



5 artikler fra 2022

Hedda Hoel

Smittevernoverlege Lovisenberg Diakonale Sykehus

ARTICLES | [VOLUME 399, ISSUE 10325, P629-655, FEBRUARY 12, 2022](#)



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Figures

Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis

[Antimicrobial Resistance Collaborators](#) [†] • [Show footnotes](#)

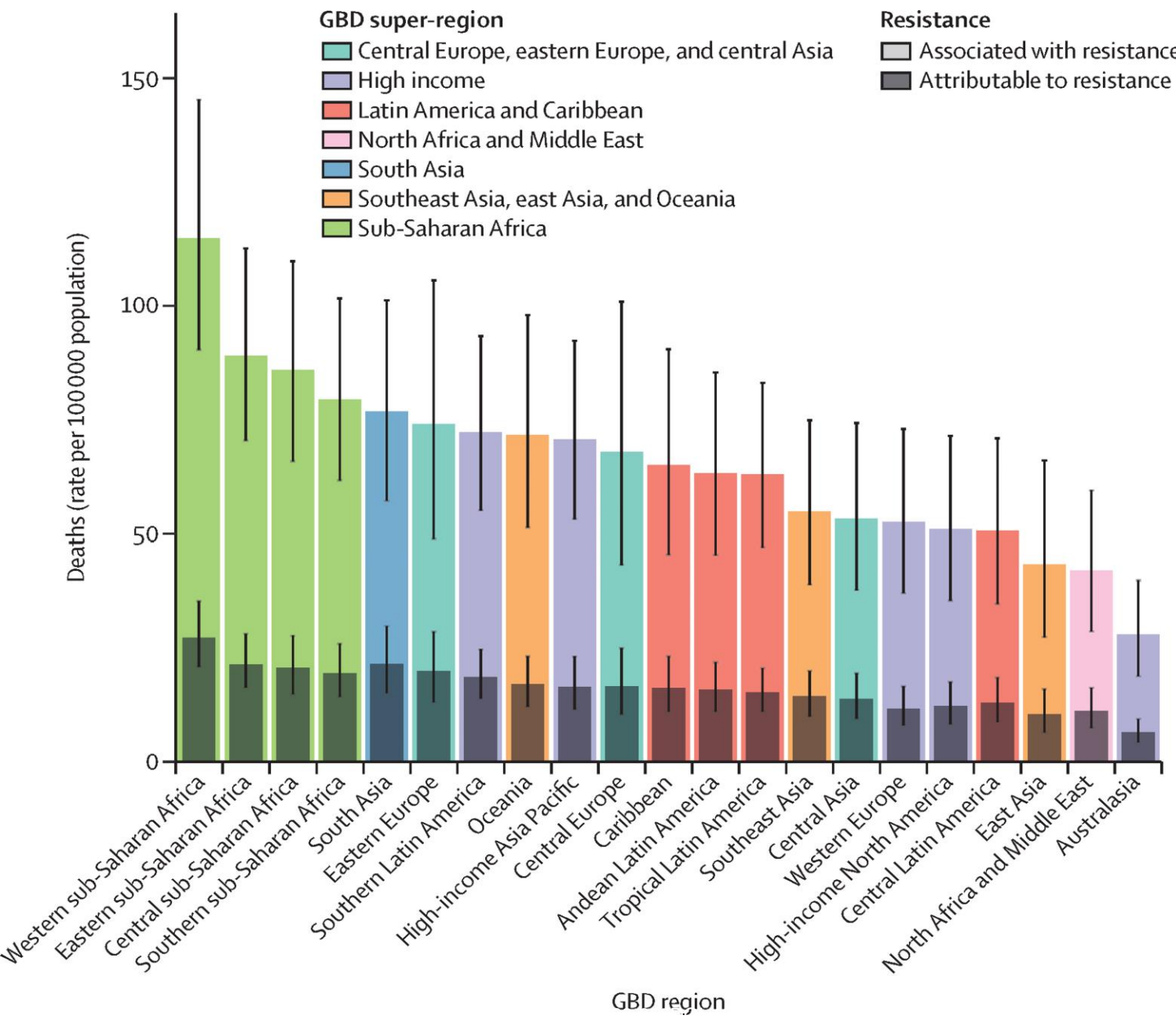
[Open Access](#) • Published: January 19, 2022 • DOI: [https://doi.org/10.1016/S0140-6736\(21\)02724-0](https://doi.org/10.1016/S0140-6736(21)02724-0)

Multiple cause of death	
Hospital discharge	
Microbial or laboratory data with outcome	1102
Microbial or laboratory data without outcome	2302

Funding Bill & Melinda Gates Foundation, Wellcome Trust, and Department of Health and Social Care using UK aid funding managed by the Fleming Fund.

Metode for å estimere dødsfall

- **23 mikrober og 88 microbe-drug kombinasjon i 204 land i 2019.**
- **Data fra**
 - **systematic literature reviews, hospital systems, surveillance systems, and other sources, covering 471 million individual records or isolates and 7585 study-location-years.**
- **To scenarioer:**
 - **Dødsfall grunnet AMR (der alternativet er ikke-resistent mikrobe)**
 - **Dødsfall assosiert med AMR (der alternativet er ingen infeksjon)**

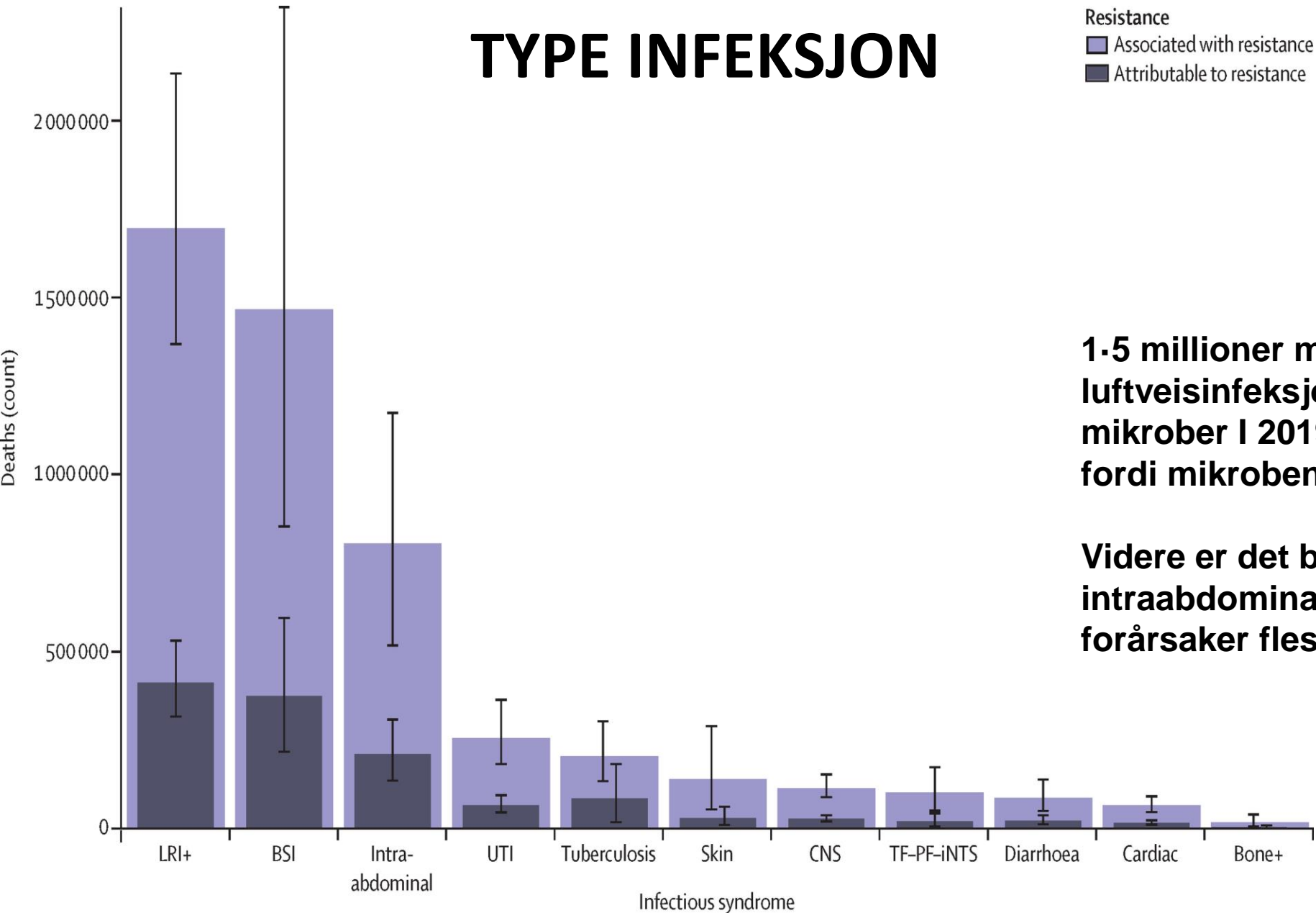


- 4.95 million dødsfall assosiert med AMR
- 1.27 million dødsfall forårsaket av AMR.

Høyest:
Vestlige sub- Saharan Afrika, 27.3 døde per 100 000

Lavest:
Australasia, 6.5 døde per 100 000.

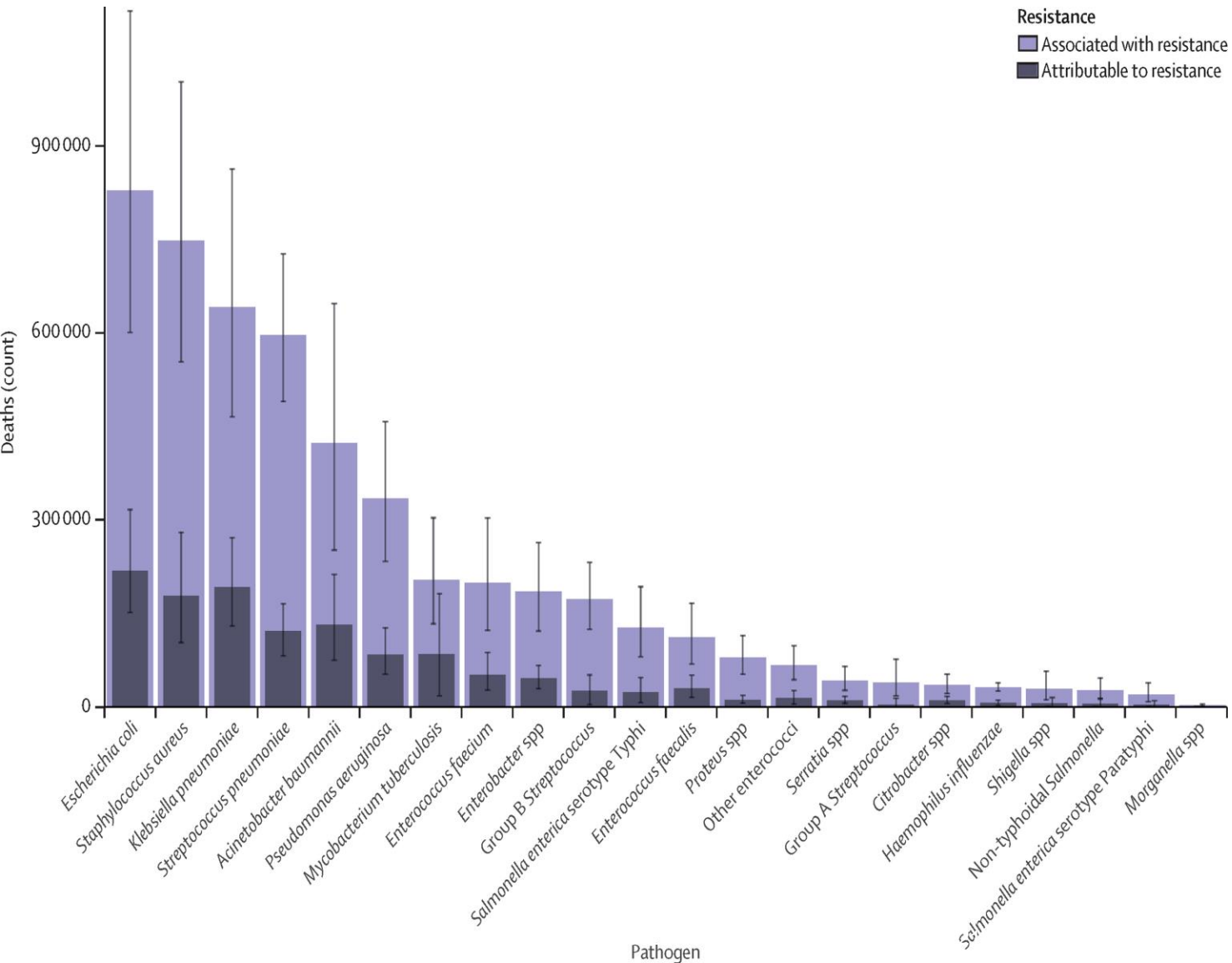
TYPE INFEKSJON



1.5 millioner mennesker døde av nedre luftveisinfeksjoner med resistente mikrober i 2019 og ca 400 000 døde fordi mikroben var resistent.

Videre er det blodbaneinfeksjoner og intraabdominale infeksjoner som forårsaker flest dødsfall.

TYPE BAKTERIE



6 værsteringer:

Escherichia coli,
Staphylococcus aureus,
Klebsiella pneumoniae,
Streptococcus pneumoniae,
Acinetobacter baumannii,
Pseudomonas aeruginosa

- **MRSA: 100000 dødsfall i 2019**
- **50000–100000 dødsfall:**
 - **MDR_TB**
 - **ESBL *E coli***
 - **ESBL *K pneumonia***
 - **carbapenem-resistant *A baumannii,***
 - **fluoroquinolone-resistant *E coli,***
 - **carbapenem- resistant *K pneumoniae***

- **AMR viktig årsak til død globalt**
- **Høyest byrde i lavinnteksland**
- **Kartlegging viktig for å avgjøre riktig regional og local policy**
- **Alvorlige mangler i mikrobiologisk laboratoriekapasitet og overvåkningssystemer i lavinntektsland.**



INFECTIOUS
DISEASES

Original Article

Empirical antimicrobial therapy for bloodstream infections not compliant with guideline was associated with discordant therapy, which predicted poorer outcome even in a low resistance environment

Kornelius Grøv, Erling Håland, Bjørn Waagsbø , Øyvind Salvesen , Jan Kristian Damås  &
Jan Egil Afset  

Received 30 Dec 2021, Accepted 29 Jul 2022, Published online: 09 Aug 2022

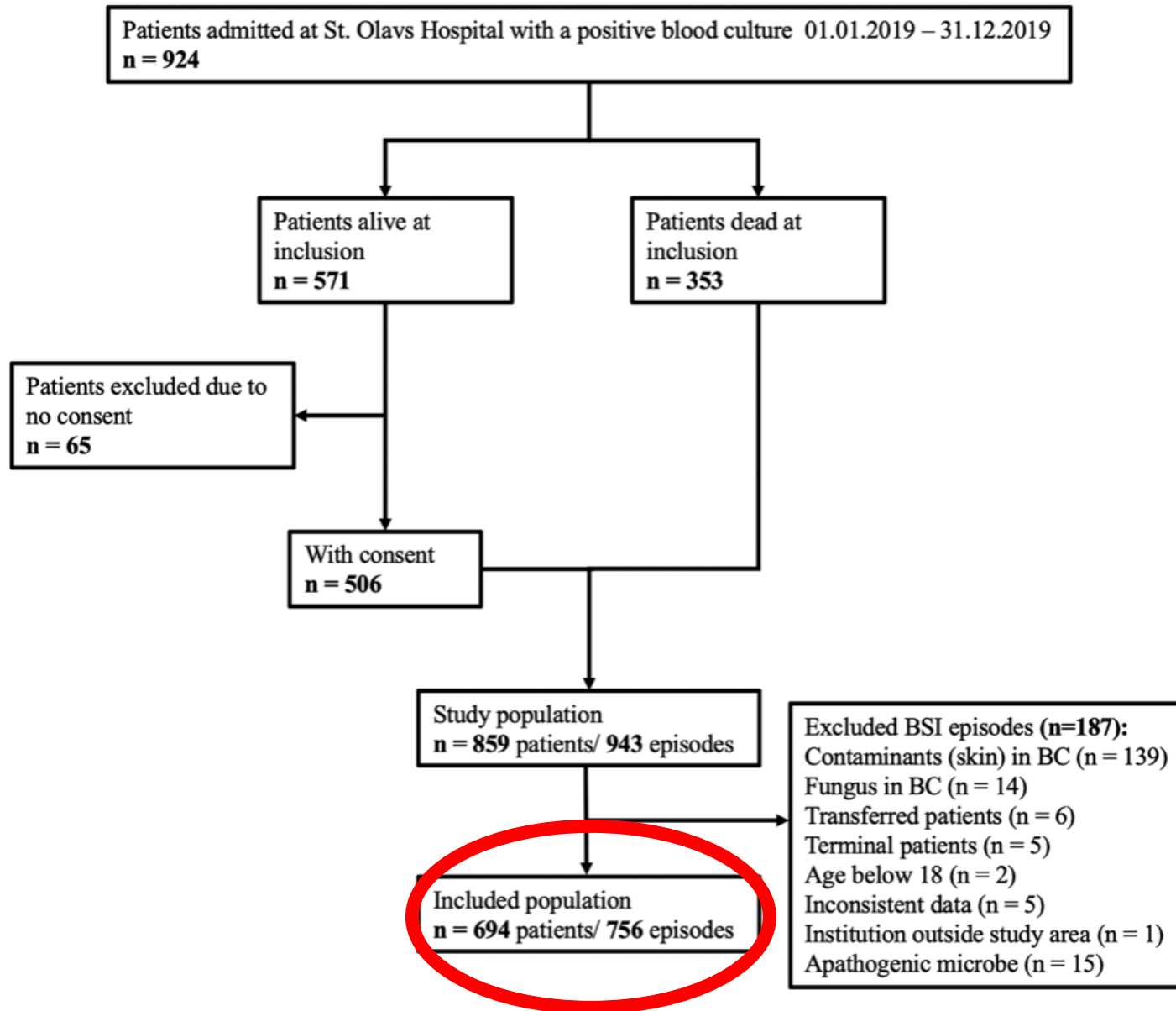


Figure 1. Flowchart showing the inclusion process and selection of patients and episodes, and the number of episodes per patient.

Table 2. Microbe characteristics. (Table view)

Type of microbes	n (%)	AMR, n (%)	MDR*, n (%)
Gram negative bacteria			
<i>Escherichia coli</i>	269 (35.6)	14 (5.2) ESBL	3 (1.1)
Klebsiella spp.			
<i>Klebsiella pneumoniae</i>	62 (8.2)	6 (9.7) ESBL	
<i>Klebsiella oxytoca</i>	17 (2.2)		
Other	3 (0.4)		
Pseudomonas spp.			
<i>Pseudomonas aeruginosa</i>	25 (3.3)		
Other	1 (0.1)		
<i>Enterobacter cloacae</i> complex	17 (2.2)		1 (5.9)
<i>Proteus mirabilis</i>	12 (1.6)		
Other	37 (4.9)		
Gram positive bacteria			
Staphylococcus spp.			
<i>Staphylococcus aureus</i>	129 (17.1)	1 (0.8) MRSA	
Other	7 (0.9)		
Streptococcus spp.			
<i>Streptococcus pneumoniae</i>	28 (3.7)		
<i>Streptococcus dysgalactiae</i>	19 (2.5)		
<i>Streptococcus pyogenes</i>	14 (1.9)		
<i>Streptococcus agalactiae</i>	14 (1.9)		
<i>Streptococcus oralis</i>	11 (1.5)		
Enterococcus spp.		1 (2.0) VRE	
<i>Enterococcus faecalis</i>	37 (4.9)		
<i>Enterococcus faecium</i>	10 (1.3)		
Other	2 (0.3)		
Other	56 (7.4)		
Anaerobic bacteria	69 (9.1)		

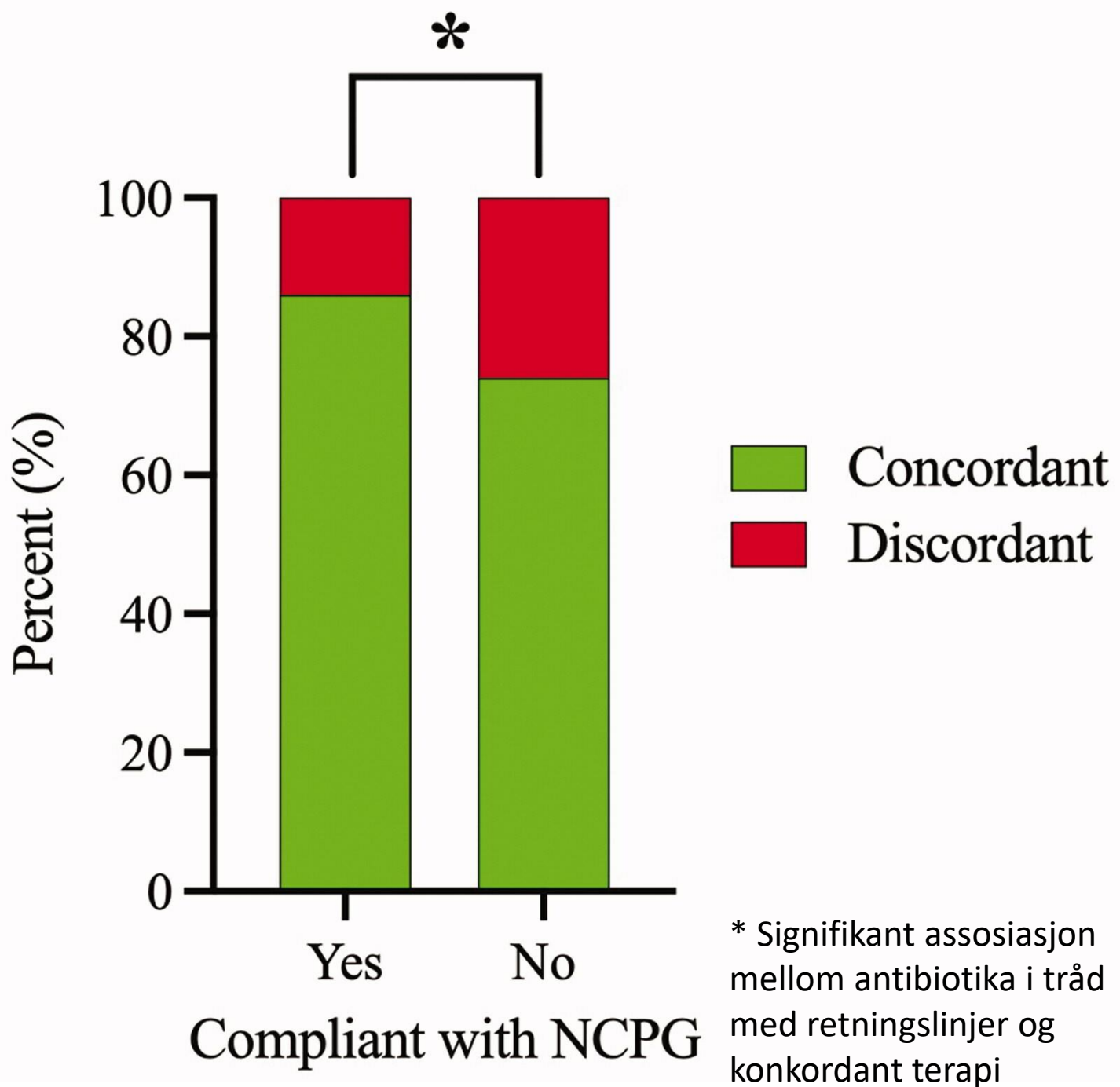
E. coli 35.6% (5.2% ESBL)
S. aureus 17.1% (0.8% MRSA)
K. pneumoniae 8.2% (9.7% ESBL)

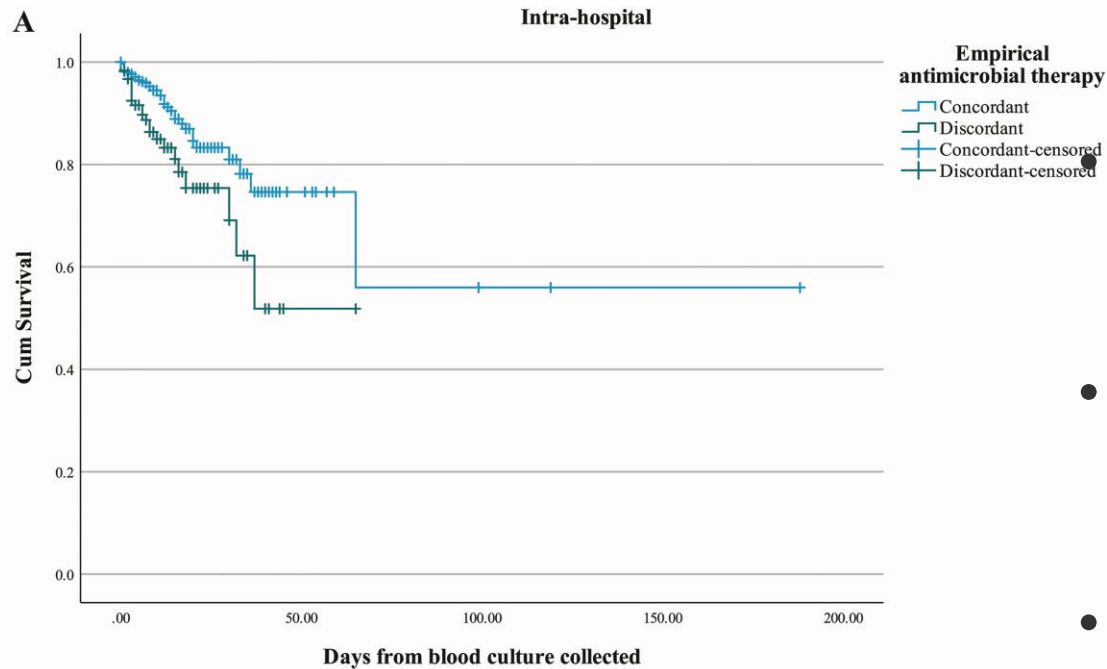
*Three strains (two *Escherichia coli* and one *Enterobacter cloacae* complex) that were ESBL producers were also classified as MDR.

70.6% fikk antibiotika i tråd med retningslinjer
14.2% var diskordant.

25.1% fikk antibiotika ikke i tråd med retningslinjer
26.3% var diskordant.

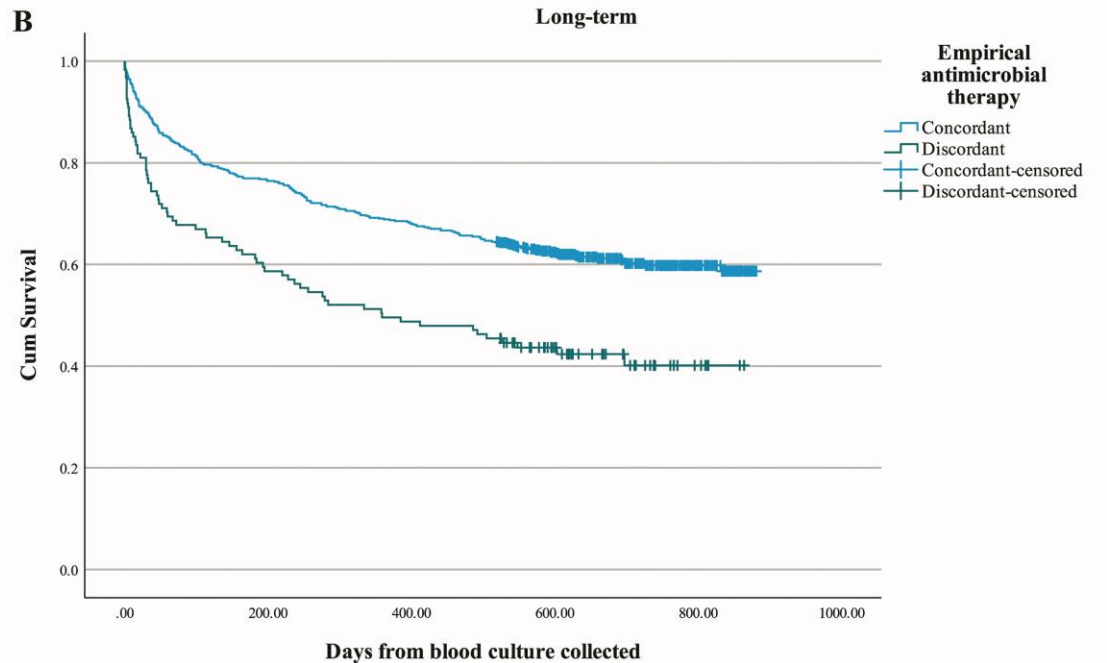
(De resterende fikk ikke antibiotika/for kompleks episode/manglende retningslinje)





Økt dødlighet både i sykehus (9% vs 7.4%) og long-term hos pasienter som fikk empirisk diskordant behandling

- **Sterk assosiasjon mellom guideline-basert behandling og konkordant antibiotika**
- **68.9% de-eskalerte terapi basert på resistenssvar.**



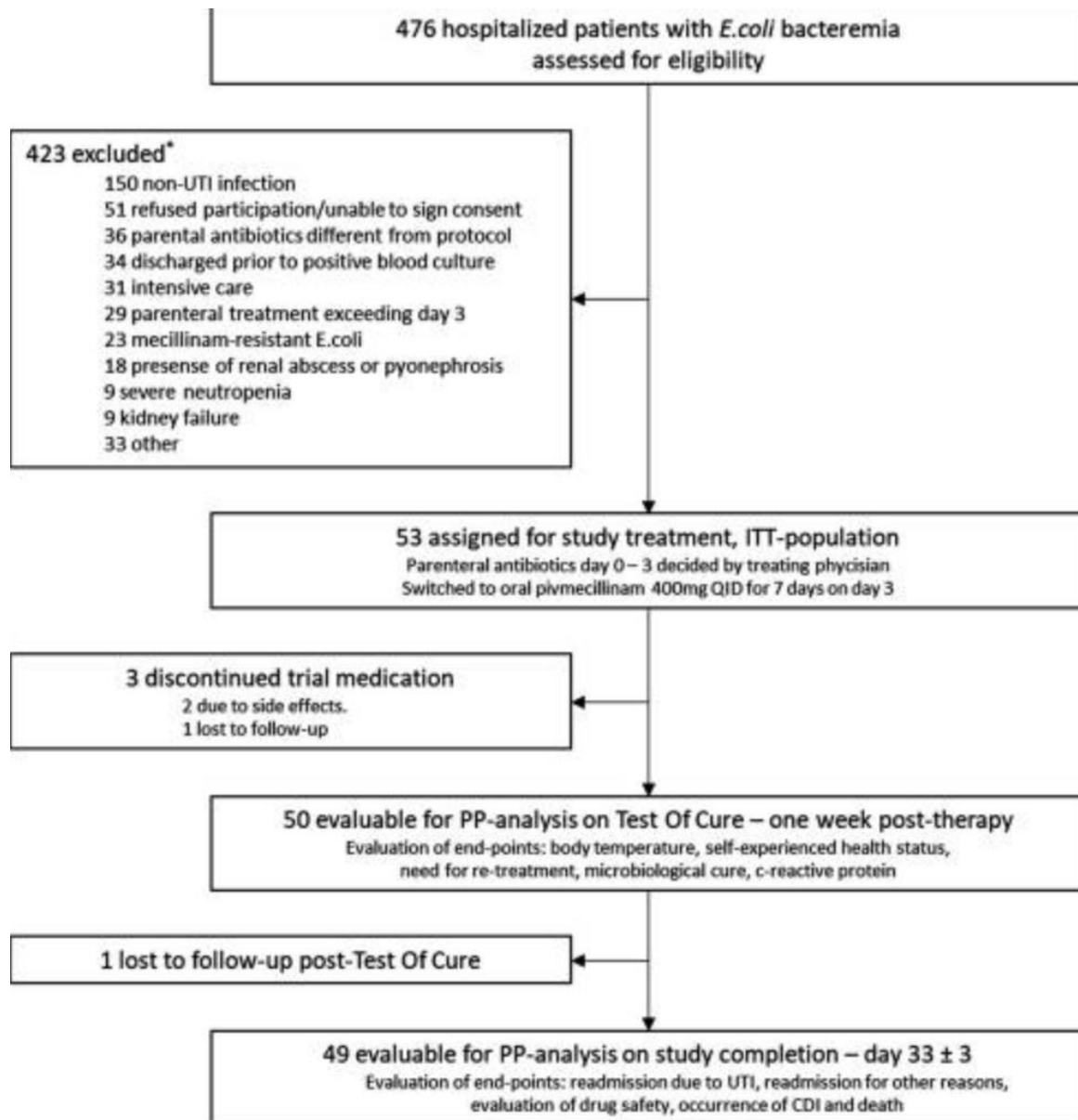
FØLG RENINGSLINJER!

BMC Infectious Diseases

Research | [Open Access](#) | [Published: 19 May 2022](#)

The efficacy of pivmecillinam in oral step-down treatment in hospitalised patients with *E. coli* bacteremic urinary tract infection; a single-arm, uncontrolled treatment study

[Bjørn Åsheim Hansen](#) , [Nils Grude](#), [Morten Lindbæk](#) & [Tore Stenstad](#)



- Singel arm, ikke kontrollert studie
- September 2017–Mars 2020.
- Menn og kvinner
- ***E. coli* bakteremi urinveier**
- Eksklusjonskriterier:
 - Andre bakterielle infeksjoner
 - Septisk sjokk
 - Pyonefrose/abscess
 - Graviditet
- Screenet 476 pasienter
- **50 med i endeling analyse**
- Median alder 67 år.
- 28 (56%) kvinner



- 3 dager iv antibiotika
- **1 uke Selexid 400 mg x4**
- Test Of Cure (TOC) var en uke etter endt behandling.
- **Primær endepunkt:**
 - **Afebril, ingen rebehandling, bedring i selvrapportert helsestatus.**
- Sekundær endepunkt: mikrobiologisk effect og CRP <30

Resultater

- 44 av 50 pasienter (88%) nådde primært endepunkt ved TOC.
- 14 av 48 pasienter (29.2%) hadde signifikant vekst ($> 10^3$ CFU/mL) av *E.coli* ved TOC.
- CRP var assosiert med utfall (OR 0.006 [95% CI 0.00–0.11], $p < 0.001$).
- **PIV 400 mg x 4 i en uke etter 3 dager i.v. behandling er en behandlingsmulighet ved E.coli UVI med bakteremi.**

Randomised clinical trials are warranted!

FULL LENGTH ARTICLE | [VOLUME 126, P116-122, AUGUST 01, 2022](#)



PDF [364 KB]



Figures

Environmental SARS-CoV-2 contamination in hospital rooms of patients with acute COVID-19

[S. Nagle](#) • [Y. Tandjaoui-Lambiotte](#) • [M. Boubaya](#) • ... [Y. Cohen](#) • [J-R. Zahar](#)   • [H. Delagrèverie](#)

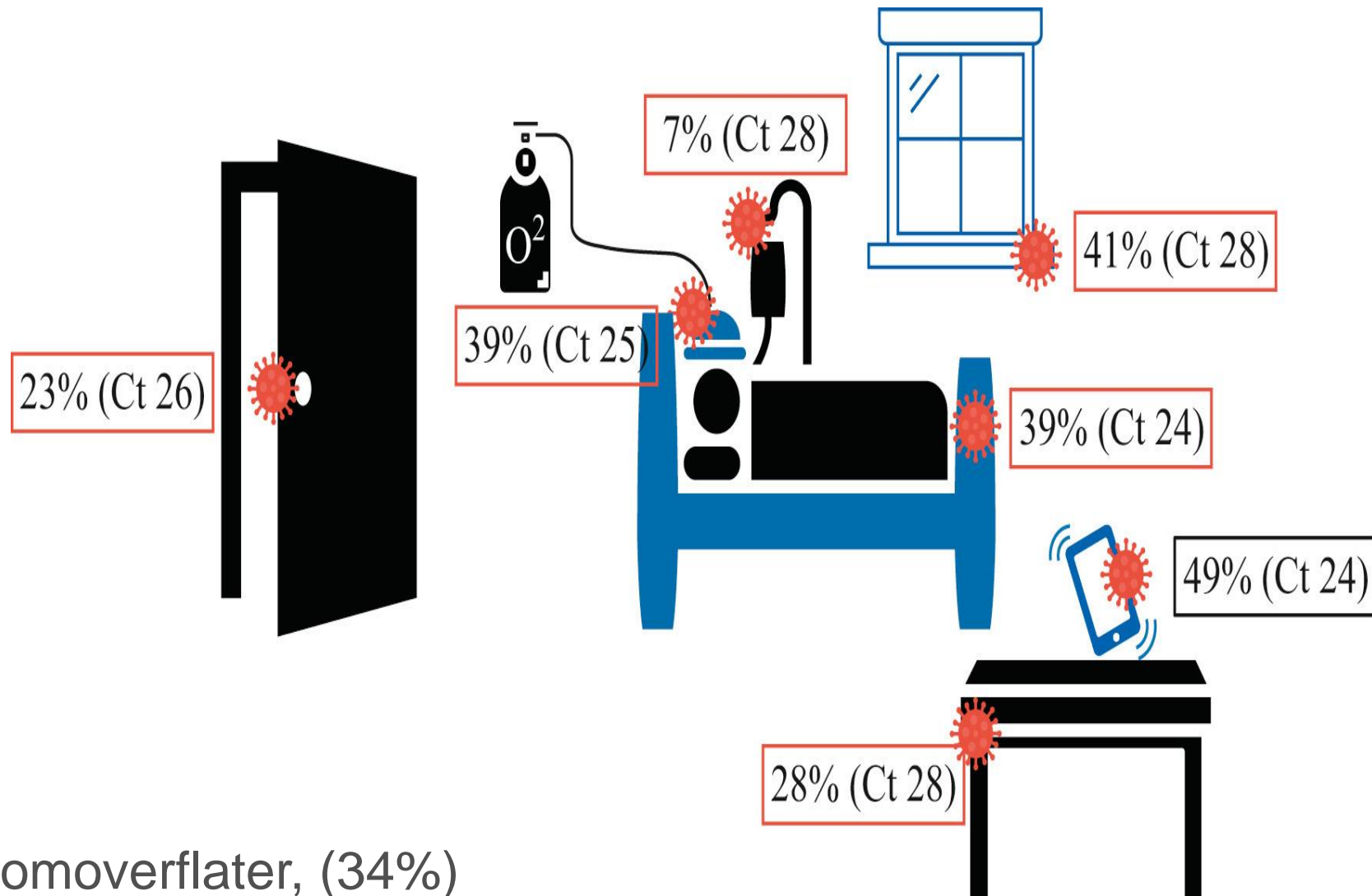
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Published: May 12, 2022 • DOI: <https://doi.org/10.1016/j.jhin.2022.05.003>



Check for updates

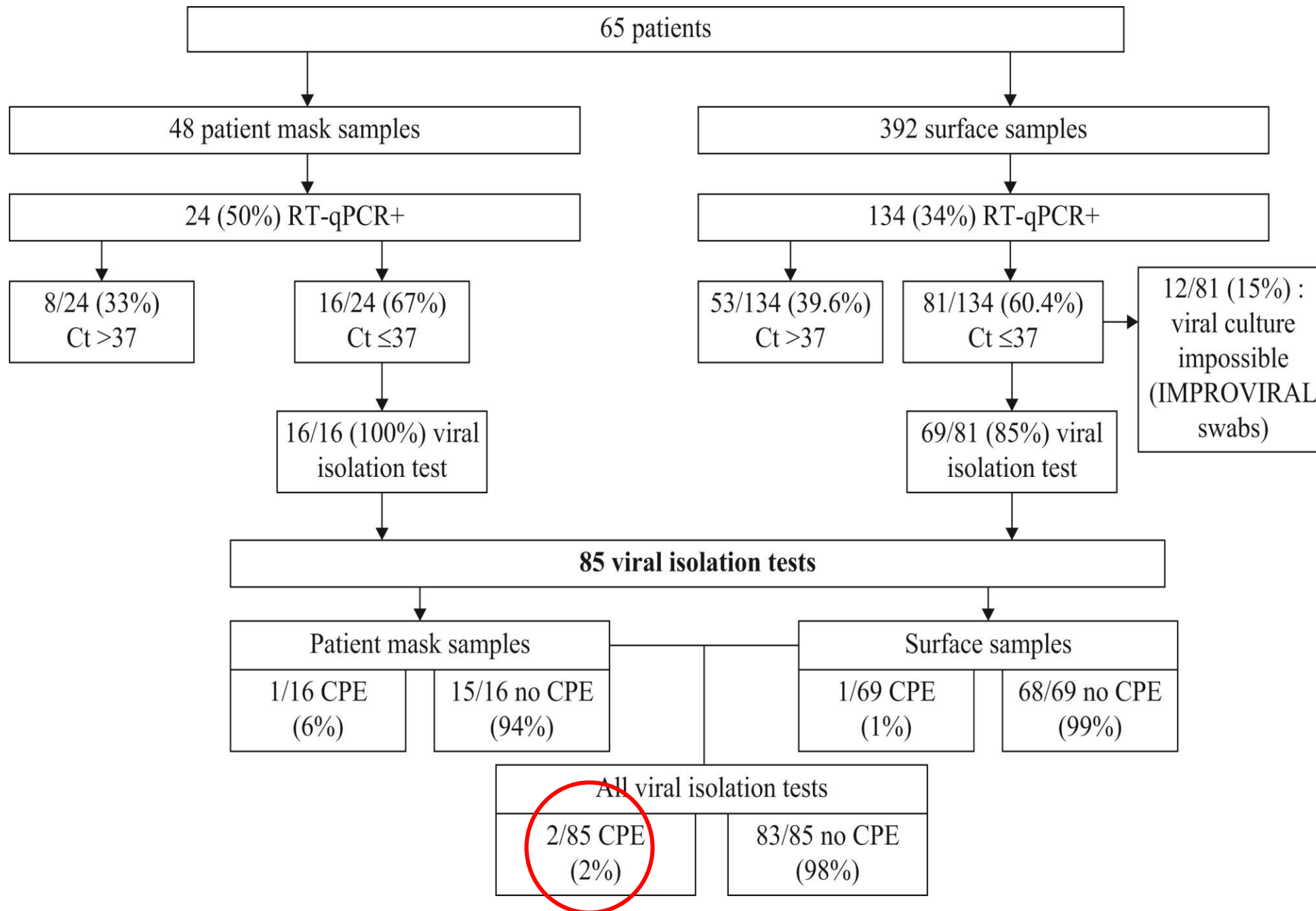
- 65 pasienter, ikke ICU
 - 7 romoverflater
 - Luft 1 m og 3 m fra pasientens hode
 - Inni patientenes maske
 - Utenpå helsearbeiders masker
- RT-qPCR for SARS-CoV-2 RNA utført.
- Virus isolations test utført på Vero cells for prøver med CT Verdi ≤ 37 .



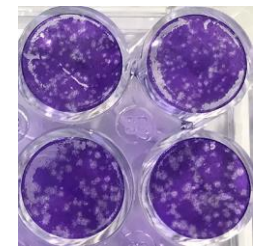
- Surfaces sampled :
- **Windowsill**
 - Door handle
 - Infusion control wheel and electric syringe pump
 - **Bed rail**
 - Shelf
 - **Mobile phone**
 - **Oxygen nasal cannula or mask**

Positiv PCR
(blå hyppigst kontaminert)

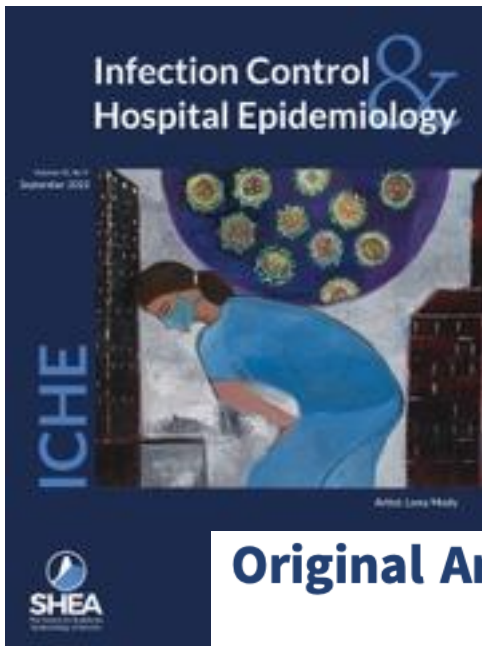
7 romoverflater, (34%)
 Luft 1 m og 3 m fra pasientens hode (10%)
 Inni patient maske (50%)
 Utenpå helsearbeiders masker (10%)



CT <37




CPE: Cytopathic effect



5

Original Article

The impact of coronavirus disease 2019 (COVID-19) on healthcare-associated infections in 2020: A summary of data reported to the National Healthcare Safety Network

Lindsey M. Weiner-Lastinger MPH¹ , Vaishnavi Pattabiraman MSc, MS, MPH^{1,2}, Rebecca Y. Konnor MPH^{1,3}, Prachi R. Patel MPH^{1,3}, Emily Wong MPH^{1,2}, Sunny Y. Xu MPH^{1,3}, Brittany Smith MPH^{1,4}, Jonathan R. Edwards MStat¹ and Margaret A. Dudeck MPH¹

¹Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention, Atlanta, Georgia, ²Leidos, Atlanta, Georgia, ³CACI, Atlanta, Georgia and

























⁴Oak Ridge Institute of Science and Education, Oak Ridge, Tennessee

Sept 2021

- National Healthcare Safety Network (NHSN)
 - HAI overvåkningssystem for de fleste akutt sykehus. Lovpålagt overvåkning.
- De regner ut en forventet infeksjonsrate utifra 2015 data på HAI og faktorer som type sykehus, aktivitet, BMI, kjønn, alder og komorbiditet og lager deretter:
- Standardized infection ratio (SIR)

$$SIR = \frac{\textit{Observed (O) HAIs}}{\textit{Predicted (P) HAIs}}$$

- National- and state-level standardized infection ratios (SIRs) beregnet for hvert kvartal i 2020 og sammenlignet med 2019.
 - Kateterassosierte blodbaneinfeksjoner CLABSI
 - Kateterassosierte urinveisinfeksjoner CAUTI
 - Ventilator assosierte pneumonier VAP
 - Kirurgiske infeksjoner
 - C.diff
 - MRSA bakteremier

	2020 Q1	2020 Q2	2020 Q3	2020 Q4
CLABSI	 -11.8%	 27.9%	 46.4%	 47.0%
CAUTI	 -21.3%	No Change ¹	 12.7%	 18.8%
VAE	 11.3%	 33.7%	 29.0%	 44.8%
SSI: Colon surgery	 -9.1%	No Change ¹	 -6.9%	 -8.3%
SSI: Abdominal hysterectomy	 -16.0%	No Change ¹	No Change ¹	 -13.1%
Laboratory-identified MRSA bacteremia	 -7.2%	 12.2%	 22.5%	 33.8%
Laboratory-identified CDI	 -17.5%	 -10.3%	 -8.8%	 -5.5%

Conclusions:

This report provides a national view of the increases in HAI incidence in 2020. These data highlight the need to return to conventional infection prevention and control practices and build resiliency in these programs to withstand future pandemics

Takk for oppmerksomheten!

