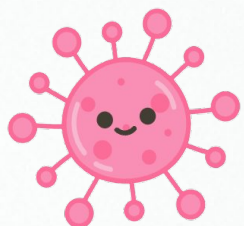




GiViTI - Gruppo italiano per la Valutazione
degli Interventi in Terapia Intensiva

MALATTIE INFETTIVE e TERAPIA INTENSIVA a braccetto...



www.giviti.marionegri.it

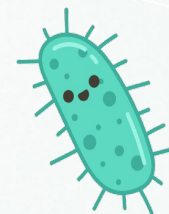


Ospedale Luigi Sacco
AZIENDA OSPEDALIERA - POLO UNIVERSITARIO

Meeting GiViTI 2025

8 - 9 - 10 ottobre

Dott.ssa Marta Colaneri
Dott.ssa Martina Offer
Dott. Emanuele Palomba



Chi siamo noi? 🧐



Dipartimento di Scienze Biomediche e Cliniche





Infettivologa
Ricercatrice
di **UNIMI**
(non seria)

Statistica
bravissima



Infettivologo
serio

**GRUPPO ITALIANO PER LA VALUTAZIONE
DEGLI INTERVENTI IN TERAPIA INTENSIVA**

Registrati all'associazione GiViTI

Ricordiamo che per una corretta iscrizione tutti i campi
devono essere compilati



Gruppo infezioni



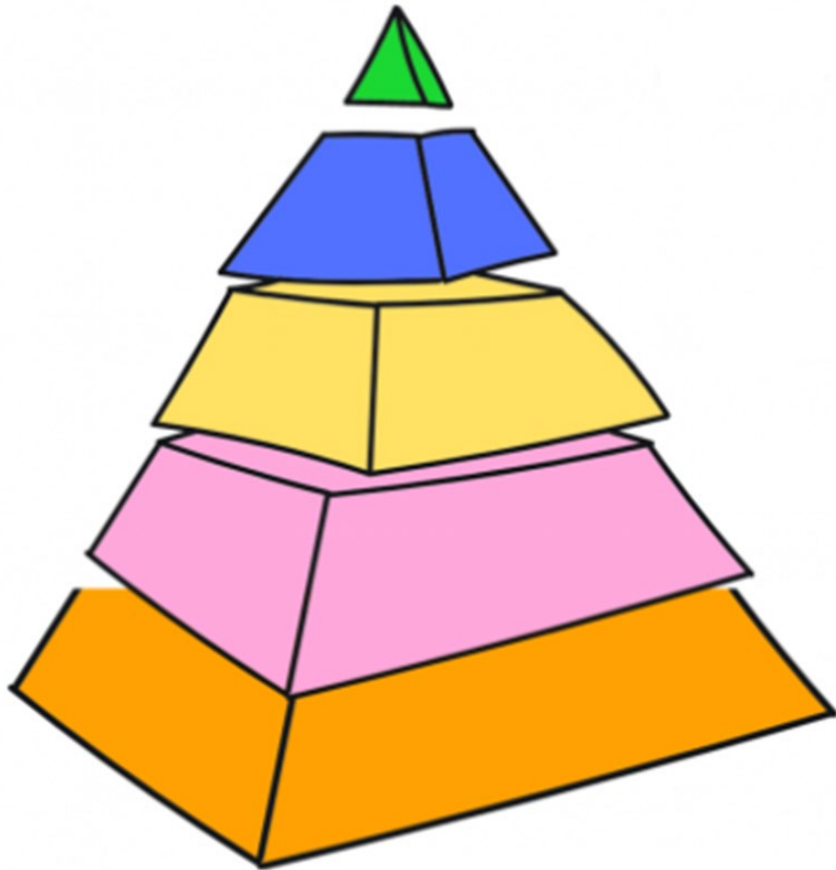
GIVITI - Gruppo italiano per la Valutazione
degli Interventi in Terapia Intensiva

Ogni mese ci riuniamo per risolvere questioni legate alla modalità di compilazione ed alla struttura dei dati (che riguardano le **infezioni**!)

Il fine è quello di una migliore **gestione** dei **pazienti**, del **tempo** del **compilatore**
...ma anche di ottenere input utili ai fini di **ricerca** scientifica..



Approccio di ricerca per persone pazienti... a step!



Studi epidemiologici con focus
microbiologico





OPEN ACCESS

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Understanding the burden of antibiotic resistance: a decade of carbapenem-resistant Gram-negative bacterial infections in Italian intensive care units

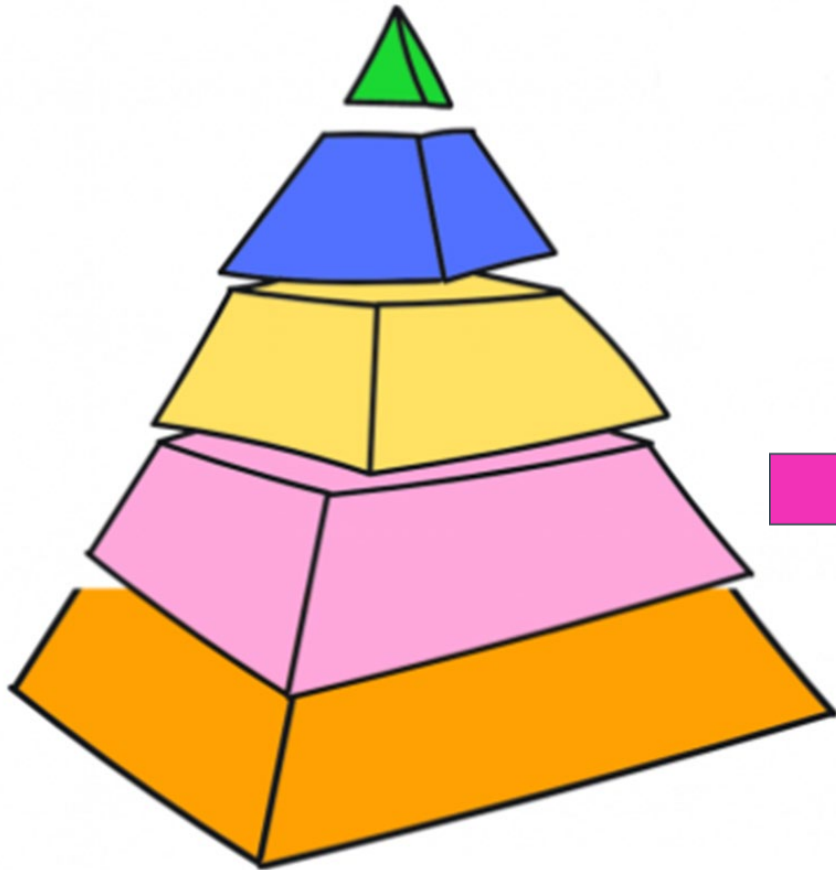
Giovanni Scaglione^{1,2†}, Matilde Perego^{3†}, Marta Colaneri^{1,4*},
Camilla Genovese^{1,2}, Fabio Brivio^{1,2}, Alice Covizzi¹,
Bruno Viaggi⁵, Alessandra Bandera^{6,7}, Andrea Gori^{1,2,4*},
Stefano Finazzi^{3‡} and Emanuele Palomba^{1‡}

Data from 299,280 (🤖) patients admitted to the involved Italian ICUs between 2015 and 2022

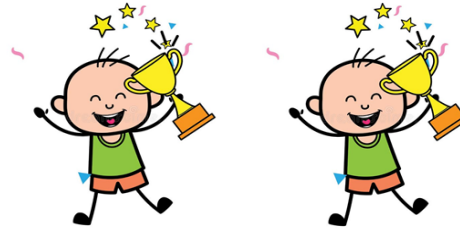
- 5.9% (17678/299280) had a microbiological diagnosis!
- 25,966 microbiologically confirmed infections
- VAP was the most common infection (12,606, 48.5%) 
- Almost half of VAP cases (5966, 46.5%) were attributed to *Pseudomonas aeruginosa* and *Acinetobacter* spp.
- 24.3% of VAP cases were attributed to *P. aeruginosa*, *Klebsiella* spp. and *Acinetobacter* spp.
- 10.6% of VAP cases were resistant to carbapenems 

Priority 1: CRITICAL
Acinetobacter baumannii, carbapenem-resistant
Pseudomonas aeruginosa, carbapenem-resistant
 Enterobacteriaceae, carbapenem-resistant, 3rd generation cephalosporin-resistant

Approccio di ricerca per persone pazienti... a steps!

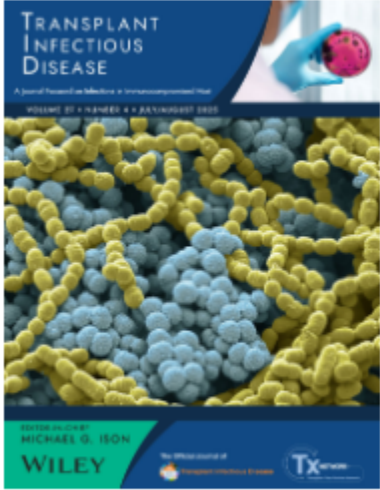


Studi epidemiologici + descrizione delle
caratteristiche cliniche dei pazienti



Studi epidemiologici con focus
microbiologico





Transplant Infectious Disease

Hospital Acquired Infections Among Solid Organ Transplant Recipients Hospitalized In Intensive Care Unit (2018-2024): A Study Of The GiViTI Group

DOI: 10.1111/tid.70120

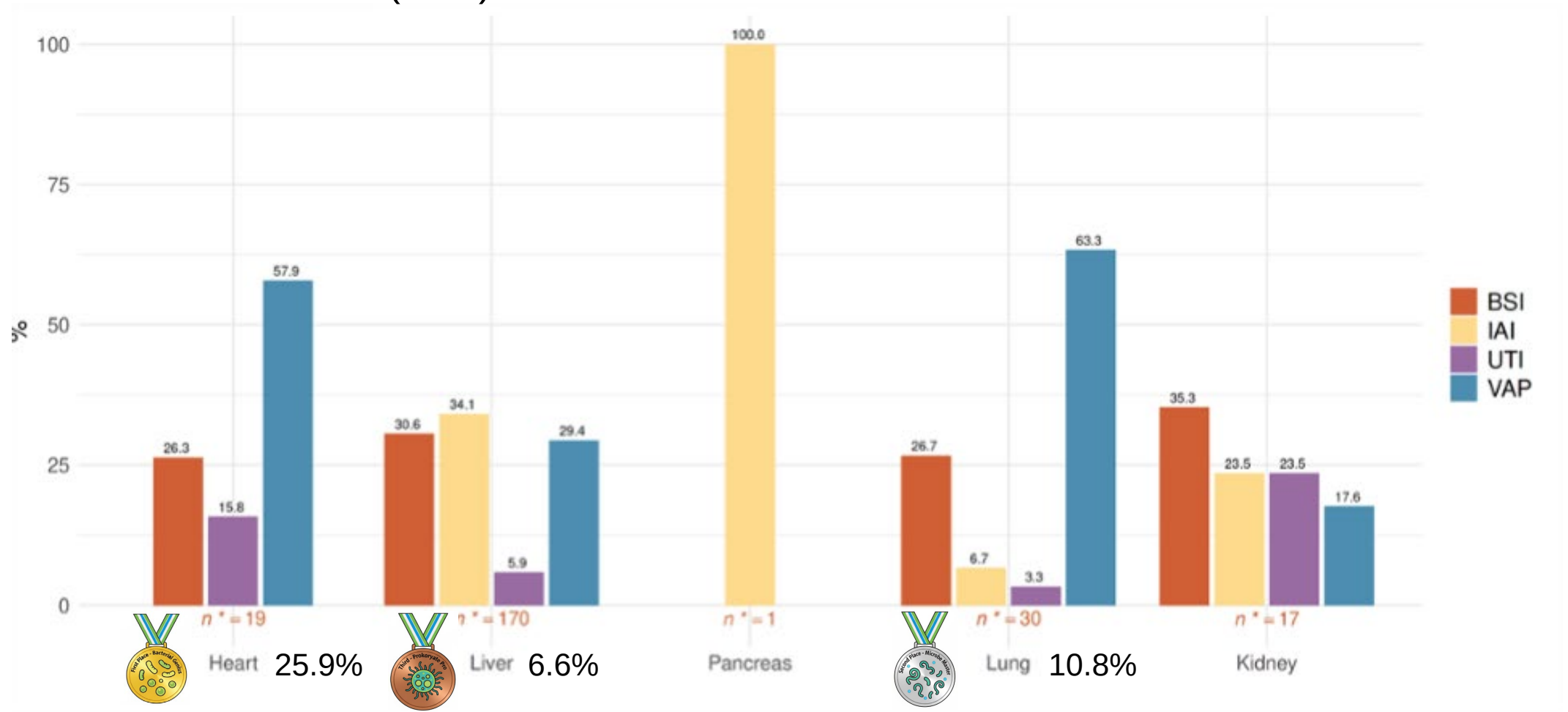
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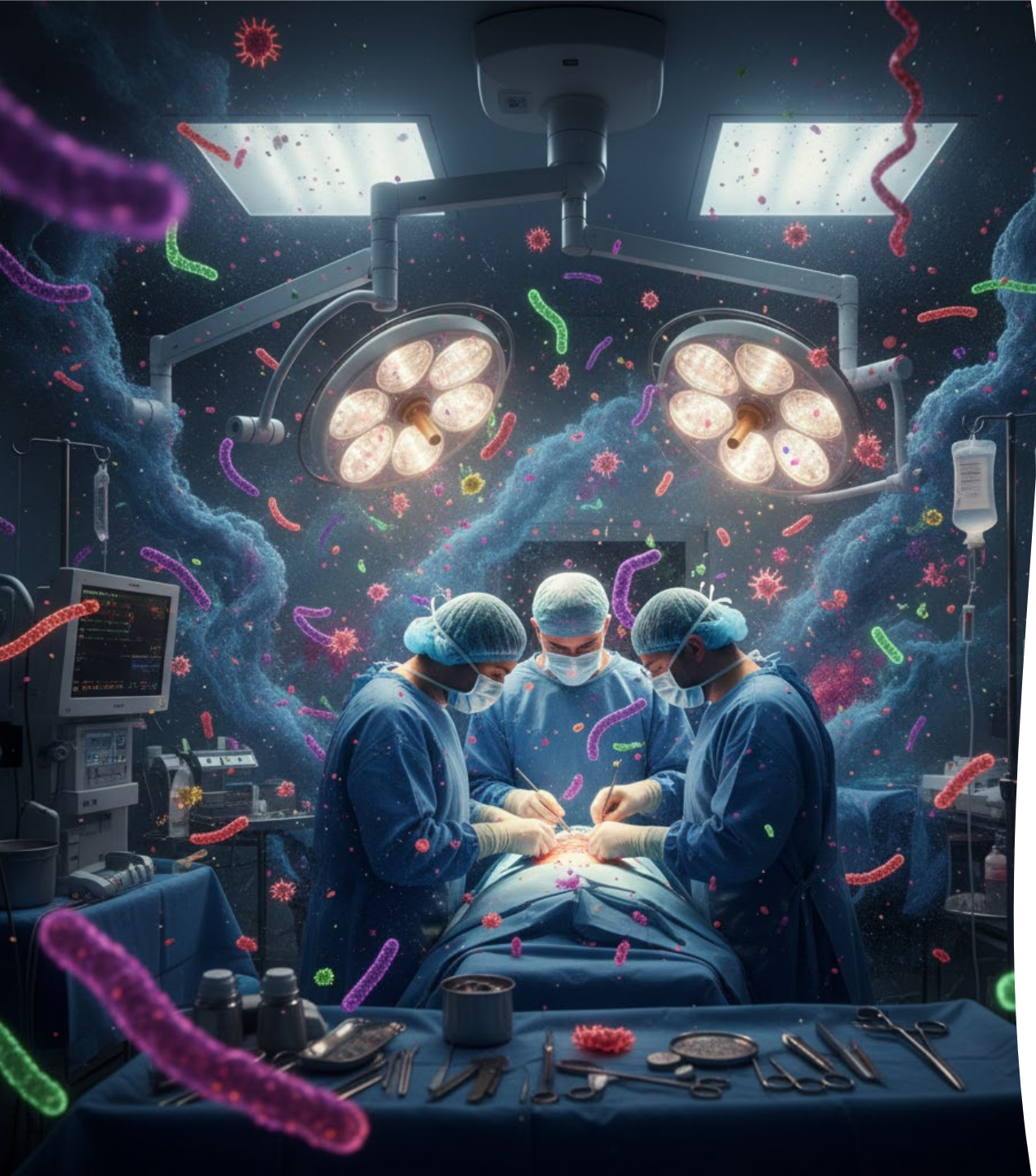
Cosa volevamo studiare? 

Objectives:

- **Primary:** incidence of ICU-HAIs in patients who underwent SOT during hospitalization and who were admitted to the included ICU from 2018 to 2024.
- **Secondary**
 - Incidence of MDRO-ICU-HAIs
 - Outcomes of SOTR with ICU-HAIs and MDR-ICU-HAIs

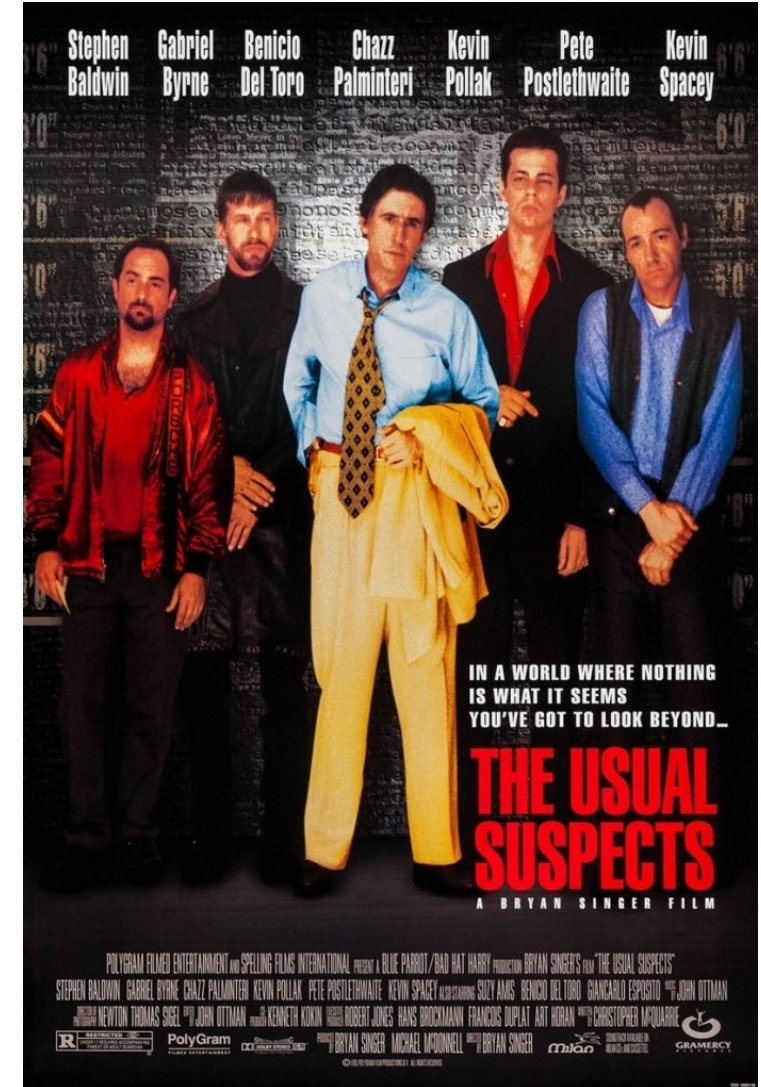
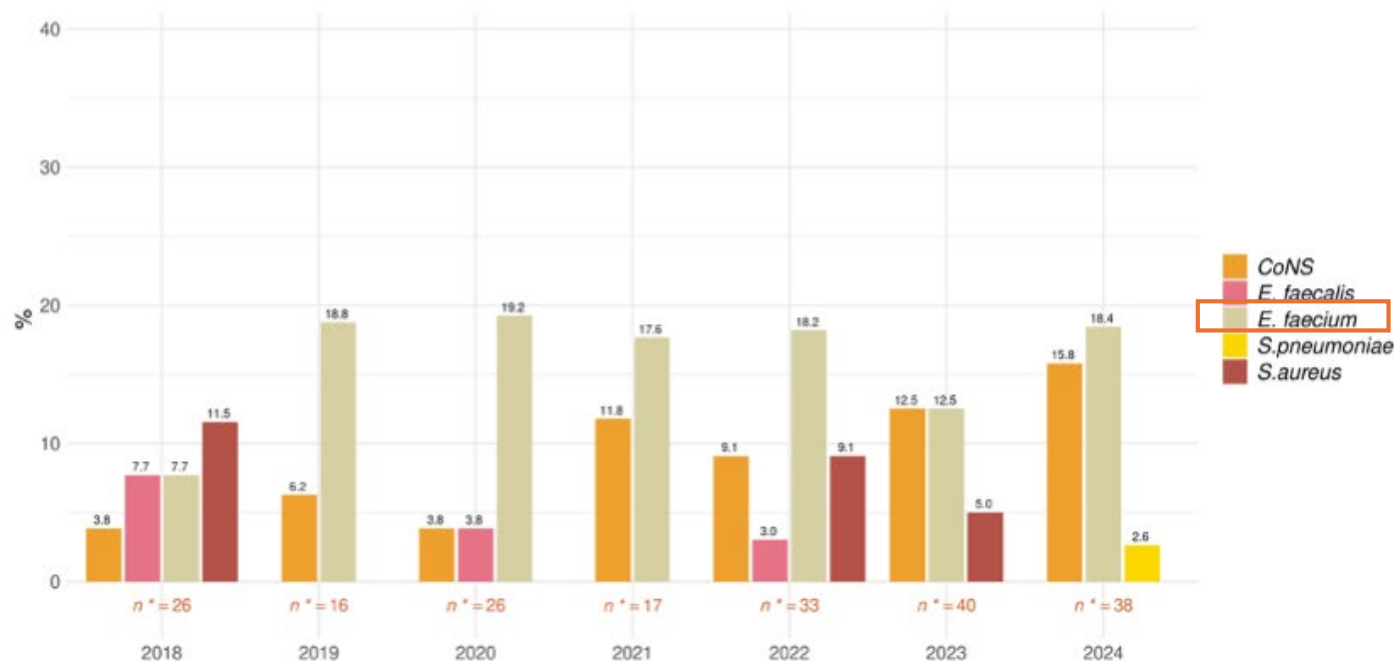
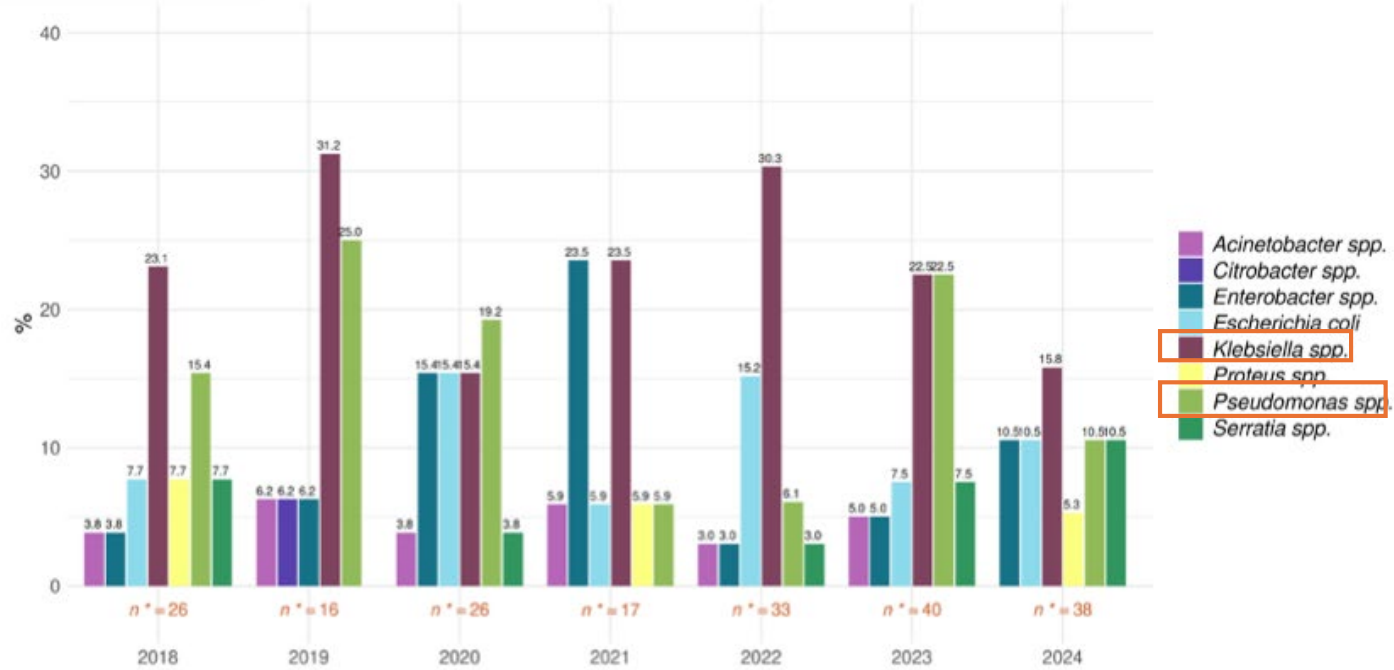
- 2,210 SOTR from 31 ICUs
 - Liver (1717, 77.7%), kidney (291, 13.2%), lung (204, 9.2%) and heart (58, 2.6%)
- 154 (6.97%) developed 193 ICU-acquired infections
 - Median 6 days (IQR 4, 14)
 - VAP (74, 38.3%), BSI (56, 29%), IAI (46, 23.8%) and UTI (17, 8.8%)
 - MDRO 34/87 (39%)

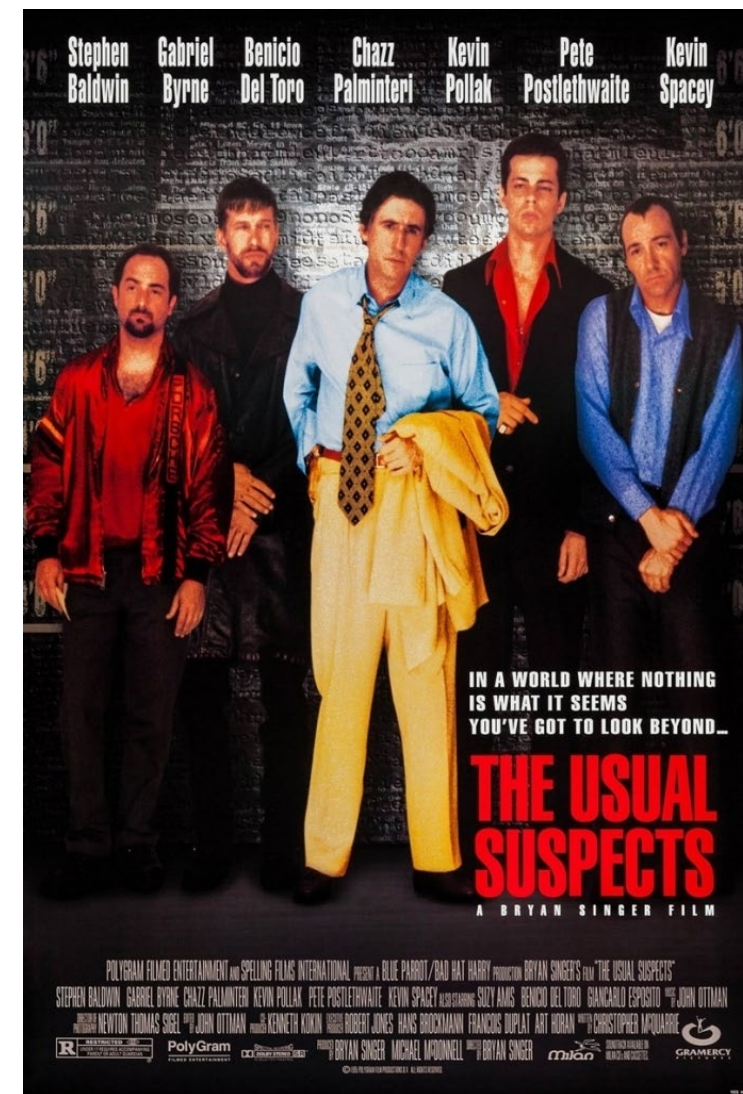
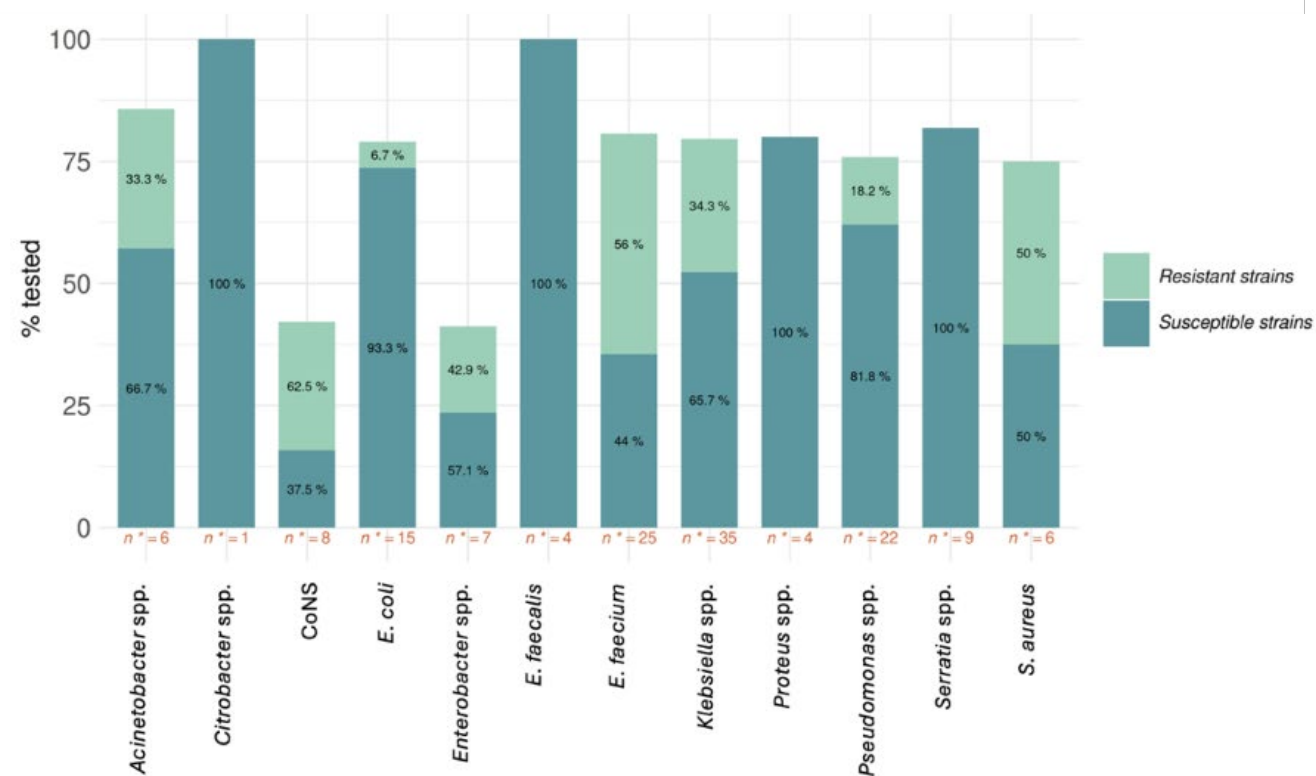
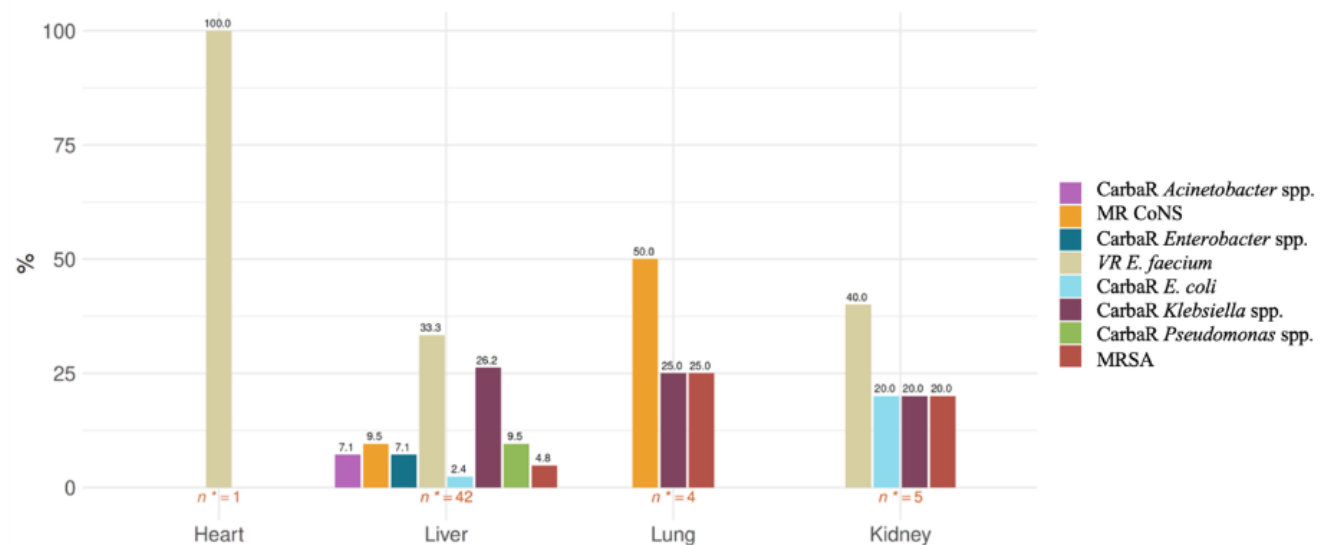




Outcomes

- SOTR with ICU-acquired infections had higher **intra-ICU mortality** (22.4% vs 2.4%; $p < 0.001$), **intra-hospital mortality** (7% vs 1.7%, $p < 0.001$) and longer **ICU LOS** (24 vs 4 days; $p < 0.001$)
- Albeit not significant, MDRO infections had higher mortality (23.5% vs 17%), intra-ICU LOS (33.5 days vs 23) and intra-hospital LOS (76 days vs 52 days).



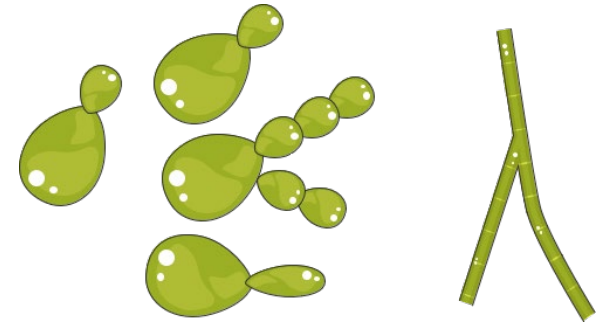


b)

Epidemiology, Resistance Patterns, and Outcomes of Candidemia acquired in Italian Intensive Care Units: Insights from the GIVITI Network (2020-2024)

in writing

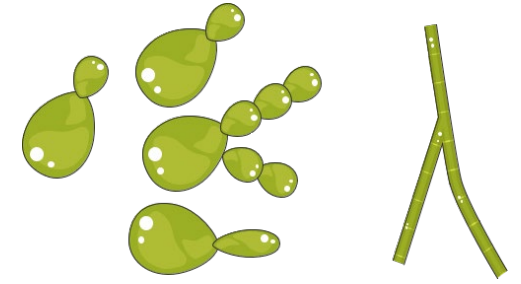
Cosa volevamo studiare?



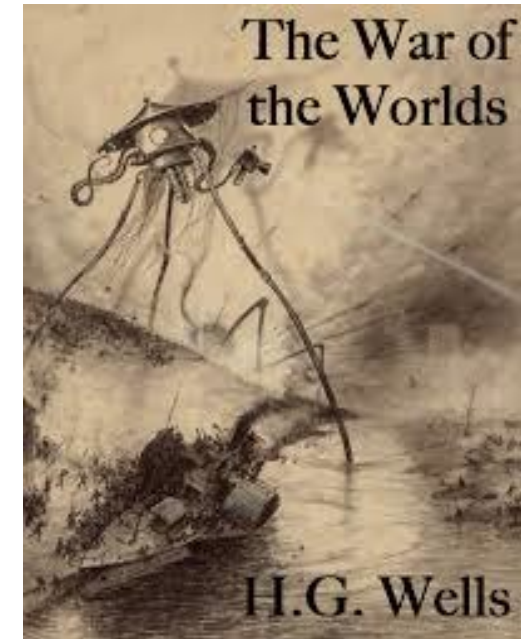
Objectives:

- **Primary:** incidence of ICU-acquired candidemia from 2020 to 2024.
- **Secondary**
 - ICU-acquired candidemia vs. bacterial BSI
 - Trend of susceptibility patterns of *Candida* spp.
 - ICU-acquired fluconazole-resistant vs. fluconazole-susceptible candidemia
 - CR vs. non-CR ICU-acquired candidemia

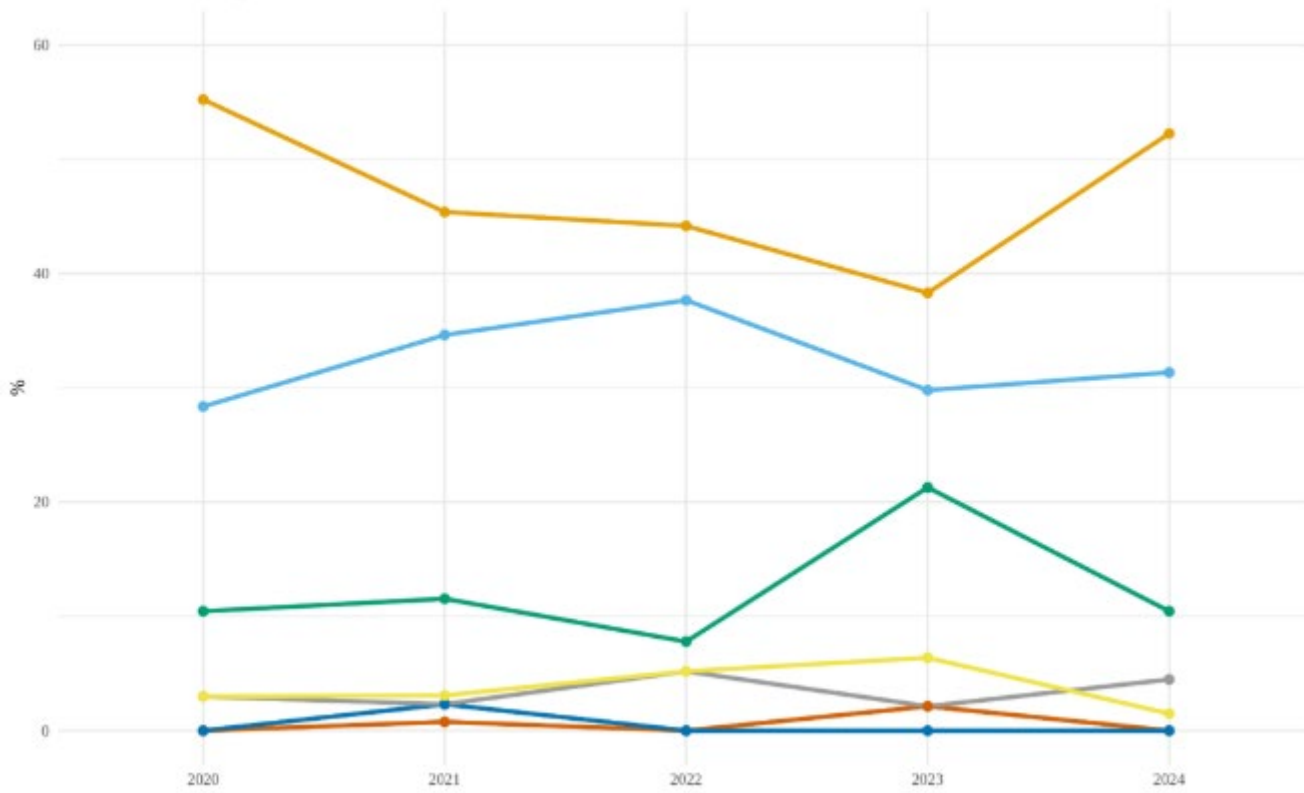
Results



- 95,662 patients “at-risk” of ICU-acquired candidemia, 373 (**3.9 per 1,000 at risk-ICU admissions**)
 - 1,559 patients experienced at least one episode of candidemia, either at ICU admission or diagnosed during their ICU stay, corresponding to a **cumulative incidence of 8.7 per 1,000 ICU-admissions**
 - Yearly cumulative incidence highest in 2021 (0.6%), and ranged between 0.2% and 0.4% in the remaining years
- **Candidemia vs bacterial BSI**
 - **Fragile**: immunosuppression, cardiological conditions, and diabetes
 - **Severity** at admission: SOFA and SAPSII scores
 - Prevalences of **other infections** (respiratory, CNS, IAI, skin and soft tissues)
 - Empirical **antibiotic therapy** at admission
 - **Hemodialysis** and **parenteral nutrition** at admission
 - Prolonged **ICU LOS** (32 days vs 24), **intra-hospital LOS** (44 days vs 36)
 - **Intra-ICU mortality** (41.3% vs 28.7%); **in-hospital mortality** (50.3% vs 34.1%)



Isolated *Candida* species over time (2020-2024)

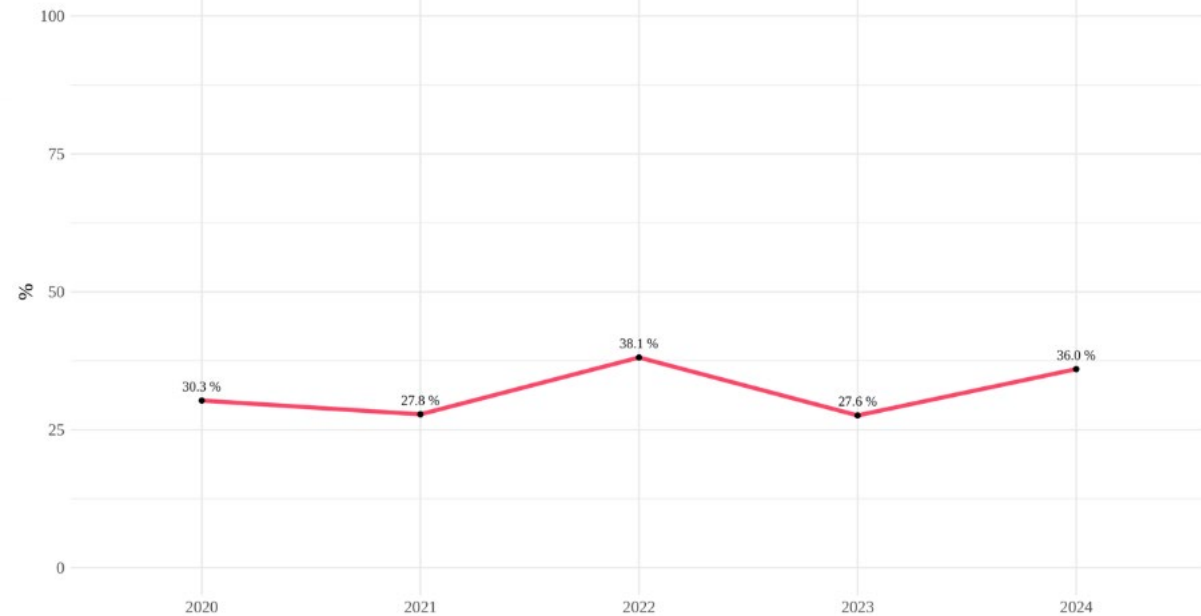


C. albicans susceptible to fluconazole in over 90% of cases (81/89, 91.0%)

Fluconazole-resistance in non-albicans strains

- *C. glabrata* (9/22, 40.9%)
- *C. parapsilosis* (44/82, 53.7%)
- *C. tropicalis* (6/8, 75.0%).

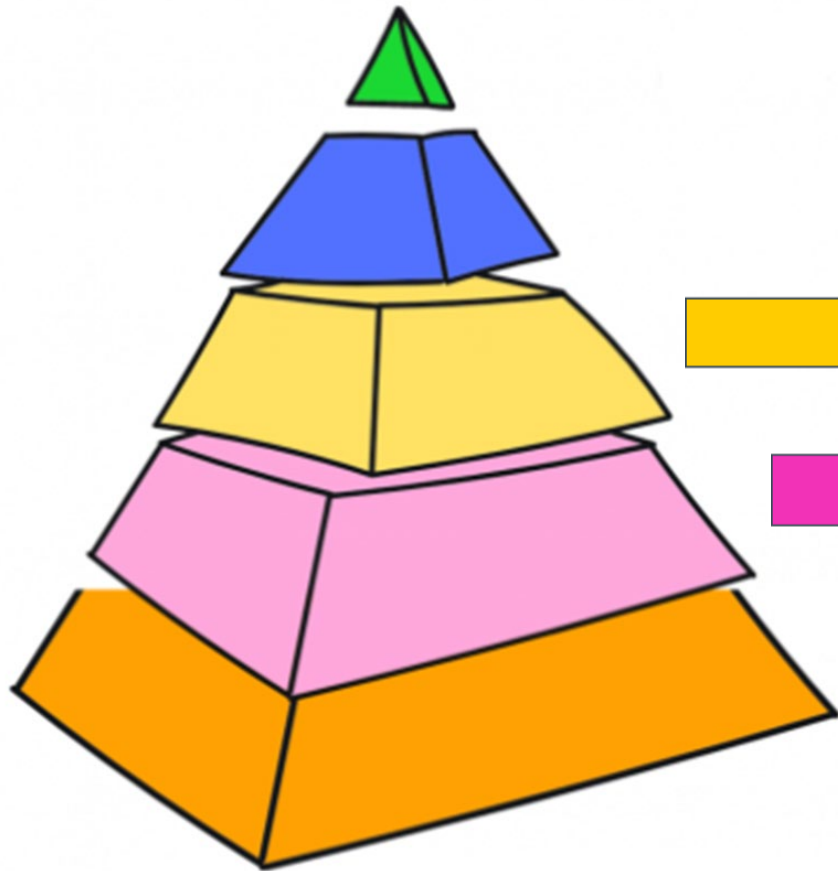
Fluconazole-Resistant ICU-acquired Candidemia over time (2020-2024)



- **Fluconazole-resistant vs susceptible candidemia**
 - 65/208, **31.2% fluconazole-resistant**
 - No differences in baseline characteristics
 - Longer **Intra-ICU LOS** (36 days vs 31, $p=0.014$) and **intra-hospital LOS** (47.5 days vs. 41.5 $p=0.146$)
 - No differences in mortality
- **CR vs non-CR candidemia**
 - 176/373, **47.2% CR events**
 - Most frequent source of ICU-acquired candidemia in the years 2021 and 2022
 - **Medical** wards and the **emergency** department, **receiving antibacterial** agents for a pre-existing infection
 - Higher **Intra-ICU LOS** (34 days vs 30.0), no difference in intra-hospital
 - Higher **intra-ICU mortality** (46.7% vs. 35.2%, $p\text{-value} = 0.025$) and **intra-hospital mortality** (57.0% vs 42.9%, $p\text{-value} = 0.007$)



Approccio di ricerca per persone pazienti... a step!



Studi epidemiologici + descrizione delle
caratteristiche cliniche dei pazienti + modelli statistici



Studi epidemiologici + descrizione delle
caratteristiche cliniche dei pazienti



Studi epidemiologici con focus
microbiologico





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Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Clinical Microbiology and Infection

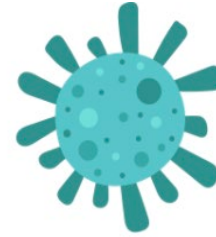
journal homepage: www.clinicalmicrobiologyandinfection.org

Original article

Incidence, microbiology, and mortality of ventilation-associated pneumonia in a large Italian cohort of critically ill patients: results from the PROSAFE project

Marta Colaneri ^{1,2,3}, Giorgia Montrucchio ^{4,5}, Giovanni Scaglione ¹, Gianpaola Monti ⁶, Giovanni Tricella ⁷, Camilla Genovese ¹, Fulvio Agostini ⁵, Francesca Dore ⁷, Bruno Viaggi ⁸, Luca Brazzi ^{4,5}, Valentina Sanna ⁴, Andrea Gori ^{1,2,3}, Emanuele Palomba ^{1,3,*}, Martina Offer ², Stefano Finazzi ⁷ on behalf of the Infection Surveillance Study Group of the Italian Group for Evaluation of Interventions in Intensive Care Medicine

Cosa volevamo studiare?



The primary objective was to estimate **VAP incidence** across Italian ICUs.

Secondary objectives included **describing microbiological characteristics** and their evolution in an MDRO-prevalent setting...



and **identifying factors** associated with **intra-ICU mortality** in patients with **VAP**.

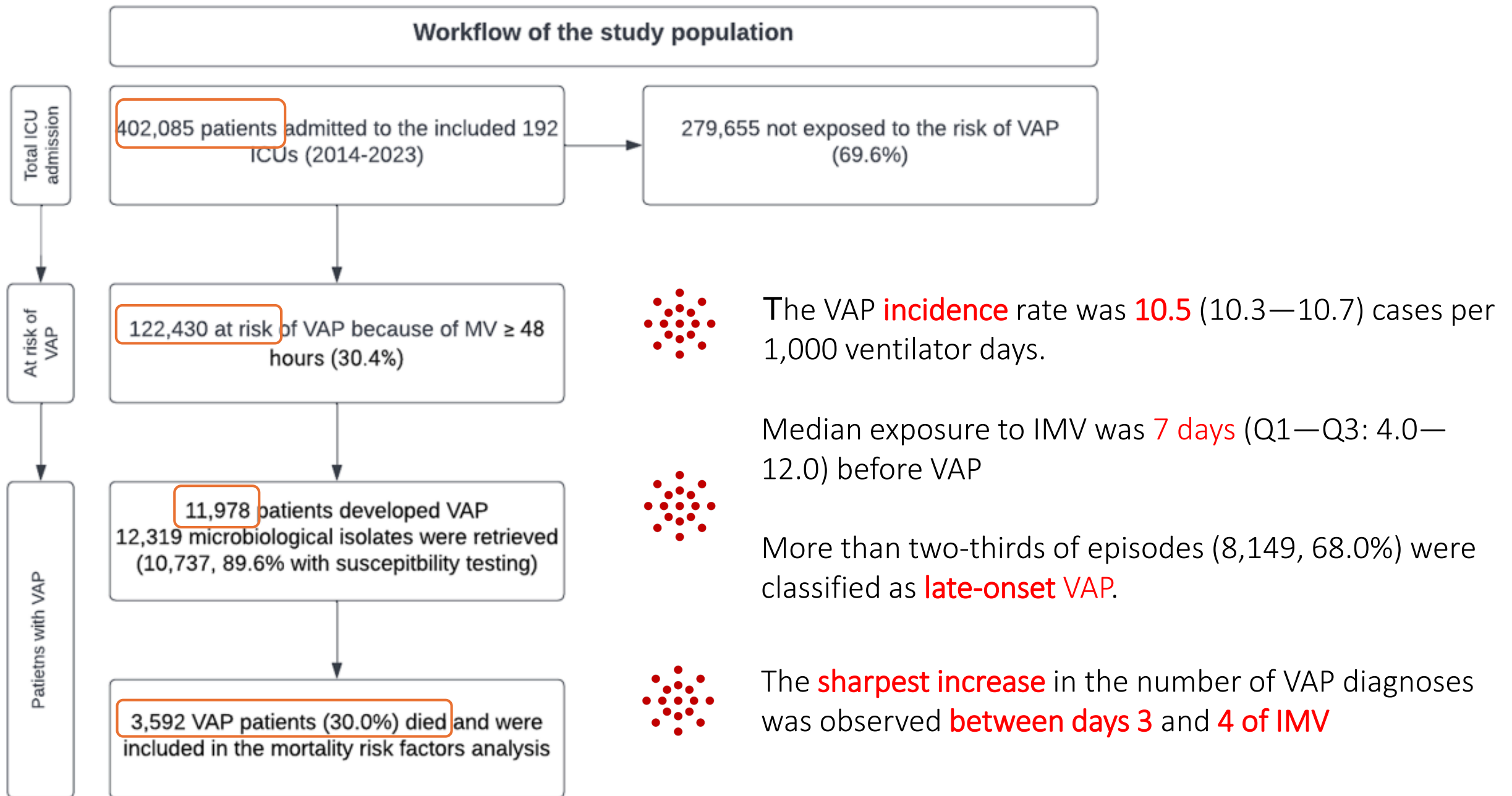
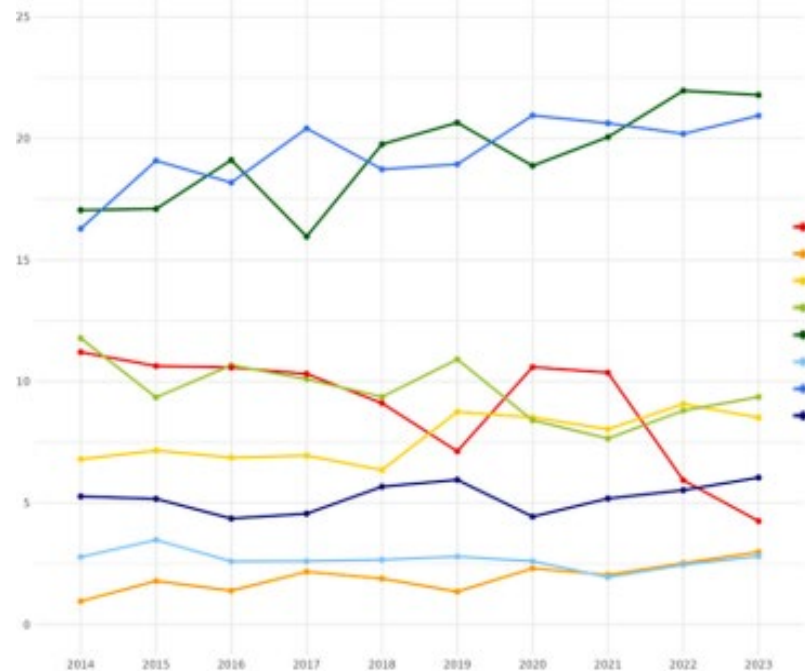
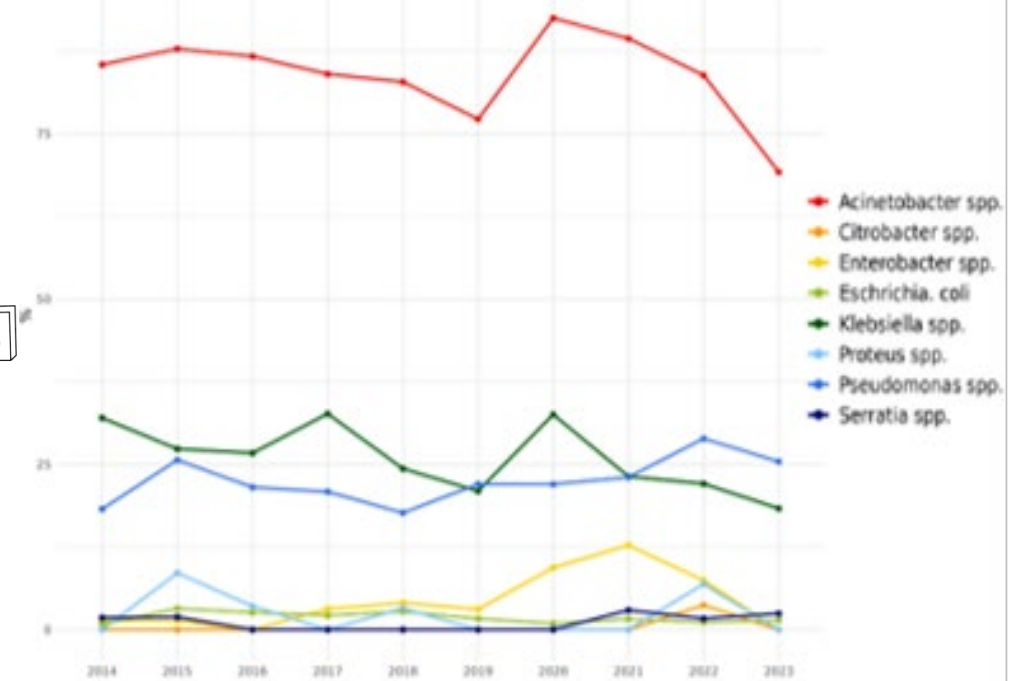
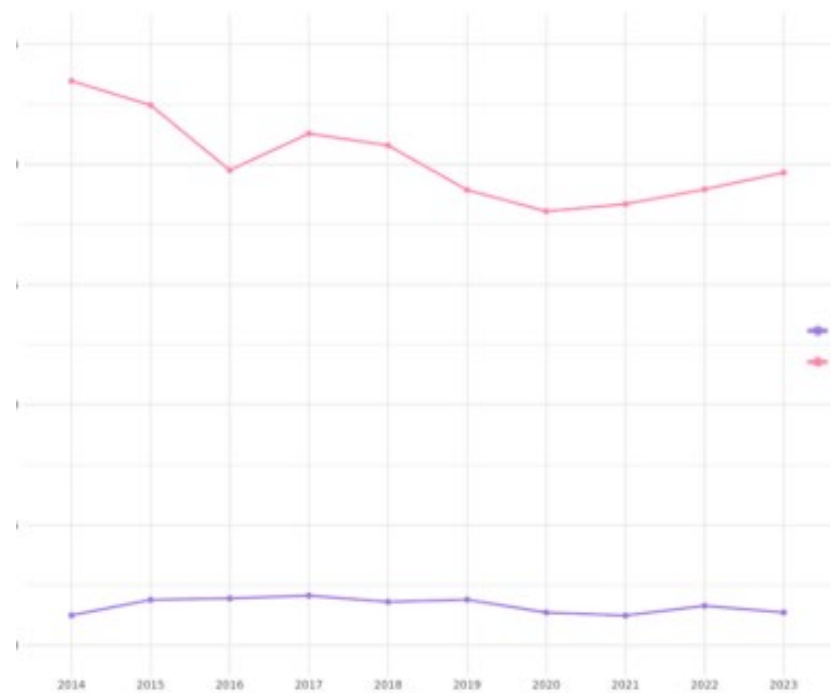


Fig. 1. Study flowchart. ICU, intensive care unit; MV, mechanical ventilation; VAP, ventilator-associated pneumonia.



MDRO?

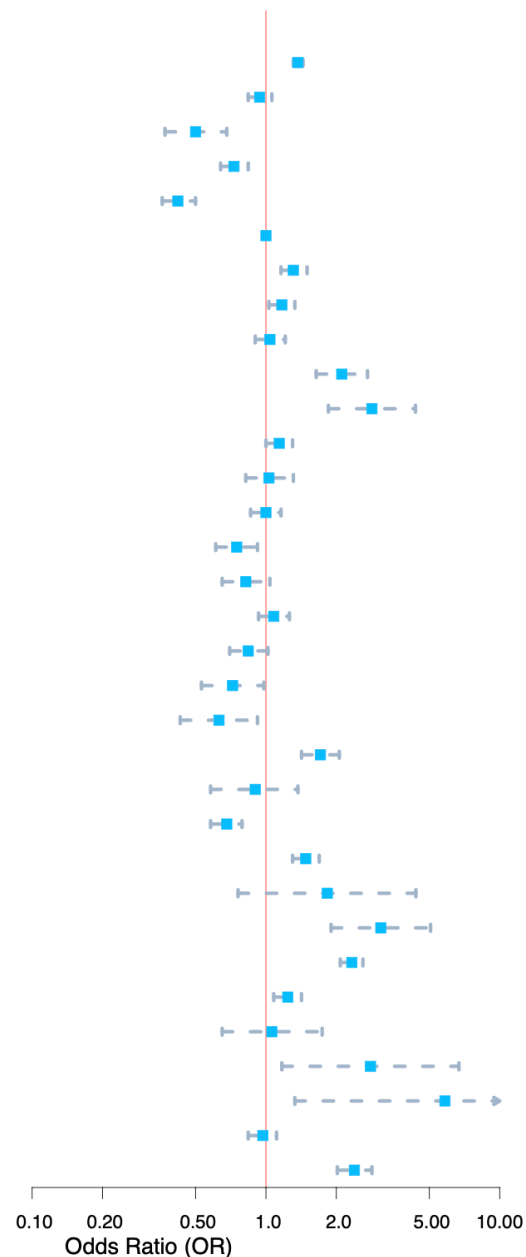




Forest plot - expected ICU mortality at VAP



Baseline Odds
Age (decades)
Sex: Female (vs Male)
Admission: Low severity ICU-admission (vs Medical)
Admission: Surgical and postoperative care (vs Medical)
Admission: Trauma and emergency critical care (vs Medical)
BMI
Respiratory disease
Cardiovascular disease
Neurologic disease
→ Liver disease
→ End-stage renal disease
Diabetes
Early VAP
Klebsiella spp.
Enterobacter spp.
Serratia spp.
Pseudomonas spp.
Escherichia coli
Proteus spp.
Citrobacter spp.
→ Acinetobacter spp.
Streptococcus pneumoniae
Staphylococcus aureus
→ At least one MDRO (vs No MDR.)
Procedure at VAP: NIV (vs No vent.)
→ Procedure at VAP: IMV (vs No vent.)
→ Procedure at VAP: Vasoactive drugs
Procedure at VAP: Targeted antibiotic therapy
First spline term: Time before VAP
→ Second spline term: Time before VAP
→ Third spline term: Time before VAP
No SARS-CoV-2 (vs pre SARS-CoV-2)
SARS-CoV-2 (vs pre SARS-CoV-2)



0.01 (0.00– 0.01)	p <0.01
1.37 (1.31– 1.44)	p <0.01
0.94 (0.84– 1.06)	p = 0.335
0.50 (0.37– 0.68)	p <0.01
0.73 (0.64– 0.84)	p <0.01
0.42 (0.36– 0.50)	p <0.01
1.00 (1.00– 1.01)	p = 0.059
1.31 (1.16– 1.50)	p <0.01
1.17 (1.03– 1.33)	p = 0.013
1.04 (0.90– 1.21)	p = 0.581
2.11 (1.64– 2.72)	p <0.01
2.84 (1.85– 4.36)	p <0.01
1.14 (1.00– 1.30)	p = 0.053
1.03 (0.82– 1.31)	p = 0.779
1.00 (0.86– 1.16)	p = 0.951
0.75 (0.61– 0.92)	p <0.01
0.82 (0.65– 1.04)	p = 0.095
1.08 (0.93– 1.26)	p = 0.333
0.84 (0.70– 1.02)	p = 0.073
0.72 (0.53– 0.98)	p = 0.037
0.63 (0.43– 0.92)	p = 0.017
1.71 (1.42– 2.06)	p <0.01
0.90 (0.58– 1.37)	p = 0.614
0.68 (0.58– 0.79)	p <0.01
1.48 (1.30– 1.69)	p <0.01
1.83 (0.76– 4.38)	p = 0.175
3.10 (1.90– 5.06)	p <0.01
2.33 (2.08– 2.60)	p <0.01
1.24 (1.08– 1.42)	p <0.01
1.06 (0.65– 1.74)	p = 0.810
2.80 (1.17– 6.69)	p = 0.020
5.83 (1.33–25.64)	p = 0.020
0.97 (0.84– 1.11)	p = 0.648
2.39 (2.02– 2.84)	p <0.01

BSI in Italian ICUs



BLOODICU bloodstream infections and their outcomes in ICU patients: insights from the PROSAFE study

02. Bacterial infection & disease

02b. Severe sepsis, bacteraemia & endocarditis (incl epidemiology, diagnosis, host biomarkers, treatment, and outcome prediction)

C. Genovese¹, M. Offer², G. Tricella³, G. Scaglione¹, E. Palomba¹, G. Montrucchio⁴, F. Agostini⁵, F. Dore³, G. Monti⁶, B. Viaggi⁷, A. Gori¹, S. Finazzi³, M. Colaneri².

¹Department of Infectious Diseases, ASST Fatebenefratelli Sacco University Hospital - Milan (Italy), ²Department of Biomedical and Clinical Sciences "L. Sacco", University of Milan - Milan (Italy), ³Laboratory of Clinical Data Science, Department of Public Health, Mario Negri Institute for Pharmacological Research IRCCS - Ranica (Italy),

⁴Department of Surgical Sciences, University of Turin - Turin (Italy), ⁵Anesthesia and Intensive Care 3, University Hospital City of Science and Health, CTO Hospital - Turin (Italy), ⁶Dipartimento di Anestesia e Rianimazione, ASST Grande Ospedale Metropolitano Niguarda - Milan (Italy), ⁷Department of Anaesthesiology, Neuro-Intensive Care Unit, Careggi University Hospital - Florence (Italy)

- 10-years retrospective analysis
- 211'491 included patients
- 192 Italian ICUs



BSI

Bloodstream Infection



Popolazione

Tutti i pazienti con ammissione in TI tra 2014 e 2024



Evento

Pazienti con **BSI ICU-acquired** con isolamenti solo da microrganismi selezionati insorte nei primi 30 giorni dall'ingresso in TI



Obiettivo

Caratteristiche cliniche dei pazienti infetti e descrizione degli outcomes (mortalità e durata della degenza)

Identificazione dei **fattori di rischio** per l'insorgenza di BSI



	Total (N=214046)	Other Patients (N=207979)	Patients with BSI (events) (N=6067)	<i>p value</i>
Surgery (n, %)	74684 (34.9%)	73247 (35.2%)	1437 (23.7%)	< 0.001
Trauma (n, %)	29649 (13.9%)	28431 (13.7%)	1218 (20.1%)	< 0.001
Obesity (n, %)	39988 (18.9%)	38618 (18.8%)	1370 (22.9%)	< 0.001
Missing	2261	2181	80	
BMI (Median, IQR)	25.8 (23.2, 29.3)	25.7 (23.2, 29.3)	26.2 (24.1, 30.1)	< 0.001
Missing	1511	1445	66	
Respiratory disease (n, %)	50444 (23.6%)	49201 (23.7%)	1243 (20.5%)	< 0.001
Neurologic disease (n, %)	35984 (16.8%)	35121 (16.9%)	863 (14.2%)	< 0.001
Cardiologic disease (n, %)	138111 (64.5%)	134395 (64.6%)	3716 (61.2%)	< 0.001
Liver disease (n, %)	10552 (4.9%)	10253 (4.9%)	299 (4.9%)	0.996
Chronic kidney disease (n, %)	23376 (10.9%)	22825 (11.0%)	551 (9.1%)	< 0.001
Diabetes (n, %)	44557 (20.8%)	43373 (20.9%)	1184 (19.5%)	0.011
Immunosuppression (n, %)	38159 (17.8%)	37333 (18.0%)	826 (13.6%)	< 0.001
SOFA (Median, IQR)	6.0 (4.0, 9.0)	6.0 (3.0, 9.0)	7.0 (5.0, 10.0)	< 0.001
Missing	1	1	0	

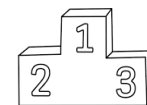
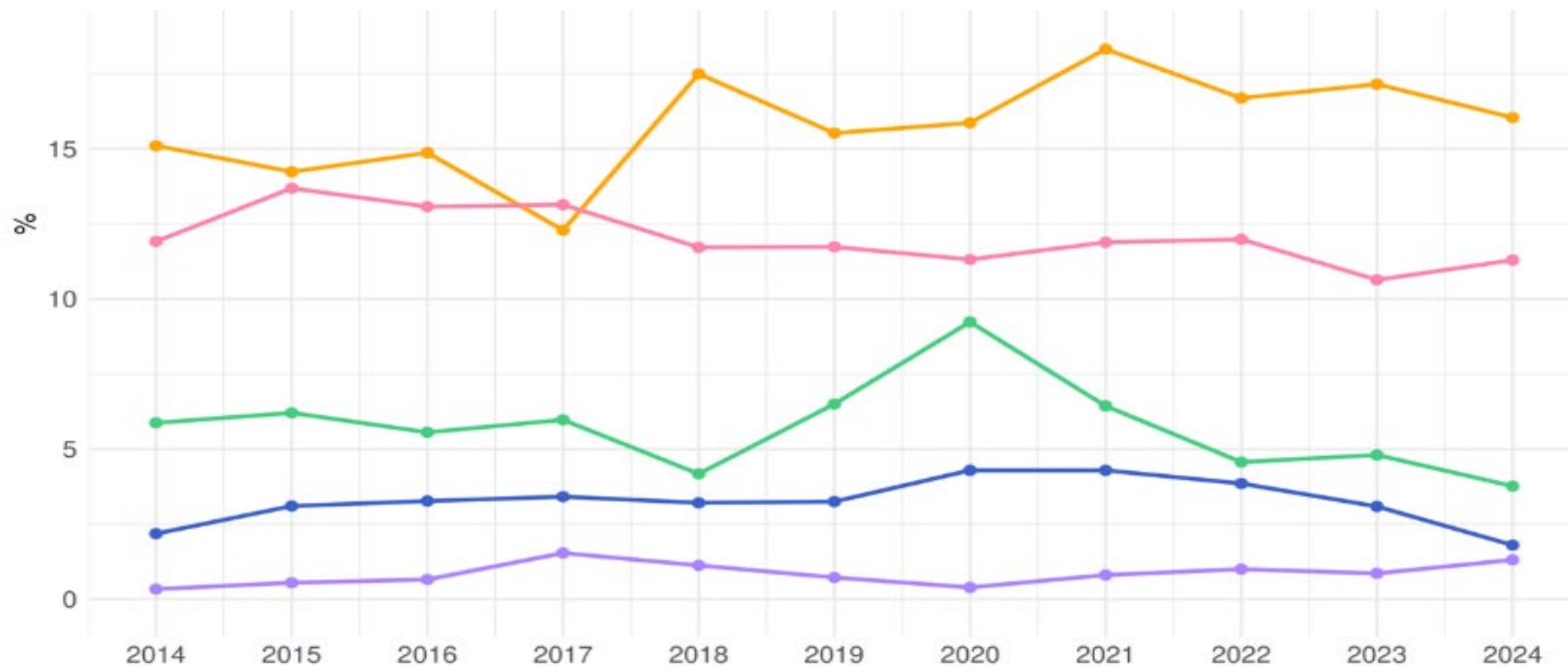


	Total (N=214046)	Other Patients (N=207979)	Patients with BSI (events) (N=6067)	<i>p value</i>
Invasive ventilation (n, %)	150071 (70.7%)	144929 (70.3%)	5142 (84.8%)	< 0.001
CVC (n, %)	161240 (76.0%)	155886 (75.6%)	5354 (88.2%)	< 0.001
PICC line (n, %)	3365 (1.6%)	3278 (1.6%)	87 (1.4%)	0.337
Hemodialysis (n, %)	3060 (1.4%)	2973 (1.4%)	87 (1.4%)	0.957
Hemofiltration (n, %)	4610 (2.2%)	4434 (2.2%)	176 (2.9%)	< 0.001
ECMO (n, %)	786 (0.4%)	726 (0.4%)	60 (1.0%)	< 0.001
Enteral nutrition (n, %)	38218 (18.0%)	36216 (17.6%)	2002 (33.0%)	< 0.001
Parenteral nutrition (n, %)	21531 (10.1%)	20806 (10.1%)	725 (11.9%)	< 0.001

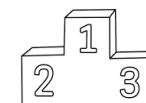
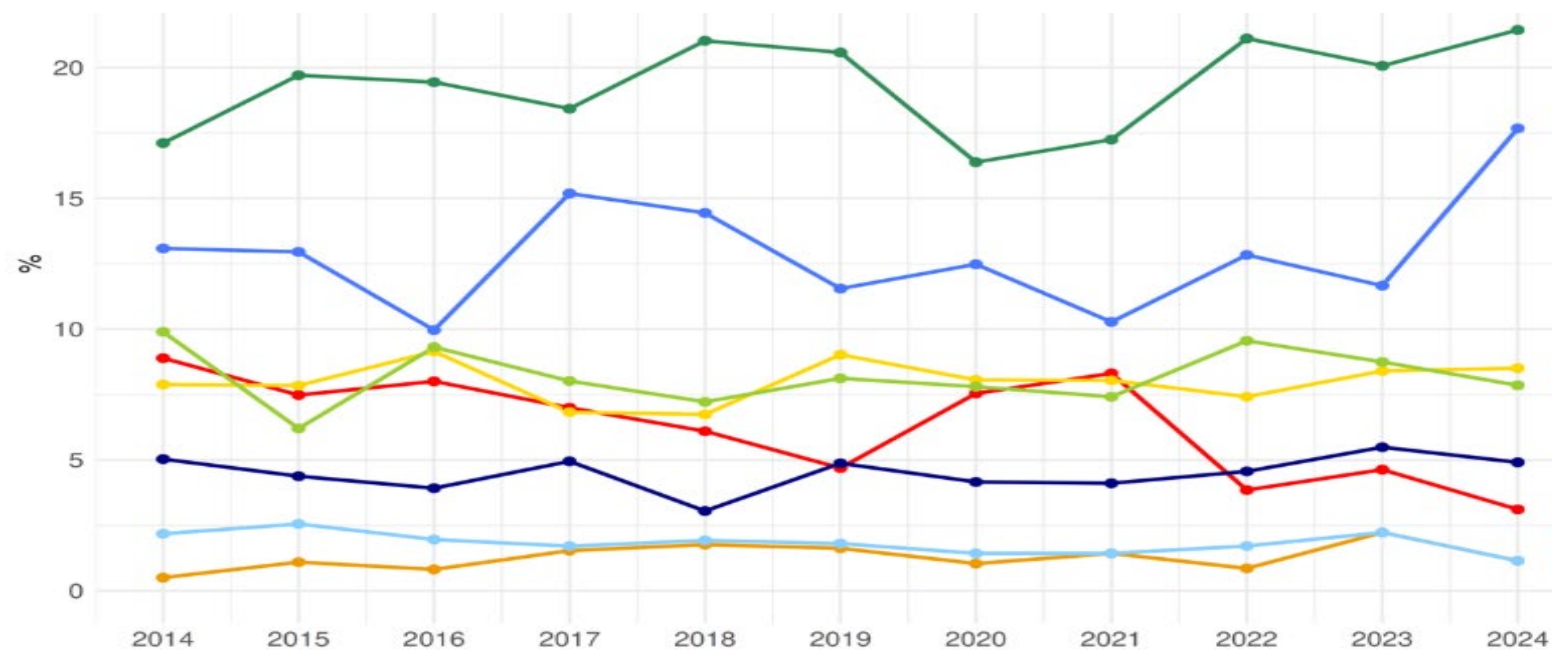
	Total (N=214046)	Other Patients (N=207979)	Patients with BSI (events) (N=6067)	<i>p value</i>
<i>Infections at ICU-admission</i>				
Central nervous system infection (n, %)	1545 (0.7%)	1503 (0.7%)	42 (0.7%)	0.495
Respiratory infection (n, %)	28659 (13.4%)	27490 (13.2%)	1169 (18.1%)	< 0.001
Intra-abdominal infection (n, %)	14353 (6.7%)	14088 (6.8%)	265 (4.1%)	< 0.001
Skin and soft tissue infection (n, %)	3078 (1.4%)	2999 (1.4%)	79 (1.2%)	0.143
Bone and joint infection (n, %)	567 (0.3%)	560 (0.3%)	7 (0.1%)	0.013
Urinary tract infections (n, %)	4536 (2.1%)	4438 (2.1%)	98 (1.5%)	< 0.001



	Total (N=214046)	Other Patients (N=207979)	Patients with BSI (events) (N=6067)	<i>p value</i>
<i>Intra-ICU outcomes</i>				
Mortality (n, %)	36960 (17.3%)	35105 (16.9%)	1855 (28.8%)	< 0.001
Missing	1	0	1	
Outcome (n, %)				< 0.001
Dead	36019 (16.8%)	34217 (16.5%)	1802 (27.9%)	
transfSameHosp	152365 (71.2%)	149275 (71.9%)	3090 (47.9%)	
transfOthHosp	23090 (10.8%)	21605 (10.4%)	1485 (23.0%)	
dischargeHome	1630 (0.8%)	1609 (0.8%)	21 (0.3%)	
terminal	941 (0.4%)	888 (0.4%)	53 (0.8%)	
Missing	1	0	1	
LOS (Median, IQR)	5.0 (3.0, 10.0)	5.0 (3.0, 10.0)	25.0 (16.0, 38.2)	< 0.001
<i>Intra-Hospital outcomes</i>				
Mortality (n, %)	51928 (24.5%)	49698 (24.2%)	2230 (35.1%)	< 0.001
Missing	2173	2081	92	
LOS (Median, IQR)	17.0 (9.0, 30.0)	17.0 (9.0, 29.0)	38.0 (24.0, 56.0)	< 0.001
Missing	2165	2074	91	



- CoNS
- E. Faecalis
- E. Faecium
- S. Pneumoniae
- S. Aureus



- Acinetobacter spp.
- Citrobacter spp.
- Enterobacter spp.
- Eschrichia. coli
- Klebsiella spp.
- Proteus spp.
- Pseudomonas spp.
- Serratia spp.

Oops-
I did it
Again



A still from the movie Toy Story showing Woody and Buzz Lightyear. Woody, on the left, is a cowboy doll with a yellow and red plaid shirt, a black and white cow-print vest, and a large gold belt buckle. He has a worried expression. Buzz Lightyear, on the right, is a space ranger doll in his iconic green, white, and purple suit. He is gesturing with his right hand, showing three purple rings on his fingers, and has a surprised or excited expression. The background is a simple room with a white door and a window with yellow stars. The floor is wooden.

Non è tutto rose e fiori

Difficoltà - Limiti

Finestra temporale: 2014-2024

Cambi di crf, non compatibilità dei dati negli anni



Prosafe è ottimizzato per raccogliere informazioni statiche e per monitorare l'outcome finale (la mortalità), ma non per **seguire l'evoluzione giorno per giorno** degli eventi intermedi, come le complicanze infettive (*problemi con sequenza degli eventi e la relazione temporale fra esposizioni e complicanze*)

Batteriemie secondarie

Info ereditate dall'infezione primaria (data di insorgenza, micro, ...)



SCELTA DEL MODELLO



"Ogni giorno so che ho un paziente vivo senza BSI, voglio sapere qual è il suo rischio di sviluppare un'infezione, per poterlo trattare."



Modello di sopravvivenza: Cox model (cause-specific hazard)

Outcome BSI ICU-acquired (1)

*L'evento (BSI) è stato considerato solo se insorto entro
30 giorni dall'inizio dell'osservazione*



Il dataset è strutturato in modo **tempo-dipendente** (una riga per ciascun giorno di degenza di ogni paziente)
Per ogni giorno di degenza vengono riportate la presenza (1) o l'assenza (0) delle procedure cliniche selezionate. Sono poi riportate le variabili non tempo-dipendenti.



I pazienti vengono osservati a partire **dal giorno 2** della degenza (at risk)



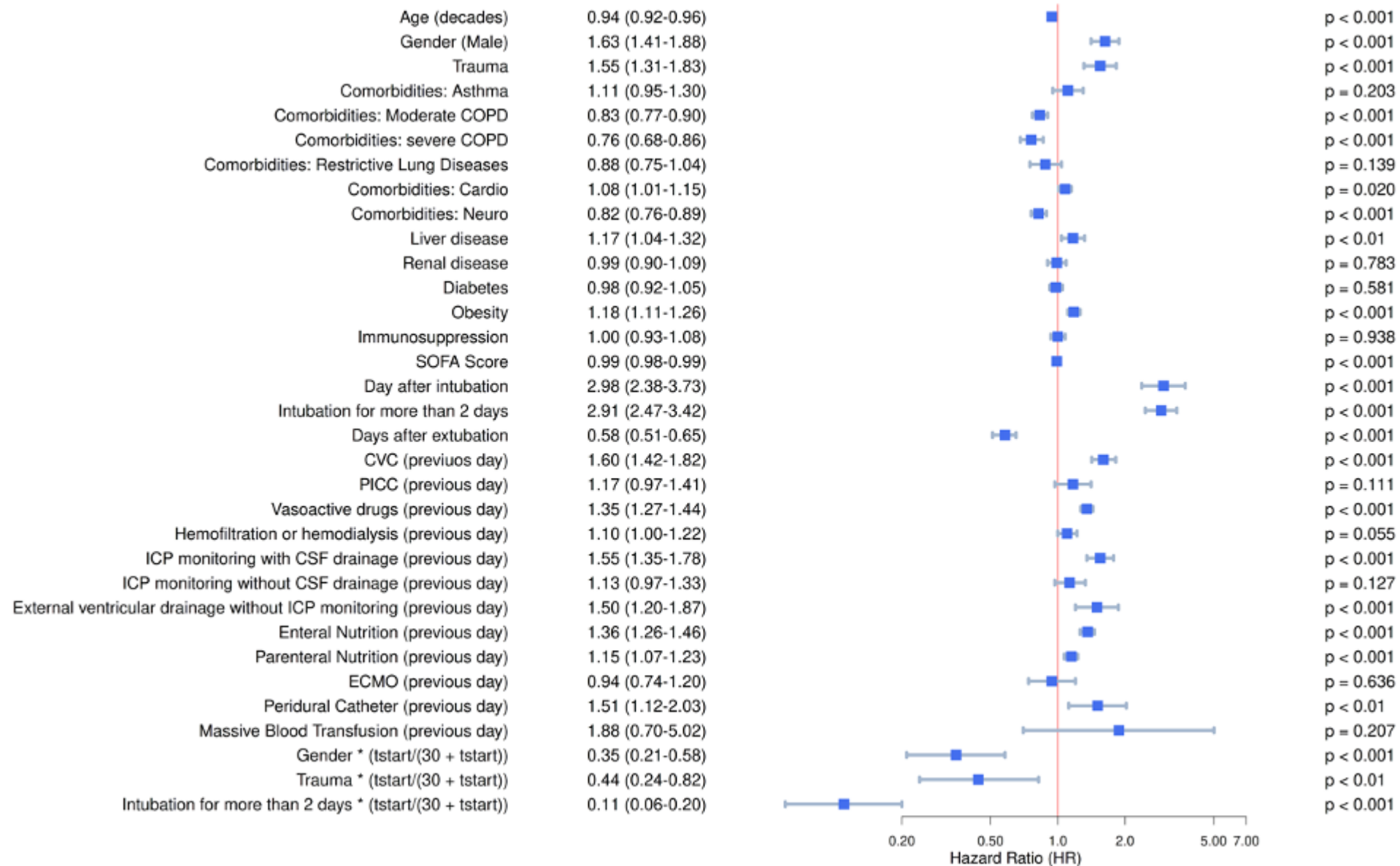
Le **procedure** (*CVC, PICC, emodialisi, ECMO, ...*) sono state inserite nel modello con un **lag di 1 giorno**



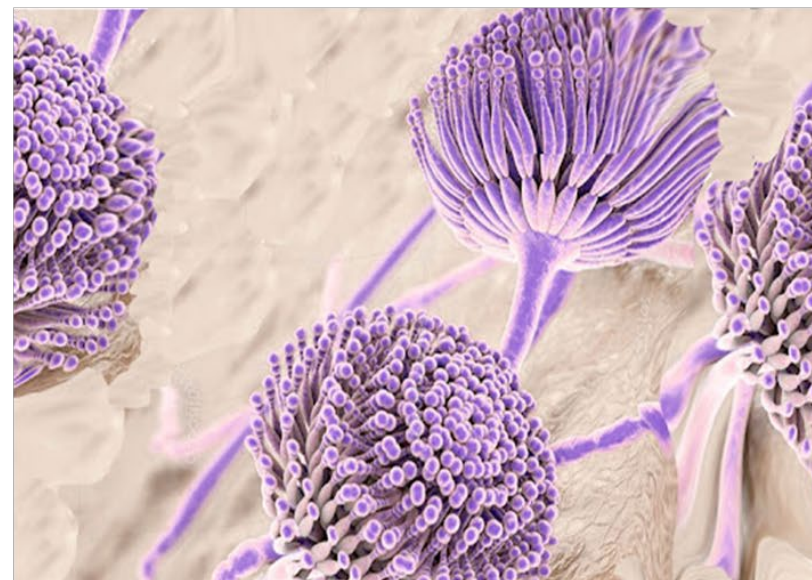
Interazioni con il tempo



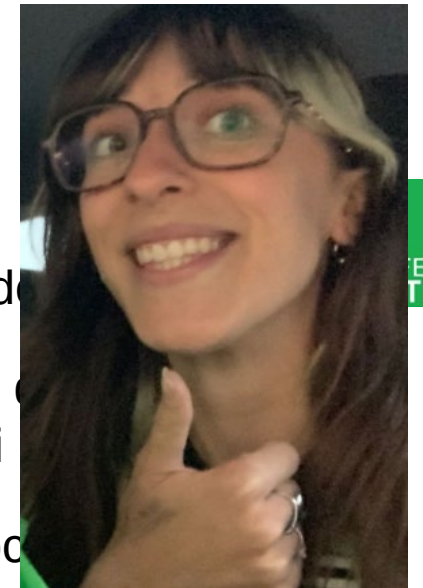
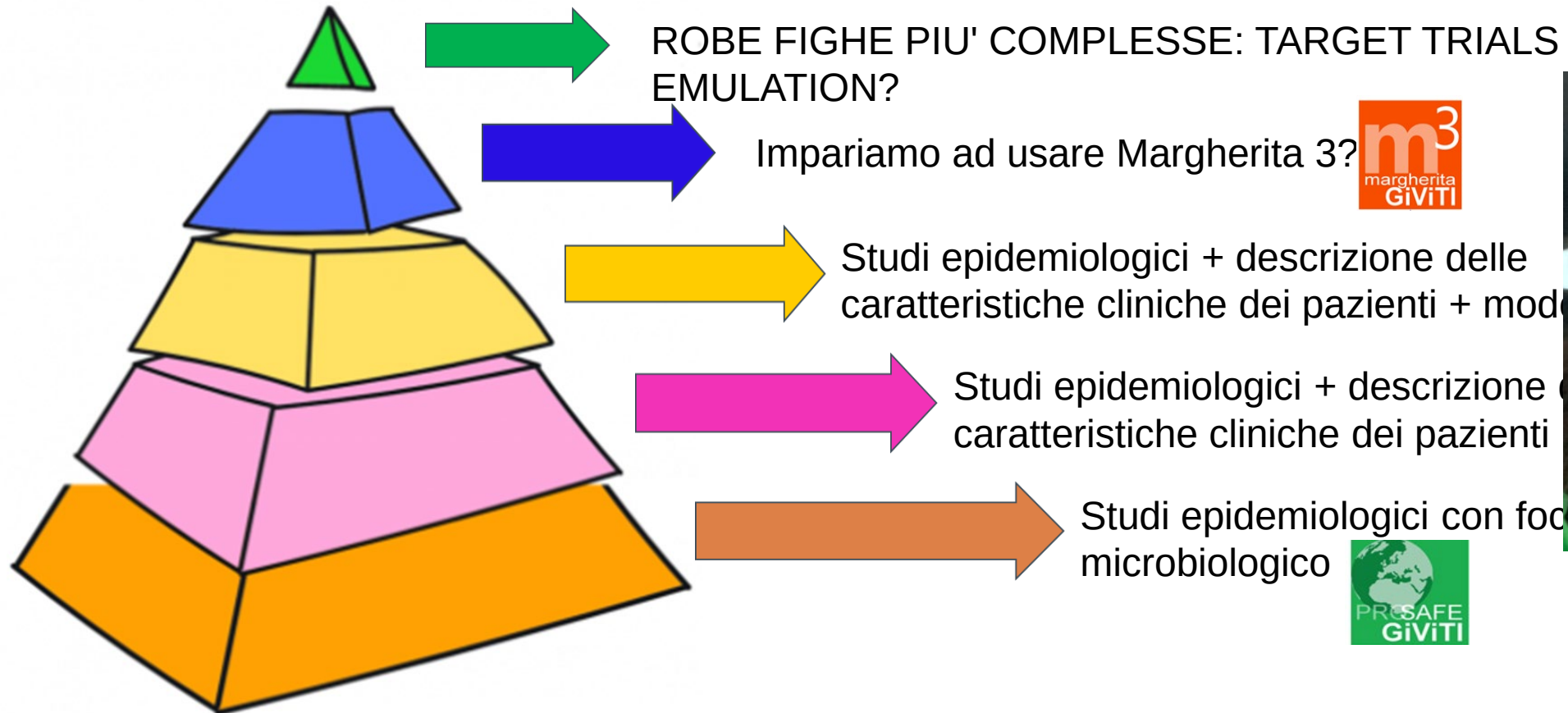
Forest plot – Risk factors for ICU-acquired BSI (Cox Model)



Stanno per arrivare bellissimi dati su infezioni intra addominali e aspergillosi invasiva in ICU!



Approccio di ricerca per persone pazienti... a step!





Username

palombaemanuele

Password

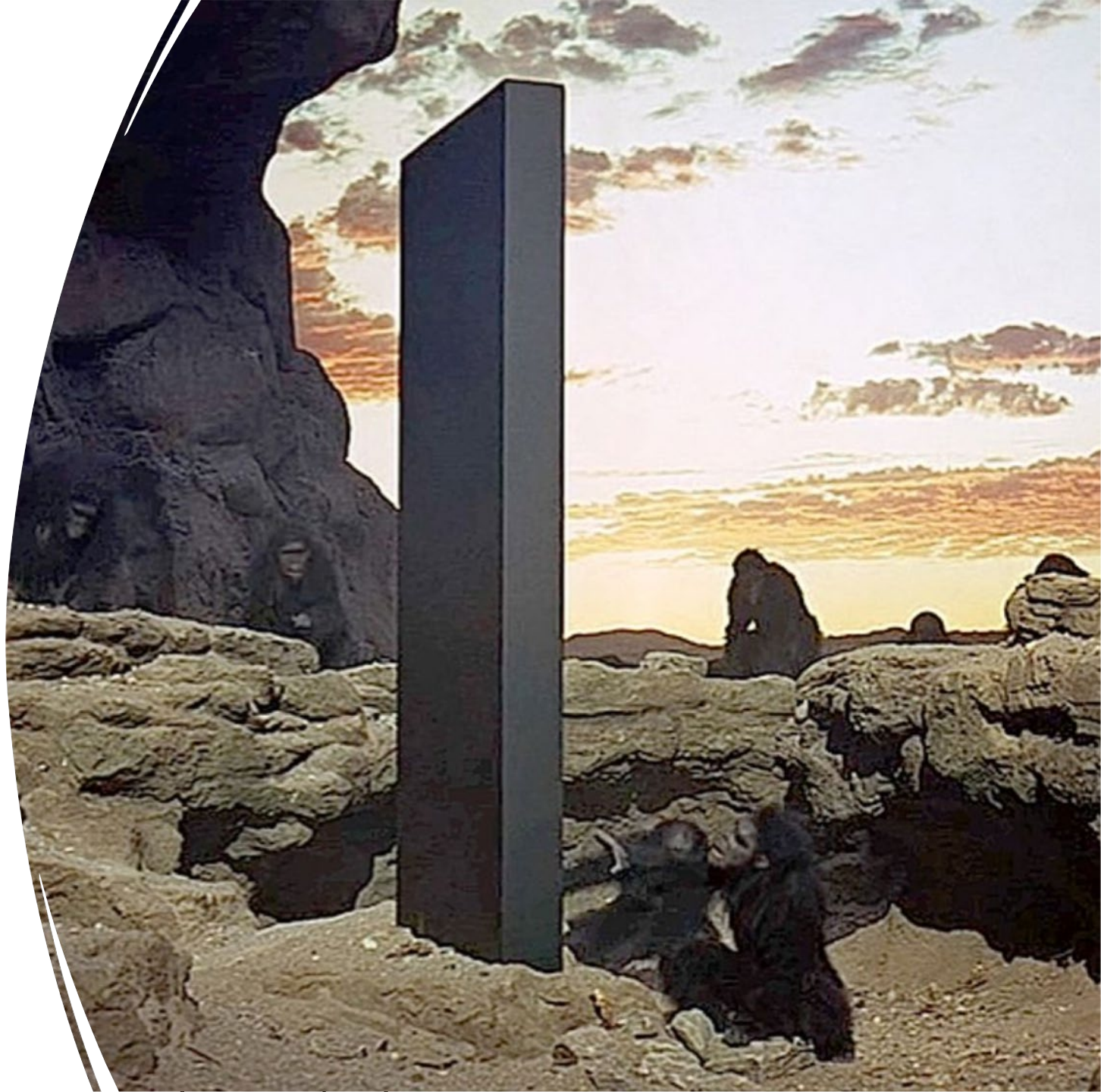


MOSTRA PASSWORD

[Annulla](#)

[Credenziali dimenticate? Non riesci ad accedere?](#)

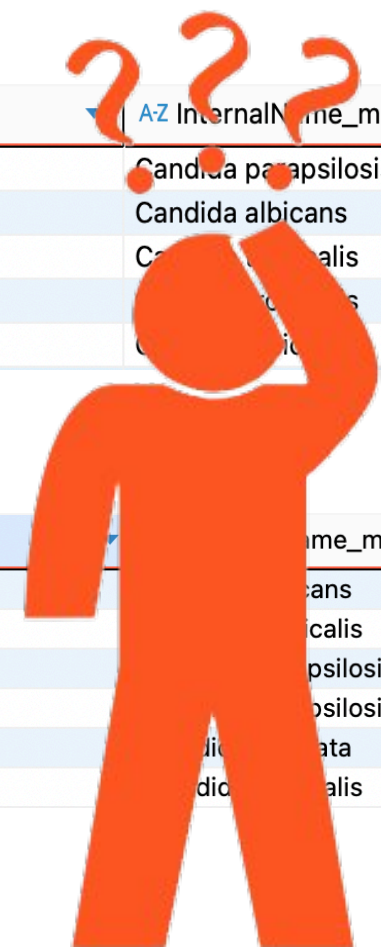
LOGIN



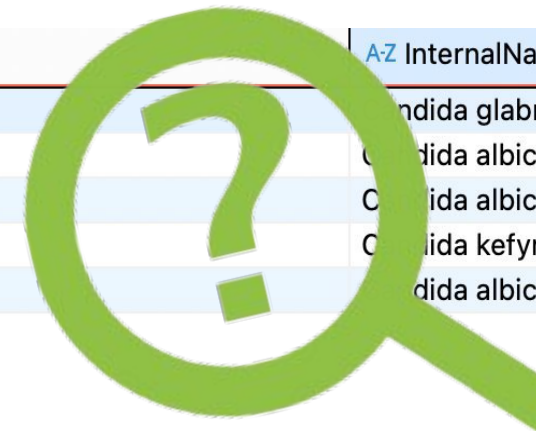
AZ NomeEsame ▼	AZ NomeEsito ▼	AZ InternalName ▼	AZ InternalName_outcome ▼	AZ Material ▼	AZ InternalName_micro ▼
Broncoaspirato	Broncoaspirato	Lieviti	Lieviti	tampone inguinale	Candida parapsilosis
Broncoaspirato	Broncoaspirato	Lieviti	Lieviti	tampone inguinale	Candida glabrata
Broncoaspirato	Broncoaspirato	Lieviti	Lieviti	tampone inguinale	Candida parapsilosis
Broncoaspirato	Broncoaspirato	Lieviti	Lieviti	tampone inguinale	Candida parapsilosis
Broncoaspirato	Broncoaspirato	Lieviti	Lieviti	tampone inguinale	Candida parapsilosis
Broncoaspirato	Broncoaspirato	Lieviti	Lieviti	tampone inguinale	Candida parapsilosis
Broncoaspirato	Broncoaspirato	Lieviti	Lieviti	tampone inguinale	Candida parapsilosis

AZ NomeEsame ▼	AZ NomeEsito ▼	AZ InternalName ▼	AZ InternalName_outcome ▼	AZ Material ▼	AZ InternalName_micro ▼
Broncoaspirato	Broncoaspirato	Lieviti	Lieviti	aspirato gastrico	Candida parapsilosis
Broncoaspirato	Broncoaspirato	Lieviti	Lieviti	aspirato gastrico	Candida albicans
Broncoaspirato	Broncoaspirato	Lieviti	Lieviti	aspirato gastrico	Candida glabrata
Broncoaspirato	Broncoaspirato	Lieviti	Lieviti	aspirato gastrico	Candida parapsilosis
Broncoaspirato	Broncoaspirato	Lieviti	Lieviti	aspirato gastrico	Candida parapsilosis

AZ NomeEsame ▼	AZ NomeEsito ▼	AZ InternalName ▼	AZ InternalName_outcome ▼	AZ Material ▼	AZ InternalName_micro ▼
Broncolavaggio alveolare	Broncolavaggio alveolare	Ricerca batteri aerobi e miceti	Ricerca batteri aerobi e miceti	essudato auricolare	Candida albicans
Broncolavaggio alveolare	Broncolavaggio alveolare	Ricerca batteri aerobi e miceti	Ricerca batteri aerobi e miceti	liquido peritoneale	Candida glabrata
Broncolavaggio alveolare	Broncolavaggio alveolare	Ricerca batteri aerobi e miceti	Ricerca batteri aerobi e miceti	liquido peritoneale	Candida parapsilosis
Broncolavaggio alveolare	Broncolavaggio alveolare	Ricerca batteri aerobi e miceti	Ricerca batteri aerobi e miceti	liquido peritoneale	Candida parapsilosis
Broncolavaggio alveolare	Broncolavaggio alveolare	Ricerca batteri aerobi e miceti	Ricerca batteri aerobi e miceti	liquido peritoneale	Candida glabrata
Broncolavaggio alveolare	Broncolavaggio alveolare	Ricerca batteri aerobi e miceti	Ricerca batteri aerobi e miceti	protesi	Candida glabrata



A-Z NomeEsame ▼	A-Z NomeEsito ▼	A-Z InternalName ▼	A-Z InternalName_outcome ▼	A-Z Material	A-Z InternalName_micro ▼
Broncolavaggio alveolare	Broncolavaggio alveolare	Ricerca batteri aerobi e miceti	Ricerca batteri aerobi e miceti	bile	Candida glabrata
Broncolavaggio alveolare	Broncolavaggio alveolare	Ricerca batteri aerobi e miceti	Ricerca batteri aerobi e miceti	bile	Candida albicans
Broncolavaggio alveolare	Broncolavaggio alveolare	Ricerca batteri aerobi e miceti	Ricerca batteri aerobi e miceti	bile	Candida albicans
Broncoaspirato	Broncoaspirato	Microrganismi	Microrganismi	Bile	Candida kefyr
Broncoaspirato	Broncoaspirato	Microrganismi	Microrganismi	Bile	Candida albicans



A-Z NomeEsame ▼	A-Z NomeEsito ▼	A-Z InternalName ▼	A-Z InternalName_outcome ▼	A-Z Material	A-Z InternalName_micro ▼
Tampone rettale	Tampone rettale	Esame colturale	Esame colturale	tampone da (inserire nota)	Candida albicans
Tampone rettale	Tampone rettale	Esame colturale	Esame colturale	tampone da ferita chirurgica	Candida albicans
Tampone rettale	Tampone rettale	Esame colturale	Esame colturale	broncoaspirato	Candida albicans
Tampone rettale	Tampone rettale	Esame colturale	Esame colturale	broncolavaggio	Candida albicans
Tampone rettale	Tampone rettale	Esame colturale	Esame colturale	essudato nasale	Candida albicans
Tampone rettale	Tampone rettale	Esame colturale	Esame colturale	tracheoaspirato	Candida albicans

A-Z NomeEsame ▼	A-Z NomeEsito ▼	A-Z InternalName ▼	A-Z InternalName_outcome ▼	A-Z Mate ▼	A-Z InternalName_micro ▼
Stato Acido Base	SBEC	BAS	BAS		Candida krusei
Stato Acido Base	SBEC	BAS	BAS		Candida krusei
Stato Acido Base	SBEC	BAS	BAS		Candida lusitanae
Stato Acido Base	SBEC	BAS	BAS		Candida lusitanae

Candida diagnostic score



University of Milan

Titolo: Sviluppo e valutazione di un nuovo score diagnostico per la candidiasi Invasiva nel Paziente critico ai fini della Ant Stewardship (SERENDIPITOUS)

Numero identificativo della borsa: 24996

Stato



GRAZIE PER L'ATTENZIONE



Se volete contattarci per studiare qualche bella infezione insieme in ICU, ora, purtroppo per voi, sapete dove trovarci!

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...o nel bosco dell'Ospedale Luigi Sacco di Milano

