



Folkhälsomyndigheten

Swedres-Svarm 2021

Strama 18-19 maj 2022

Olle Aspevall, olov.aspevall@folkhalsomyndigheten.se





Folkhälsomyndigheten

Många har bidragit, även externt

...men mest

- Barbro Mäkitalo
- Hanna Billström
- Tomas Söderblom
- Wenjing Tao

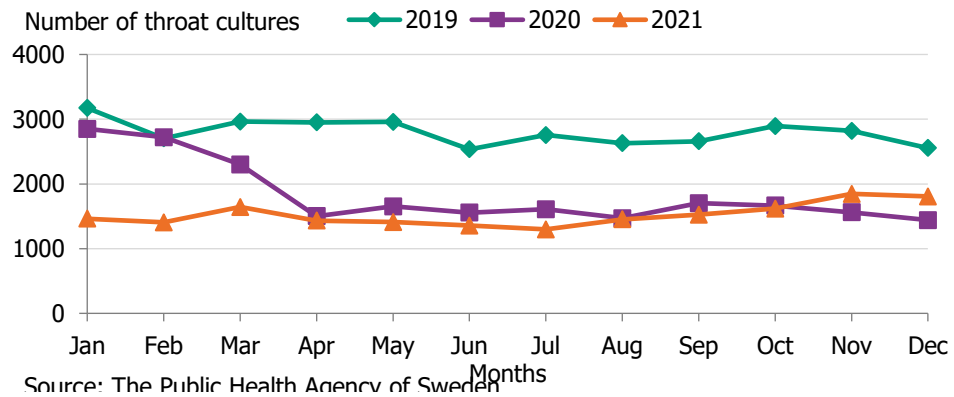
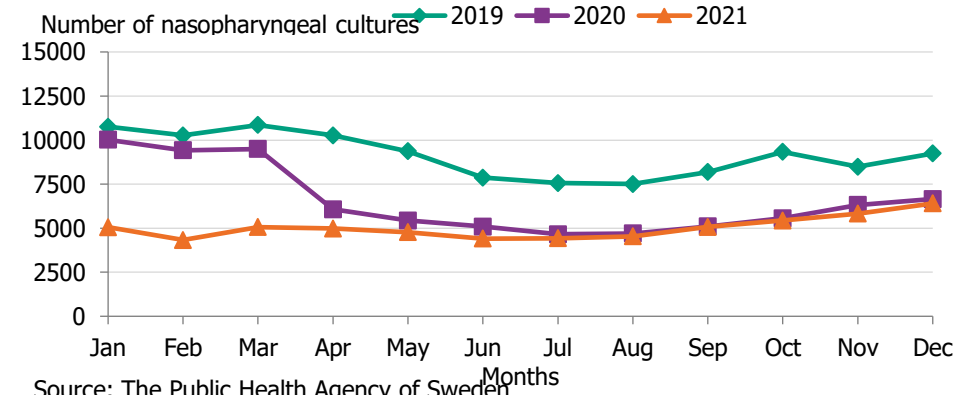
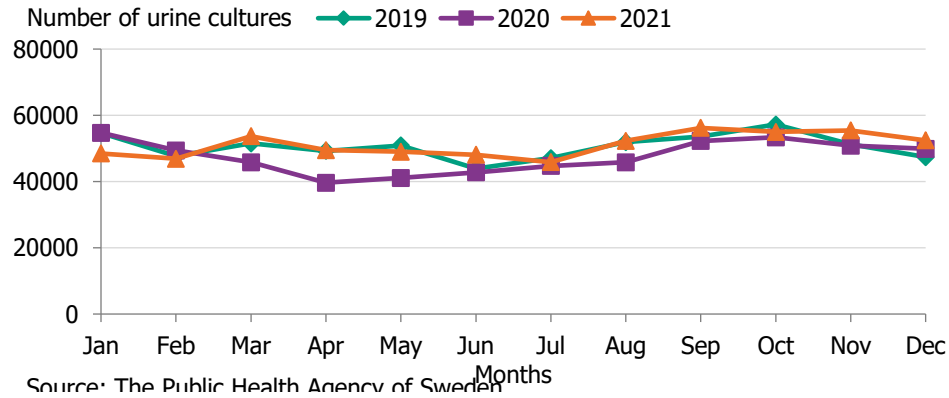
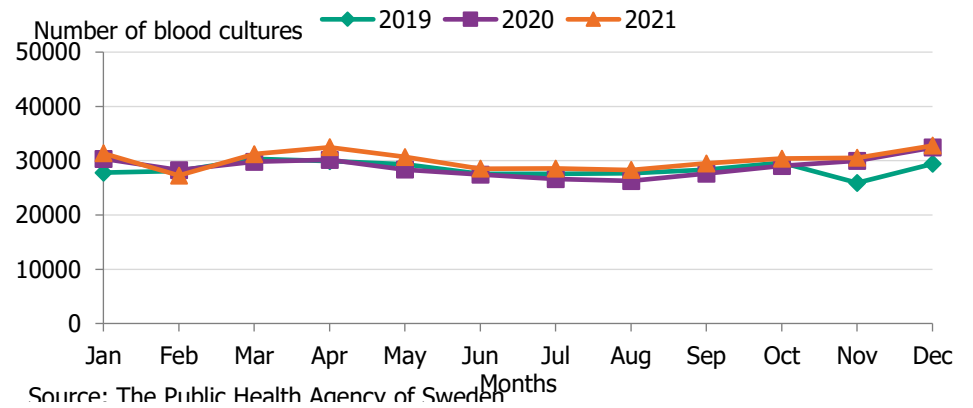
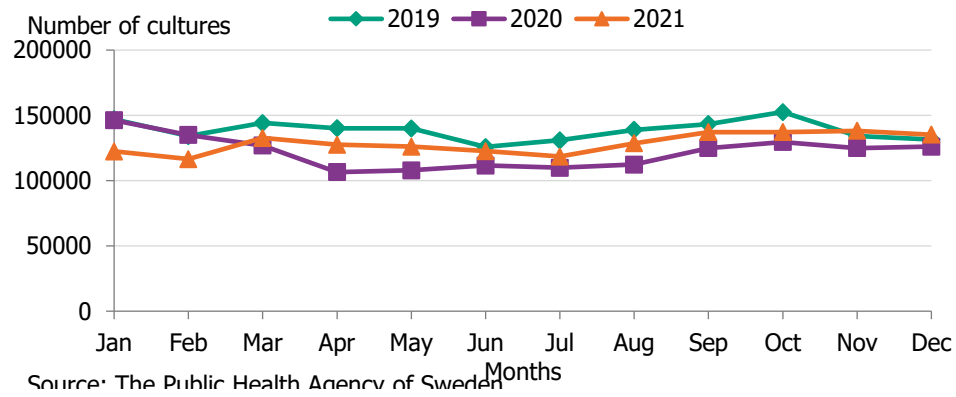
Swedres-Svarm 2021: antibiotikaförbrukning

- Fortsatt total minskning av antibiotikaförsäljning under 2021, men till lägre grad än 2020.
- Inom öppenvård uthämtades 230 recept/1000 invånare (riket) under 2021. 19 av 21 regioner uppfyllde 250-målet.
- Vid kvartalsvis jämförelse, ökad försäljning under andra till fjärde kvartalet jämfört med året innan. Framför allt ökade försäljningen av luftvägsantibiotika hos barn 0-6 år.
- Ökad försäljning av antibiotika till akutsjukhus under 2021, tydligast var ökningen av betalaktamas resistent penicillin och piperacillin-tazobactam.

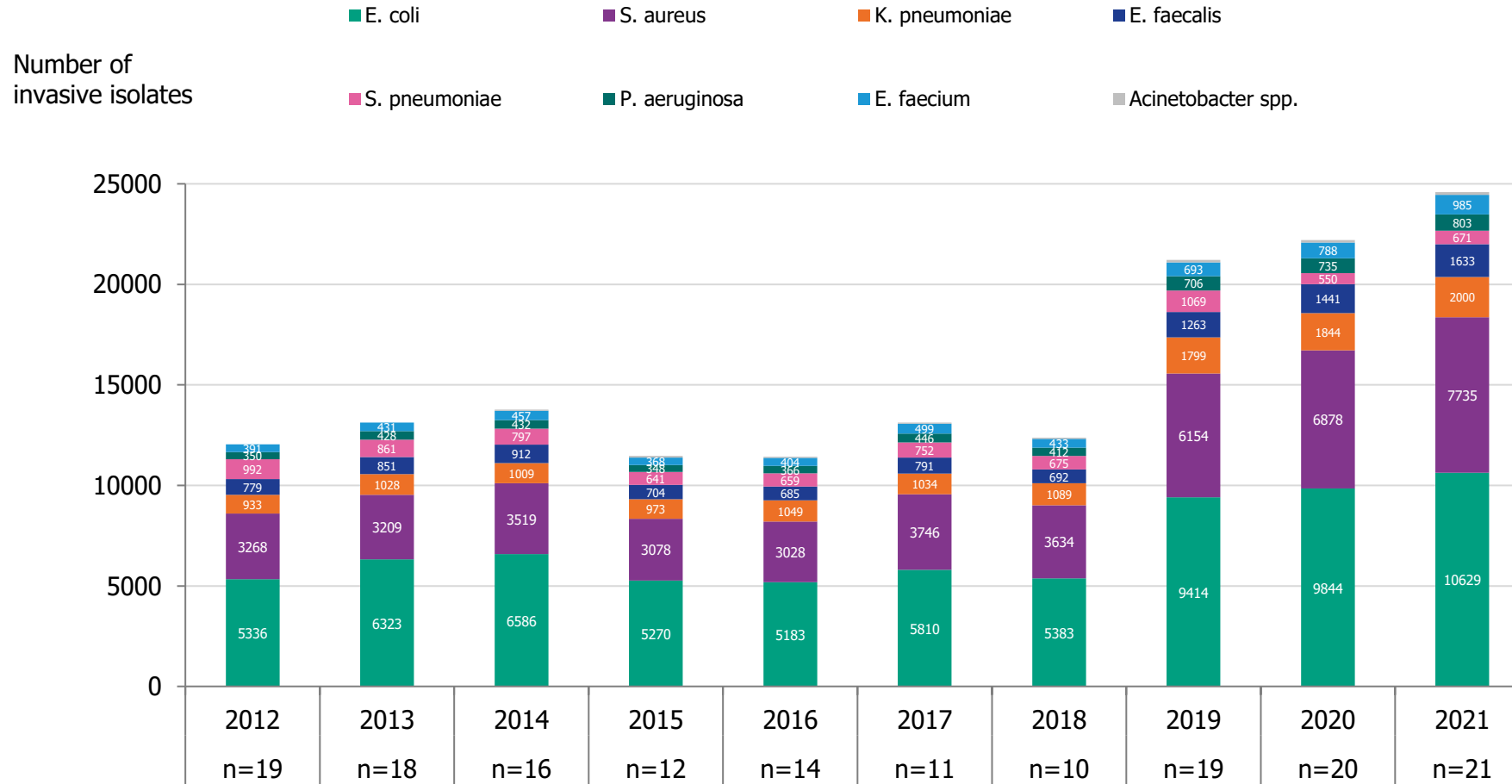
ABR - viktiga fynd

- MRSA och ESBL inom anmälningspliktig antibiotikaresistens fortsatt minska under 2021.
- Bland kliniska isolat ses däremot inte denna påverkan av pandemin, utan trenderna är relativt opåverkade.
- Andelen MRSA bland *Staphylococcus aureus* från blododling har minskat till 2,0 procent, från 2,3 procent 2020.
- VRE-totalt antal rapporterade fall: 209 (föregående år 79), relativ förändring: 64 procent ökning. Utbrott på sjukhus.

Provtagning under pandemin



Isolat i blododlingar

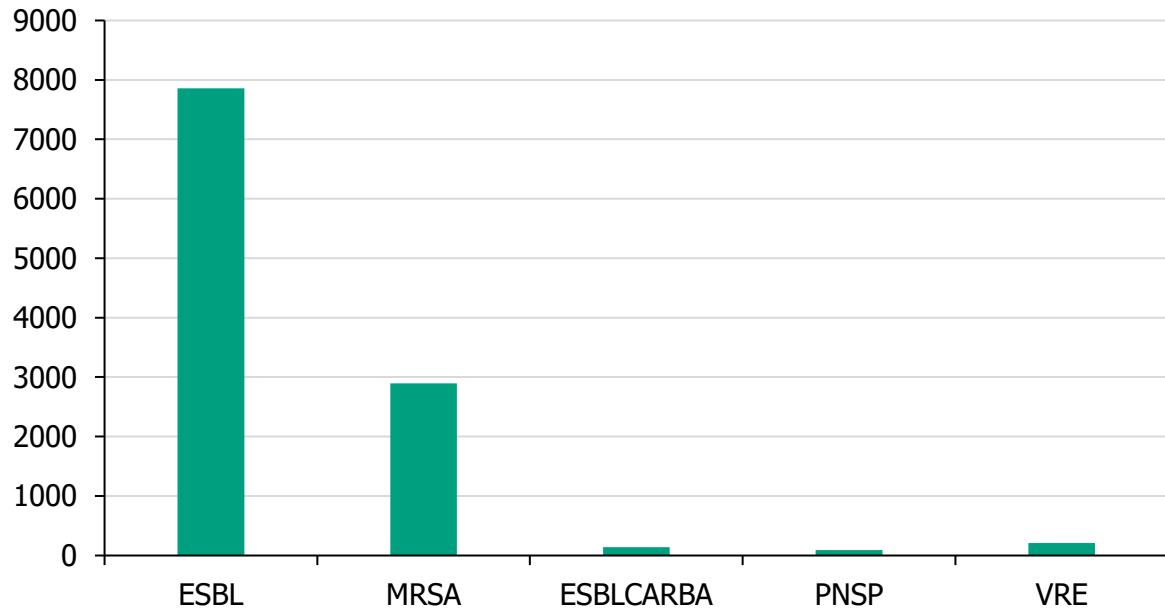


Source: The Public Health Agency of Sweden

Year (number of laboratories)

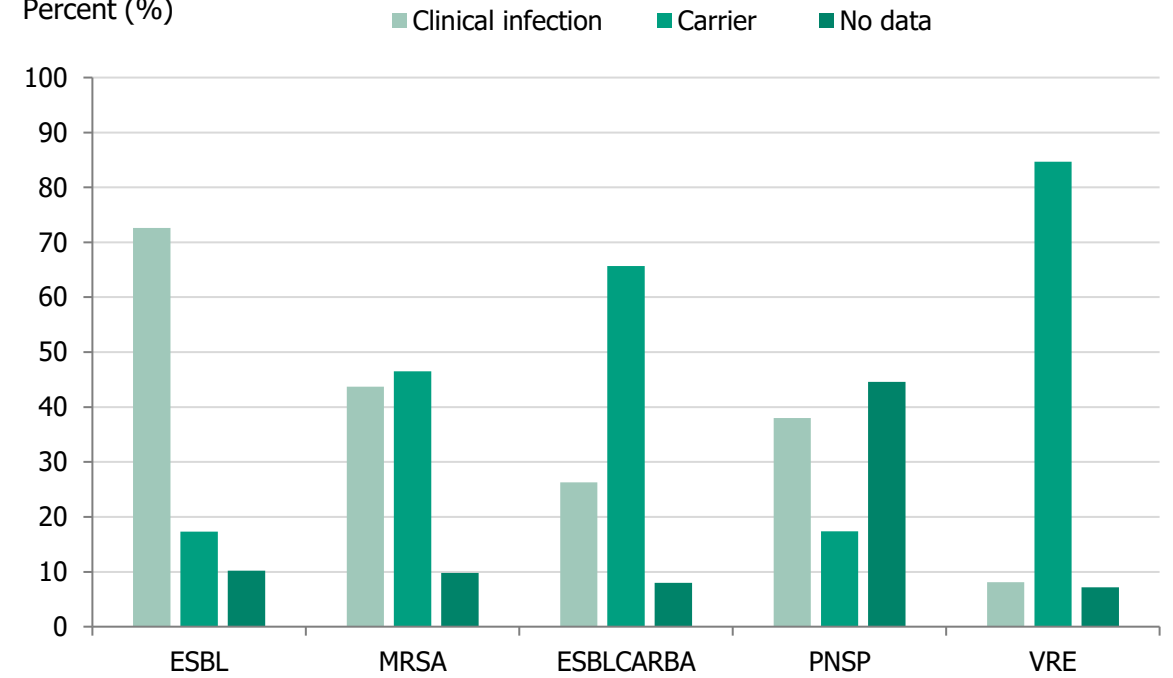
Anmälningsskyldig resistens

Number of cases



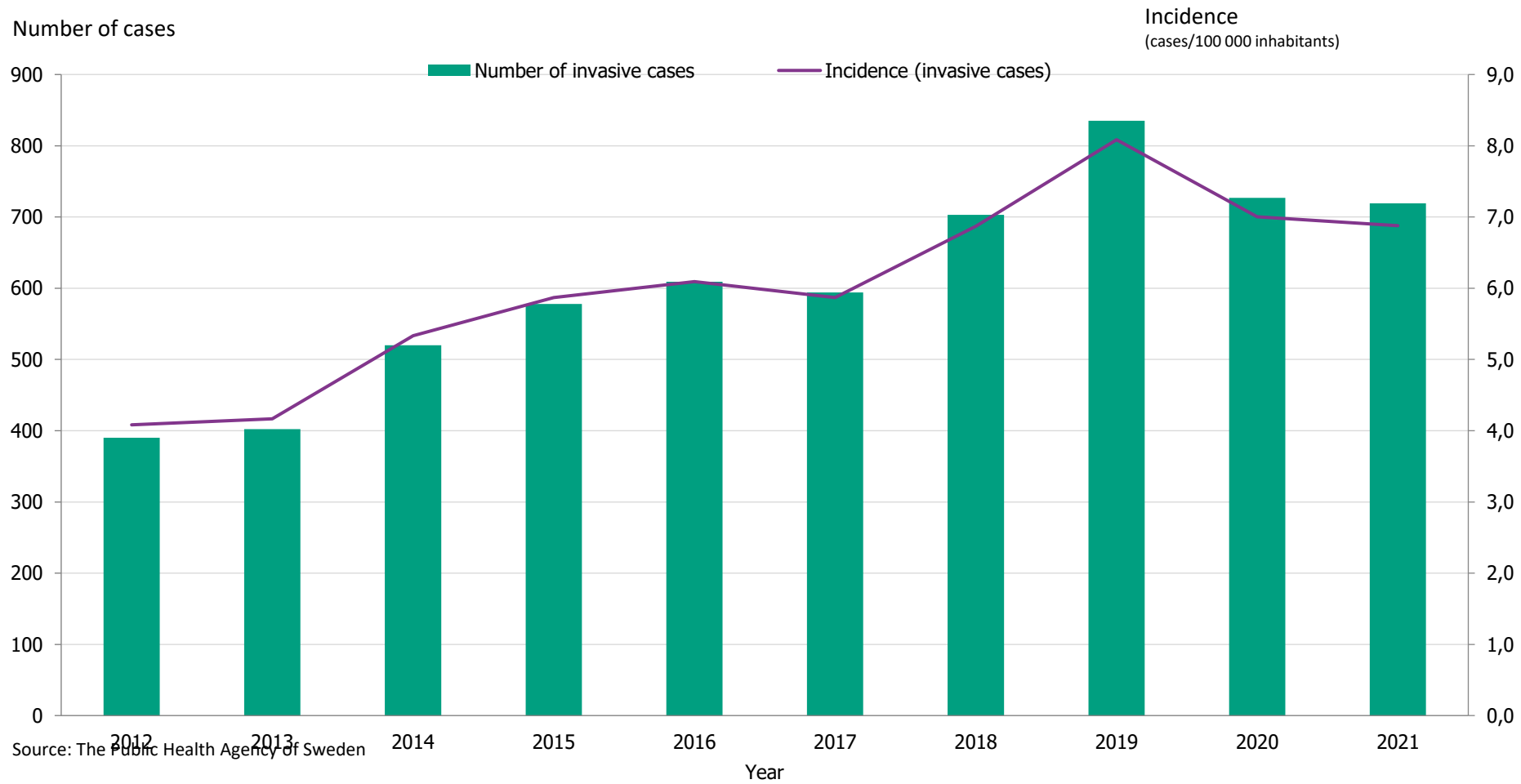
Source: The Public Health Agency of Sweden

Percent (%)



Source: The Public Health Agency of Sweden

ESBL, incidens och invasiva fall



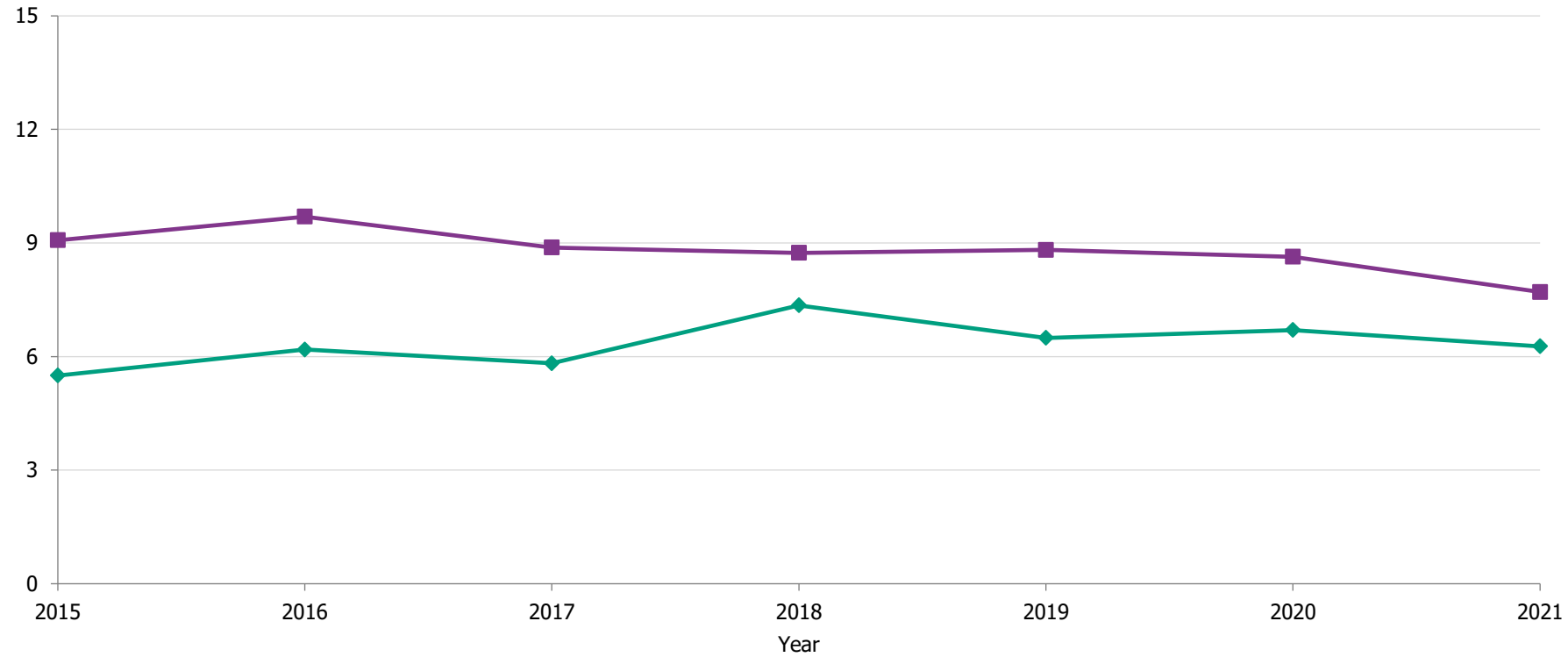
Source: The Public Health Agency of Sweden

Andel cefotaxim R, E. coli, blod

Percent resistance (%)

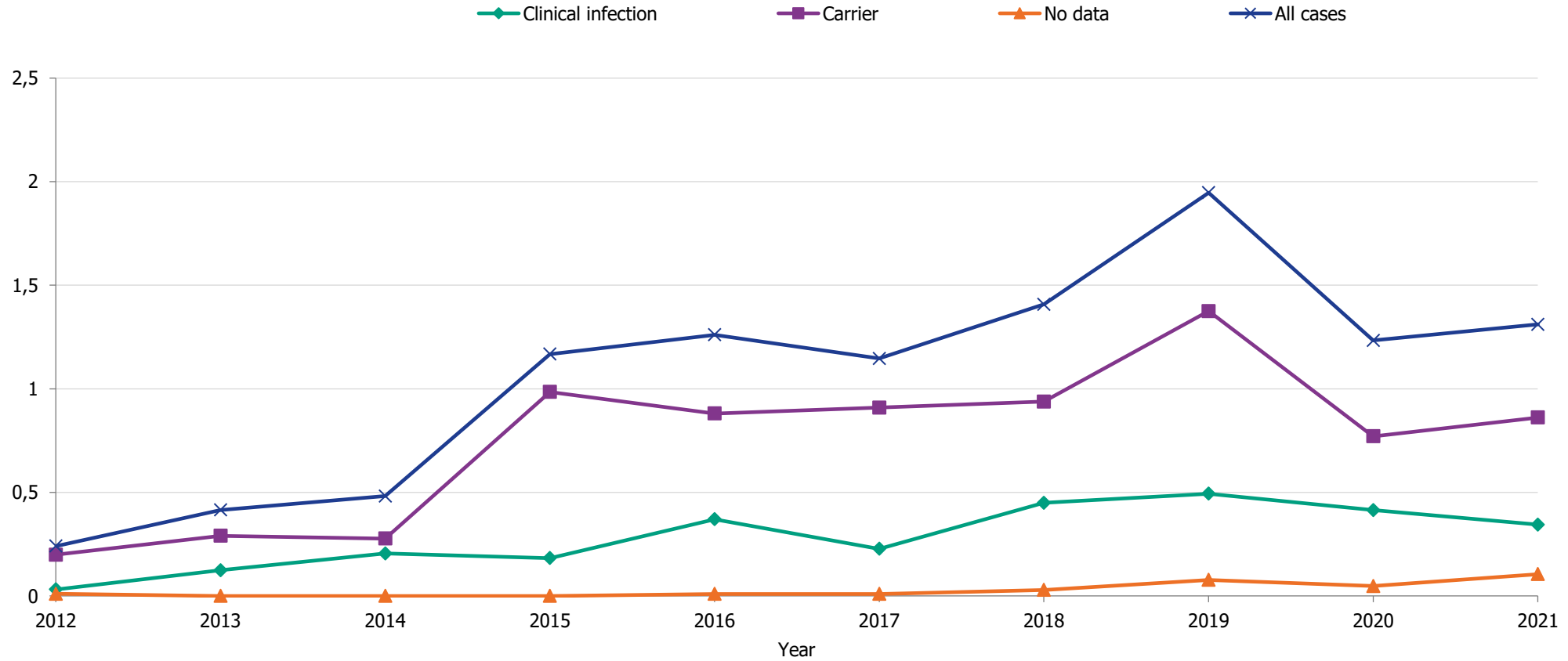
—◆— Women

—■— Men



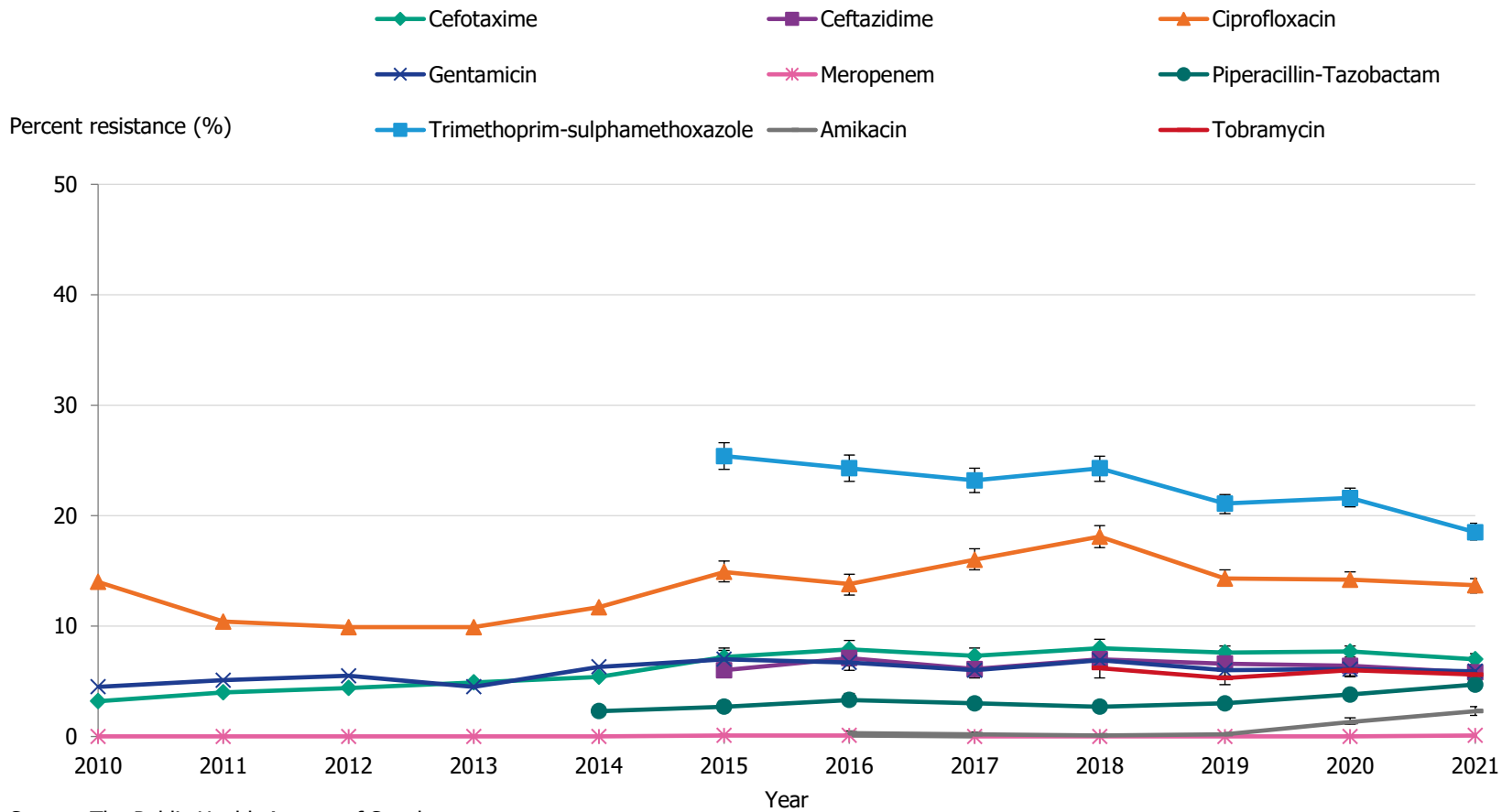
Source: The Public Health Agency of Sweden

Incidence
(cases/100 000 inhabitants)



Source: The Public Health Agency of Sweden

E. coli, blod

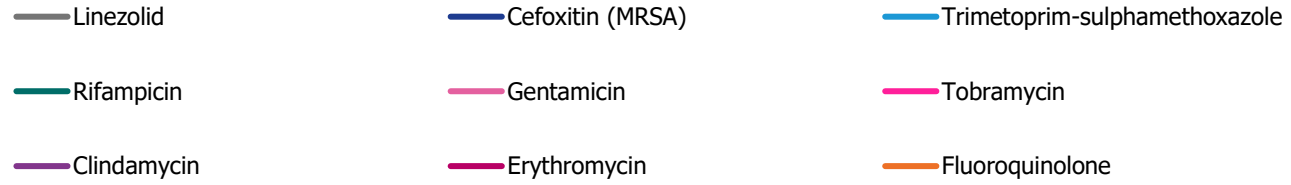


Source: The Public Health Agency of Sweden

Antibiotic	2010		2011		2012		2013		2014			2015			2016			2017			2018			2019			2020			2021		
	n	% R	n	% R	n	% R	n	% R	n tested	% R ^a	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	
Number of AST-tested isolates	4 991		5 066		5 336		6 323		6 586		5 270			5 183			5 810			5 383			9 414			9 844			10 629			
Cefotaxime		3.2		4.0		4.4		4.9	6 576	5.4	5 270	7.2	(6.6-8.0)	5 183	7.9	(7.2-8.7)	5 810	7.3	(6.7-8.0)	5 381	8.0	(7.3-8.8)	9 414	7.6	(7.1-8.2)	9 844	7.7	(7.2-8.2)	10 629	7.0	(6.5-7.5)	
Ceftazidime									5 266	6.0	5 266	6.0	(5.4-6.7)	5 182	7.1	(6.4-7.8)	5 808	6.1	(5.6-6.8)	5 380	7.0	(6.3-7.7)	9 037	6.6	(6.1-7.1)	9 841	6.4	(5.9-6.9)	10 624	5.8	(5.4-6.3)	
Fluoroquinolone ^b		14.0		10.4		9.9		9.9	5 170	11.7	5 249	14.9	(14.0-15.9)	5 174	14.3	(12.8-14.7)	5 802	17.6	(15.1-17.0)	5 372	18.1	(17.1-19.1)	9 411	14.3	(13.6-15.1)	9 790	14.2	(13.6-14.9)	10 573	13.7	(13.0-14.3)	
Gentamicin		4.5		5.1		5.5		4.5	6 577	6.3	4 790	7.0	(6.3-7.8)	4 679	6.7	(6.0-7.5)	5 796	6.0	(5.5-6.8)	4 925	6.9	(6.2-7.6)	7 654	6.0	(5.6-6.6)	7 128	6.1	(5.5-6.6)	7 253	5.9	(5.4-6.5)	
Tobramycin																				2 352	6.2	(5.3-7.2)	4 210	5.3	(4.7-6.0)	4 995	6.0	(5.4-6.7)	6 317	5.6	(5.0-6.2)	
Meropenem		0.0		0.0		0.0		0.0	6 321	0.0	5 259	0.1	(0.0-0.2)	5 181	0.1	(0.0-0.2)	5 809	0.0	(0.0-0.1)	5 383	0.0	(0.0-0.1)	9 412	0.0	(0.0-0.1)	9 838	0.0	(0.0-0.1)	10 624	0.1	(0.0-0.1)	
Piperacillin-tazobactam									6 285	2.3	5 180	2.7	(2.3-3.2)	5 149	3.3	(2.9-3.9)	5 801	3.0	(2.6-3.5)	5 379	2.7	(2.3-3.2)	9 401	3.0	(2.6-3.3)	9 796	3.8	(3.5-4.2)	10 607	4.7	(4.3-5.1)	
Trimethoprim-sulphamethoxazole											4 952	25.4	(24.2-26.6)	4 836	24.3	(23.1-25.5)	5 563	23.2	(22.1-24.3)	5 363	24.3	(23.1-25.4)	9 404	21.1	(20.2-21.9)	9 826	21.6	(20.8-22.5)	10 609	18.5	(17.8-19.3)	
Amikacin														3 983	0.3	(0.2-0.5)	4 340	0.2	(0.1-0.5)	4 113	0.1	(0.0-0.2)	6 991	0.2	(0.1-0.3)	5 123	1.3	(1.1-1.7)	5 699	2.3	(1.9-2.7)	

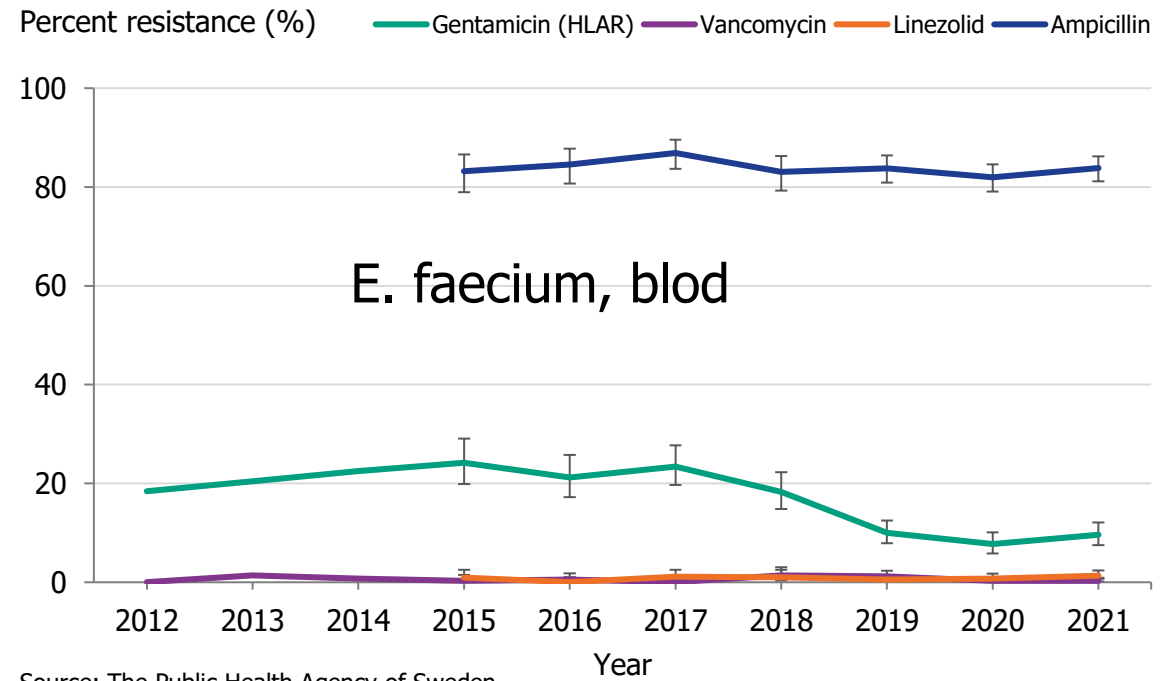
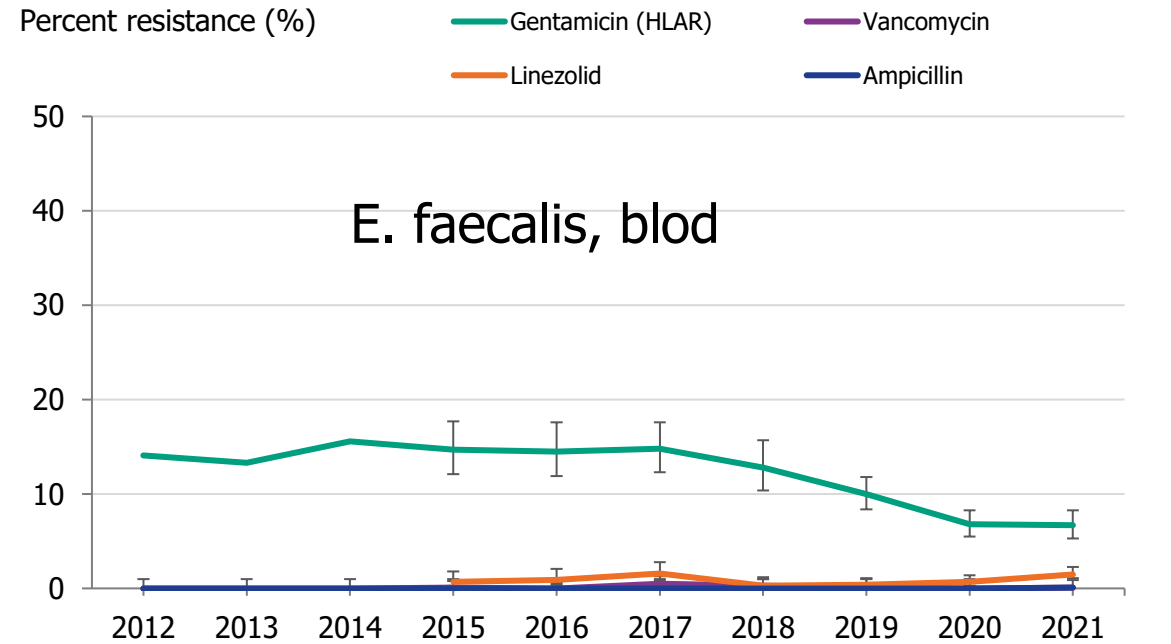
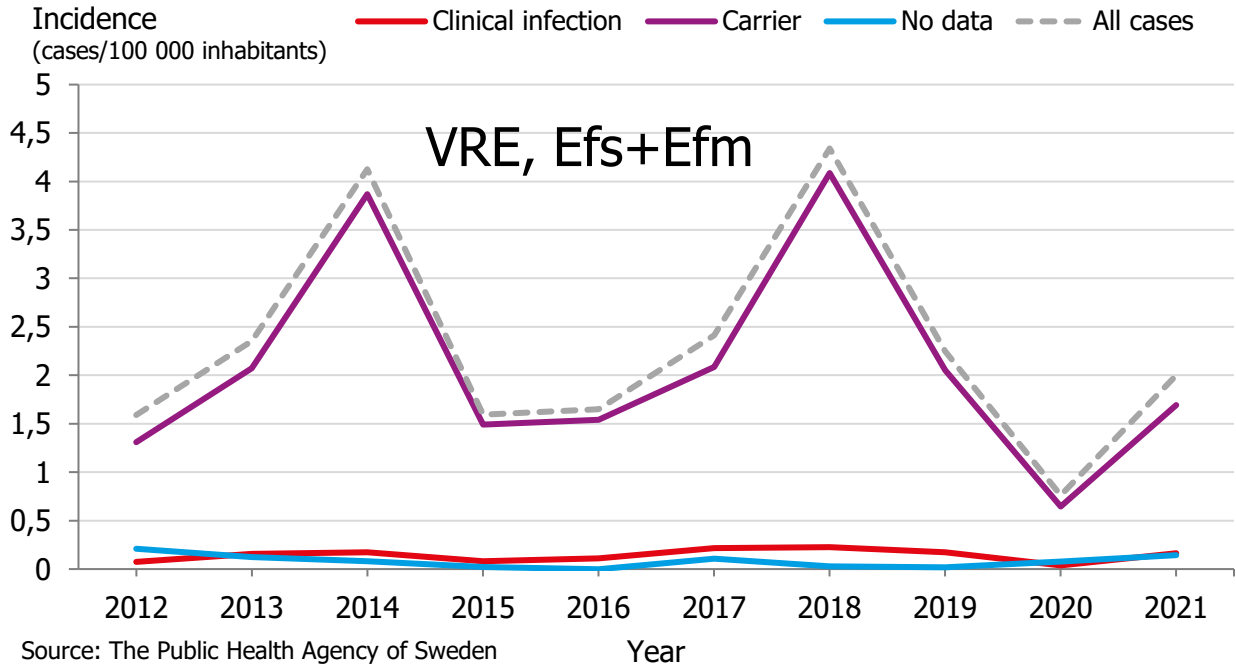
S. aureus, blod

Percent
resistance (%)

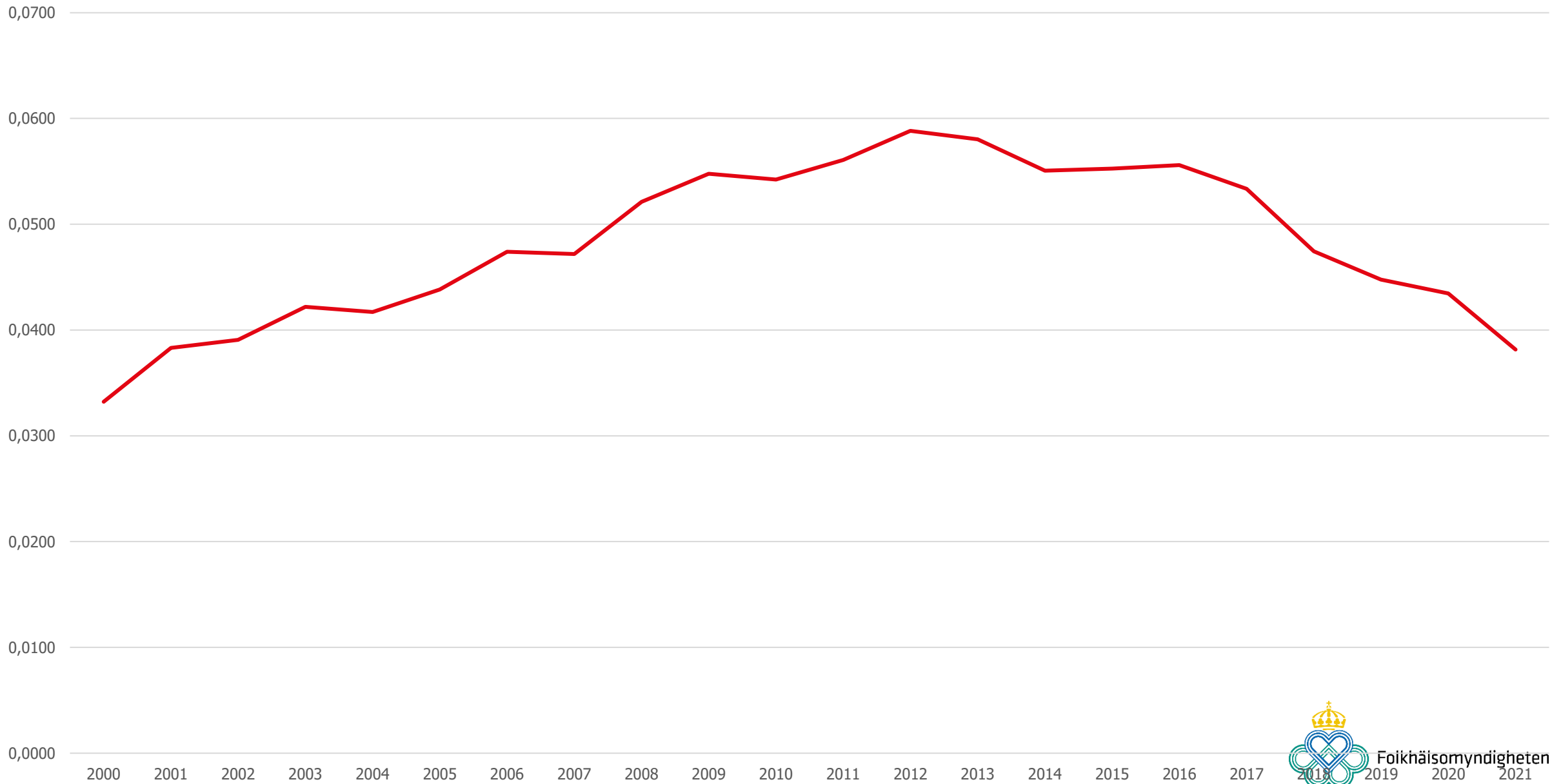


Source: The Public Health Agency of Sweden

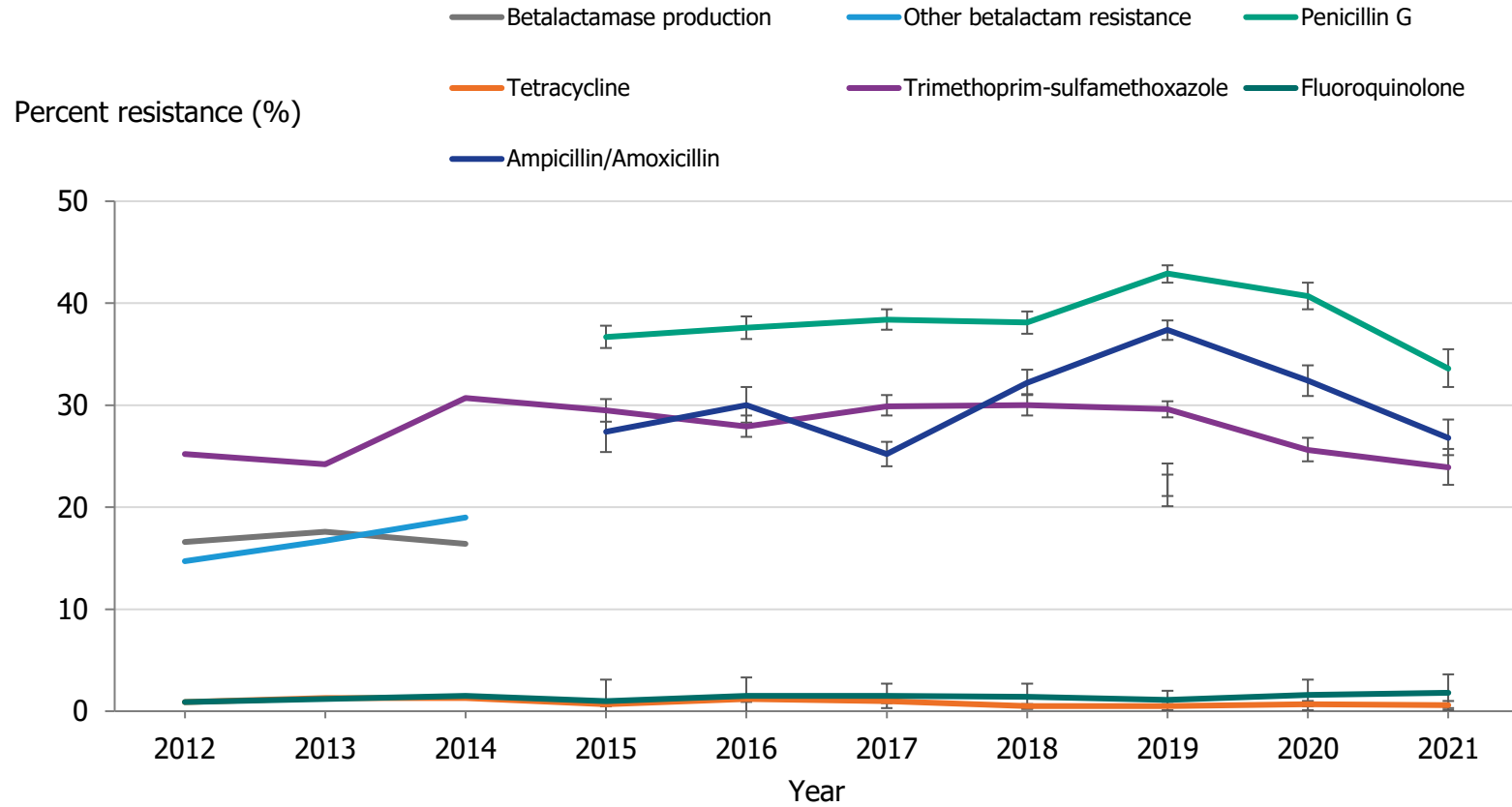
Species	Sample	Antibiotic	2012		2013		2014		2015			2016			2017			2018			2019			2020			2021			
			n	% R	n	% R	n	% R ^a	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	
<i>Staphylococcus aureus</i>	Blood	Number of AST-tested isolates	3 268		3 209		3 519	3 078			3 028			3 746			3 634			6 154			6 878			7 735				
		Cefoxitin		0.7		1.2	3 511	3 078	1.0	(0.7-1.4)	3 028	1.5	(1.1-2.0)	3 746	1.1	(0.8-1.5)	3 634	1.9	(1.5-2.4)	6 154	1.8	(1.5-2.2)	6 878	2.3	(2.0-2.7)	7 735	2.0	(1.7-2.3)		
		Linezolid					2 405	0.0	(0.0-0.2)	2 490	0.0	(0.0-0.2)	2 927	0.1	(0.0-0.3)	2 670	0.0	(0.0-0.1)	4 342	0.2	(0.1-0.3)	4 416	0.0	(0.0-0.1)	5 088	0.0	(0.0-0.1)			
		Trimetoprim-sulphamethoxazole					2 940	0.1	(0.0-0.3)	3 190	0.2	(0.1-0.4)	3 423	0.2	(0.1-0.5)	3 543	0.3	(0.2-0.6)	4 731	0.2	(0.1-0.4)	4 319	0.2	(0.1-0.4)	5 062	0.3	(0.2-0.5)			
		Rifampicin					2 387	0.3	(0.1-0.5)	2 558	0.4	(0.2-0.7)	2 996	0.2	(0.1-0.5)	2 813	0.6	(0.4-0.9)	4 416	0.5	(0.3-0.7)	4 512	0.4	(0.3-0.6)	5 169	0.5	(0.4-0.8)			
		Gentamicin					2 711	0.4	(0.2-0.7)	2 945	0.6	(0.4-0.9)	3 425	0.5	(0.3-0.8)	3 304	0.9	(0.7-1.3)	5 029	0.7	(0.5-1.0)	4 649	0.8	(0.6-1.1)	4 068	0.5	(0.3-0.8)			
		Tobramycin																							4 362	0.7	(0.5-1.0)			
		Clindamycin					2 992	2.1	(1.7-2.7)	3 244	3.4	(2.8-4.1)	3 727	3.5	(2.9-4.1)	3 584	3.5	(2.9-4.1)	6 086	3.9	(3.4-4.4)	6 856	5.0	(4.5-5.5)	7 711	3.9	(3.4-4.3)			
		Erythromycin					2 792	3.7	(3.0-4.4)	2 932	4.5	(3.8-5.3)	3 406	4.5	(3.8-5.2)	3 241	4.8	(4.1-5.5)	5 865	4.1	(3.7-4.7)	5 775	5.4	(4.8-6.0)	6 562	4.1	(3.7-4.6)			
		Fluoroquinolone ^b					2 483	2.9	(2.3-3.6)	2 446	3.7	(3.0-4.5)	2 845	3.4	(2.8-4.1)	2 884	3.6	(3.0-4.3)	4 326	3.7	(3.1-4.3)	4 370	3.1	(2.6-3.7)	5 688	3.9	(3.4-4.4)			
		Vancomycin ^c		0.0		0.0	1026	0.0		271	0.4		141	0.0		313	0.0		362	0.0		325	0.0		800	0.0		228	0.0	(0.0-1.7)



Aminoglykosider, totalt. DDD/TIND



H. influenzae, nasofarynx



Source: The Public Health Agency of Sweden

Species	Sample	Antibiotic	2012		2013		2014		2015			2016			2017			2018			2019			2020			2021		
			n	% R	n	% R	n	% R ^a	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI	n tested	% R ^a	95% CI
<i>Haemophilus influenzae</i>	Nasopharynx	Number of AST-tested isolates	2 149		2 521		2 588		7 180			7 539			8 835			7 863			13 332			5 655			2 460		
		Betalactamase production	16.6		17.6		16.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2 599	22.6	(21.1-24.3)	NA	NA	NA	NA	NA	NA
		Other betalactam resistance	14.7		16.7		19.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2 599	21.6	(20.1-23.2)	NA	NA	NA	NA	NA	NA
		Penicillin G					7 180	36.7	(35.6-37.8)	7 539	37.6	(36.5-38.7)	8 835	38.4	(37.4-39.4)	7 863	38.1	(37.0-39.2)	13 332	42.9	(42.1-43.8)	5 655	40.7	(39.4-42.0)	2 460	33.6	(31.8-35.5)		
		Tetracycline	0.9		1.3		1.3	6 593	0.7	(0.5-1.0)	6 694	1.2	(0.9-1.5)	7 755	1.0	(0.8-1.3)	6 834	0.5	(0.3-0.7)	11 949	0.5	(0.3-0.6)	4 807	0.7	(0.5-1.0)	2 229	0.6	(0.3-1.0)	
		Trimethoprim-sulfamethoxazole	25.2		24.2		30.7	6 858	29.5	(28.4-30.6)	6 955	27.9	(26.9-29.0)	8 138	29.9	(29.0-31.0)	7 217	30.0	(29.0-31.1)	11 992	29.6	(28.8-30.4)	5 187	25.6	(24.5-26.8)	2 371	23.9	(22.2-25.7)	
		Fluoroquinolone ^b	0.9		1.2		1.5	3 819	1.0	(0.7-1.4)	4 132	1.5	(1.2-1.9)	4 584	1.5	(1.2-1.9)	7 170	1.4	(1.1-1.7)	11 102	1.1	(1.0-1.3)	3 603	1.6	(1.2-2.0)	2 330	1.8	(1.3-2.4)	
		Ampicillin/amoxicillin					1 840	27.4	(25.4-29.5)	2 360	30.0	(28.3-31.8)	5 211	25.2	(24.0-26.4)	4 440	32.2	(22.0-24.5)	9 476	37.4	(36.4-38.3)	3 843	32.4	(30.9-33.9)	2 372	26.8	(25.1-28.6)		
		Amoxicillin clavulanic acid																		6 506	16.2	(15.3-17.1)	2 524	16.0	(14.7-17.5)	1 614	14.2	(12.6-16.0)	