Infection Prevention Report

Quarter 1 (April to June 2023)

Tanya Shaw, Lead Nurse, Infection Prevention and Control

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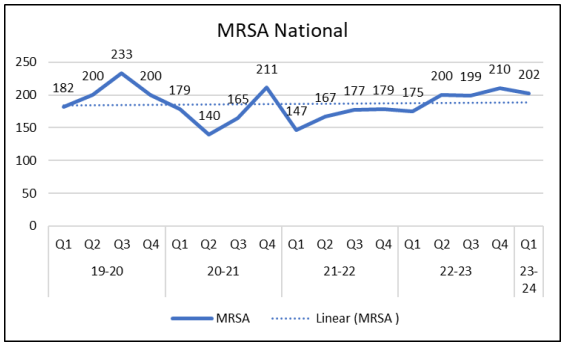
Introduction

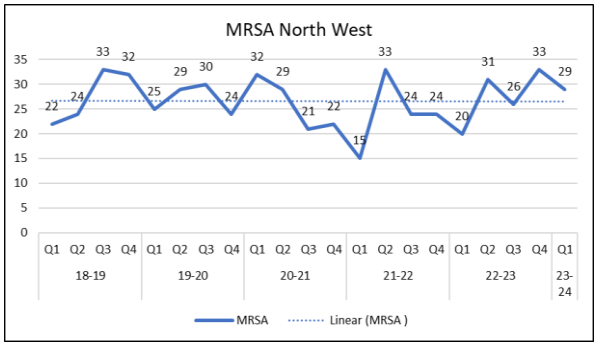
The purpose of this report is to provide an update on the work of the Infection Prevention Team at Lancashire County Council to the Directors of Public Health at Lancashire County Council and Blackburn with Darwen Borough Council along with the Lancashire and South Cumbria Integrated Care Board. The update includes the data for healthcare associated infections (HCAIs) which are subject to mandatory surveillance and progress towards any trajectories where appropriate.

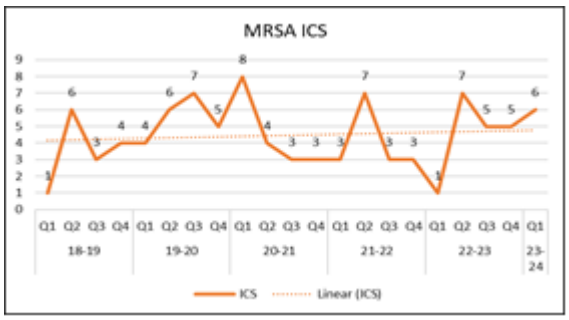
It is recognised that some infections are inevitable as a result of healthcare, but the vision of the Infection Prevention Society is that no person is harmed by a preventable infection. HCAIs have a significant impact on morbidity and mortality whilst carrying a financial risk due to unscheduled care and prescribing costs. There are many HCAIs, but the national focus is on Meticillin resistant *Staphylococcus Aureus* (MRSA) blood stream infections; Meticillin Susceptible *Staphylococcus Aureus* (MSSA) blood stream infections; Gram-negative blood stream infections including *Escherichia coli* (*E. coli*), *Pseudomonas* and *Klebsiella*; and *Clostridioides difficile* infections (CDI).

Laboratories within the Acute Trusts submit their data for reportable infections onto the Data Capture System (DCS) managed by UKHSA. This data is checked and locked down on the 15th of each month, but minor changes, especially linked to the rates, sometimes occur after this date. The data reported throughout this report is for the population registered with GPs in the 8 Sub ICB locations within the Lancashire and South Cumbria Integrated Care System, and this may vary slightly from the residents' data.

MRSA

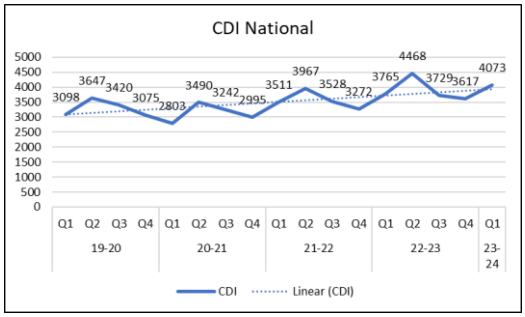


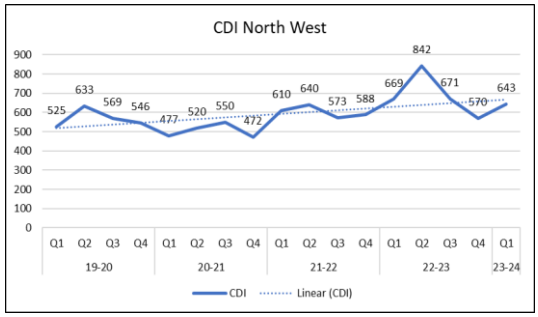


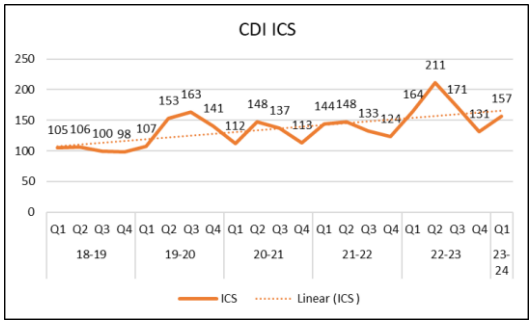


MRSA data	QTR April – June 2023	Details
B'pool	0	
BwD	1	1x COCA June
CSR	1	1x COCA June
EL	3	2x HOHA May 1x HOHA June
FW	1	1 x HOHA June
GP	0	
MB	0	
WL	0	
Total Hospital onset	4	
Total Community Onset	2	
Total	6	

Clostridioides Difficile



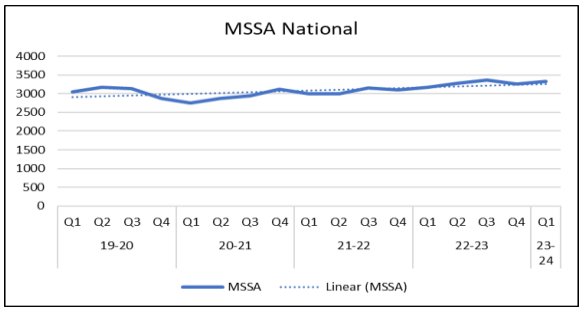


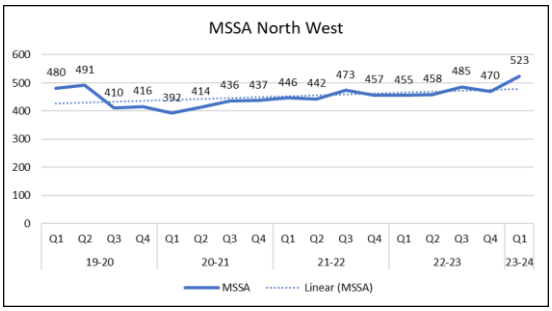


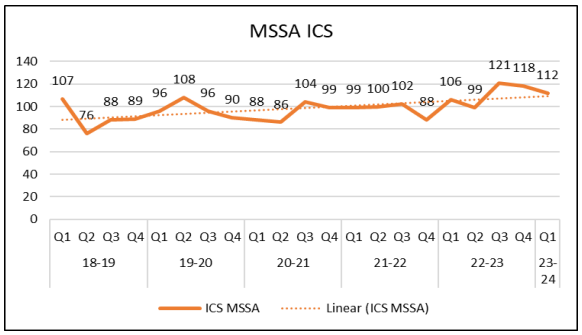
CDI data	Apr-23	May-23	Jun-23	Total	Objective to Date	Breach
B'pool	2	6	7	15	20	
BwD	2	2	2	6	8	
CSR	7	10	8	25	17	52%
EL	10	6	9	25	17	45%
FW	7	8	8	23	21	7%
GP	8	11	13	32	21	49%
MB	15	13	13	41	36	13%
WL	3	1	6	10	7	43%
Total Hospital onset	38	32	40	110		
Total Community Onset	16	25	26	67		
Total	54	57	66	177	149	19%
Cumulative Total	54	111	177	-		
Cumulative Total last year	55	113	191	-		
Percentage change from last year	-2%	-2%	-7%	-		

CDI data	April	May	June	Total	Objective to Date	Breach
BTH	3	5	9	17	22	
ELHT	7	4	2	13	13	
LTH	16	17	19	52	30	72%
S&O	2	0	4	6	10	
UHMB	12	6	6	24	21	16%
Total	40	32	40	112	96	16%
Cumulative Total	40	72	112	-		
Cumulative Total previous year	36	68	117	-		
Change from last year	11%	6%	-4%	-		

Meticillin Susceptible Staphylococcus Aureus (MSSA)



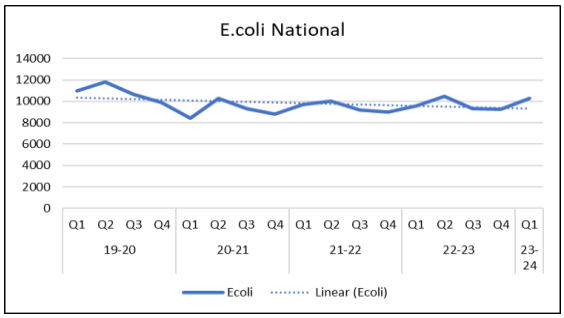


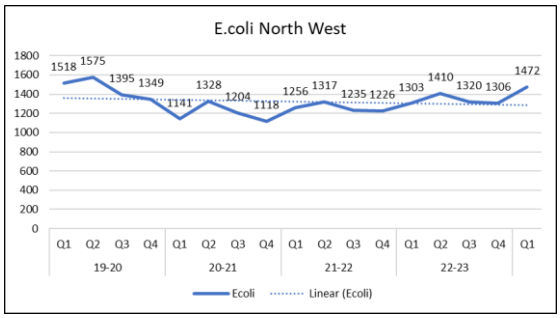


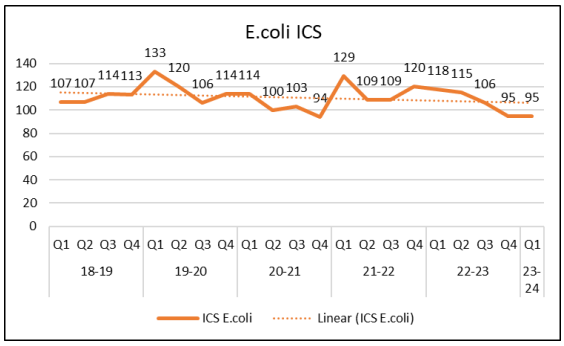
MSSA data	Apr-23	May-23	Jun-23	Total
B'pool	4	8	11	23
BwD	2	8	4	14
CSR	4	4	3	11
EL	10	8	12	30
FW	4	0	0	4
GP	2	0	0	2
MB	7	0	0	7
WL	2	0	0	2
Total Hospital onset	17	25	17	59
Total Community Onset	18	20	29	67
Total	35	45	46	126
Cumulative Total	35	80	126	-
Cumulative Total last year	37	74	114	-
Percentage change from last year	-5%	8%	11%	-

MSSA data	April	May	June	Total
BTH	4	7	6	17
ELHT	7	9	5	21
LTH	2	5	1	8
S&O	1	0	3	4
UHMB	3	4	3	10
Total	17	25	18	60
Cumulative Total	17	42	60	-
Cumulative previous year	18	36	56	-
Percentage change from last year	-6%	17%	7%	-

E.coli



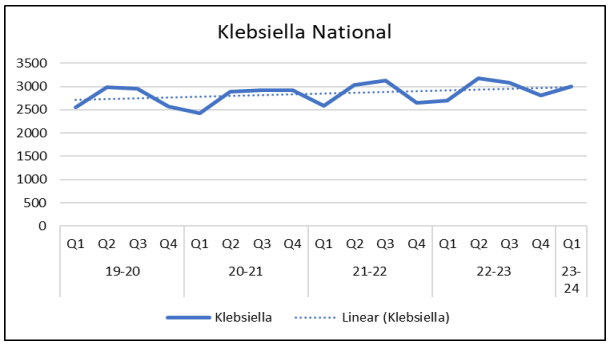


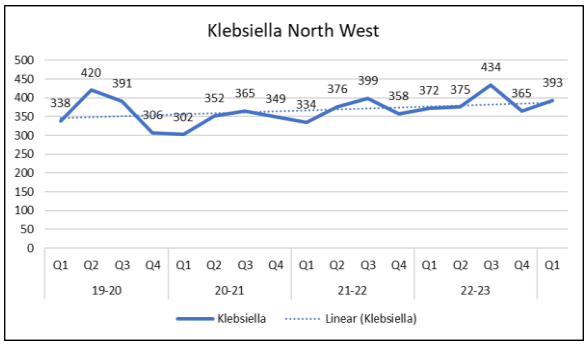


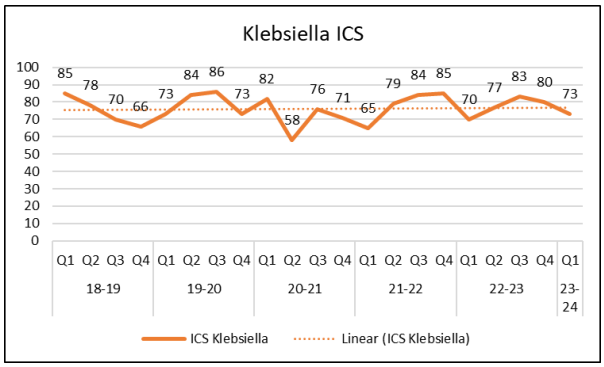
E.Coli data	Apr-23	May-23	Jun-23	Total	Objective to Date	Breach
B'pool	11	22	17	50	25	100%
BwD	8	8	11	27	25	8%
CSR	11	8	14	33	29	16%
EL	19	22	27	68	65	5%
FW	21	17	23	61	30	100%
GP	13	9	13	35	30	16%
MB	19	25	27	71	59	21%
WL	7	9	9	25	20	22%
Total Hospital onset	52	60	48	153		
Total Community Onset	57	60	73	190		
Total	109	120	114	343	283	21%
Cumulative Total	109	229	343	-		
Cumulative Total last year	101	216	323	-		
Percentage change from last year	8%	6%	6%	-		

E. Coli data	April	May	June	Total	Objective to Date	Breach
BTH	15	18	13	46	21	114%
ELHT	11	11	16	38	32	18%
LTH	7	11	10	28	24	18%
S&O	3	9	4	16	12	33%
UHMB	11	14	7	32	24	32%
Total	47	63	50	160	114	41%
Cumulative Total	47	110	160	-		
Cumulative Total previous year	36	97	150	-		
Percentage change from last year	31%	13%	7%	-		

Klebsiella spp.



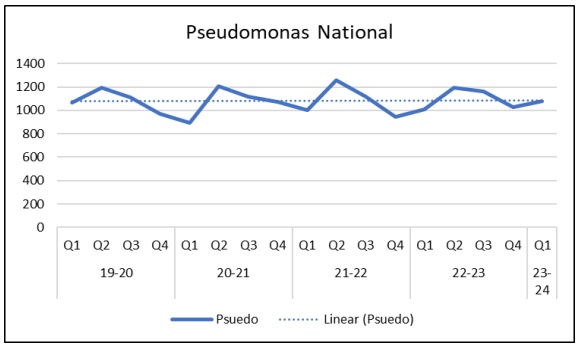


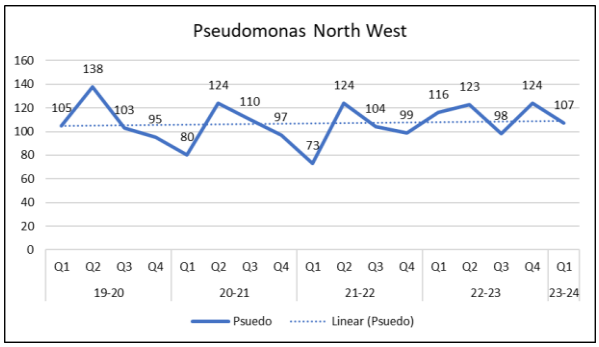


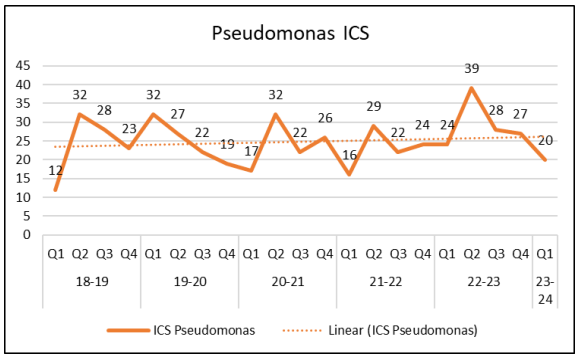
Klebsiella data	Apr-23	May-23	Jun-23	Total	Objective to Date	Breach
B'pool	2	3	5	10	8	21%
BwD	0	0	5	5	7	
CSR	3	2	2	7	6	12%
EL	4	5	6	15	14	11%
FW	2	4	5	11	9	16%
GP	6	5	4	15	8	77%
MB	6	1	6	13	12	6%
WL	0	1	2	3	5	
Total Hospital onset	11	9	15	35		
Total Community Onset	12	12	20	44		
Total	23	21	35	79	70	13%
Cumulative Total	23	44	79	-		
Cumulative Total last year	24	57	81	-		
Percentage change from last year	-4%	-23%	-2%	-		

Klebsiella data	April	May	June	Total	Objective to Date	Breach
BTH	2	4	3	9	10	
ELHT	0	2	4	6	10	
LTH	5	2	2	9	6	44%
S&O	0	2	2	4	3	23%
UHMB	4	0	2	6	5	20%
Total	11	10	13	34		
Cumulative Total	11	21	34	-		
Cumulative Total previous year	14	26	38	-		
Percentage change from last year	-21%	-19%	-11%	-		

Pseudomonas Aeruginosa







Pseudo data	Apr-23	May-23	Jun-23	Total	Objective to Date	Breach
B'pool	1	1	3	5	2	187%
BwD	0	1	0	1	1	1%
CSR	0	0	2	2	3	
EL	4	1	0	5	3	54%
FW	0	0	4	4	3	23%
GP	1	0	0	1	2	
MB	0	2	1	3	5	
WL	0	0	1	1	2	
Total Hospital onset	3	3	8	14		
Total Community onset	3	2	3	8		
Total	5	4	8	17	22	
Cumulative Total	6	11	22	-		
Cumulative Total last year	7	14	29	-		
Percentage change from last year	-14%	-21%	-24%	-		

Pseudo data	April	May	June	Total	Objective to Date	Breach
BTH	0	0	5	5	5	
ELHT	3	2	0	5	2	187%
LTH	0	0	0	0	3	
S&O	1	0	1	2	1	63%
UHMB	0	1	0	1	2	
Total	4	3	6	13	13	
Cumulative Total	4	7	13	-		
Cumulative Total previous year	1	9	21	-		
Percentage change from last year	300%	-22%	-38%	-		

Outbreaks

Number of active incidents and outbreaks within care settings in Lancashire and Blackburn with Darwen by month

	North		Central		East		BwD		Total	
Illness/ Infection	Outbreaks	Incidents	Outbreaks	Incidents	Outbreaks	Incidents	Outbreaks	Incidents	Outbreaks	Incidents
CDI		1				1			0	2
Influenza A					1				1	0
Norovirus	7		8		10		2		27	0
Scabies			2	2	8	1		1	10	4
Pneumonia		1							0	1
Covid	10	2	25	3	9	2	1		45	7
ARI	1		1		1				3	0
IGAS			2						2	0
Total	14	3	30	5	26	5	3	1	88	14

IPC work streams & observations

MRSA

To date there have been 6 MRSA blood stream infections this year. Each case should be subject to a timely post infection review to allow for analysis of the themes and trends and to implement lessons learned. These reviews are becoming more difficult to complete, especially for community onset cases when input is required from multiple agencies.

Forums

Social Care Infection Prevention Champions

The IPC team have held Social Care Infection Prevention Champions Forums. These have focussed on Sepsis with the purpose of the forums to support attendees to expand their knowledge and give a greater understanding of Sepsis /RESTORE2 and help you understand the diagnosis, treatment and management. The forum included:

- Group Discussion's
- What is Sepsis
- How to use RESTORE2
- Scenarios
- NEWS/NEWS2
- Escalation
- Monitoring
- Decision Making

Six sessions were delivered at six locations across Lancashire in June and July. There were 107 attendees in total and 100% of the feedback rated the workshop as 'excellent' or 'good'.

The slides from the forum have now been uploaded to the IPC website.

Fundamentals of IPC Forum

These forums are currently held every 6 weeks and are available for anyone working within a care setting to attend. They are aimed at new members of staff or staff wishing to complete a refresher session.

The aims of the sessions are for participants to

- Learn the basics of infection prevention and why they are required to stop the spread of infections
- Learn the standard precautions in relation to infection prevention
- Build upon knowledge of how infections can be prevented/controlled
- Understand the importance of breaking the chain of infection

Two sessions were held in Q1 with a total of 19 attendees.

Audits

The IPC team have been prioritising audits of care homes that have received a recent 'inadequate' or 'requires improvement' CQC rating, have had a previous 'red' rating when audited by the team with actions to be complete within 6 months and those that haven't been audited by the team before.

North- 14			Central- 12			East- 21			BwD- 2		
Red	Amber	Green	Red	Amber	Green	Red	Amber	Green	Red	Amber	Green
	3	11	1	4	7		7	14		1	1

Horizon scanning

Audits

The IPC team will be commencing IPC audits on LCC early years nurseries and LCC day services.

IPC Packages

The IPC team are now offering a range of chargeable specialised IPC care package for residential and nursing homes. The package will support settings to comply with the criteria set within the Health and Social Care Act 2008 for the Code of Practice for Infection Prevention.

LCC IPC Conference 2023

The IPC Team are currently in planning stages for the conference. We have confirmed sales representatives and speakers secured. The booking system is due to launch in August.

School Hand Hygiene sessions

The team are due to recommence the sessions from September, work is ongoing to update the presentation, and streamline the booking process.

AMR Awareness sessions for Key Stage 3 & 4 (11-19 years)

The IPC team are currently developing AMR awareness sessions the main aim of the session is to raise awareness of AMR and how it occurs. It will also focus on preventive measures and how we can all play a part in reducing AMR.

IPS National Conference

The team are presenting 2 posters at the IPS National conference in October 2023 in Liverpool.

Glossary

Infections under mandatory surveillance:

***Clostridioides* difficile (CDI)**

Clostridioides difficile, formerly known as *Clostridium* difficile, is a spore-forming bacterium found in 3% of healthy people who are asymptomatic.

Clostridioides difficile infection (CDI) is the biggest cause of infectious diarrhoea in hospitalised patients and is caused by the production of toxins due to the disturbance of the normal intestinal flora, often from antibiotic treatment. Those at most risk of developing CDI includes the elderly and immunocompromised people.

Surveillance of *Clostridioides* difficile infections was introduced in 2004 for patients aged 65 years and over. This was extended to include all cases in patients aged 2 years and over in April 2007.

The NHS Standard Contract 2022/23 includes quality requirements for NHS Trusts to minimise rates of *Clostridioides* difficile infections.

Gram-negative bacteria

Gram-negative bacteria are bacteria that do not retain the crystal violet dye in the Gram stain protocol. The organisms are often resistant to many commonly used antibiotics.

The significant organisms are *Escherichia* coli (E. coli), Klebsiella spp., and Pseudomonas aeruginosa. Mandatory surveillance of *Escherichia* coli (E. coli) bloodstream infections was introduced in June 2011, following increases observed by UKHSA's voluntary surveillance and a recommendation from the Advisory Committee on Antimicrobial Prescribing, Resistance and Healthcare Associated Infection (APRHAI). In April 2017, Klebsiella spp. and Pseudomonas aeruginosa bacteraemia were also added.

This mandatory surveillance supports the Government's ambition to reduce the number of Gram-negative bloodstream infections by 50% by the end of the financial year 2023 to 2024.

Escherichia coli

Escherichia coli cause a range of infections including urinary tract infections and bloodstream infections.

***Klebsiella* species**

Klebsiella species (spp.) belong to the Enterobacteriaceae family. They are commonly found in the environment and in the human intestinal tract (where they do not normally cause disease). These species can cause a range of healthcare-associated infections, including pneumonia, bloodstream infections, wound or surgical site infections and meningitis.

Pseudomonas aeruginosa

Pseudomonas aeruginosa (P. aeruginosa) is often found in soil and ground water. It causes a wide range of infection in those with a weakened immune system, such as, those with cancer and diabetes. In hospitals, the organism can contaminate devices that are left inside the body, such as respiratory equipment and catheters. It is sometimes associated with contaminated water.

Staphylococcus aureus

Staphylococcus aureus (S. aureus) is a bacterium that commonly colonises human skin and mucosa without causing any problems. If the bacteria have an opportunity to enter the body (medical device/broken skin) they can cause disease such as skin and wound infections, joint infections, pneumonia and blood stream infections.

Most strains of S. aureus are sensitive to the more commonly used antibiotics, and infections can be effectively treated. There are two types of S. aureus strains:

- **Meticillin susceptible *Staphylococcus aureus*** (MSSA) is a strain of *Staphylococcus aureus* that is sensitive to the antibiotic methicillin.

- **Meticillin resistant *Staphylococcus aureus*** (MRSA) is a strain of *Staphylococcus aureus* that is resistant to the antibiotic meticillin. MRSA infections often require different types of antibiotics to treat them.

There is a zero tolerance for MRSA bloodstream infections. There was a considerable decrease in the rate of reported MRSA blood stream infections following the introduction of mandatory surveillance in April 2007 until 2014. The rate has remained stable since then.

MRSA and MSSA only differ in their degree of antibiotic resistance: other than that, there is no real difference between them.

Terms:

BSI	Blood stream infection/bacteraemia is an invasion of the bloodstream by bacteria. This may occur through a wound or infection, or through a surgical procedure or injection.
COCA	Community-onset, community associated.
COHA	Community-onset, healthcare associated.
COIA	Community-onset, indeterminate association.
DCS	Data Capture System. Web-based system where patient-level mandatory surveillance data is collected.
HCAI	Healthcare associated infections.
HOCA	Hospital-onset, community acquired.
HOHA	Hospital-onset, healthcare acquired.
PIR	Post Infection Review. The aim of the PIR process is to help identify any critical points and contributory factors leading to certain infections or outbreaks.
Trajectory	Trusts are required under the NHS Standard Contract 2022/23 to minimise rates of both CDI and of Gram-negative bloodstream infections. Each NHS Trust and former CCG have their own trajectory. For CDI infections this is referred to as

Tanya Shaw, Lead Nurse Infection Prevention and Control