

Supplementary Table S1:

Supplementary Table S1: The annual proportions of ESBL-producing *Escherichia coli* in urine and blood *E. coli* isolates and their estimated relative decreases stratified by age groups and both sexes, Finland, 2018-2022. AAD, Average annual decrease; ESBL+, extended-spectrum β -lactamase-producing *E. coli*; CI, combatibility interval.

Urine <i>E. coli</i> , MALE							
Age group	Year	Observed resistance rate		2019-2022		2018/19 vs. 2022	
		ESBL+ (%)	Isolates tested (n)	p	AAD, % (95% CI)	p	Relative decrease, % (95% CI)
0-19	2018	4.2	934	0.018	18.3 (3.4 - 30.9)	0.068	42.0 (-4.1 - 67.7)
	2019	4.6	923				
	2020	5.0	827				
	2021	3.1	616				
	2022	2.5	600				
20-39	2018	5.0	580	0.125	10.6 (-3.1 - 22.5)	0.678	9.5 (-45.0 - 43.5)
	2019	7.0	699				
	2020	6.9	634				
	2021	4.7	548				
	2022	5.5	507				
40-59	2018	6.3	1,630	0.002	12.2 (4.5 - 19.3)	0.037	26.1 (1.8 - 44.3)
	2019	7.9	1,788				
	2020	7.3	1,622				
	2021	6.4	1,385				
	2022	5.3	1,345				
60-79	2018	7.0	6,193	0.000	11.6 (7.6 - 15.5)	0.000	32.1 (21.2 - 41.5)
	2019	7.0	6,615				
	2020	6.6	6,500				
	2021	5.7	6,168				
	2022	4.7	5,479				
≥80	2018	7.4	4,001	0.000	12.6 (7.8 - 17.2)	0.000	28.0 (14.8 - 39.2)
	2019	7.7	4,112				
	2020	6.6	4,268				
	2021	5.2	4,168				
	2022	5.4	3,929				
All	2018	6.7	13,338	0.000	12.1 (9.3 - 14.7)	0.000	28.7 (21.2 - 35.5)
	2019	7.2	14,137				
	2020	6.6	13,851				
	2021	5.5	12,885				
	2022	4.9	11,860				
Total number of <i>E. coli</i> isolates tested (n):				66,071			

Urine <i>E. coli</i> , FEMALE							
Age group	Year	Observed resistance rate		2019-2022		2018/19 vs. 2022	
		ESBL+ (%)	Isolates tested (n)	p	AAD, % (95% CI)	p	Relative decrease, % (95% CI)
0-19	2018	2.3	9,202	0.001	11.2 (4.9 - 17.1)	0.036	20.7 (1.5 - 36.2)
	2019	2.7	9,378				
	2020	2.1	8,547				
	2021	1.8	7,079				
	2022	2.0	6,189				
20-39	2018	3.5	12,578	0.000	7.9 (3.6 - 12.1)	0.007	18.8 (5.6 - 30.2)
	2019	3.6	13,712				
	2020	3.6	11,563				
	2021	3.0	9,262				
	2022	2.9	8,726				
40-59	2018	2.8	11,641	0.003	7.3 (2.5 - 11.8)	0.256	8.9 (-7.0 - 22.4)
	2019	3.3	12,875				
	2020	2.9	10,704				
	2021	2.5	8,628				
	2022	2.8	8,467				
60-79	2018	2.6	39,844	0.000	13.5 (10.9 - 16.1)	0.000	34.5 (27.6 - 40.8)
	2019	3.0	38,780				
	2020	2.8	34,895				
	2021	2.5	32,015				
	2022	1.8	30,501				
≥80	2018	3.0	38,712	0.000	12.4 (9.8 - 14.9)	0.000	33.3 (26.6 - 39.4)
	2019	3.1	36,721				
	2020	3.0	35,589				
	2021	2.6	32,174				
	2022	2.0	30,380				
All	2018	2.9	111,977	0.000	11.7 (10.1 - 13.2)	0.000	28.7 (24.6 - 32.7)
	2019	3.1	111,466				
	2020	2.9	101,298				
	2021	2.5	89,158				
	2022	2.1	84,263				
Total number of <i>E. coli</i> isolates tested (n):				498,162			

Urine <i>E. coli</i> , BOTH SEXES							
Age group	Year	Observed resistance rate		2019-2022		2018/19 vs. 2022	
		ESBL+ (%)	Isolates tested (n)	p	AAD, % (95% CI)	p	Relative decrease, % (95% CI)
0-19	2018	2.5	10,136	0.000	12.4 (6.6 - 17.8)	0.007	24.2 (7.1 - 38.1)
	2019	2.8	10,301				
	2020	2.4	9,374				
	2021	1.9	7,695				
	2022	2.0	6,789				
20-39	2018	3.5	13,158	0.000	8.0 (3.9 - 11.9)	0.009	17.5 (4.7 - 28.6)
	2019	3.8	14,411				
	2020	3.8	12,197				
	2021	3.1	9,810				
	2022	3.0	9,233				
40-59	2018	3.2	13,271	0.000	8.0 (3.9 - 11.9)	0.072	12.1 (-1.1 - 23.6)
	2019	3.9	14,663				
	2020	3.5	12,326				
	2021	3.1	10,013				
	2022	3.1	9,812				
60-79	2018	3.2	46,037	0.000	12.6 (10.4 - 14.8)	0.000	32.8 (26.9 - 38.2)
	2019	3.5	45,395				
	2020	3.4	41,395				
	2021	3.0	38,183				
	2022	2.3	35,980				
≥80	2018	3.5	42,713	0.000	11.9 (9.7 - 14.2)	0.000	30.5 (24.4 - 36.1)
	2019	3.6	40,833				
	2020	3.4	39,857				
	2021	2.9	36,342				
	2022	2.4	34,309				
All	2018	3.3	125,315	0.000	11.3 (10.0 - 12.7)	0.000	27.6 (23.9 - 31.1)
	2019	3.6	125,603				
	2020	3.4	115,149				
	2021	2.9	102,043				
	2022	2.5	96,123				
Total number of <i>E. coli</i> isolates tested (n):				564,233			

Blood <i>E. coli</i> , MALE							
Age group	Year	Observed resistance rate		2019-2022		2018/19 vs. 2022	
		ESBL+ (%)	Isolates tested (n)	p	AAD, % (95% CI)	p	Relative decrease, % (95% CI)
0-19	2018	13.6	22	0.765	-11.6558 (-130.3 - 45.9)	0.809	20.7 (-420.7 - 87.9)
	2019	4.0	25				
	2020	6.1	33				
	2021	3.3	30				
	2022	6.9	29				
20-39	2018	14.8	27	0.778	7.0 (-54.1 - 43.9)	0.663	28.9 (-230.0 - 84.7)
	2019	8.1	37				
	2020	7.0	43				
	2021	5.9	34				
	2022	6.7	45				
40-59	2018	10.3	213	0.662	4.1 (-15.8 - 20.6)	0.542	17.9 (-54.5 - 56.3)
	2019	10.0	201				
	2020	10.9	202				
	2021	11.0	228				
	2022	8.3	180				
60-79	2018	9.4	882	0.026	10.5 (1.3 - 18.9)	0.012	33.6 (8.6 - 51.8)
	2019	8.1	1,025				
	2020	8.1	1,019				
	2021	7.0	1,067				
	2022	5.8	1,038				
≥80	2018	9.3	611	0.005	15.4 (4.8 - 24.8)	0.023	35.2 (5.7 - 55.5)
	2019	10.1	692				
	2020	7.6	727				
	2021	6.6	760				
	2022	6.3	670				
All	2018	9.6	1,755	0.001	11.3 (4.9 - 17.2)	0.000	32.9 (16.1 - 46.3)
	2019	8.9	1,980				
	2020	8.2	2,024				
	2021	7.2	2,119				
	2022	6.2	1,962				
Total number of <i>E. coli</i> isolates tested (n):				9,840			

Blood <i>E. coli</i> , FEMALE							
Age group	Year	Observed resistance rate		2019-2022		2018/19 vs. 2022	
		ESBL+ (%)	Isolates tested (n)	p	AAD, % (95% CI)	p	Relative decrease, % (95% CI)
0-19	2018	2.9	34	0.581	15.7 (-54.8 - 54.1)	0.943	9.5 (-1296.8 - 94.1)
	2019	4.8	42				
	2020	6.8	44				
	2021	5.9	34				
	2022	2.4	42				
20-39	2018	7.1	126	0.172	-20.2 (-56.7 - 7.7)	0.272	-59.1036 (-264.6 - 30.6)
	2019	5.7	158				
	2020	6.7	164				
	2021	7.4	148				
	2022	10.1	119				
40-59	2018	4.4	272	0.082	18.0 (-2.5 - 34.4)	0.340	30.2 (-46.2 - 66.7)
	2019	7.1	309				
	2020	5.3	281				
	2021	4.3	299				
	2022	4.1	269				
60-79	2018	6.5	1,112	0.003	16.4 (6.0 - 25.7)	0.014	37.0 (9.1 - 56.4)
	2019	6.8	1,176				
	2020	4.7	1,055				
	2021	4.1	1,107				
	2022	4.2	1,004				
≥80	2018	5.8	1,224	0.030	11.0 (1.1 - 19.9)	0.104	24.8 (6.0 - 46.7)
	2019	6.2	1,252				
	2020	6.2	1,249				
	2021	4.8	1,321				
	2022	4.5	1,179				
All	2018	6.0	2,768	0.000	12.0 (5.6 - 18.0)	0.007	26.6 (8.0 - 41.5)
	2019	6.5	2,937				
	2020	5.6	2,793				
	2021	4.6	2,909				
	2022	4.6	2,613				
Total number of <i>E. coli</i> isolates tested (n):				14,020			

Blood <i>E. coli</i> , BOTH SEXES							
Age group	Year	Observed resistance rate		2019-2022		2018/19 vs. 2022	
		ESBL+ (%)	Isolates tested (n)	p	AAD, % (95% CI)	p	Relative decrease, % (95% CI)
0-19	2018	7.1	56	0.811	5.4 (-49.7 - 40.3)	0.849	14.1 (-310.2 - 82.0)
	2019	4.5	67				
	2020	6.5	77				
	2021	4.7	64				
	2022	4.2	71				
20-39	2018	8.5	153	0.287	-13.5 (-43.4 - 10.1)	0.448	-32.6 (-174.8 - 36.0)
	2019	6.2	195				
	2020	6.8	207				
	2021	7.1	182				
	2022	9.1	164				
40-59	2018	7.0	485	0.149	10.0 (-3.9 - 22.1)	0.259	24.3 (-22.7 - 53.2)
	2019	8.2	510				
	2020	7.7	483				
	2021	7.2	527				
	2022	5.8	449				
60-79	2018	7.8	1,994	0.000	12.6 (5.8 - 18.9)	0.001	34.1 (16.2 - 48.2)
	2019	7.4	2,201				
	2020	6.4	2,074				
	2021	5.5	2,174				
	2022	5.0	2,042				
≥80	2018	7.0	1,835	0.001	12.9 (5.8 - 19.5)	0.008	29.2 (8.7 - 45.0)
	2019	7.6	1,944				
	2020	6.7	1,976				
	2021	5.5	2,081				
	2022	5.1	1,849				
All	2018	7.4	4,523	0.000	11.4 (6.9 - 15.6)	0.000	29.0 (16.7 - 39.4)
	2019	7.5	4,917				
	2020	6.7	4,817				
	2021	5.7	5,028				
	2022	5.3	4,575				
Total number of <i>E. coli</i> isolates tested (n):				23,860			