

**Table S1: Unadjusted regression analysis of the clinical outcomes for different ward settings comparing non-intervention and ASP MDT intervention groups.**

	LOS		DOT		Readmission		Mortality	
	p	Coefficient (95% CI)	p	Coefficient (95% CI)	p	OR (95% CI)	p	OR (95% CI)
<b>Medical</b>	< 0.01	-0.21 (-0.29, -0.14)	0.201	-1.187 (-3.007, 0.634)	< 0.01	0.66 (0.54, 0.79)	0.120	0.79 (0.59, 1.06)
<b>ICU</b>	0.15	2.42 (2.27, 2.56)	0.770	2.71 (-15.55, 20.97)	0.665	1.28 (0.41, 3.92)	0.331	0.76 (0.44, 1.31)
<b>Burns</b>	0.31	-0.18 (-0.53, 0.17)	0.380	13.63 (-17.27, 44.54)	NA	NA	0.444	2.48 (0.03, 4.12)
<b>Combined</b>	<0.01	-.22 (-0.30, -0.15)	0.830	-0.26 (-2.63, 2.11)	< 0.01	0.69 (0.58, 0.83)	0.010	0.76 (0.62, 0.93)

SD: Standard deviation; OR: Odds Ratio; LOS: Length of hospital stay in days; DOT: Days of therapy; NA: No cases found; Charlson score: comorbidity index score; Group: Non-intervention vs ASP MDT intervention group.

The non-intervention group was taken as the reference group.

**Table S2: Clinical outcomes comparison between non-intervention and ASP MDT intervention periods in a surgical setting**

	LOS			DOT			Readmission				Mortality			
	Mean	p	MD	Mean	p	MD	Yes	No	p	OR	Yes	No	p	OR
			(95% CI)			(95% CI)	n	n		(95% CI)	n	n		(95% CI)
Periods		< 0.01	- 0.22		< 0.01	- 0.28			0.592	1.06			0.845	0.92
			(- 0.30, - 0.14)			(-0.39, - 0.17)				(0.84, 1.35)				(0.40, 2.09)
Non-intervention	9.25			1.47			133	1312			11	1434		
ASP MDT Intervention	9.28			1.75			167	1543			12	1698		

LOS: length of hospital stay; DOT: days of antibiotic therapy; OR: odds ratio; MD: mean difference using the natural logarithm; n: number of cases

**Table S3: Antibacterial consumption expressed in DDD/ 100 patient day per antibiotic class for non-intervention and ASP MDT intervention periods**

	Non-intervention period			ASP MDT Intervention period			
Antibiotic Class	Oral DDD/100 PD	DDD/100 PD	Class %	Oral DDD/100 PD	DDD/100 PD	Class %	RR change
Other aminoglycosides	0	0.8	1.03%	0	0.6	0.78%	0.75
Penicillins with extended-spectrum	0.03	1.1	1.41%	0.3	1	1.29%	0.91
Macrolides	1.6	6.1	7.84%	1.7	3.8	4.91%	0.63
First-generation cephalosporins	0	0.4	0.51%	0	0.2	0.26%	0.50
Fourth-generation cephalosporins	0	3.3	4.24%	0	1.9	2.45%	0.58
Third-generation cephalosporins	0.1	4.8	6.17%	0.007	8.2	10.59%	1.72
Other B-lactam antibacterials	0	0.5	0.64%	0	0.4	0.52%	0.80
Second-generation cephalosporins	0.1	0.2	0.26%	0.03	0.2	0.26%	1.01
Fluoroquinolones	0.2	1.5	1.93%	0.4	1.7	2.20%	1.14
Lincosamides	0.2	0.4	0.51%	0.3	1.4	1.81%	3.52
Tetracyclines	0.7	1.1	1.41%	0.02	0.8	1.03%	0.73
Carbapenems	0	3.6	4.62%	0	7.6	9.82%	2.12

Beta-lactamase resistant penicillins	0.1	2.7	3.47%	0.09	5.4	6.98%	2.01
Other antibacterials	0.3	2.2	2.83%	1.3	2.1	2.71%	0.96
Imidazole derivatives	0.12	0.34	0.44%	0.2	0.3	0.39%	0.89
Nitrofurans derivatives	0	0	0.00%	0.004	0.004	0.01%	NA
Glycopeptide antibacterials	0	2.9	3.73%	0	4.1	5.30%	1.42
Combinations of penicillins, incl. beta-lactamase inhibitors	0.5	44	56.53%	0.9	33.7	43.54%	0.77
Combinations of sulfonamides and trimethoprim, incl. derivatives	0.2	0.8	1.03%	0.4	1.5	1.94%	1.89
Polymyxins	0	0.2	0.26%	0	0.2	0.26%	1.01
Beta-lactamase sensitive penicillins	0.01	0.7	0.90%	0.06	0.9	1.16%	1.29

DDD: daily defined dose; PD: patient day; RR: relative rate

**Table S4: Reported microbiological outcomes for the non-intervention and ASP MDT intervention periods**

	<i>n</i> (rate)*	
	Non-intervention period	Intervention period
Rate of healthcare-associated Clostridium difficile infection in all adult patients	0	6 (0.0008)
The 30-day all-cause readmission rate for patients with pneumonia	17 (0.13)	14 (0.2)
The 30-day all-cause readmission rate for patients with UTIs	13 (0.16)	21 (0.2)
	<i>n</i> ( <i>n</i> per 100 patient days)**	
	Non-intervention	Intervention
MRSA bloodstream infection/100 adult patient days	8 (0.00015)	5 (0.0007)
Rate of healthcare-associated MDRO bloodstream infection/100 adult patient days.	15 (0.0003)	9 (0.00019)

The number of cases is represented by *n*

\**n* divided by the total number of cases (C.diff., UTI, or pneumonia)

\*\**n* divided by total adult inpatient days then multiplied by 100.

**Table S5: Number of cultures growing ESBL producing bacteria**

	Non-intervention group	Intervention group
Community aquired	528	698
Hospital aquired	239	193
Total	767	891

