

### Supplementary Materials: Tables S1-S6

**Table S1.** Median (IQR) age, in years, according to the different diagnosis of appendix-related intra-abdominal infections (AR-IAI) in the pre-intervention (2014-2016) and in the post-intervention (2017-2019) periods; changes were assessed using the Mann-Whitney U test.

AR-IAI	Pre-intervention period	Post-intervention period	<i>p</i>
<i>Phlegmonous appendicitis</i>	10.5 (8.5-13.1)	10.9 (8.9-13.3)	0.316
<i>Gangrenous appendicitis</i>	10.3 (7.8-13.1)	10.5 (8.0-13.0)	0.298
<i>Appendicular peritonitis</i>	8.4 (5.5-11.9)	8.4 (5.4-12.2)	0.337
<i>Appendicular abscess</i>	10.3 (7.8-11.5)	11.0 (9.0-13.0)	0.133
<i>Appendicular mass</i>	9.8 (8.0-11.5)	11.4 (10.1-12.2)	0.359
<b>Total</b>	<b>10.0 (7.4-12.8)</b>	<b>10.4 (7.9-13.0)</b>	<b>0.241</b>

**Table S2.** Admissions due to appendix-related intra-abdominal infections (AR-IAI) in the pre-intervention (2014-2016) and post-intervention (2017-2019) periods. Changes were assessed using the chi-square test.

<b>AR-IAI</b>	<b>Pre-intervention period (n=919)</b>	<b>Post-intervention period (n=1,102)</b>	<b><i>p</i></b>
<i>Phlegmonous appendicitis</i>	444 (48.3)	448 (40.7)	<0.001
<i>Gangrenous appendicitis</i>	209 (22.7)	374 (33.9)	
<i>Appendicular peritonitis</i>	243 (26.4)	249 (22.6)	
<i>Appendicular abscess</i>	18 (2.0)	13 (1.2)	
<i>Appendicular mass</i>	5 (0.6)	18 (1.6)	

**Table S3.** Antimicrobial use (AU) in days of therapy (DOT)/100 patient-days (PD) by drug expressed as median (IQR) of monthly results totalled for each year for better data visualization in appendix-related intrabdominal infections (AR-IAI) during the study period. Drugs with use below 2.0 DOT/100PD in both periods are not shown. Changes were assessed using interrupted time series analysis (step change model).

Antimicrobial (DOT/100 PD)	Pre-intervention period			Post-intervention period			<i>p</i>
	2014	2015	2016	2017	2018	2019	
<i>Amoxicillin-clavulanic</i>	2.3 (1.3-3.7)	43.9 (25.8-52.0)	6.3 (5.5-7.6)	3.8 (1.5-6.5)	7.9 (4.2-12.2)	10.9 (6.8-17.0)	0.850
<i>Cefoxitin</i>	49.0 (45.1-58.0)	2.7 (0.0-19.9)	41.6 (34.7-62.6)	54.4 (42.6-64.7)	58.6 (42.2-68.3)	60.7 (54.2-72.4)	0.498
<i>Ceftriaxone</i>	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-0.0)	19.1 (0.0-36.8)	27.8 (19.6-32.7)	32.2 (24.2-38.8)	0.816
<i>Meropenem</i>	2.4 (0.0-7.5)	2.0 (0.0-4.7)	2.9 (0.0-10.8)	0.8 (0.0-5.8)	0.0 (0.0-5.1)	2.0 (0.0-4.7)	0.879
<i>Metronidazole</i>	7.6 (0.0-11.8)	1.5 (0.0-3.7)	0.0 (0.0-0.7)	23.7 (0.0-43.5)	32.0 (23.1-45.0)	36.1 (27.5-43.0)	0.449
<i>Piperacillin-tazobactam</i>	53.3 (46.4-59.6)	57.9 (49.6-73.2)	56.1 (47.9-59.2)	11.8 (0.0-62.2)	1.2 (0.0-9.3)	2.2 (0.0-4.3)	0.044
<b>TOTAL</b>	<b>112.7</b>	<b>96.4</b>	<b>93.7</b>	<b>106.8</b>	<b>129.4</b>	<b>146.2</b>	<b>0.113</b>

**Table S4.** Antimicrobial use (AU) as length of therapy (LOT, in days) by appendix-related intrabdominal infections (AR-IAI) diagnosis expressed as median (IQR) of monthly results totalled for each year for better data visualization during the study period. Changes were assessed using interrupted time series analysis (step change model).

	Pre-intervention period			Post-intervention period			<i>P</i>
AR-IAI (days)	2014	2015	2016	2017	2018	2019	
<i>Phlegmonous appendicitis</i>	3.0 (2.7-3.1)	2.8 (2.6-2.9)	2.7 (2.6-3.0)	1.7 (1.4-1.9)	1.5 (1.3-1.8)	1.5 (1.4-1.6)	<0.001
<i>Gangrenous appendicitis</i>	5.5 (5.0-5.8)	4.6 (4.3-5.8)	5.1 (4.6-5.7)	4.7 (4.5-5.1)	5.2 (4.6-5.6)	4.6 (4.4-4.8)	0.490
<i>Appendicular peritonitis</i>	7.3 (6.9-8.1)	8.2 (6.7-8.9)	8.9 (8.1-9.8)	7.5 (7.0-8.1)	7.7 (6.0-8.5)	8.4 (7.7-9.5)	0.789
<i>Appendicular abscess</i>	0.0 (0.0-6.6)	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-4.3)	0.712
<i>Appendicular mass</i>	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-7.8)	0.0 (0.0-5.5)	0.598
<b>TOTAL</b>	<b>4.7</b> <b>(4.5-5.2)</b>	<b>4.7</b> <b>(4.4-5.4)</b>	<b>5.2</b> <b>(4.8-5.6)</b>	<b>4.5</b> <b>(4.0-4.6)</b>	<b>4.4</b> <b>(4.0-5.2)</b>	<b>4.1</b> <b>(3.9-4.6)</b>	0.298

**Table S5.** Length of stay (LOS, in days) by appendix-related intrabdominal infections (AR-IAI) diagnosis expressed as median (IQR) of monthly results totalled for each year for better data visualization during the study period. Changes were assessed using interrupted time series analysis (step change model).

	Pre-intervention period			Post-intervention period			<i>p</i>
AR-IAI (days)	2014	2015	2016	2017	2018	2019	
<i>Phlegmonous appendicitis</i>	2.4 (2.3-2.5)	2.3 (2.1-2.4)	2.1 (2.0-2.5)	1.9 (1.7-2.1)	1.8 (1.6-1.9)	1.3 (1.2-1.4)	0.003
<i>Gangrenous appendicitis</i>	4.7 (4.4-5.0)	4.0 (3.6-5.3)	4.4 (3.5-4.8)	4.0 (3.8-4.6)	4.4 (4.1-4.8)	3.8 (3.5-3.9)	0.448
<i>Appendicular peritonitis</i>	6.9 (6.5-7.7)	7.5 (6.3-8.3)	8.4 (7.5-10.1)	6.7 (6.1-7.5)	7.3 (6.4-8.1)	7.8 (7.1-8.6)	0.822
<i>Appendicular abscess</i>	0.0 (0.0-3.6)	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-3.3)	0.138
<i>Appendicular mass</i>	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-3.0)	0.866
<b>TOTAL</b>	<b>4.2</b> <b>(4.0-4.7)</b>	<b>4.5</b> <b>(3.9-5.0)</b>	<b>4.6</b> <b>(3.8-5.1)</b>	<b>4.0</b> <b>(3.7-4.5)</b>	<b>4.1</b> <b>(3.7-4.9)</b>	<b>3.6</b> <b>(3.3-3.9)</b>	0.314

**Table S6.** Antimicrobial stewardship program (ASP) evaluation of antimicrobial prescriptions by appendix-related intrabdominal infections (AR-IAI) diagnosis during the post-intervention period (2017-2019). Changes were assessed using the chi-square test.

	<b>Optimal</b>	<b>Non-optimal</b>	<b><i>p</i></b>	<b>Unknown</b>
	<b>n (%)</b>	<b>n (%)</b>		<b>n (%)</b>
<i>Phlegmonous appendicitis</i>	81 (54.0)	65 (43.3)	<0.001	4 (2.7)
<i>Gangrenous appendicitis</i>	214 (86.3)	32 (12.9)		2 (0.8)
<i>Appendicular peritonitis</i>	235 (91.4)	20 (7.8)		2 (0.8)
<i>Appendicular abscess</i>	35 (77.8)	8 (17.8)		2 (4.4)
<i>Appendicular mass</i>	10 (66.7)	4 (26.7)		1 (6.6)
<b>TOTAL</b>	<b>575 (80.5)</b>	<b>129 (18.0)</b>		<b>11 (1.5)</b>