Sepsis as a problem in Latvian hospitals

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Official data

- Sepsis mortality Latvia 2016 (SPKC dati)
  - 45 reported fatal cases
  - 2.3 / 100 000 inhabitants

- Sepsis mortality Norway (Knoop ST, et al 2017)

  hospitalized sepsis 140 patients / 100 000 inhabitants

  hospital mortality 19, 4% (27.16/100 000)

  12% of all hospital fatalities

COMMUNITY ACQUIRED SEVERE SEPSIS AND SEPTIC SHOCK IN PAULS STRADINS CLINICAL UNIVERSITY HOSPITAL

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Darbs veikts Valsts Pētījumu Programmas
“BIOMEDICINE” 7 projekta ietvaros

Aim of study

Prospective cohort study of ICU admitted community-acquired sepsis in Pauls Stradins Clinical University hospital (PSCUH).

Hospital 890 beds

General ICU 18 beds

Materials and methods

ICU admitted patients with community-acquired severe sepsis and septic shock

- from emergency department
- from hospital wards (during first 24h of hospitalization)

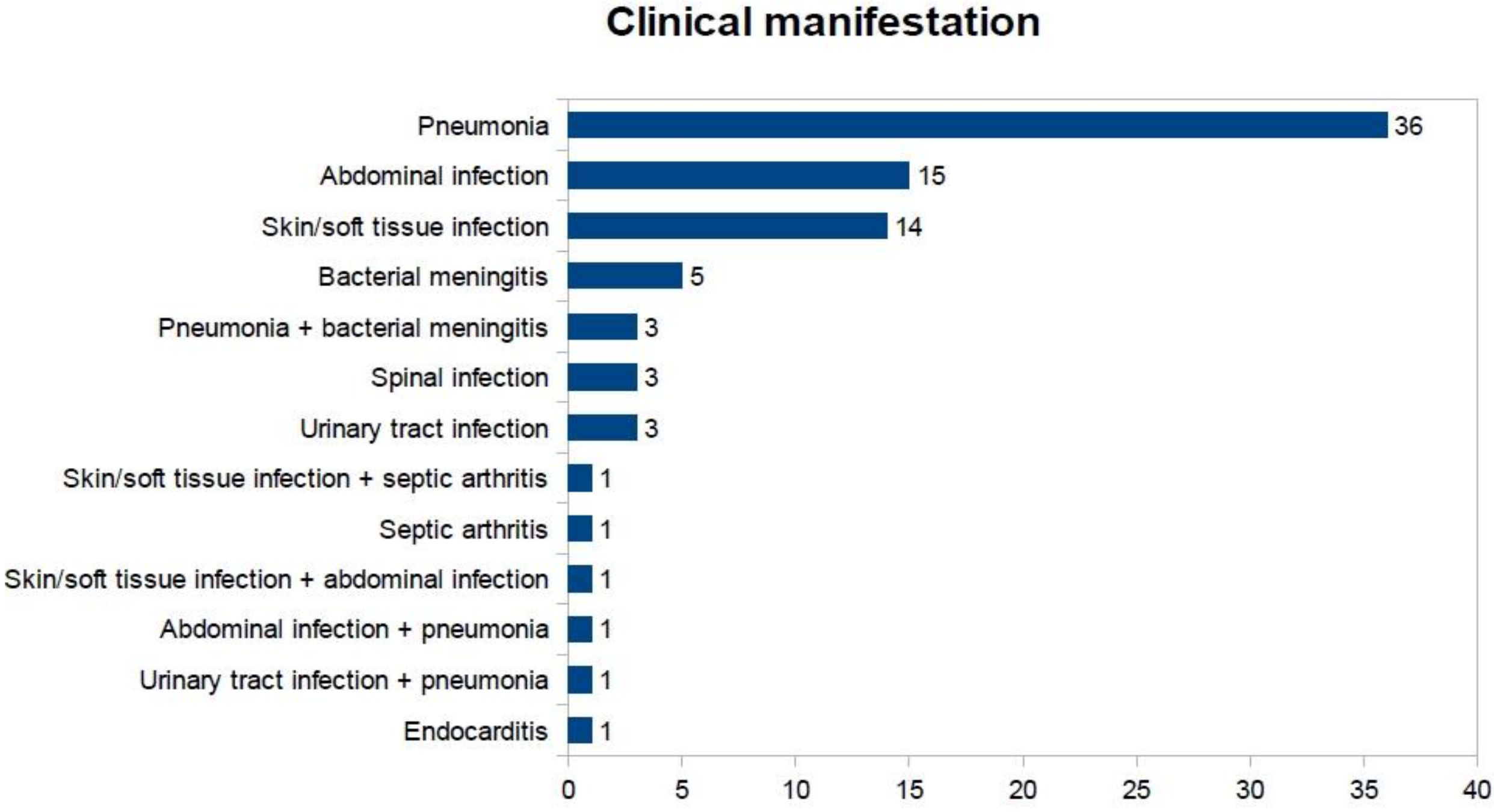
Number of patients included N=86

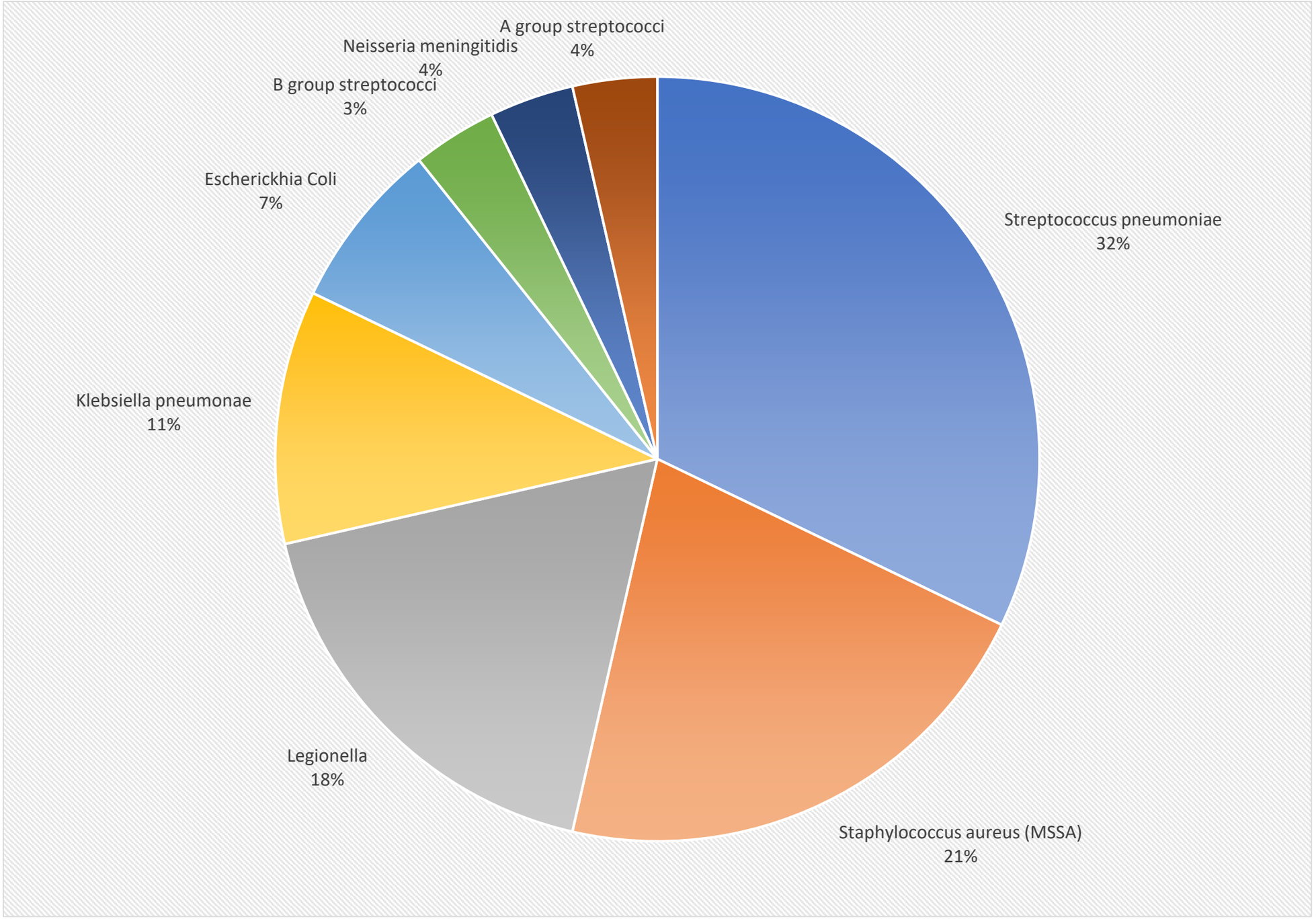
- Age (SD) 65,0 (16,0)
- Male 59%
- ICU from emergency department 91%
- Door-to-physician time, h:min (SD) 00:14 (0:31)
- Blood cultures taken 63%

-

Preexisting morbidities (77%)

- Chronic heart failure 49%
- Diabetes 22%
- Chronic renal disease 18%
- Chronic liver disease 9%
- Malignancy 6%
- Immunosupression 5%


Clinical manifestation
Pneumonia
36
Abdominal infection
15
Skin/soft tissue infection
14
Bacterial meningitis
5
Pneumonia + bacterial meningitis
3
Spinal infection
3
Urinary tract infection
3
Skin/soft tissue infection + septic arthritis
1
Septic arthritis
1
Skin/soft tissue infection + abdominal infection
1
Abdominal infection + pneumonia
1
Urinary tract infection + pneumonia
1
Endocarditis
1
0
5
10
15
20
25
30
35
40


A group streptococci
4%
Neisseria meningitidis
4%
B group streptococci
3%
Escherickhia Coli
7%
Klebsiella pneumonae
11%
Legionella
18%
Staphylococcus aureus (MSSA)
21%
Streptococcus pneumoniae
32%

Treatment

- Door-to-antibiotic time – 282 min (4 h 42 min) (SD 213 min)

<1 hour	10,5% (9)
1 – 6 hours	61,6% (53)
> 6 hours	27,9% (24)

- Appropriate empiric antimicrobial therapy according to local guideline 95,3% (82)
- Inappropriate regarding etiology - 10,7% (3/28)

Mortality (n=86)

ICU mortality – 45,3% (39)

28-day mortality – 50,0% (43)

Hospital mortality – **58,1%** (50)

Healthcare associated bacteremia in ICU

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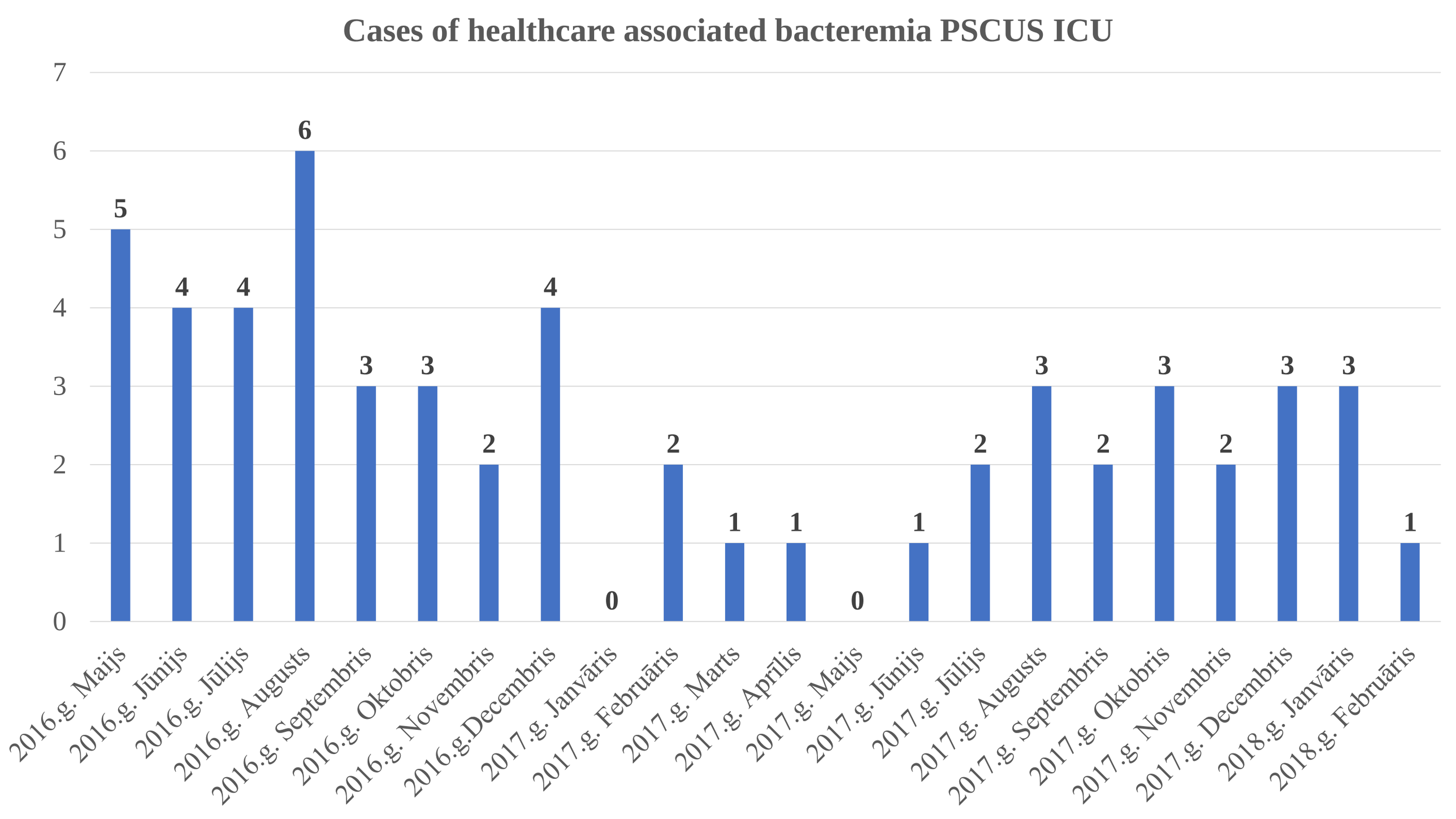
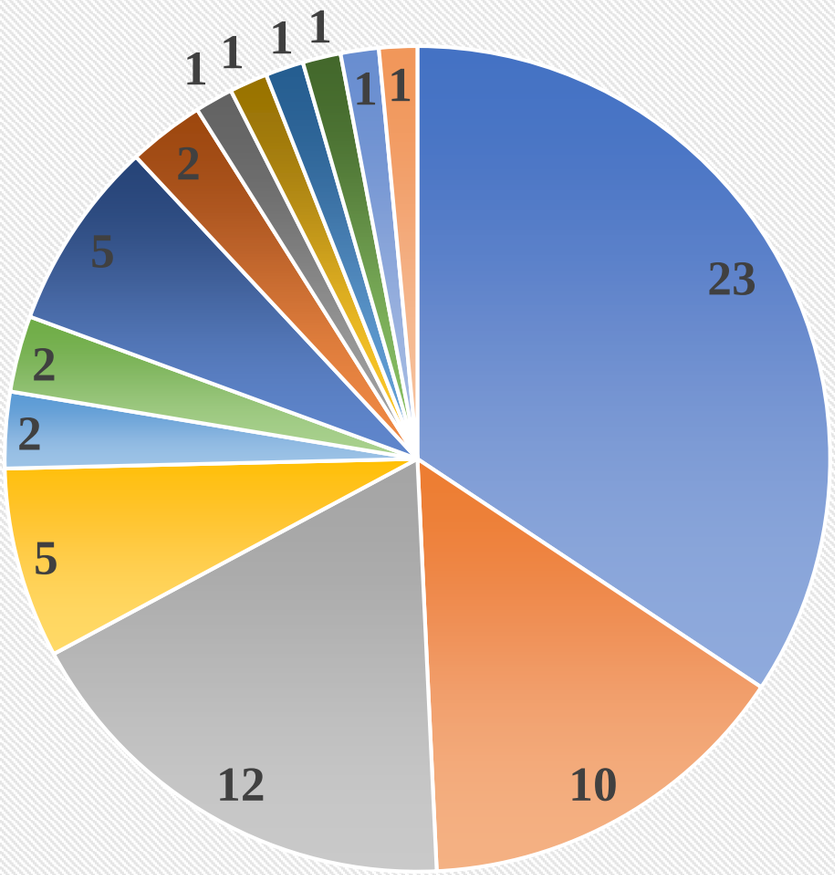
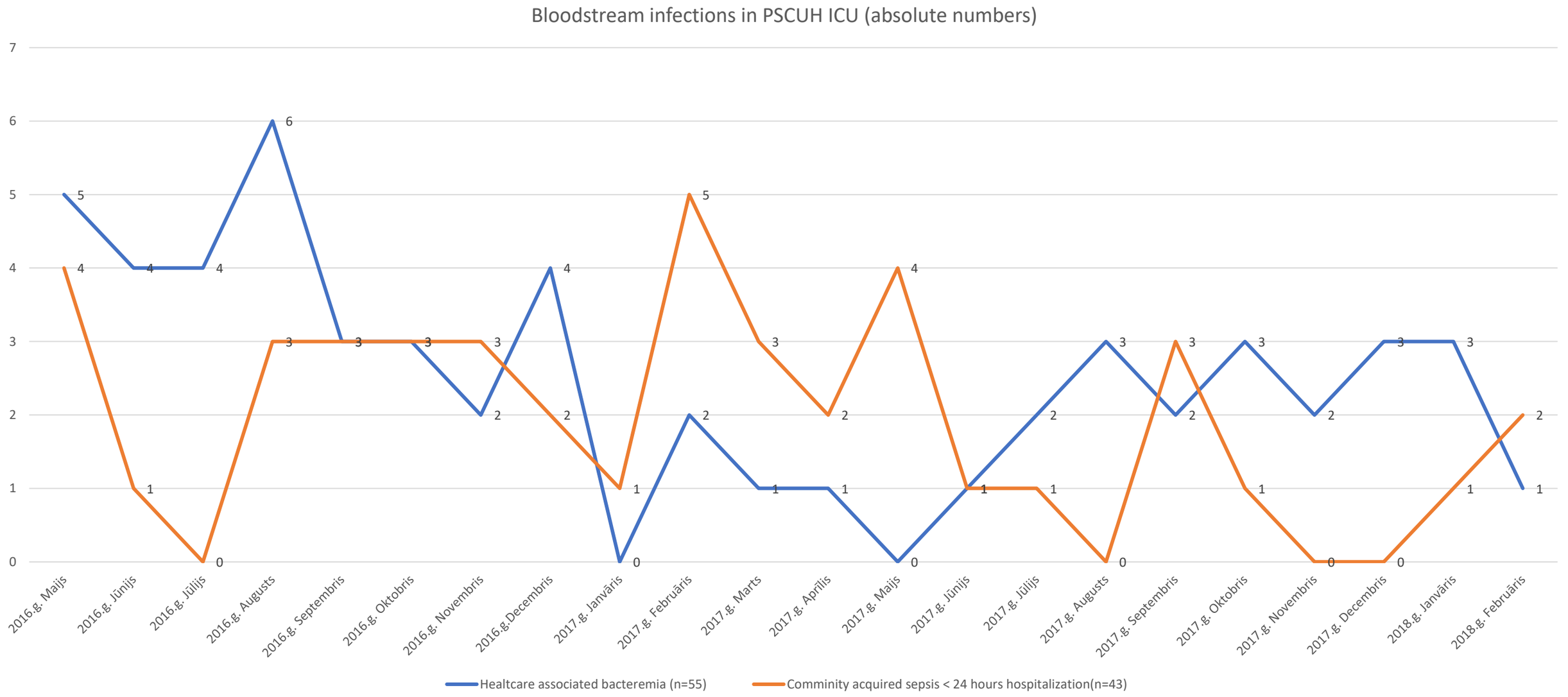

Cases of healthcare associated bacteremia PSCUS ICU
7
6
5
4
3
2
1
0
5
4
4
6
3
3
2
4
0
2
1
1
0
1
2
3
2
3
2
3
3
1
2016.g. Maijs
2016.g. Jūnijs
2016.g. Jūlijs
2016.g. Augusts
2016.g. Septembris
2016.g. Oktobris
2016.g. Novembris
2016.g.Decembris
2017.g. Janvāris
2017.g. Februāris
2017.g. Marts
2017.g. Aprīlis
2017.g. Maijs
2017.g. Jūnijs
2017.g. Jūlijs
2017.g. Augusts
2017.g. Septembris
2017.g. Oktobris
2017.g. Novembris
2017.g. Decembris
2018.g. Janvāris
2018.g. Februāris

Etiology of nosocomial bacteremia in ICU



- Acinetobacter Baumannii
- Enterococcus faecium
- Klebsiella pneumoniae
- Enterobacter cloacae
- Pseudomonas aeruginosa
- Klebsiella oxytoca
- Enterococcus faecalis
- Staphylococcus coagulase negative
- Burkholderia cepacia
- Proteus mirabilis
- Enterobacter aerogenis
- Elizabethkingia meningoseptica
- Candida albicans
- Serratia marcescens


Bloodstream infections in PSCUH ICU (absolute numbers)
7
6
5
4
3
2
1
0
5
4
4
4
6
3
3
3
2
4
0
2
1
5
3
2
4
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2
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1
0
2016.g. Maijs
2016.g. Jūnijs
2016.g. Jūlijs
2016.g. Augusts
2016.g. Septembris
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2016.g. Novembris
2016.g.Decembris
2017.g. Janvāris
2017.g. Februāris
2017.g. Marts
2017.g. Aprīlis
2017.g. Maijs
2017.g. Jūnijs
2017.g. Jūlijs
2017.g. Augusts
2017.g. Septembris
2017.g. Oktobris
2017.g. Novembris
2017.g. Decembris
2018.g. Janvāris
2018.g. Februāris
Healtcare associated bacteremia (n=55)
Comminity acquired sepsis < 24 hours hospitalization(n=43)

Topics for discussion

Community acquired sepsis

- Typical pathogens
- High mortality
- Problems with early recognition and management

Healtchare acquired bacteremia

- Related to invasive procedures
- Caused by multidrug resistant bacteria
- Preventable

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