

Rete SMART: l'andamento dell'antibiotico-resistenza in Toscana

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CONVEGNO



**Antimicrobico-resistenza:
cure e ambiente #6**

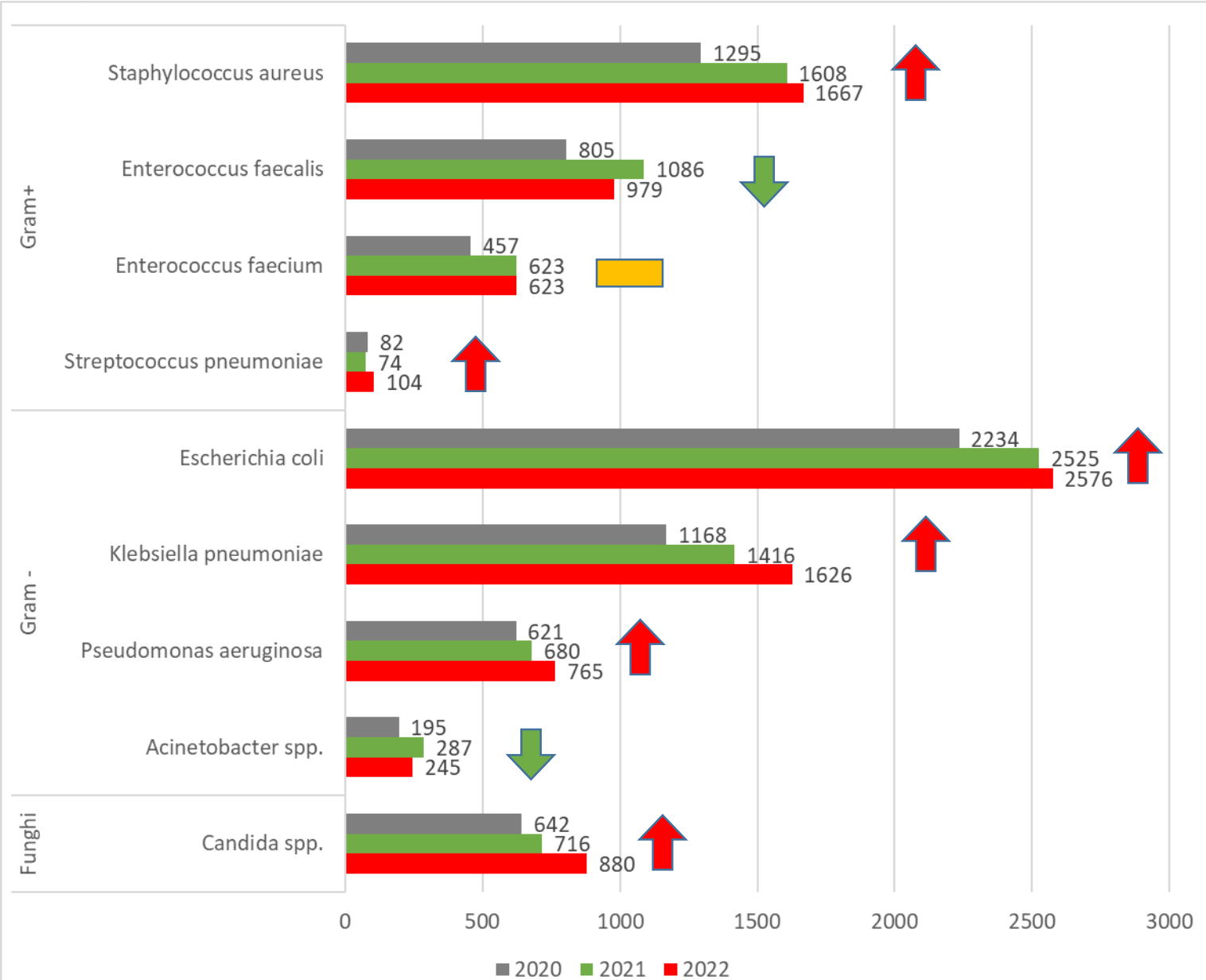
L'ecllettismo dell'antibiotico-resistenza

7 giugno 2023

ore 9.15-17.20



Isolati da sangue non ripetuti, Toscana, 2020-2022

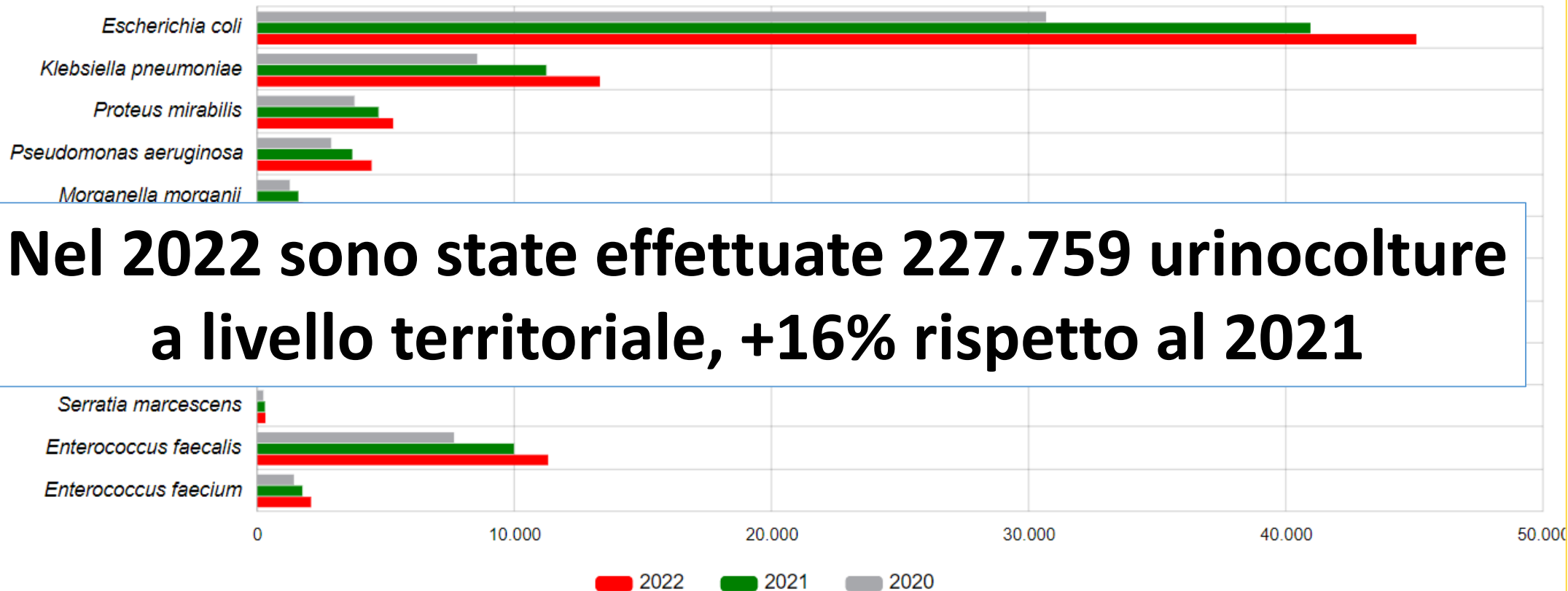


Isolati da urine non ripetuti, Toscana, 2020-2022

Numerosità delle specie analizzate in Toscana

Rapporto (x 100) - Anno 2022 - Totale - Urinocolture

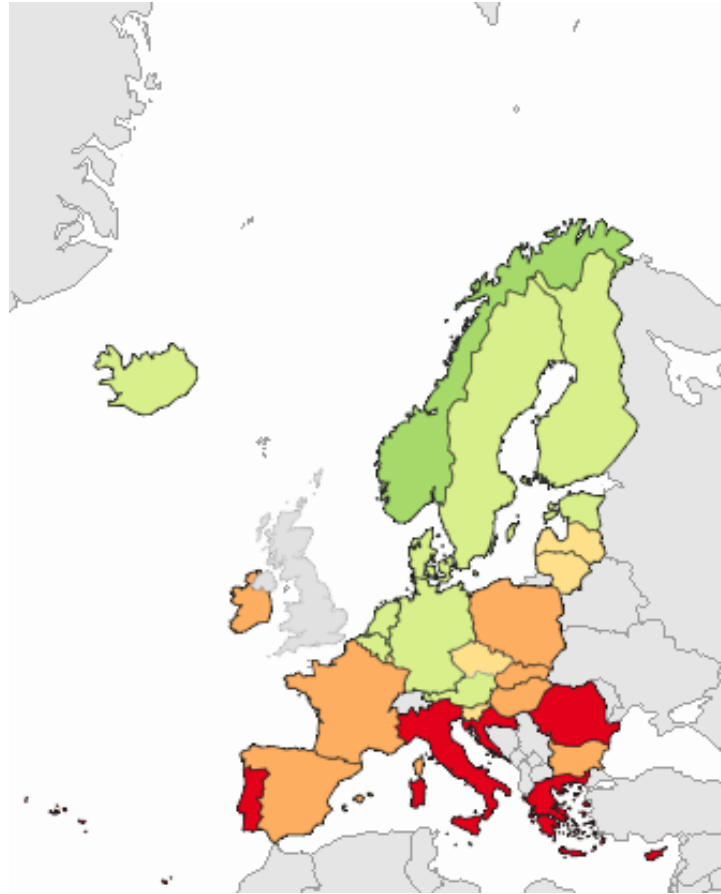
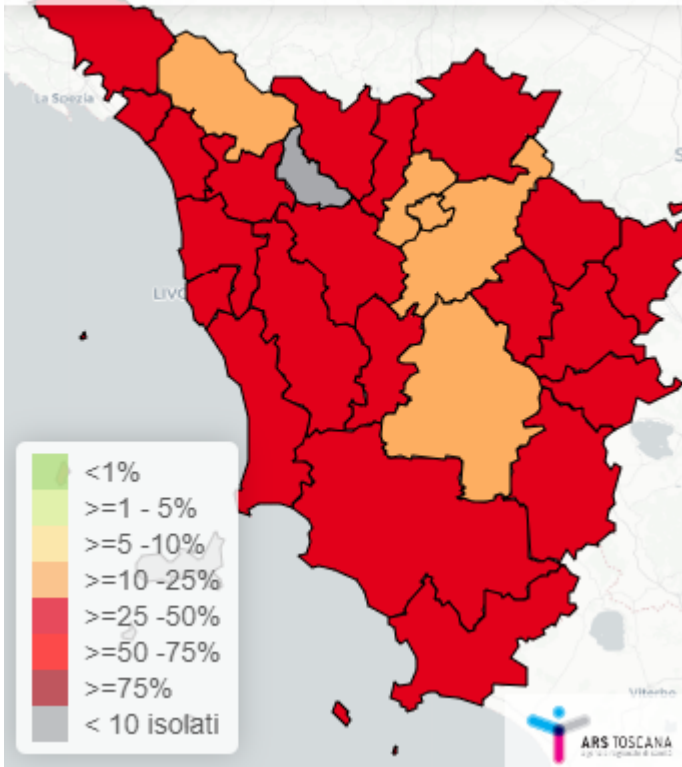
Fonte: ARS - Rete SMART



Staphylococcus aureus, meticillino-resistente (MRSA)

Rapporto (x 100) - Anno 2022 - Totale - Emocolture

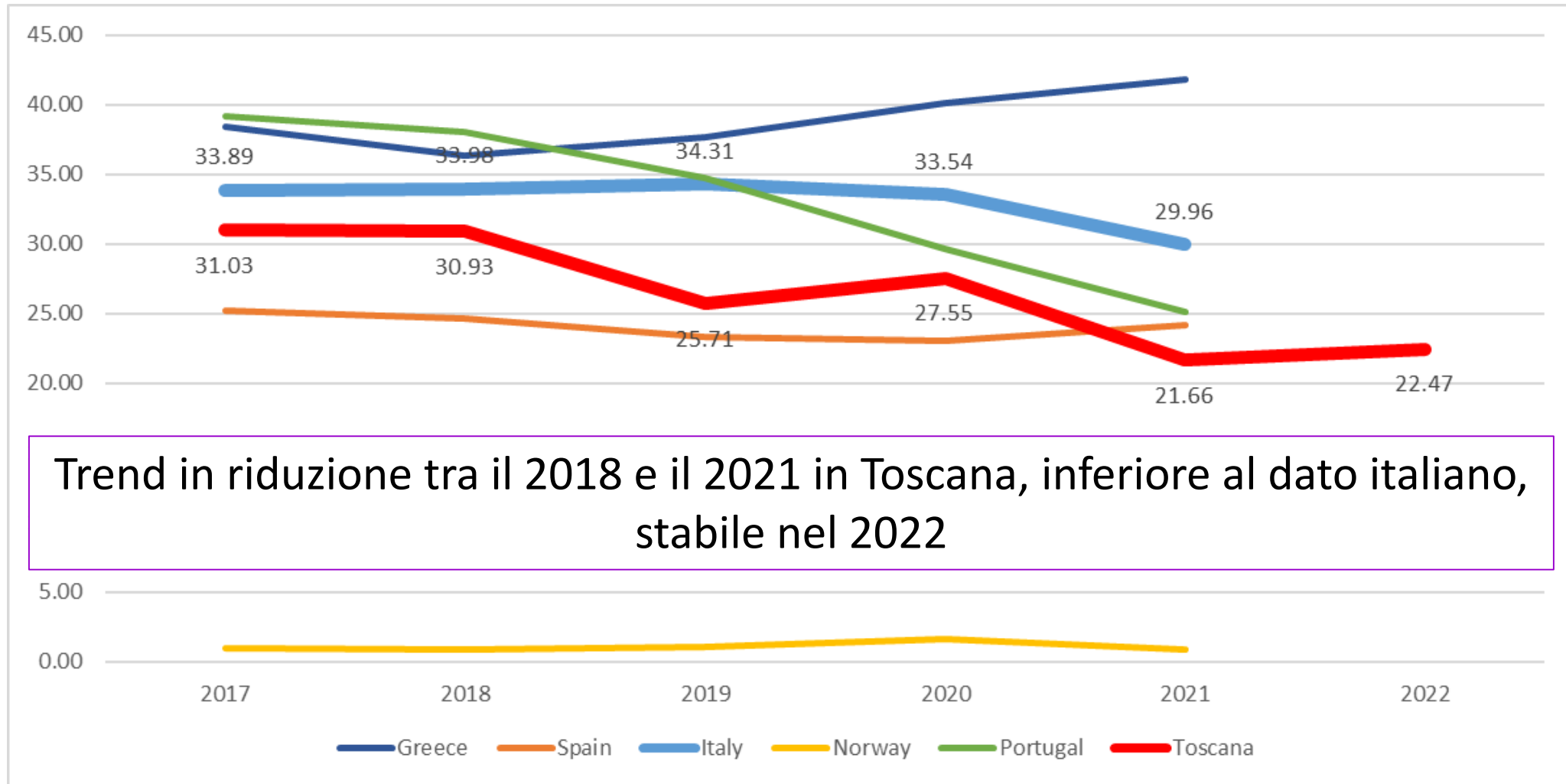
Fonte: ARS - Rete SMART



Time	RegionCode	RegionName	NumValue
2021	EL	Greece	41.85
2021	ES	Spain	24.22
2021	NO	Norway	0.92
2021	PT	Portugal	25.13
2021	IT	Italy	29.96
2021	TOSC	Toscana	21.66
2022	TOSC	Toscana	22.47

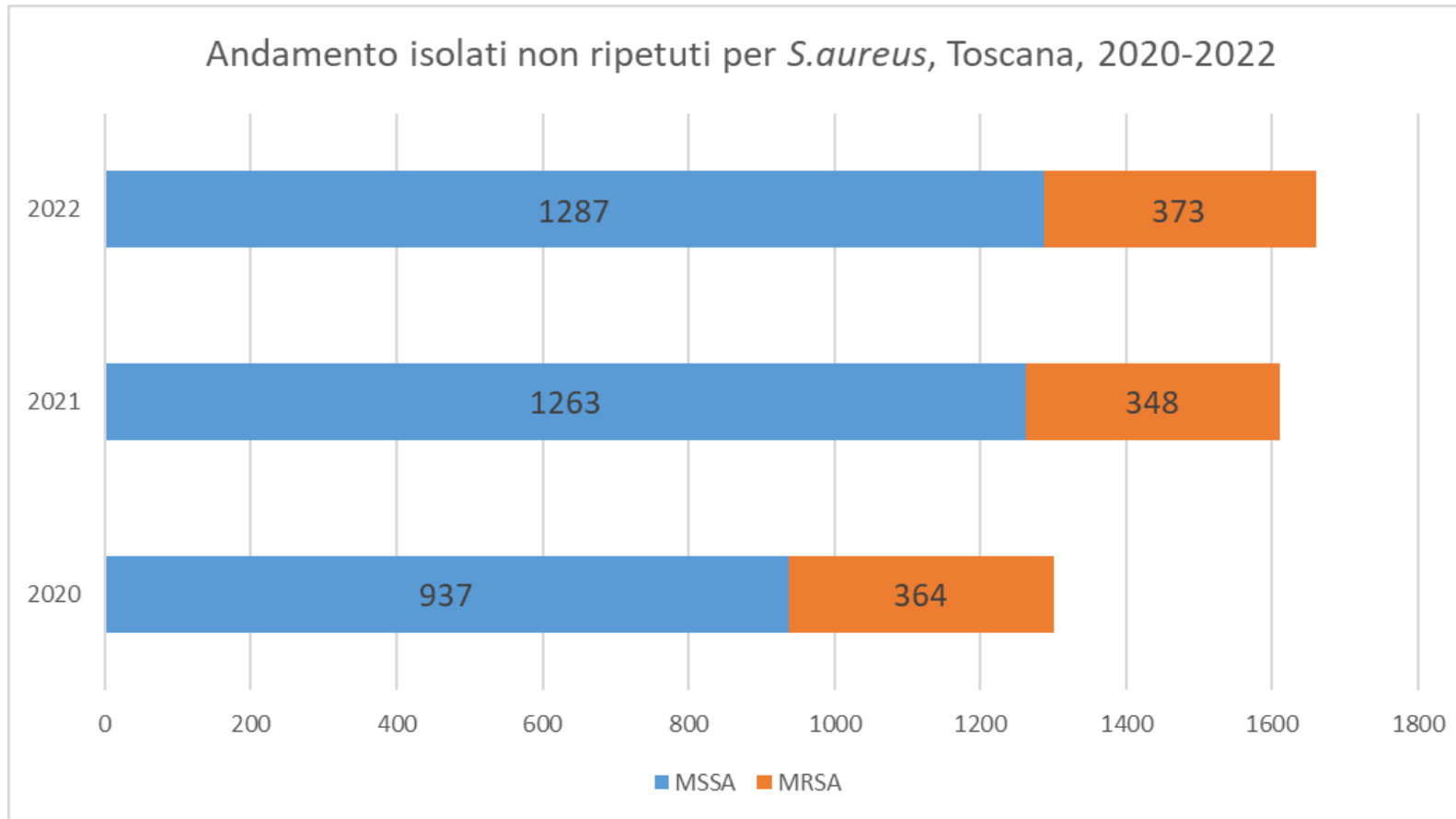
(1667 isolati di *S.aureus* da sangue non ripetuti, 2022)

Staphylococcus aureus, meticillino-resistente (MRSA)



Staphylococcus aureus, meticillino-resistente (MRSA)

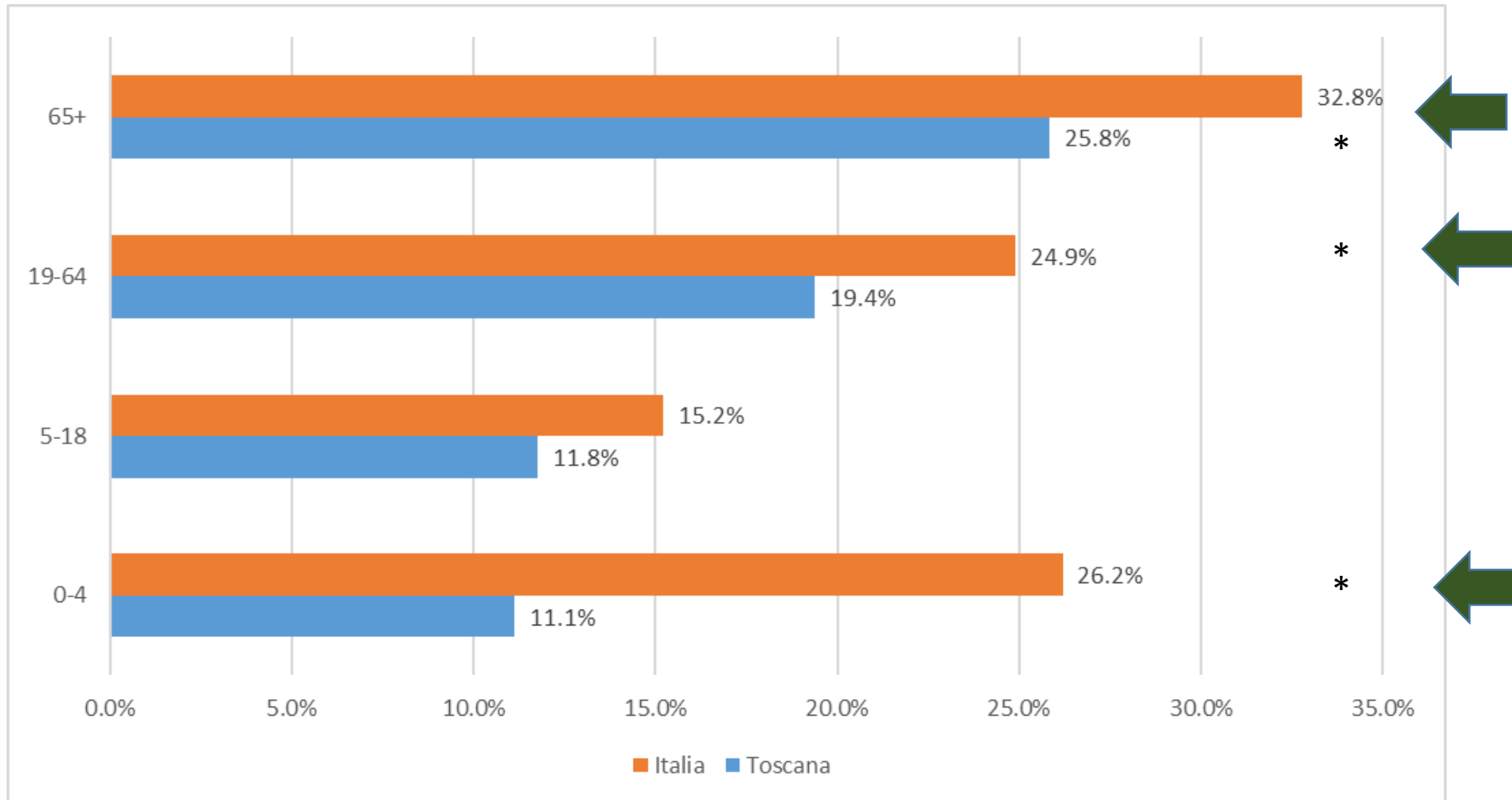
La riduzione «apparente» della prevalenza di MRSA tra il 2020 e il 2021 è principalmente dovuta all'aumento degli isolati MSSA



Luogo di isolamento	MSSA	MRSA
H	65.8%	65.1%
PS	26.2%	24.7%
RSA/Hospice	0.8%	1.6%
Altro, non noto	7.2%	8.6%

Staphylococcus aureus, meticillino-resistente (MRSA)

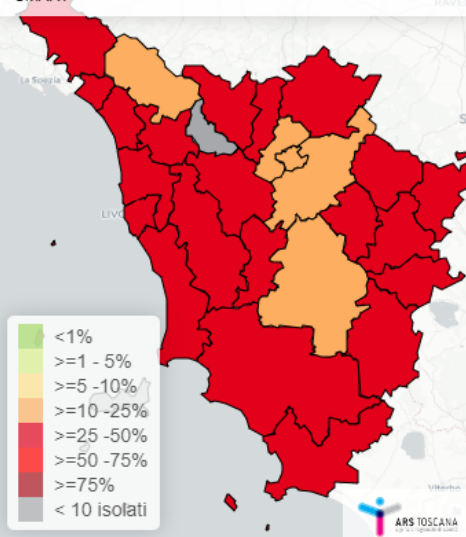
La prevalenza di MRSA in Toscana nel 2022 è stata più bassa che in Italia nel 2021 in tutte le fasce di età



Staphylococcus aureus, meticillino-resistente (MRSA)

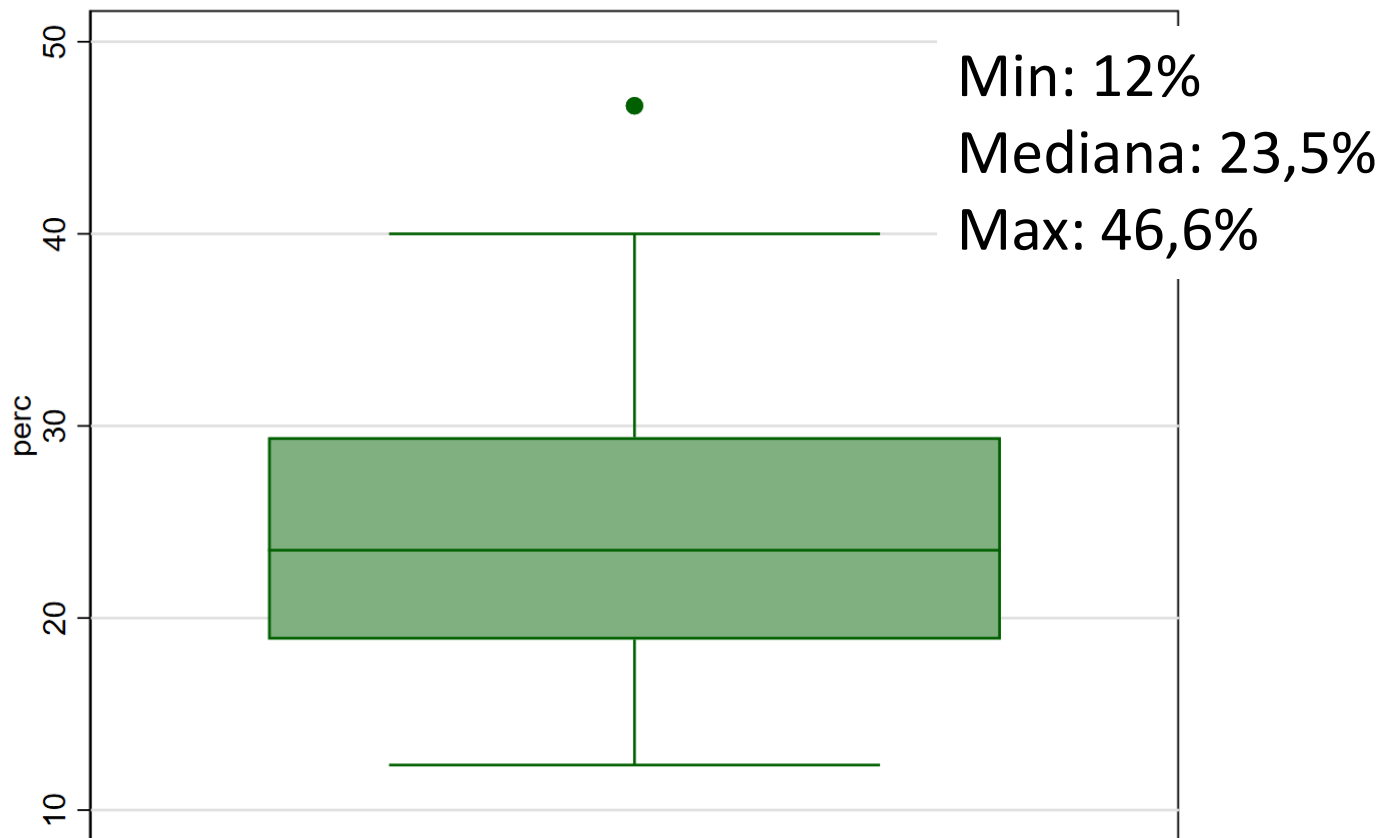
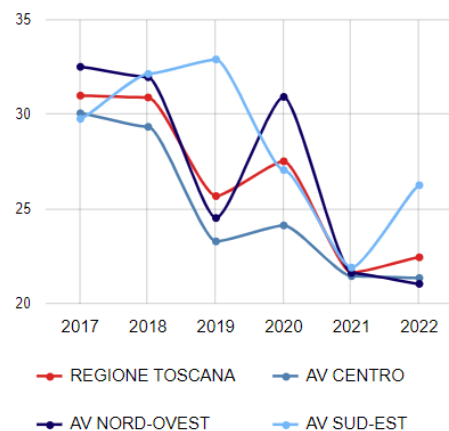
Prevalenza MRSA per ospedale, Toscana, 2022 (30 H con oltre 10 isolati)

Rapporto (x 100) - Anno 2022 - Totale - Emocolture
Fonte: ARS - Rete SMART



Staphylococcus aureus meticillino resistente (MRSA) - Andamento temporale

Rapporto (x 100) - Totale - Emocolture
Fonte: ARS - Rete SMART



Median Odds Ratio (MOR) 1,18

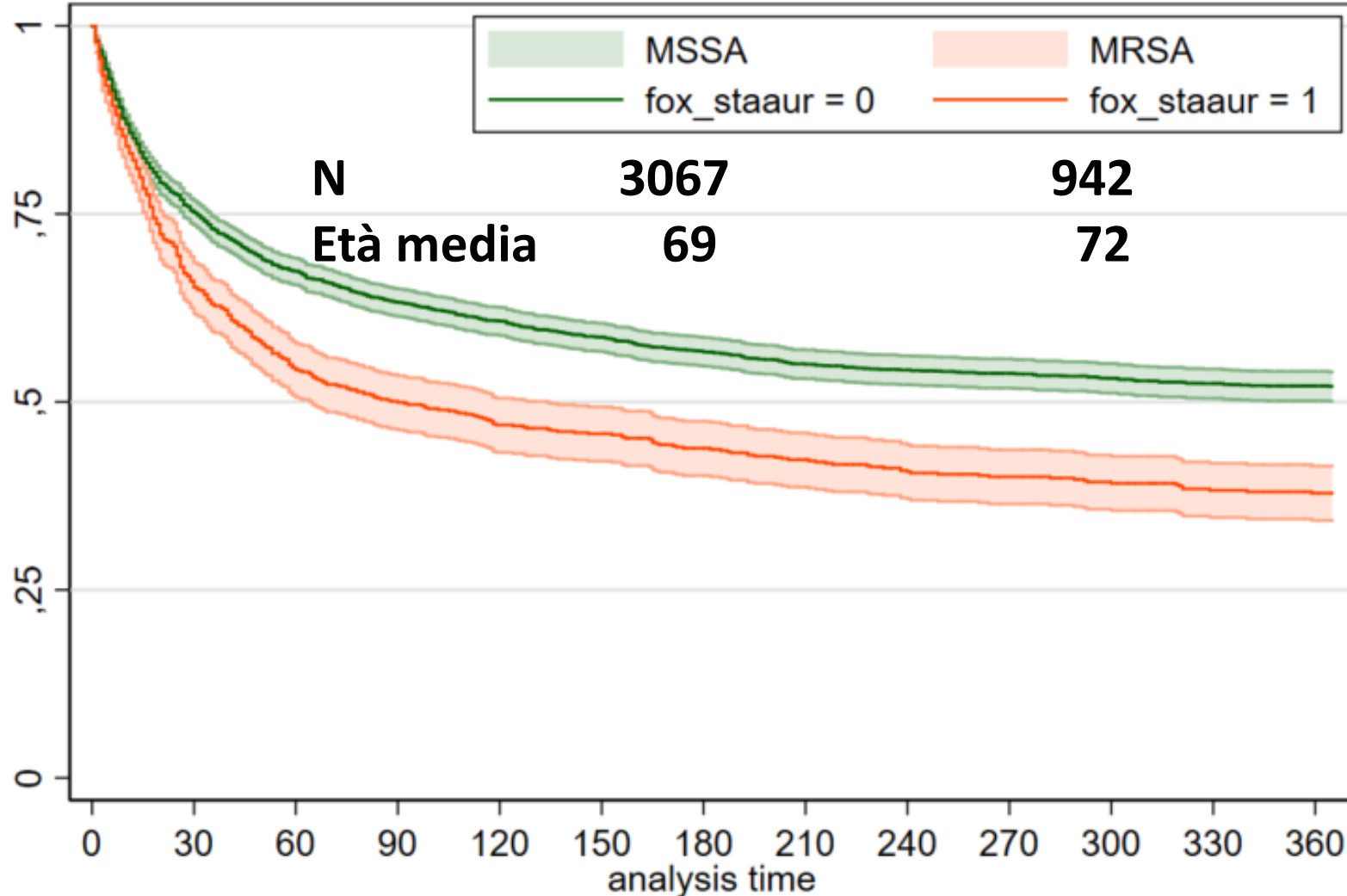
Passando da un ospedale a minor prevalenza di MRSA ad uno a maggior prevalenza, il rischio di MRSA aumenta del 18%



Staphylococcus aureus, meticillino-resistente

(MRSA) – sopravvivenza a 1 anno Toscana 2020-2022

Kaplan-Meier survival estimates



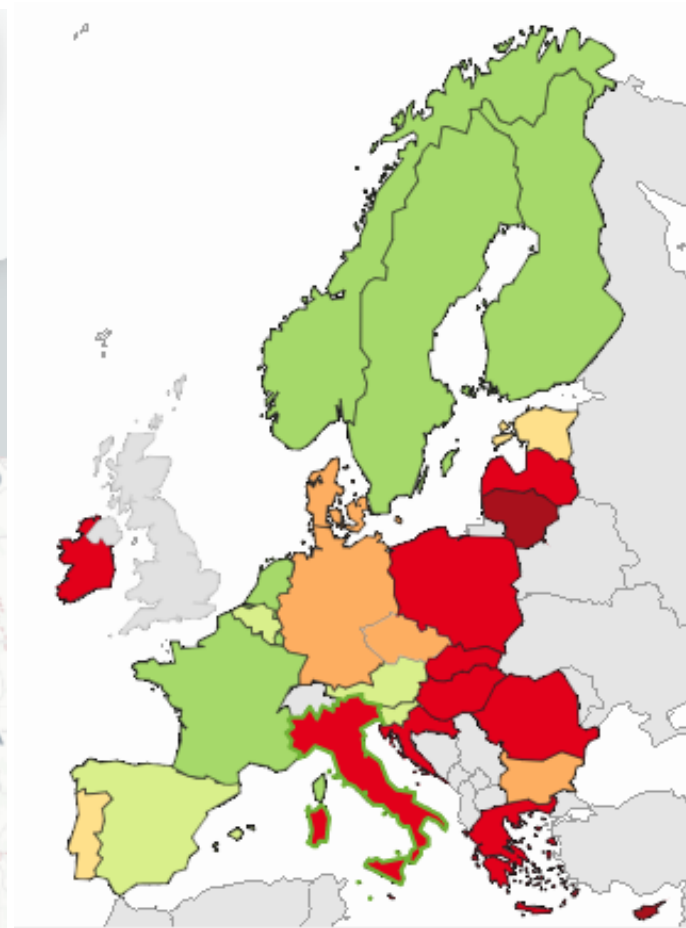
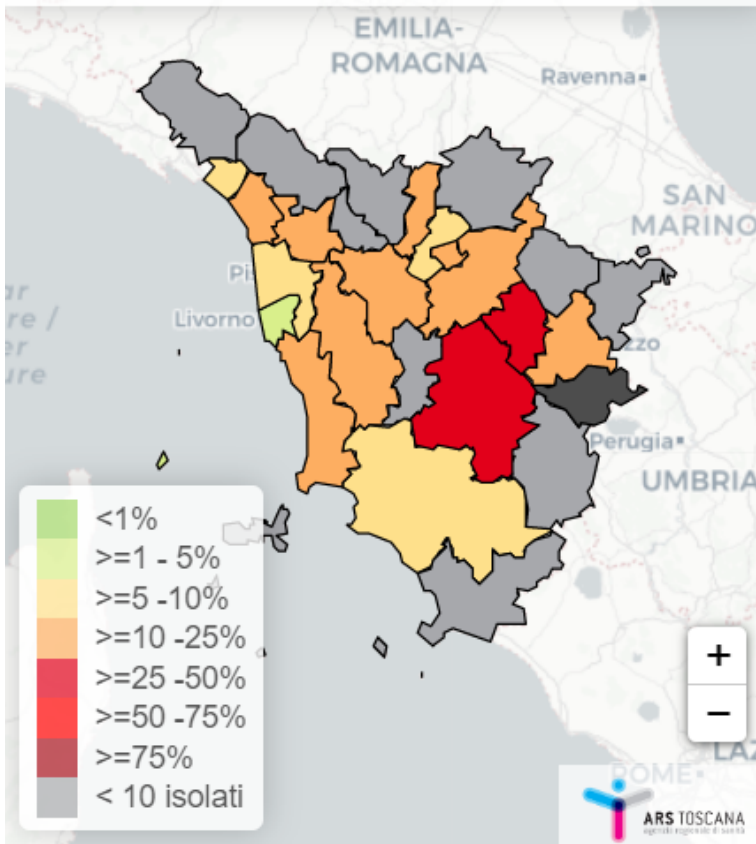
Enterococcus faecium, resistente alla vancomicina (VRE)

Enterococcus faecium resistente alla vancomicina - Mappa per zona distretto



Rapporto (x 100) - Anno 2022 - Totale - Emocolture

Fonte: ARS - Rete SMART

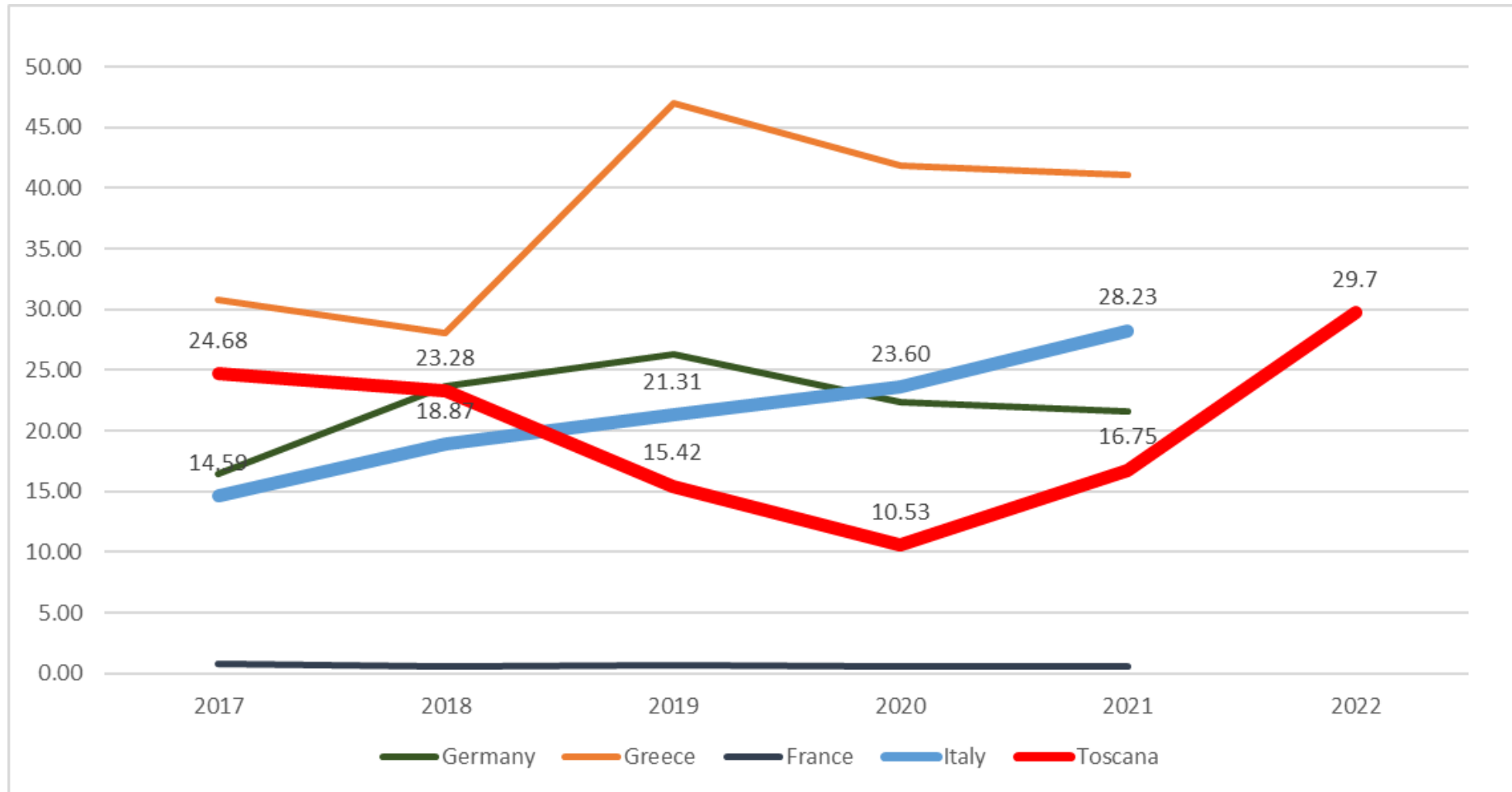


Time	Region	RegionI	NumValue
2021	DE	Germany	21.63
2021	EL	Greece	41.05
2021	FR	France	0.53
2021	IT	Italy	28.23
2021	TOSC	Toscana	16.75
2022	TOSC	Toscana	29.7

(623 isolati di *E.faecium* da sangue non ripetuti, 2022)

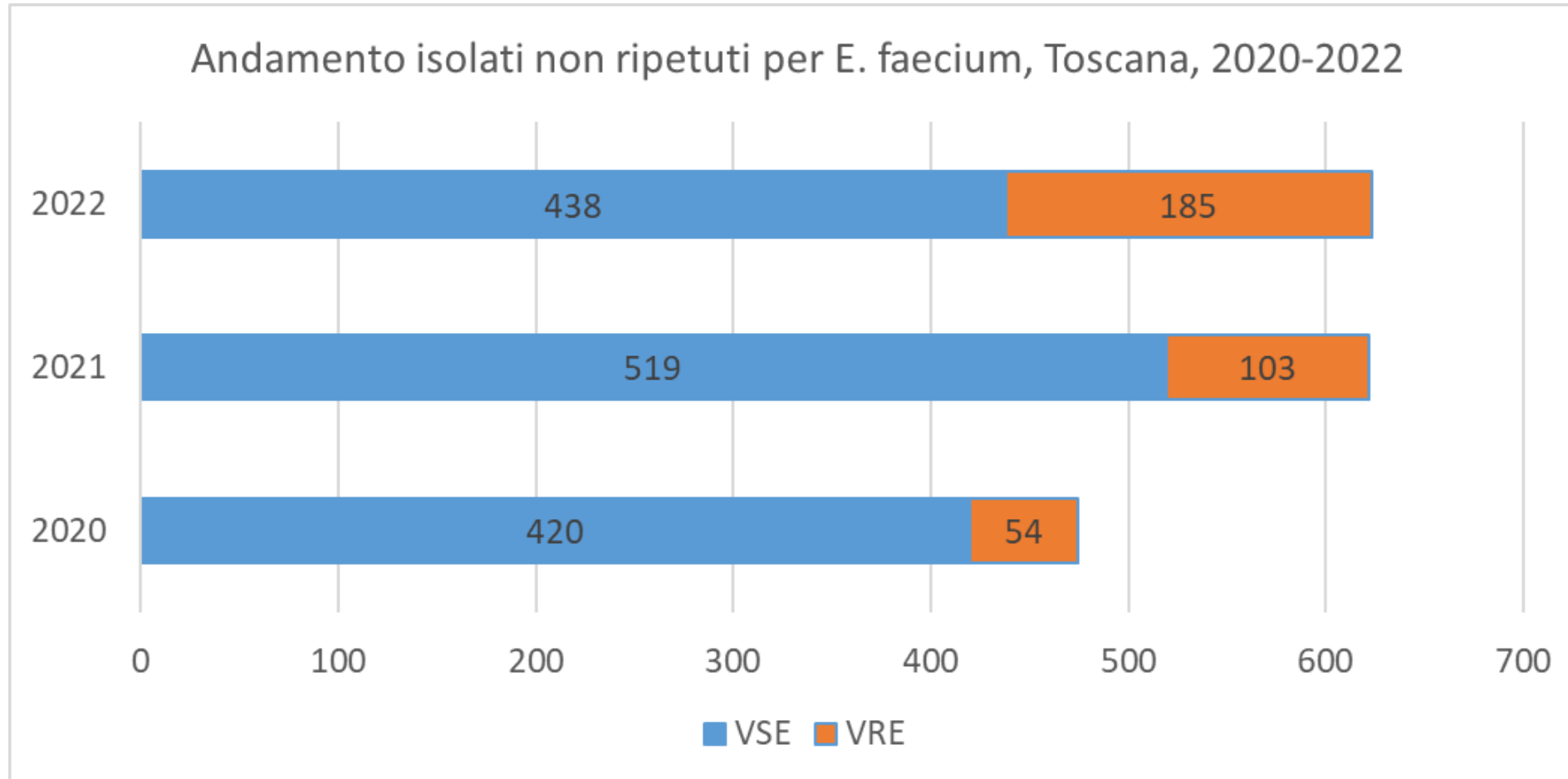
Enterococcus faecium, resistente alla vancomicina (VRE)

Aumento dal 2021 in Toscana



Enterococcus faecium, resistente alla vancomicina (VRE)

Il numero di *E. faecium* isolati in Toscana nel 2022 non è aumentato, cresce il numero di VRE



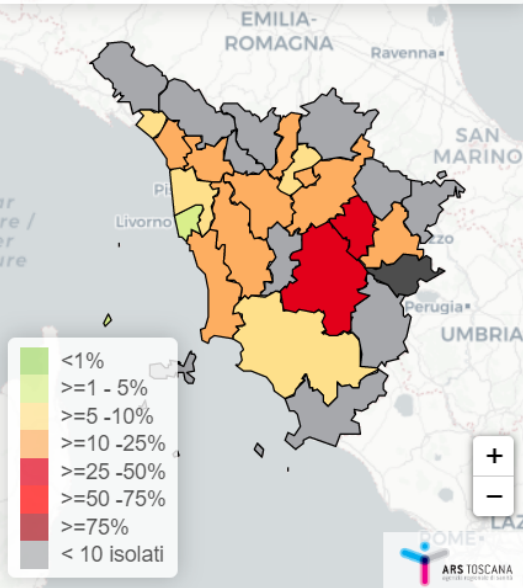
Enterococcus faecium, resistente alla vancomicina

(VRE)

Enterococcus faecium resistente alla vancomicina - Mappa per zona distretto

Rapporto (x 100) - Anno 2022 - Totale - Emocolture

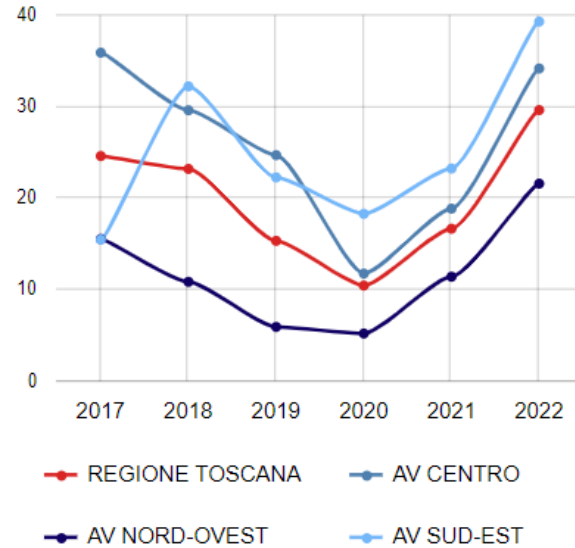
Fonte: ARS - Rete SMART



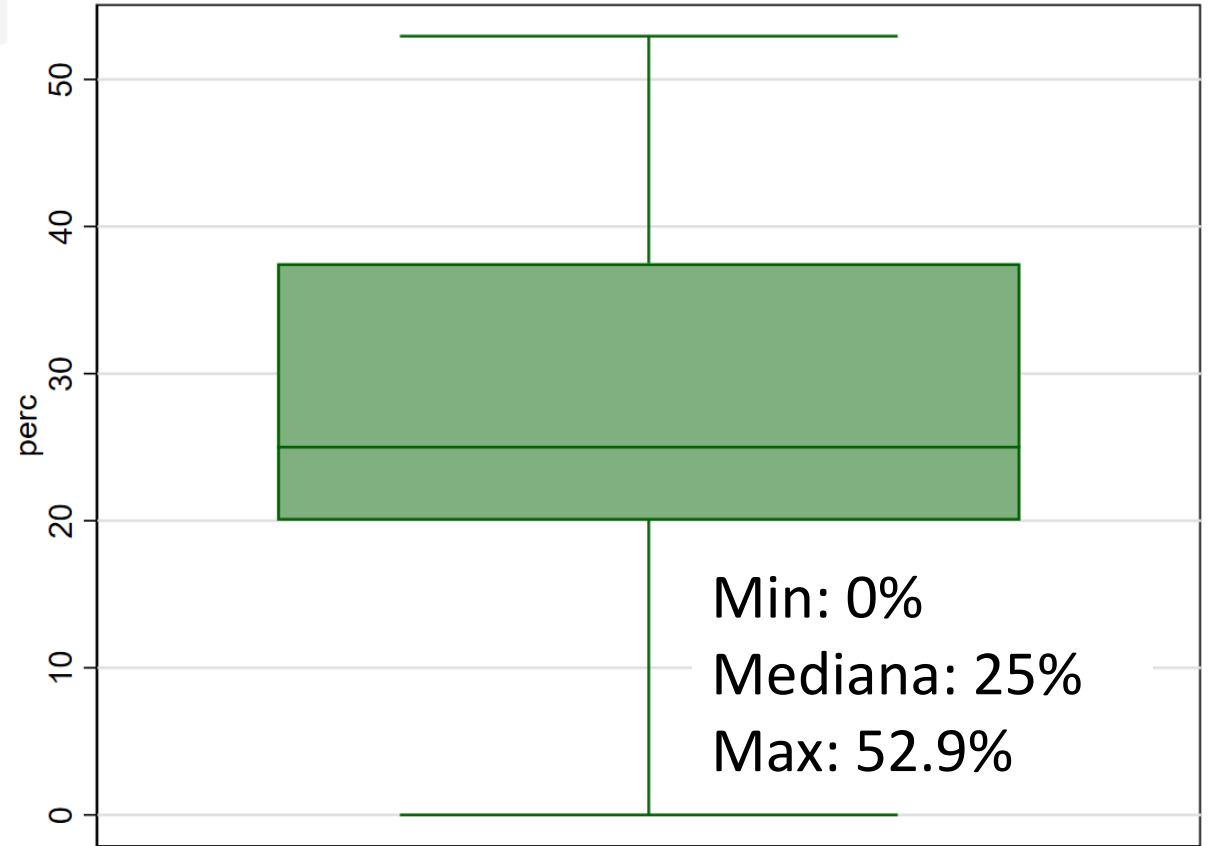
Enterococcus faecium resistente alla vancomicina - Andamento temporale

Rapporto (x 100) - Totale - Emocolture

Fonte: ARS - Rete SMART



Prevalenza VRE per ospedale, Toscana, 2022 (15 H con 10 + isolati)



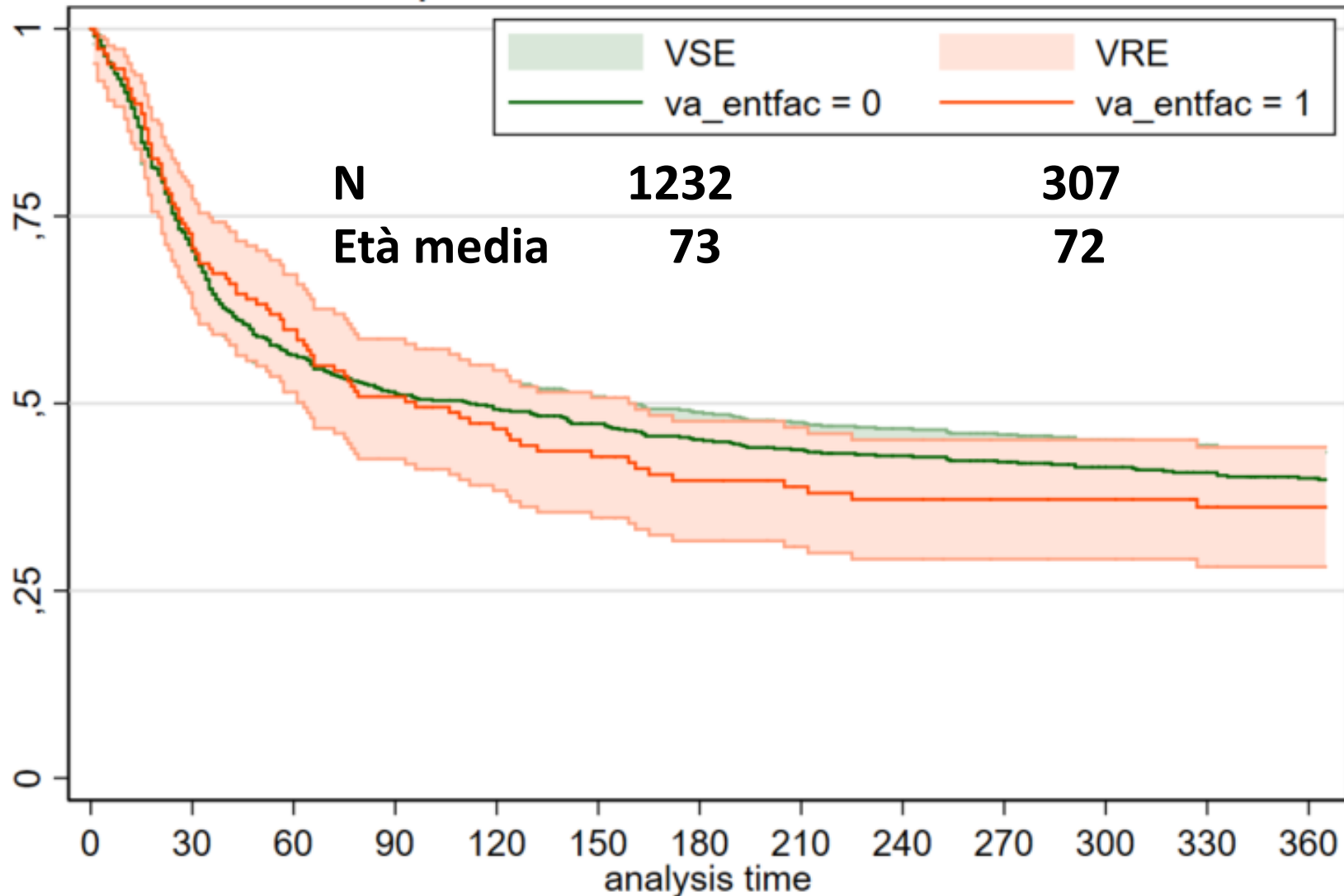
Median Odds Ratio (MOR) 1,31

Passando da un ospedale a minor prevalenza di VRE ad uno a maggior prevalenza, il rischio di VRE aumenta del 31%

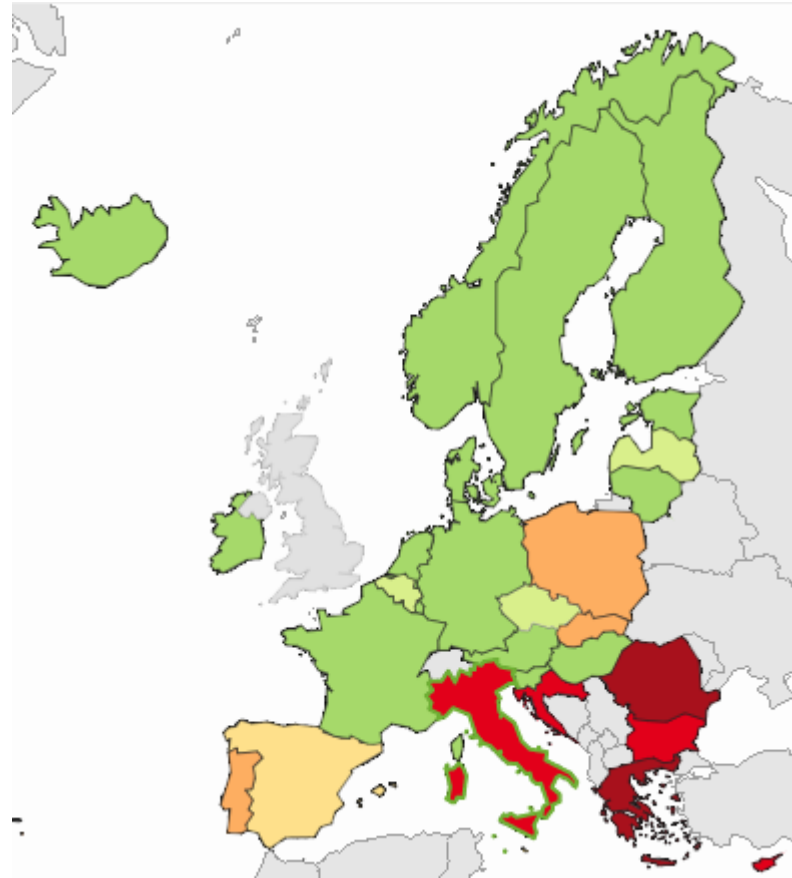
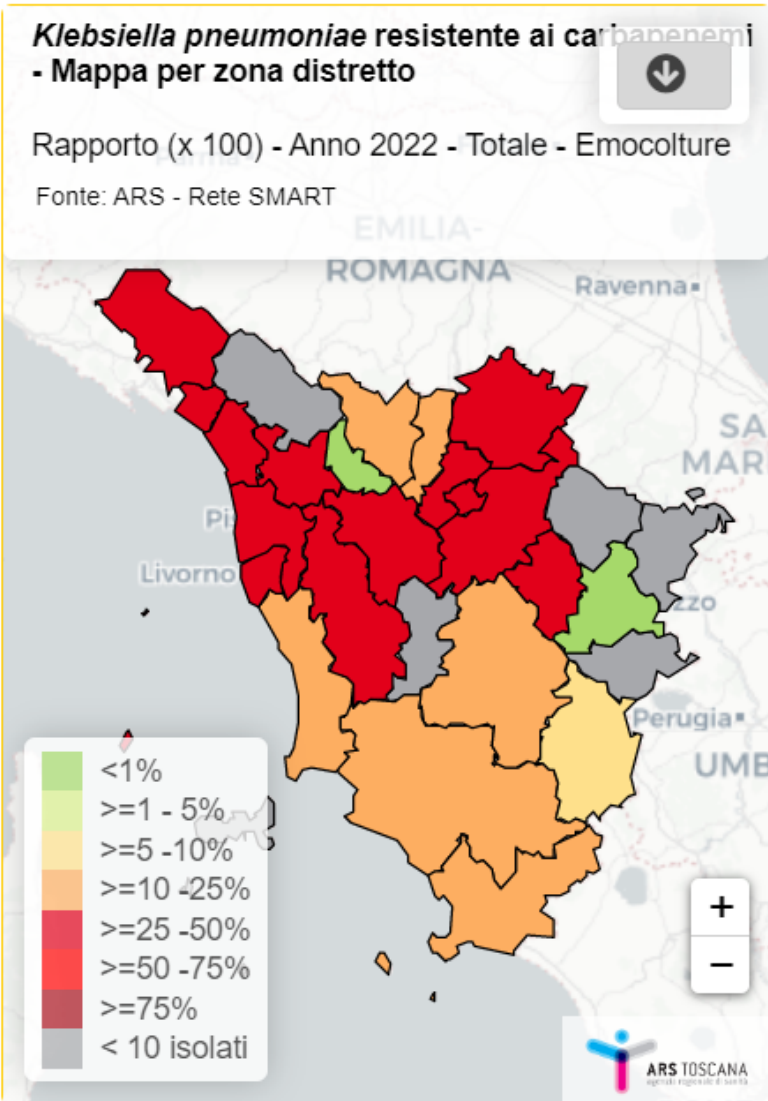
Enterococcus faecium, resistente alla vancomicina

(VRE) – sopravvivenza a 1 anno Toscana 2020-2022

Kaplan-Meier survival estimates



Klebsiella pneumoniae, resistente ai carbapenemi

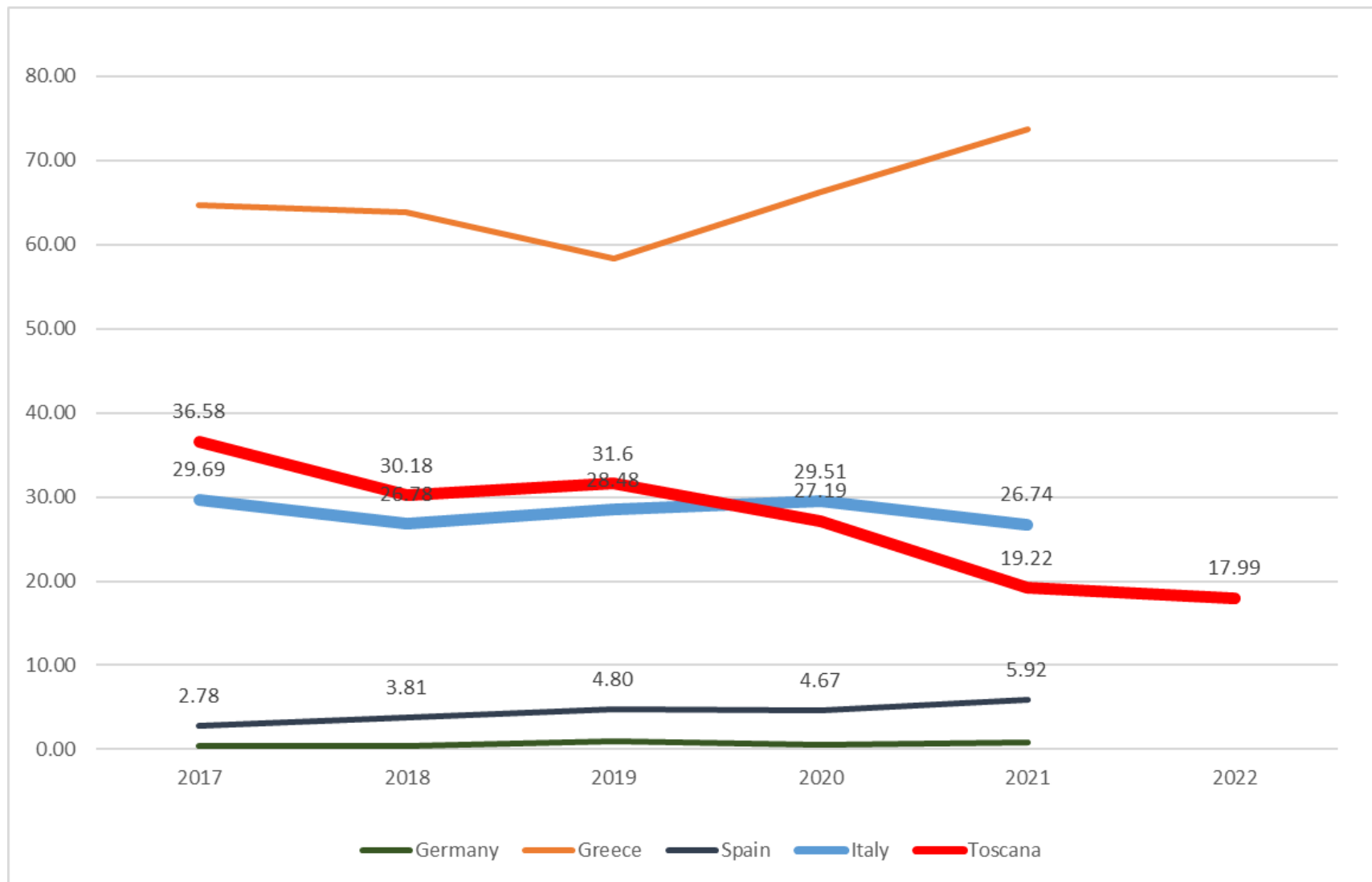


Time	Region	RegionI	NumVa
2021	DE	Germany	0.80
2021	EL	Greece	73.70
2021	ES	Spain	5.92
2021	IT	Italy	26.74
2021	TOSC	Toscana	19.22
2022	TOSC	Toscana	17.99

(1625 isolati di *K.pneumoniae* da sangue non ripetuti, 2022)

Klebsiella pneumoniae, resistente ai carbapenemi

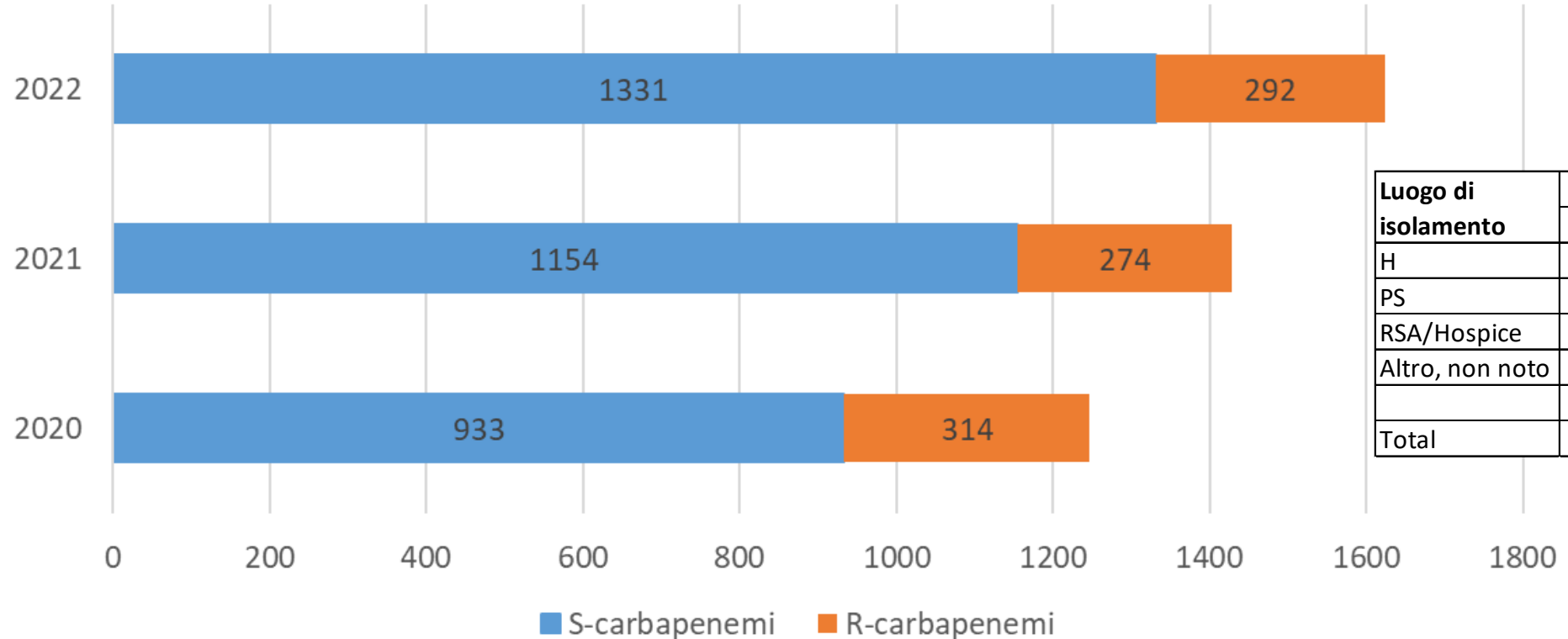
In riduzione dal 2019 in Toscana



Klebsiella pneumoniae, resistente ai carbapenemi

Il numero di *K. pneumoniae* isolate in Toscana nel 2022 è aumentato, in particolare i S-carbapenemi

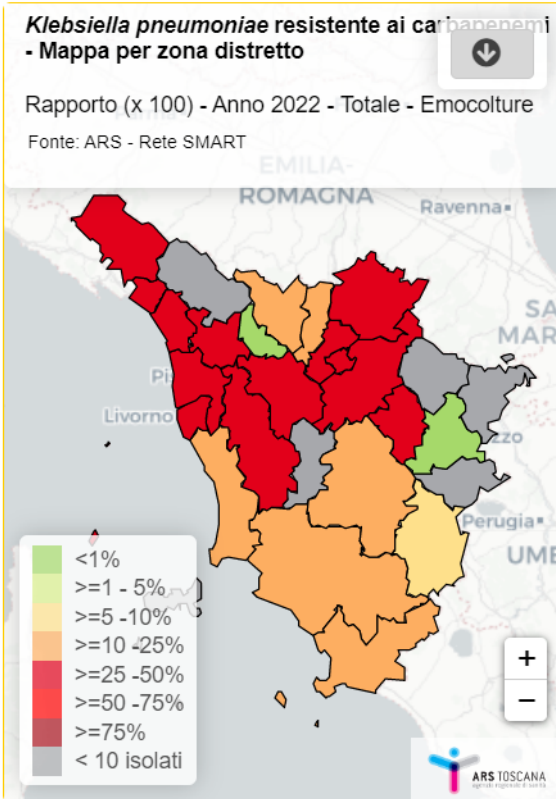
Andamento isolati non ripetuti per *K.pneumoniae*, Toscana, 2020-2022



Luogo di isolamento	2021		2022	
	N	%	N	%
H	507	81.5%	495	79.5%
PS	66	10.6%	77	12.4%
RSA/Hospice	16	2.6%	9	1.4%
Altro, non noto	33	5.3%	42	6.7%
Total	622	100.0%	623	100.0%

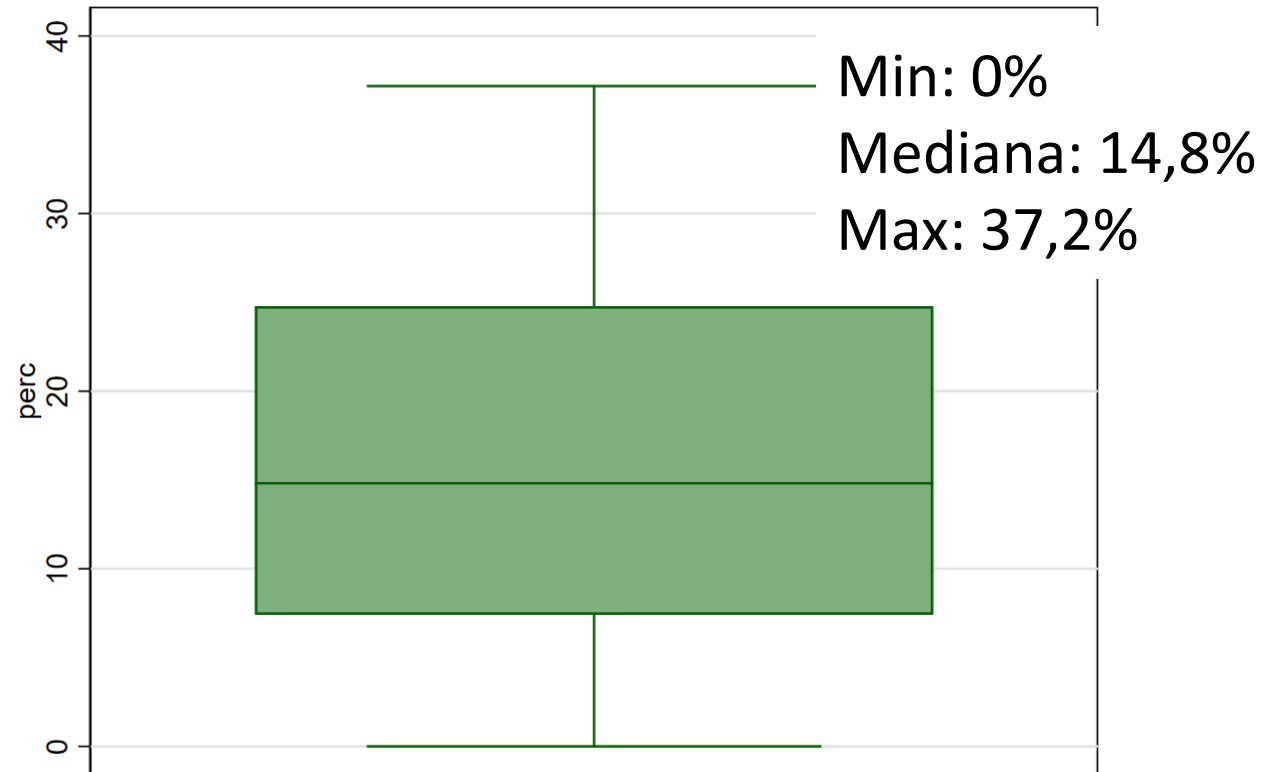
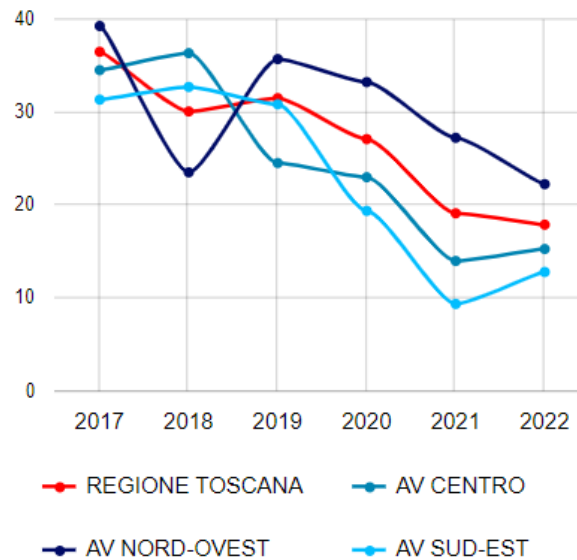
Klebsiella pneumoniae, resistente ai carbapenemi

Prevalenza *K. pneumoniae* per ospedale, Toscana 2022 (25 H con 10 + isolati)



Klebsiella pneumoniae resistente ai carbapenemi - Andamento temporale

Rapporto (x 100) - Totale - Emocolture
Fonte: ARS - Rete SMART

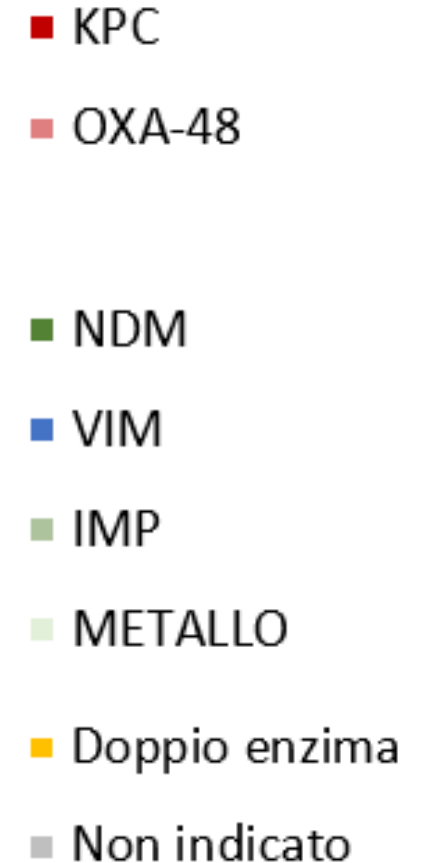
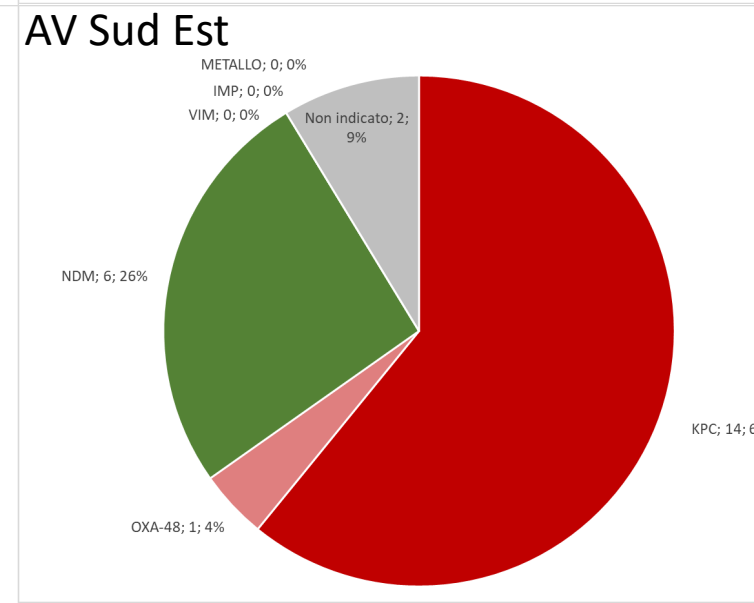
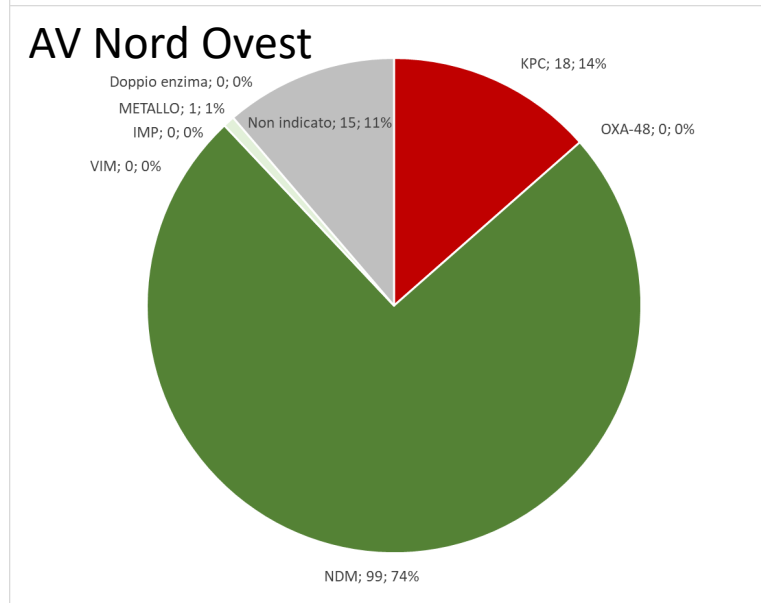
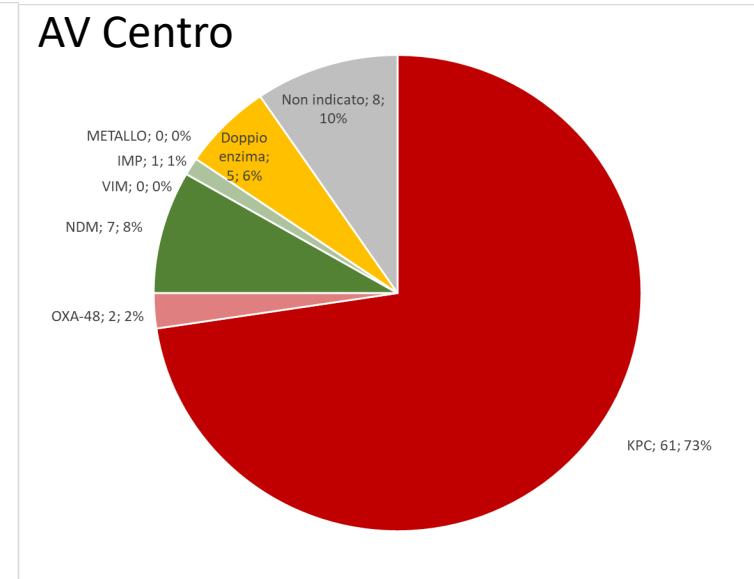
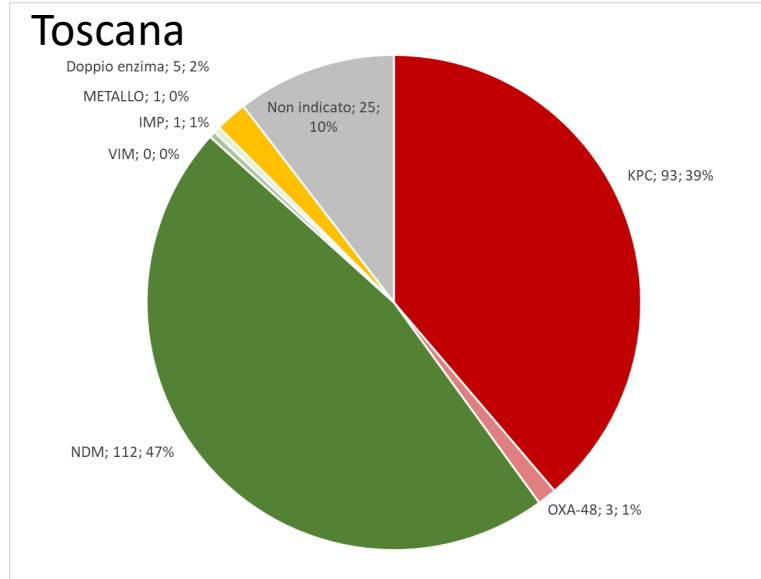


Median Odds Ratio (MOR) 2,59

Passando da un ospedale a minor prevalenza di *K. pneumoniae* resistenti a carbapenemi ad uno a maggior prevalenza, il rischio è più che doppio

Klebsiella pneumoniae, resistente ai carbapenemi

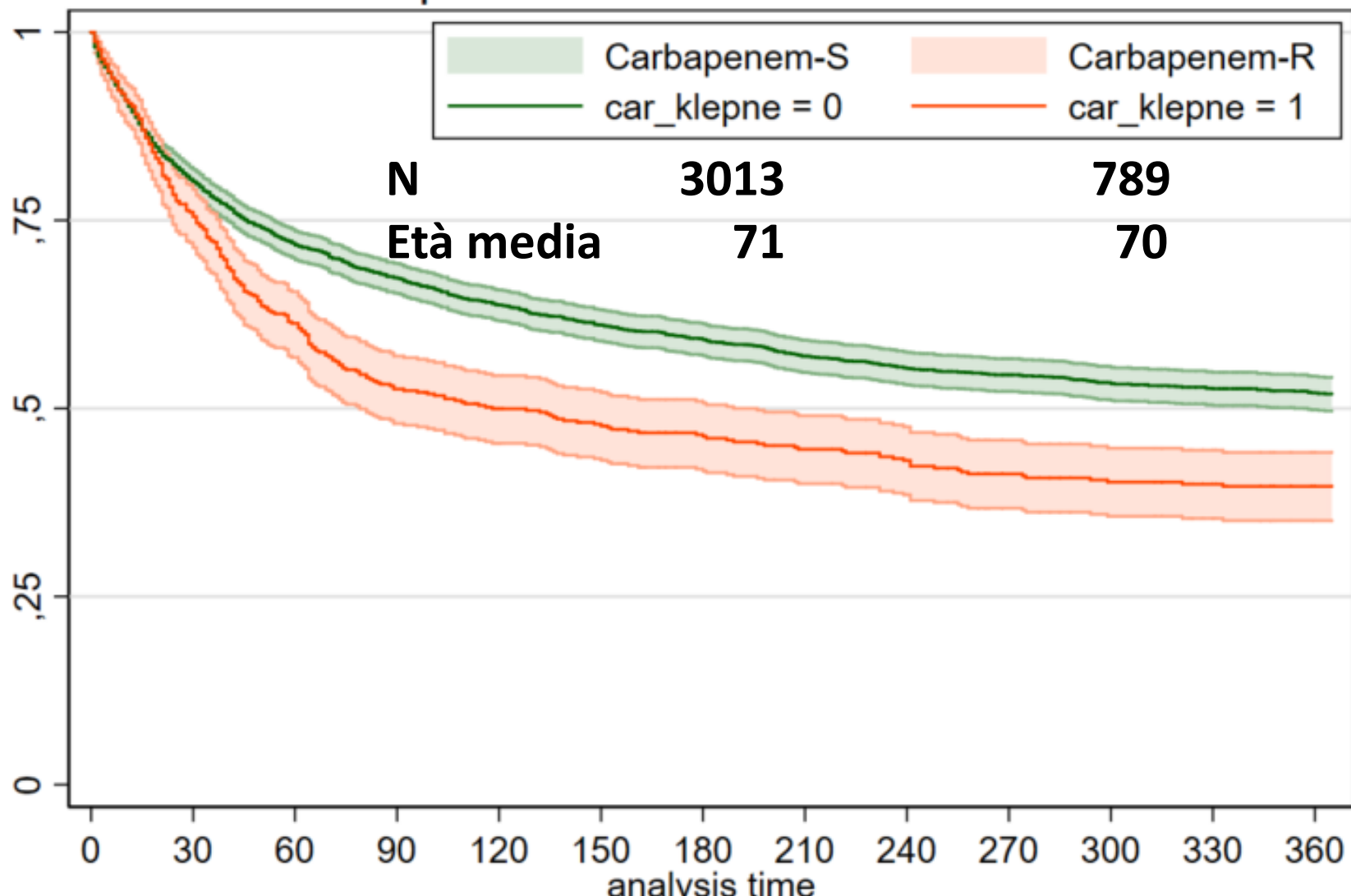
Enzimi responsabili (fonte: Sorveglianza CRE)



Klebsiella pneumoniae, resistente ai carbapenemi

– sopravvivenza a 1 anno Toscana 2020-2022

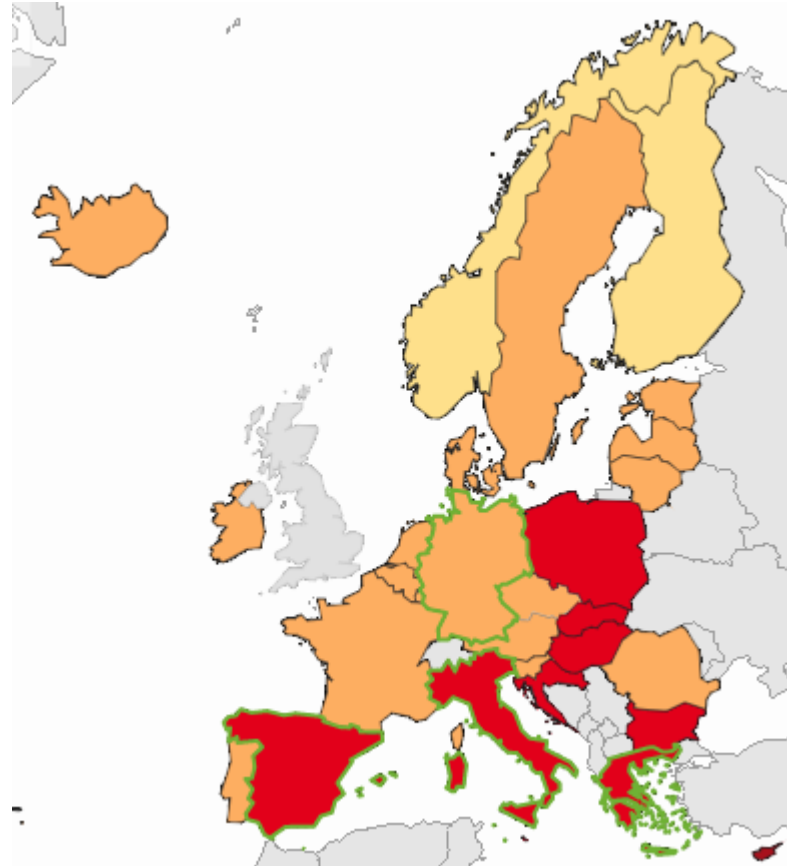
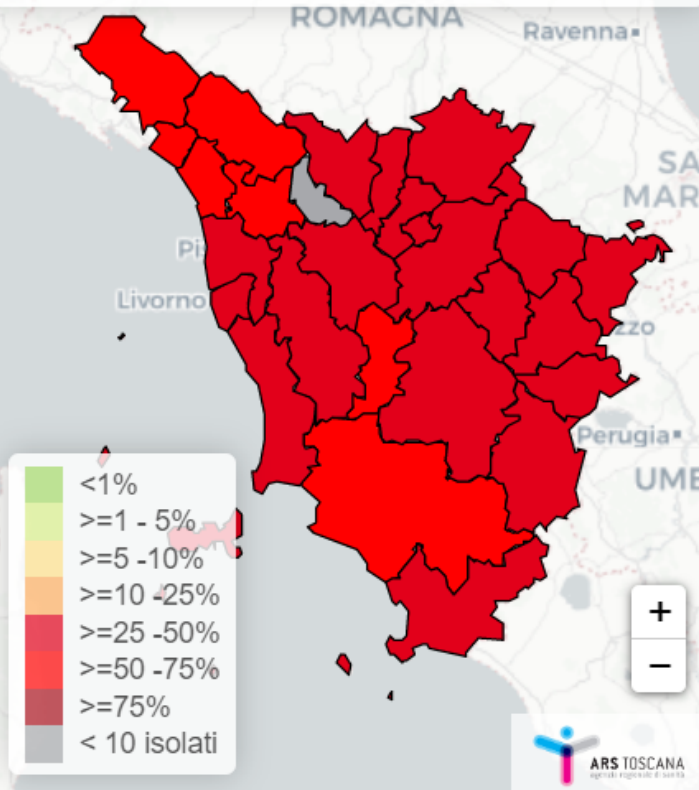
Kaplan-Meier survival estimates



Escherichia coli, resistente ai fluorichinoloni

Escherichia coli resistente ai fluorochinoloni -
Mappa per zona distretto

Rapporto (x 100) - Anno 2022 - Totale - Emocolture
Fonte: ARS - Rete SMART

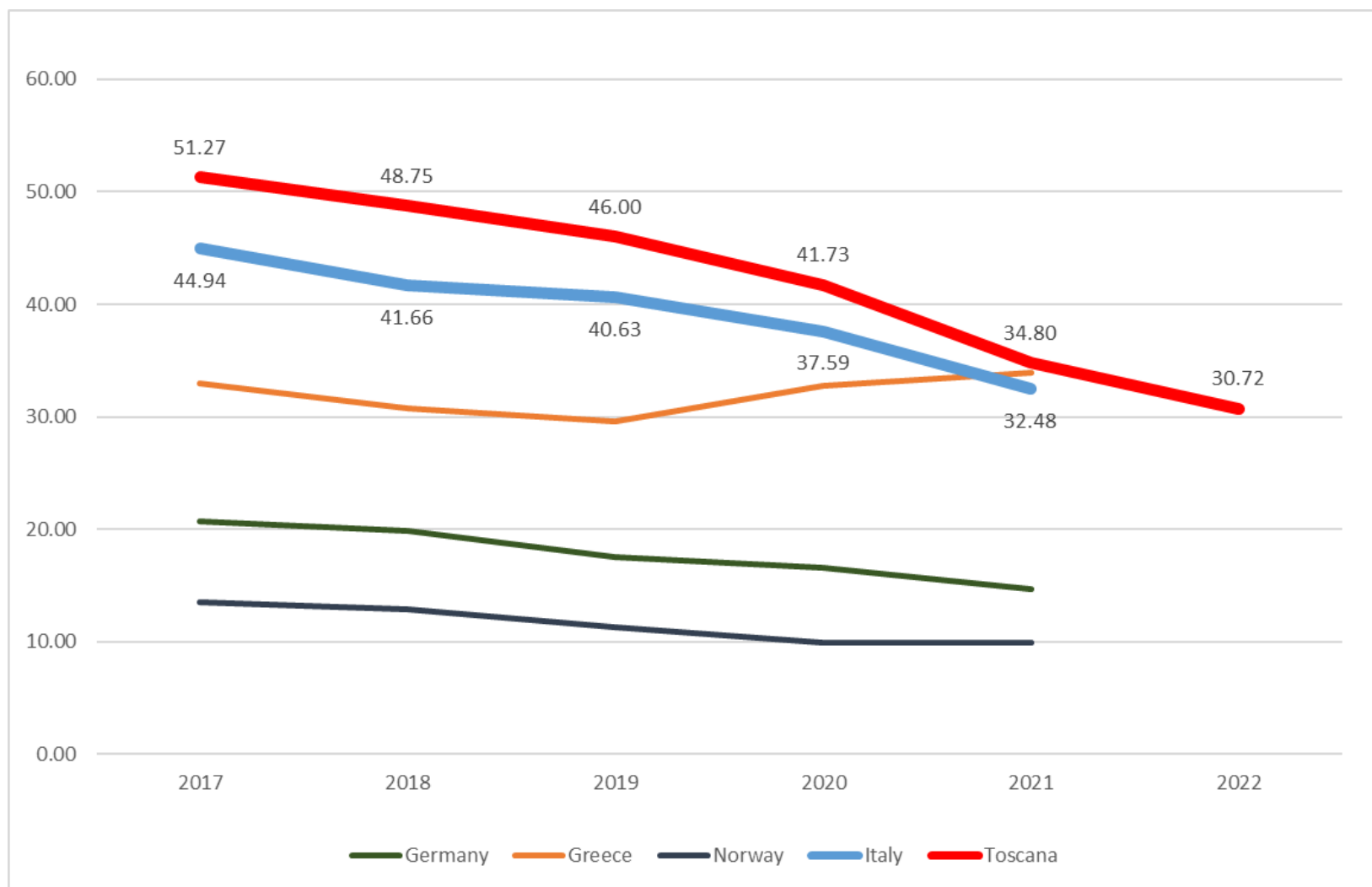


Time	RegionCode	RegionName	NumValue
2021	DE	Germany	14.66
2021	EL	Greece	33.93
2021	NO	Norway	9.88
2021	IT	Italy	32.48
2021	TOSC	Toscana	34.80
2022	TOSC	Toscana	30.72

(2575 isolati di *E.coli* da sangue non ripetuti, 2022)

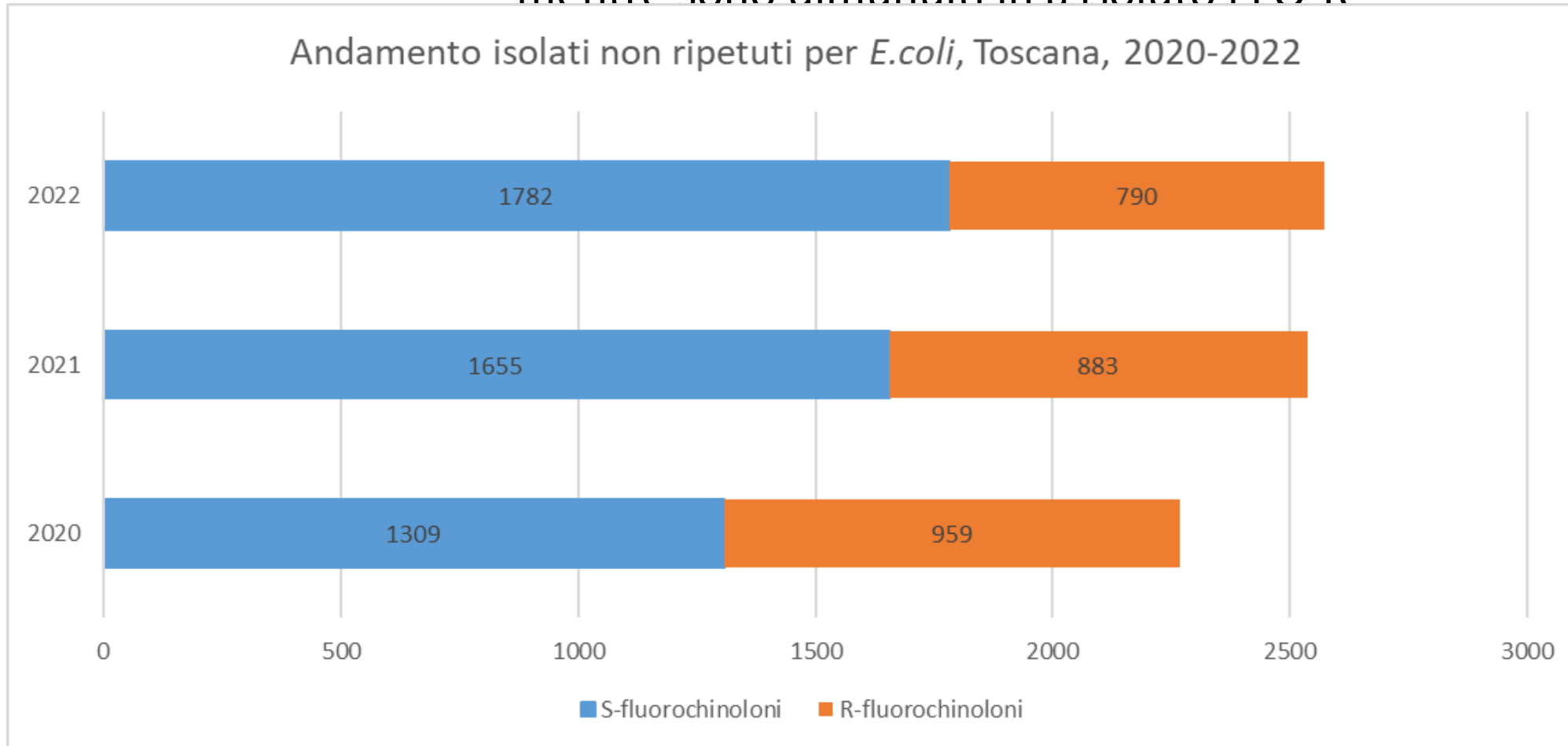
Escherichia coli, resistente ai fluorichinoloni

In riduzione dal 2017 in Toscana



Escherichia coli, resistente ai fluorichinoloni

Il numero di *E.coli* isolati in Toscana nel 2022 è aumentato, in particolare i S-fluorochinoloni, mentre sono diminuiti in assoluto i FO-R

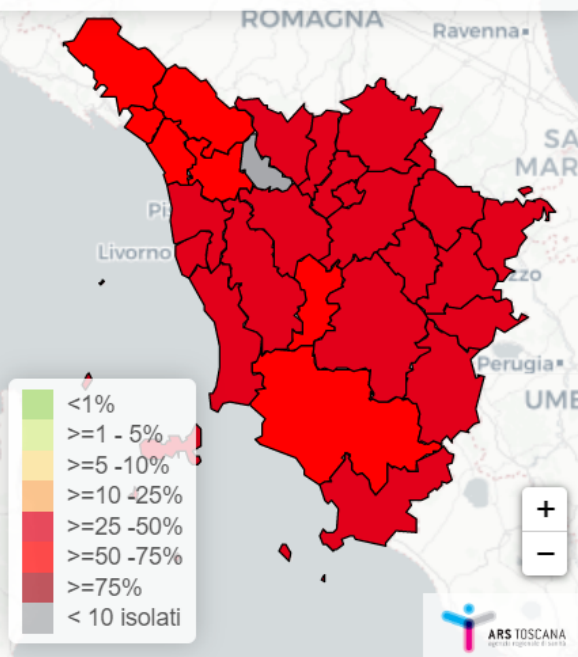


Escherichia coli, resistente ai fluorichinoloni

Escherichia coli resistente ai fluorochinoloni - Mappa per zona distretto

Rapporto (x 100) - Anno 2022 - Totale - Emocolture

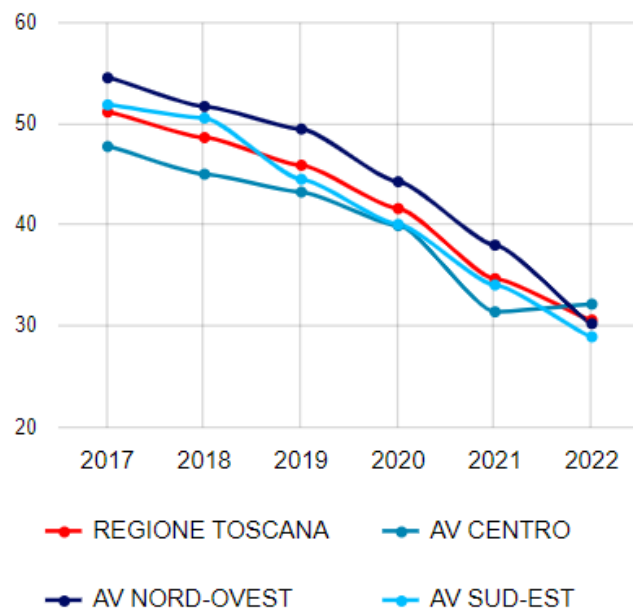
Fonte: ARS - Rete SMART



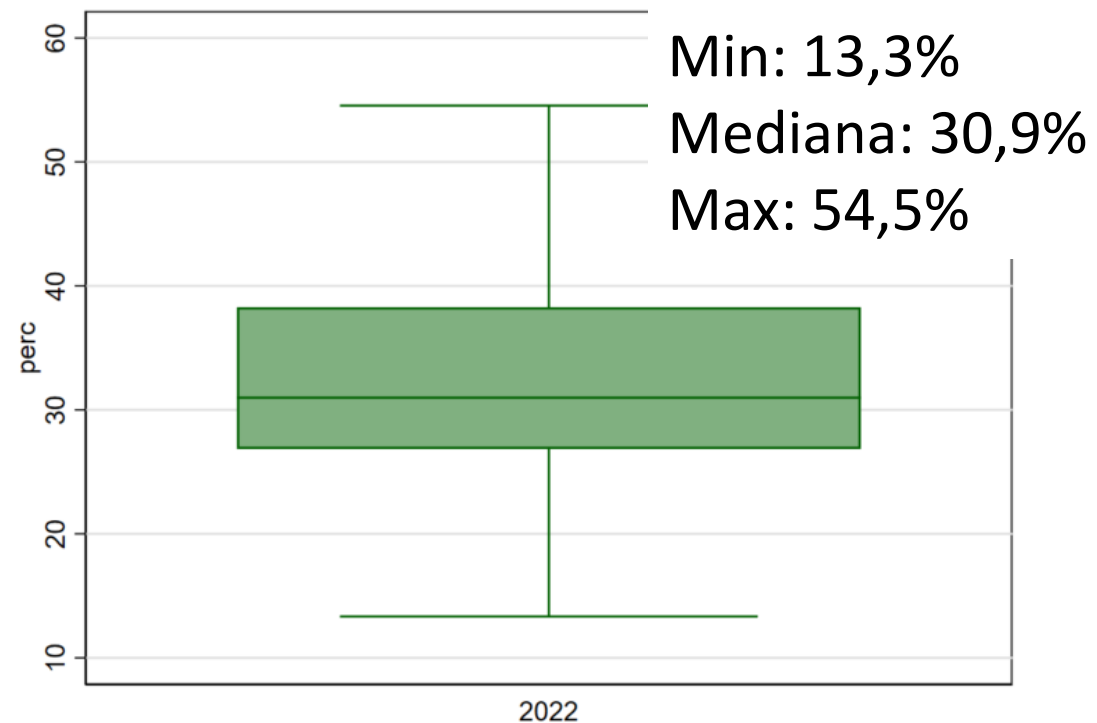
Escherichia coli resistente ai fluorochinoloni - Andamento temporale

Rapporto (x 100) - Totale - Emocolture

Fonte: ARS - Rete SMART



Prevalenza *E.coli* fluorochinoloni R per ospedale, Toscana, 2020-2022 (32 H con 10 + isolati)

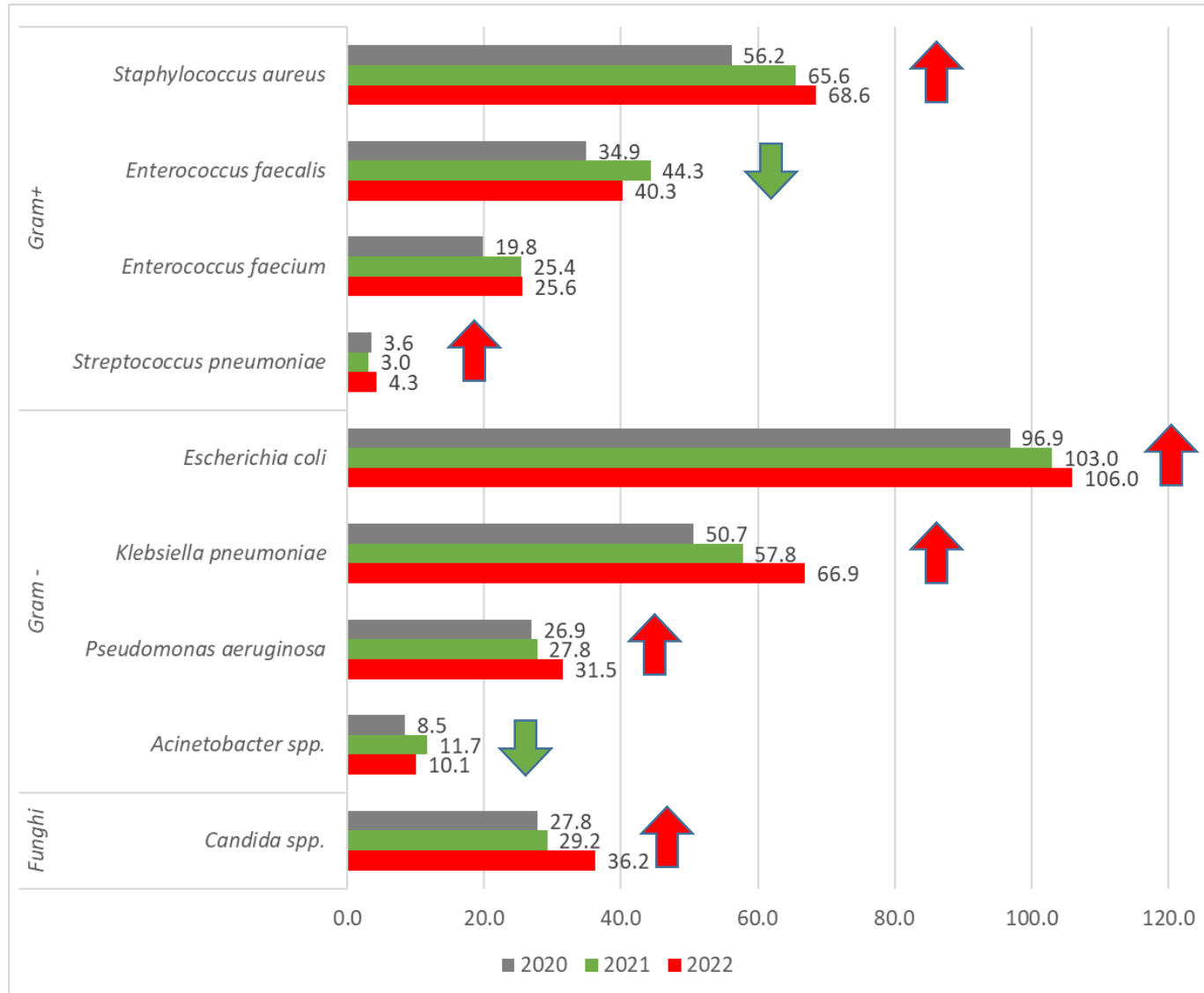


Median Odds Ratio (MOR) 1,12 (non sign)

Passando da un ospedale a minor prevalenza di *E.coli* resistenti a fluorochinoloni ad uno a maggior prevalenza, il rischio cresce in modo non significativo

grazie per l'attenzione

Tasso di isolati da sangue non ripetuti per 100.000 gd in regime ordinario, Toscana, 2020-2022



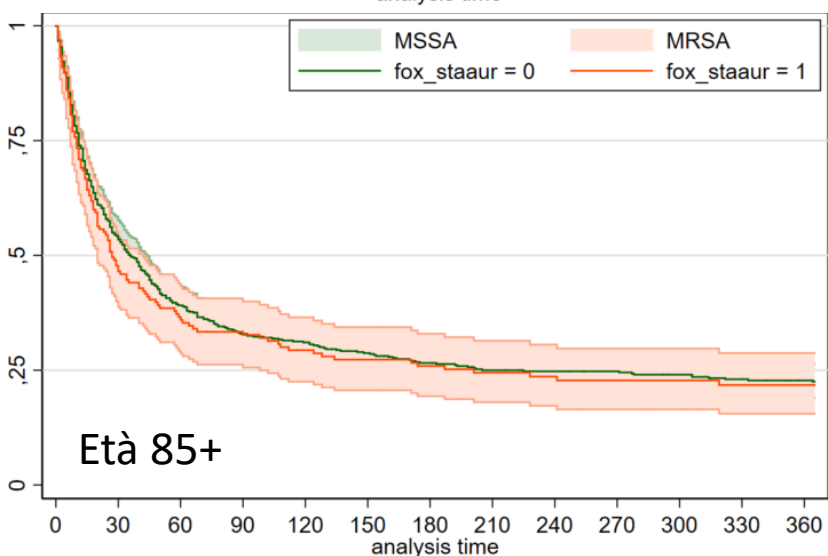
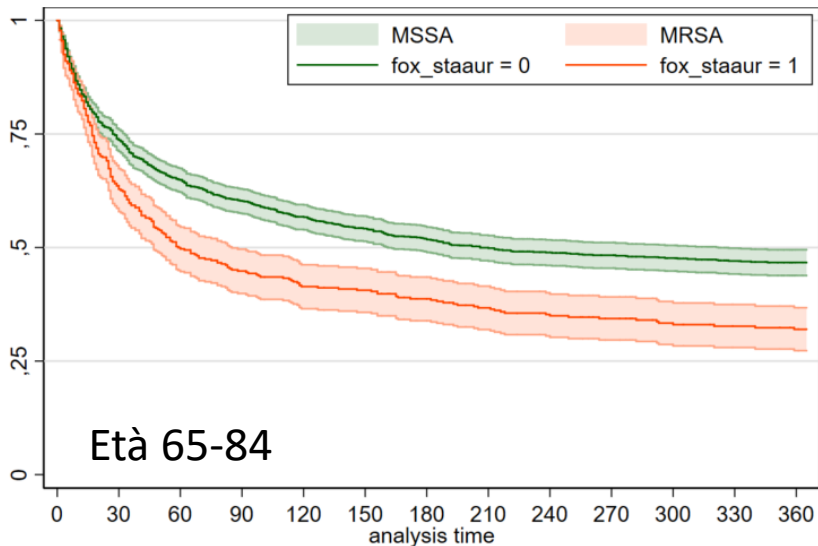
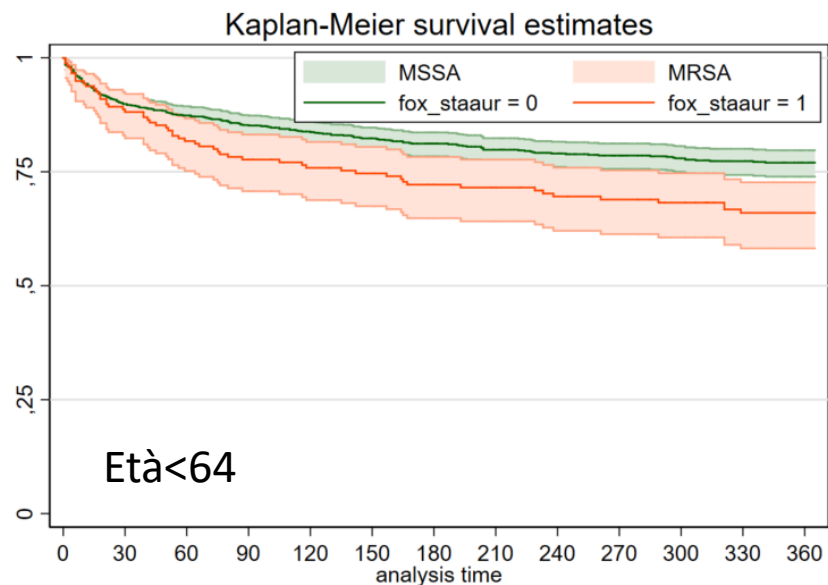
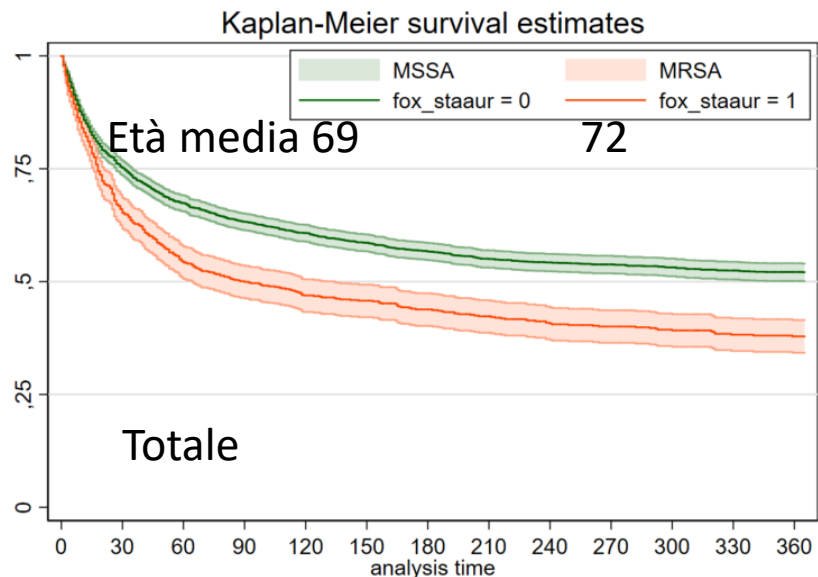
Profili di resistenza, Toscana, 2017-2022

Profili di Resistenza	2022	2021	2020	2019	2018	2017
	Toscana					
Acinetobacter spp. - carbapenemi	65.7%	72.0%	65.8%	63.9%	76.9%	78.0%
E. coli - multiresistente	8.6%	10,3%	10.2%	13.2%	15.6%	17.2%
E. coli - fluorchinoloni	30.7%	34,8%	41.7%	45.8%	48.0%	51.0%
E. coli – cefalosporine III gen.	21.0%	21.5%	28.3%	32.8%	37.0%	39.0%
K. pneumoniae - multiresistente	39.4%	42.7%	38.2%	40.1%	33.0%	38.9%
K. pneumoniae - fluoroquinoloni	57.0%	57.1%	58.1%	63.1%	61.9%	65.4%
K. pneumoniae – cefalosporine III gen.	61.4%	58.9%	58.7%	64.2%	61.5%	63.9%
K. pneumoniae - carbapenemi	18.0%	19.2%	27.2%	33.0%	29.1%	35.5%
P. aeruginosa - multiresistente	9.4%	10.0%	7.3%	8.6%	12.5%	17.5%
P. aeruginosa - carbapenemi	14.0%	13.1%	6.0%	5.7%	8.7%	14.7%
S. aureus - MRSA	22.5%	21.6%	27.5%	26.0%	30.8%	30.8%
E. faecium - Vancomicina	29.7%	16.7%	10.5%	15.7%	23.1%	24.5%

Andamento
17-22



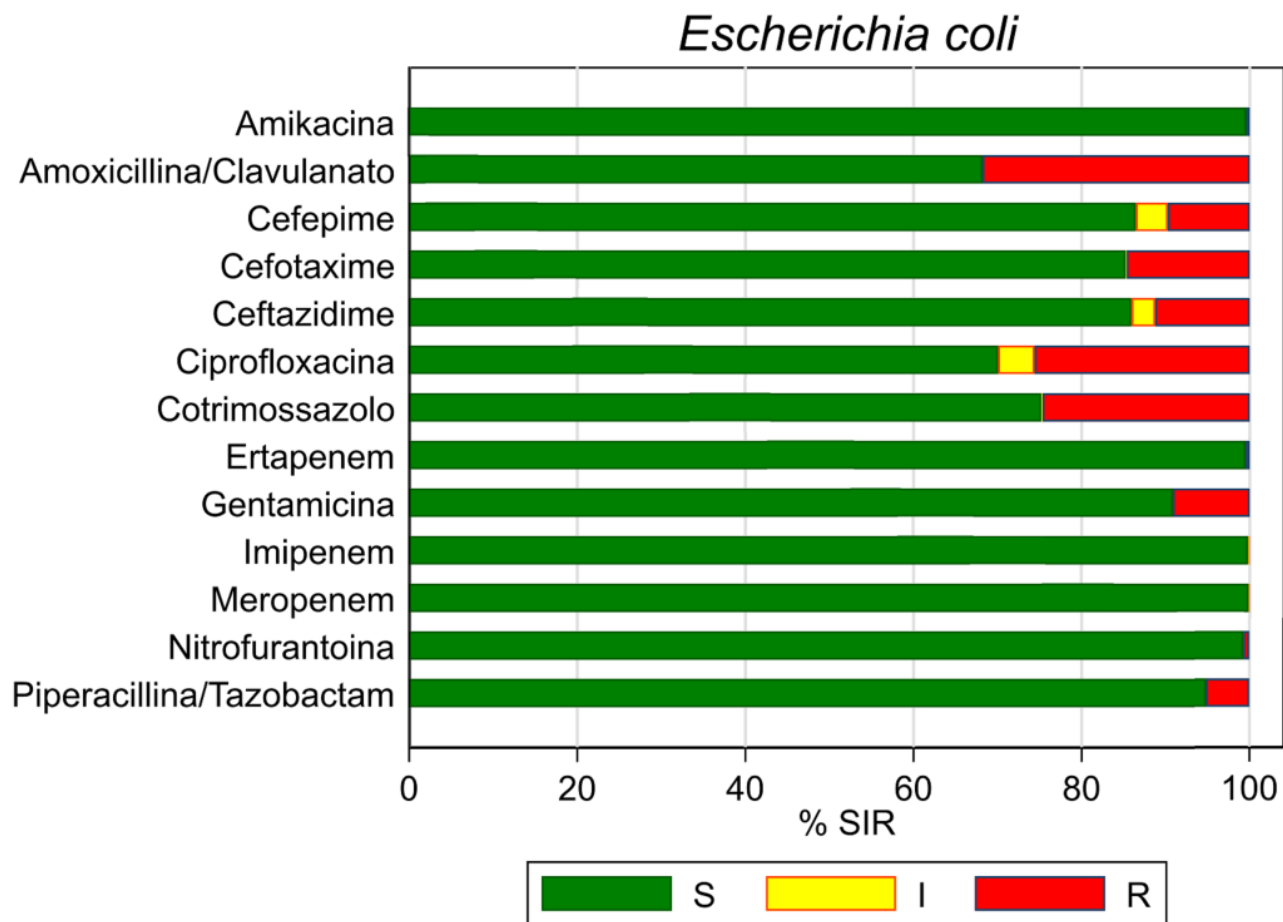
Staphylococcus aureus meticillino-resistente (MRSA), 2020-2022



Classe di età	MSSA	MRSA
<64	36%	27%
65-84	46%	52%
85+	18%	21%

Escherichia coli, resistente ai fluorichinoloni

Urinocolture



R-ciprofloxacina:

2021: 29,4% (44.840)

2022: 25,6% (44.913)

Escherichia coli, resistente ai fluorichinoloni

– sopravvivenza a 1 anno Toscana 2020-2022

Kaplan-Meier survival estimates

