

Monthly Target Monitoring Report

To cover period 01/04/2018 to 31/03/2019

South Eastern Health and Social Care Trust

Date generated: 16/04/2019

- This report has been updated to include target monitoring for secondary care antimicrobial prescribing data, in addition to the three key gram-negative bacteraemias (GNB: *E.coli*, *Pseudomonas aeruginosa* and *Klebsiella* spp), MRSA and *C. difficile*.

Infection data

- The infection data reflects what has been reported to HI-Surv. Further details about how to interpret the charts is shown in Appendix 1.
- All infections are disaggregated by timing of the specimen relative to the patient's admission (further details can be found in Appendix 2). Healthcare associated (HCA) infections are categorised as those with a specimen greater than or equal to 2 or 3 days for bacteraemias and CDI respectively.

AMC data

- The AMC data reflects prescriptions that have been charged to Trust cost centres. Further details about what is included in the numerator and denominator is described in Appendix 3.
- **Please note:** The AMC data is based on the data that is currently available to PHA and is subject to change. Any changes will be communicated appropriately.

HI-Surv

- For more granular information on the organisms or the antibiotic data presented in this report, including risk factors for the gram-negative bacteraemias, please refer to your Trust visualisation dashboard on [HI-Surv](#). For information about access please contact hcaini@hscni.net.

MRSA

Data below relates to 2018 / 19

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
< 2 days	1	1	2	2	0	0	1	0	0	0	1	0	8
>= 2 days	0	0	0	0	0	1	2	1	0	0	0	0	4
No admission date*	0	0	0	0	0	0	0	0	0	0	0	0	0
Cases	1	1	2	2	0	1	3	1	0	0	1	0	12

Fig. 1: MRSA Total to date 12

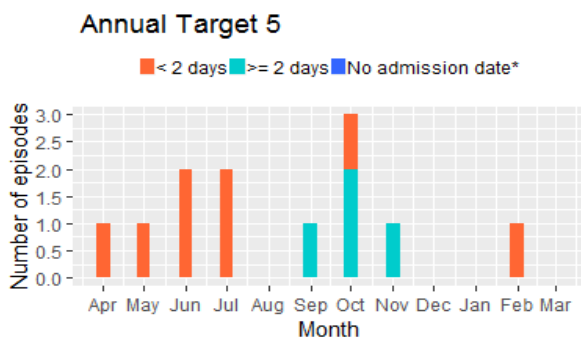


Fig. 2: Cumulative monthly data

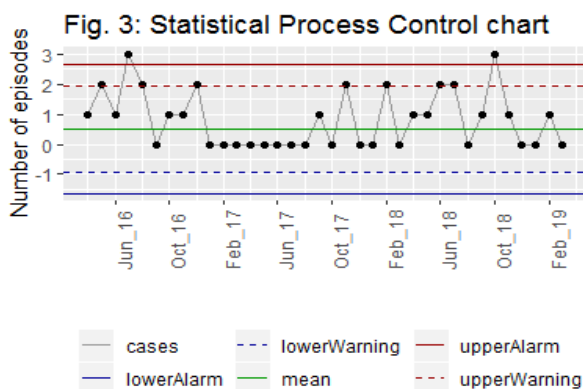
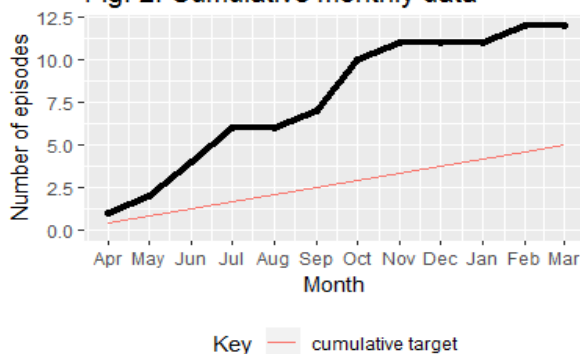


Fig. 4: HCA- MRSA last 16 cases

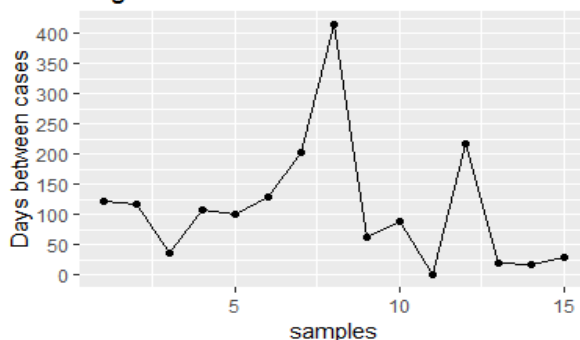


Figure 1. Bar chart showing monthly incidence this year

Figure 2. Line 'trajectory' chart showing cumulative monthly total of episodes this year

Figure 3. Statistical Process Control chart showing the number of episodes each month from April 2016

Figure 4. Run chart showing time between consecutive events for up to the last 30 *healthcare associated cases*. A longer time between events is better

*"No Admission Date" refers to cases where the admission date field was blank on Hi-Surv. These cases can not be apportioned to < 2 or >= 2 days.

CDI

Data below relates to 2018 / 19

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
< 3 days	2	3	6	0	3	6	3	1	2	5	4	4	39
>= 3 days	3	1	9	4	2	3	2	1	4	5	6	5	45
No admission date*	0	0	0	0	0	0	0	0	0	0	0	0	0
Cases	5	4	15	4	5	9	5	2	6	10	10	9	84

Fig. 1: CDI Total to date 84

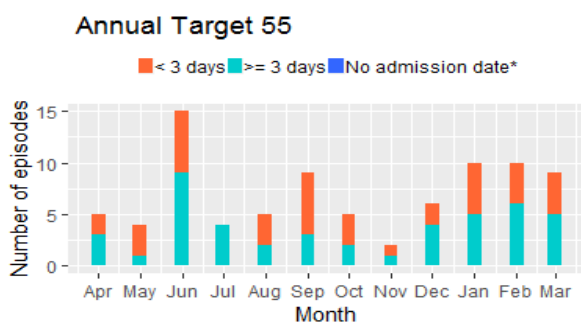


Fig. 2: Cumulative monthly data

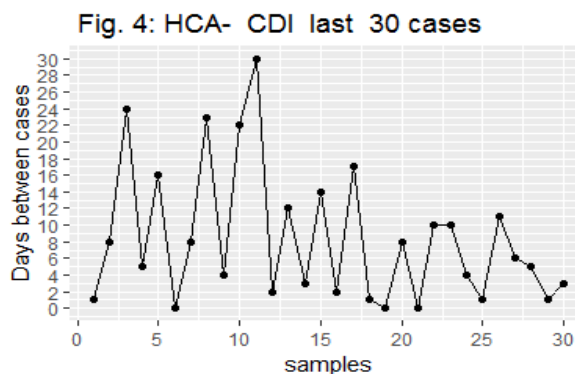
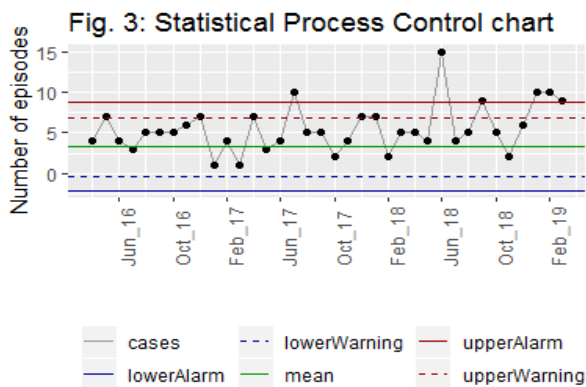
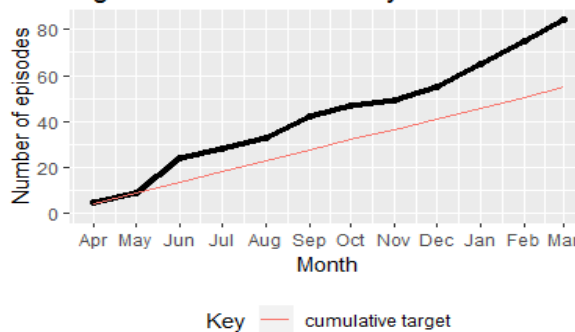


Figure 1. Bar chart showing monthly incidence this year

Figure 2. Line 'trajectory' chart showing cumulative monthly total of episodes this year

Figure 3. Statistical Process Control chart showing the number of episodes each month from April 2016

Figure 4. Run chart showing time between consecutive events for up to the last 30 *healthcare associated cases*. A longer time between events is better.

*"No Admission Date" refers to cases where the admission date field was blank on Hi-Surv. These cases can not be apportioned to < 3 or >= 3 days.

GNB

Data below relates to 2018 / 19

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
< 2 days	20	24	20	24	23	26	23	18	20	23	24	28	273
>= 2 days	5	3	6	4	5	5	5	4	5	6	4	6	58
No admission date*	0	0	2	0	0	1	1	2	1	0	1	1	0
Cases	25	27	28	28	28	32	29	24	26	29	29	35	340

Fig. 1: HCA-GNB to date 58

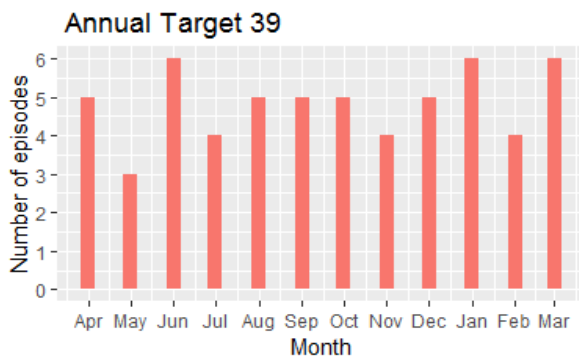


Fig. 2: Cumulative monthly HCA-GNB data

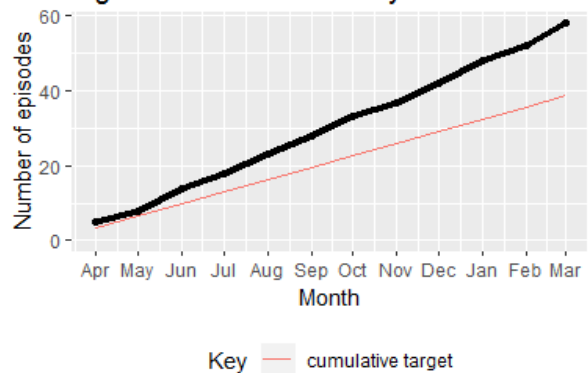


Fig. 3: Statistical Process Control chart

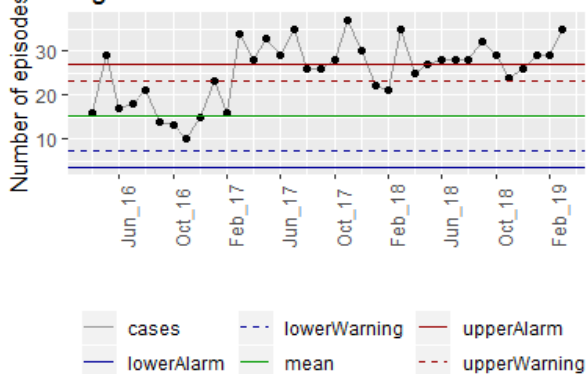


Fig. 4: HCA- GNB last 30 cases

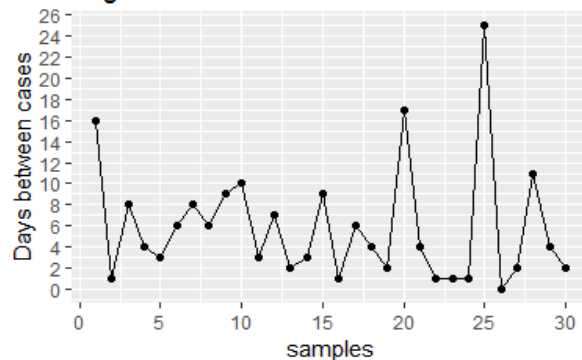


Figure 1. Bar chart showing monthly incidence for HCA-GNB this year

Figure 2. Line 'trajectory' chart showing cumulative monthly HCA-GNB episodes this year

Figure 3. Statistical Process Control chart showing all GNB episodes each month from April 2016

Figure 4. Run chart showing time between consecutive events for up to the last 30 healthcare associated cases. A longer time between events is better.

*"No Admission Date" refers to cases where the admission date field was blank on Hi-Surv. These cases can not be apportioned to < 2 or >= 2 days.

Target 2018 / 19

Organism	2017/18	No. to date 2018/19	Target 2018/19	Trajectory to date 2018/19
MRSA	5	12	5	5
CDI	61	84	55	55
HA-GNB	64	58	39	39

*The data for HCA-GNB for 2017/18 was determined by linking CoSurv reported GNB to the Trust patient administration systems to extract the admission date associated with the specimen date.

Antimicrobial Consumption

See Appendix 4 for chart interpretation

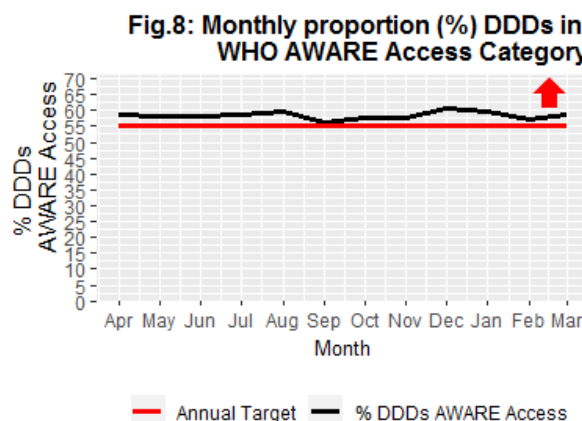
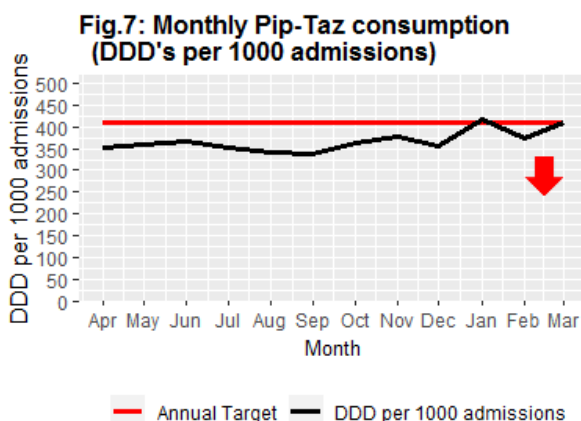
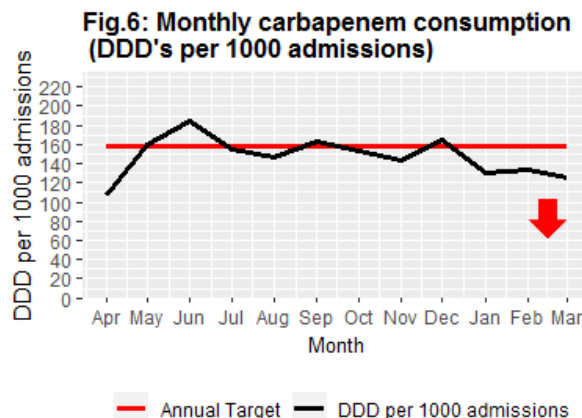
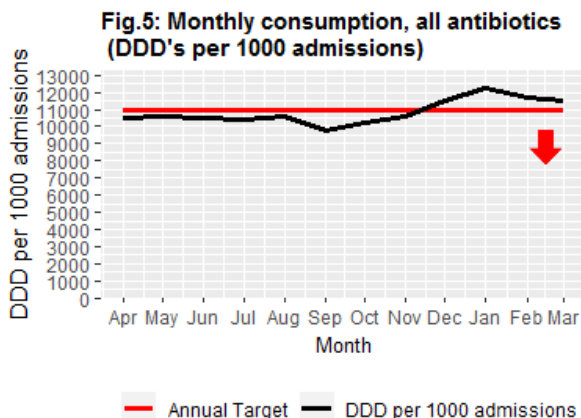


Figure 5. Line chart showing monthly consumption (in DDDs per 1000 admissions) of all antibiotics this year compared to the annual target (**1% reduction from 2017/18 baseline**).

Figure 6. Line chart showing monthly consumption (in DDDs per 1000 admissions) of carbapenems this year compared to the annual target (**3% reduction from 2017/18 baseline**).

Figure 7. Line chart showing monthly consumption (in DDDs per 1000 admissions) of piperacillin/tazobactam this year compared to the annual target (**3% reduction from 2017/18 baseline**).

Figure 8. Line chart showing the proportion (%) of monthly DDDs (all antibiotics) accounted for by those within the WHO AWARE 'Access' category (**at least 55% of antibiotic consumption from the Access category or a 3% increase in the baseline**).

Appendix 1

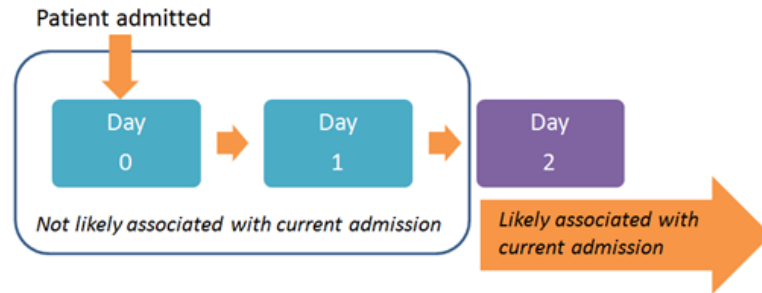
Infection data chart interpretation

- Figure 4 shows the 'time between' infections (focusing on infections that are likely healthcare-associated based on the timing of the infection relative to admission). Each point is a consecutive disease episode and the height of the point on the Y axis shows the number of days between consecutive episodes. In this chart, a reducing time between infections can be used as a warning of increased incidence of an infection, and increasing time between infections can be a sensitive indicator of improved outcomes. For an example of the use of this chart, see Wall et al. (BMJ Quality and Safety, 2005, <http://dx.doi.org/10.1136/qshc.2004.013516>)

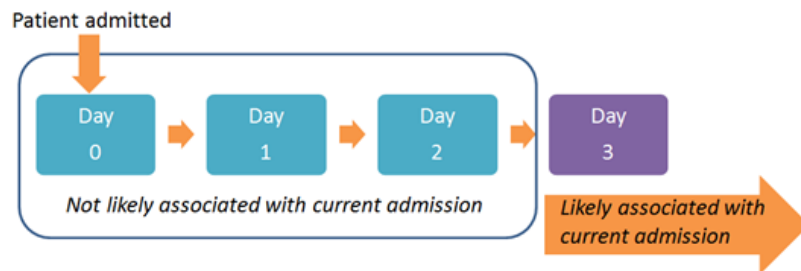
Appendix 2

Calculation of the timing of the patient's specimen relative to their hospital admission

APPROACH FOR MRSA, MSSA and gram negative bacteraemias ≥2 days – likely associated with current hospital stay



C. difficile APPROACH ≥3 days – likely associated with current hospital stay



Appendix 3

Antibiotic data

- **Inclusions:** Acute Trust hospitals (includes mental health and learning disability wards) and community mental health and learning disability facilities.
- **Excludes:** Out of hours data

Table 1: Inclusions for total antibiotic consumption

ATC_Code	Name	Excludes
J01	ANTIBACTERIALS FOR SYSTEMIC USE	demeclocycline, spiramycin, spectinomycin
A07AA09	vancomycin	
A07AA12	fidaxomicin	
G01AF01	metronidazole	
P01AB01	metronidazole	
P01AB02	tinidazole	

Table 2: Inclusions for AWARE Access antibiotics

ATC

code	Name
J01AA02	doxycycline
J01AA07	tetracycline
J01CA01	ampicillin
J01CA04	amoxicillin
J01CA08	pivmecillinam
J01CA51	ampicillin, combinations
J01CE01	benzylpenicillin
J01CE02	phenoxymethylpenicillin
J01CE08	benzathine benzylpenicillin
J01CE09	procaine benzylpenicillin
J01CF05	flucloxacillin
J01EA01	trimethoprim
J01EE01	sulfamethoxazole and trimethoprim
J01GB03	gentamicin
J01XC01	fusidic acid
J01XD01	metronidazole
J01XE01	nitrofurantoin
J01XX01	fosfomicin (oral only)
G01AF01	metronidazole
P01AB01	metronidazole

Denominator data

- Data is available quarterly from KH03a returns and is made available approximately 6 weeks after the end of the quarter.
- Monthly admissions are derived from the quarterly data by weighting for the number of days in the month i.e. (number of admissions in the quarter/number of days in the quarter)*number of days in the month.
- If the data has yet to be released for a given month admissions will be derived from the same month in the previous year using the same weighting method as described above.
- Estimated monthly admissions will be validated once the quarterly data becomes available.

Caveats

- Admissions data is based on patients who have been both **admitted AND discharged** i.e. those that have completed their patient journey for that admission. The data will not include patients who are admitted in a given month but have yet to be discharged. These individuals will be captured in future downloads and therefore the data is subject to change until the final official publication is released by the DoH in August of each year.
- An end of year position statement in respect of the targets will be produced by PHA once the official stats have been published. Until that point the data is subject to change.

Appendix 4

Interpreting the AMC charts

- Fig 5 - 7: The red annual target line represents the target reduction from the 2017/18 baseline. Each Trust should be on or below this rate to achieve their target for the given year. The monthly rate may fluctuate above or below the annual target rate.
- Fig 8: The target for the proportion in the AWARE Access category was either 55% of total in the baseline year (2017/18) or if this was not realistic, then a 3% increase from the baseline. The monthly proportion may fluctuate above or below the annual target proportion.
- Please note the annual target and monthly rates for **all AMC charts** are provisional until the end of the financial year and subject to change. Changes may be partly attributable to the update of monthly admissions (as described above) and to the monthly update of AMC data for the previous 12 months.