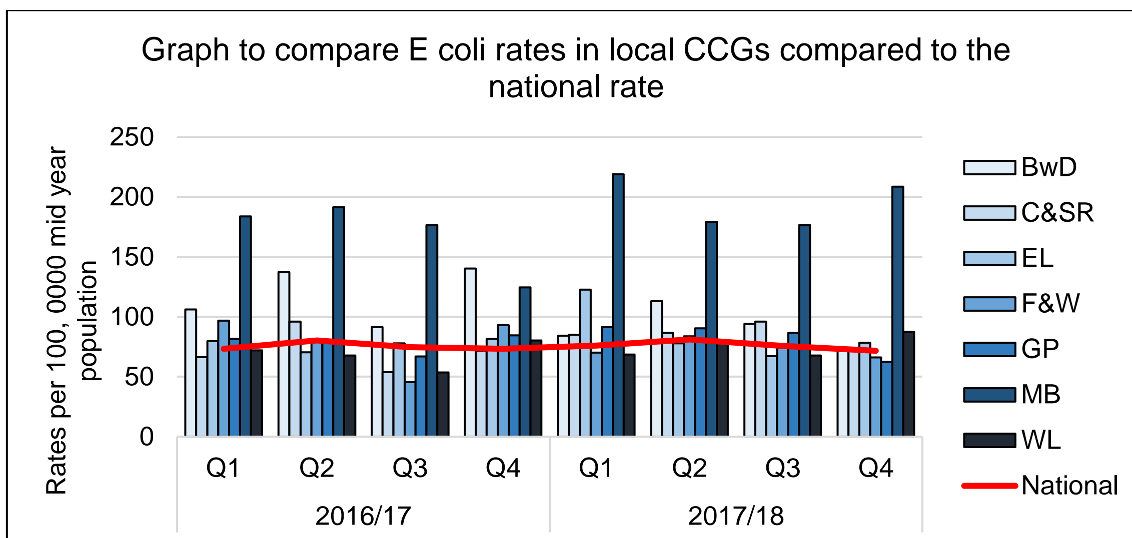
From April 2017 an ambition to reduce the number of E coli bacteraemia by 10% was incorporated into the Quality Premium for CCGs. This is based on reducing the healthcare associated bacteraemia, but it has been difficult to establish which cases are associated with healthcare. The chart below shows the progress towards achieving this trajectory, most local CCGs breached their annual trajectory during 2017/18. The only local CCG that achieved their trajectory is BwD who were set a much higher trajectory due to poor performance in the baseline year.

	BwD CCG	**CSR CCG**	**EL CCG**	**F&W CCG**	**GP CCG**	**MB CCG**	**WL CCG**	**Total**
Q4 Acute Cases	5	8	8	4	4	19	3	56
Q4 Non-acute cases	21	23	64	23	27	63	21	248
Total for Q4	26	31	72	27	31	82	24	304
Total for the year	134	145	322	122	167	312	84	927
Annual ambition (no more than)	141	109	257	107	138	122 – this was the trajectory for LN CCG	63	937

Most of the Integrated Care Organisations are working on E coli reduction plans, with surveillance and analysis being a major part of the plans initially. Many cases of E coli bacteraemia arise in the community, some with no previous healthcare involvement. This has made the analysis challenging and highlights the wide range of potential

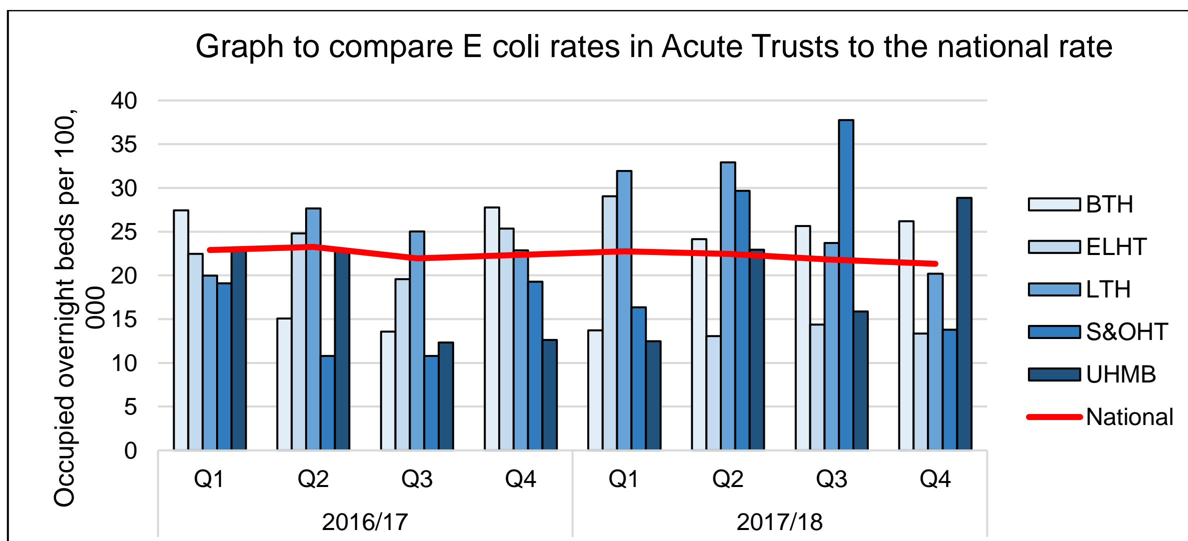
causes. This has led to difficulties in identifying targeted work to reduce the cases. There is some evidence that some are linked to urinary tract infections, so there is a lot of work being undertaken nationally to prevent and manage UTIs, improve catheter care and prevent dehydration in the elderly. The Infection Prevention team at LCC have developed an E coli strategy and reduction plan aimed at social and residential care settings.

The following graph shows the rates of E coli bacteraemia compared to the national rate. The rate for MB CCG needs to be confirmed as correct by PHE.



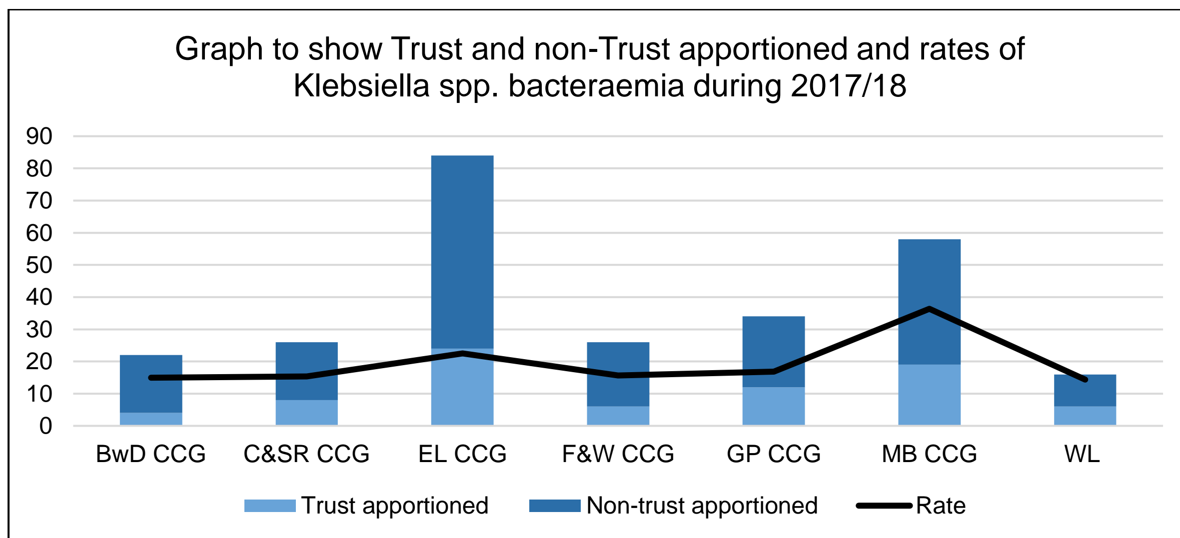
Acute trusts do not have a trajectory for reducing E coli, but they are working towards the ambition of reducing the number of Gram-negative bacteraemia by 50% by 2021.

The following graph compares the rates for the local Acute Trusts against the national rate. The demographics of the population and the specialities the Trust provides may impact on the rates.



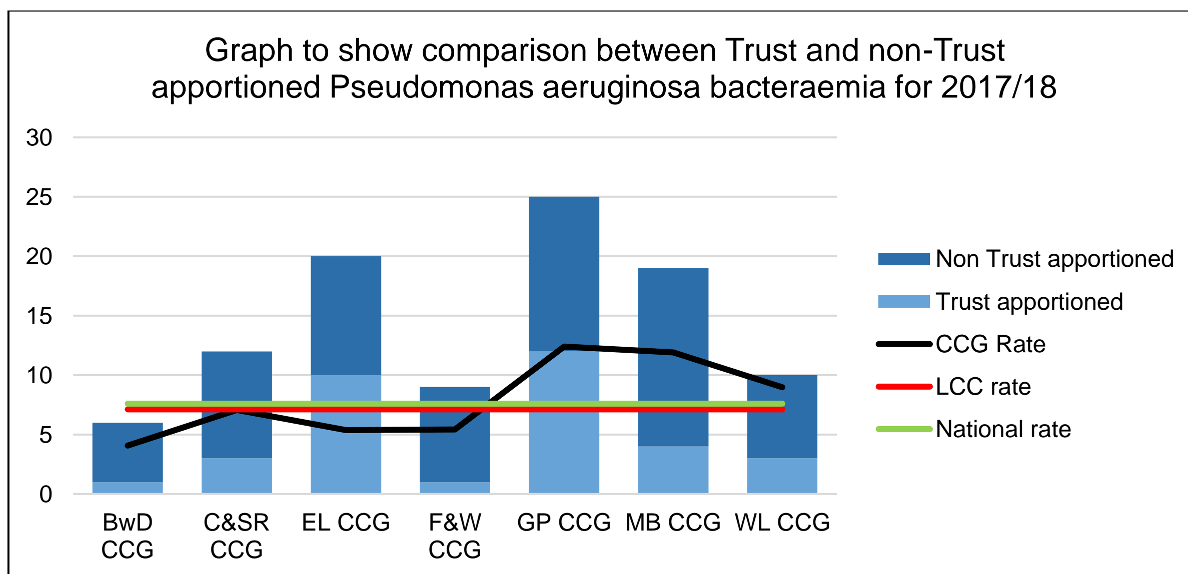
7. *Klebsiella spp.*

Klebsiella is a Gram-negative bacteria. There is not a trajectory at present, but the reduction of bacteraemia caused by Klebsiella is included in the 50% reduction ambition. Mandatory surveillance of these came into force from April 2017. During Q4 there were 58 cases in Lancashire with 44 of these being apportioned to the non-Acute Trust. The graph below shows the number of cases and the rates across Lancashire during 2017/18.



8. *Pseudomonas aeruginosa*

Pseudomonas aeruginosa is another Gram negative bacteria which is also included in the overarching reduction ambition. There is currently no trajectory and mandatory surveillance commenced in April 2017. Again, the majority of these arise in the community.



9. Achievements of the LCC IPC team during 2017/18

- The HCAI Collaborative has been re-established with support from NHSE and will continue to support local CCGs and Acute Trusts to work together.
- May 5th is the World Health Organisation Hand Hygiene Awareness day. The IPNs had a stall to promote hand hygiene.
- A Sepsis Training package for Lancashire Care Homes has been developed and rolled out. A poster presentation of the strategy was delivered at the Sepsis Unplugged conference in February where it gained national recognition and was awarded a prize.
- A Lancashire-wide *E. coli* reduction strategy has been developed. This supports the CCGs in development of their local *E. coli* Action Plans.
- A poster promoting good hydration within care homes has been developed, this is being adapted into a leaflet for residents receiving domiciliary care.
- An Antibiotic Log has been piloted, which has highlighted that minor amendments are required prior to being rolled out throughout Lancashire.
- The CH IPC Champions meetings continued with the themes being Influenza, norovirus outbreaks, 'Back to Basics' and E.Coli.
- The IPC team have arranged a Twitter account which is now live @LancsIPC

10. Horizon scanning

As some GP practices are moving to other CCGs there may be some initial confusion with the allocation of infections to these CCGs and the rates/trajectories may need to be amended accordingly.

From 1st April 2018 MRSA cases will be allocated to the Acute Trust or non-Acute Trust purely based on the time that the specimen was taken in relation to the time that the patient was admitted to hospital. The option to assign to a different organisation, or go to arbitration, has been removed.

Based on the previous year's data, PIRs will only be required for CCGs with a rate of 1.6 or more community onset per 100,000 population and trusts with a hospital onset rate of 1.7 per 100,000 bed-days or more. This is a pragmatic approach while PHE develop and evaluate statistical tools to identify trusts or CCGs in which cases have exceeded predicted values. It appears that the rate is based on cases that were provisionally allocated as non-trust apportioned prior to the final assignment.

There are no Lancashire Acute Trusts included in this, but Central Manchester University Hospitals NHS Foundation Trust, Wrightington, Wigan and Leigh NHS Foundation Trust and Airedale NHS Foundation Trust are included. This may impact on Lancashire CCGs. The local CCGs who have to continue with the PIR process are EL CCG and WL CCG. Other areas will still undertake a full clinical review to determine if there are any lapses in care identified and assess if financial penalties should be applied, but this will be managed at a local level.

11. Recommendations

The Director of Public Health is asked to acknowledge and approve the content of this report.

12. Director of Public Health recommendations

All CCGs and partners should progress their action plans to reduce the prevalence of E coli bacteraemia to achieve their trajectories for 2018/19.
East Lancashire and Greater Preston CCGs to identify the areas of lapses in care contributing to CDI and increase their activity in the prevention of infections to achieve year on year reduction in the number of cases.

Anita Watson, Lead Nurse Infection Prevention and Control