

# **SURVEILLANCE OF BLOODSTREAM INFECTIONS IN BELGIAN HOPITALS**

**Protocol update 2019**

**Healthdata BSI surveillance registration and reporting**

**Workgroup meeting  
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# Protocol: background

- Major review of protocol in 2012
- Sciensano BSI protocol based on most recent CDC and ECDC protocols
- **Definitions** (def.) for BSI, HABSI and CLABSI **differ** in ECDC and CDC protocols + some CDC and ECDC def. change over the years (e.g. CDC CLABSI def.)

# Protocol: background

Some NSIH BSI surveillance definitions compared with ECDC (HAI in ICU - 2017) and CDC (2018) def.

- BSI
  - ± similar to ECDC def. (but no def. for neonatal patients)
  - CDC more specific criteria for primary, secondary and laboratory confirmed BSI
- CLABSI:
  - ECDC: same MO in blood culture and CL *or* symptoms improve within 48 hours after removal – no info on how long and when CL should be present
  - CDC: laboratory confirmed BSI and CL present >2 days and present on day of infection or day before

# Protocol: background

Some NSIH BSI surveillance definitions compared with ECDC (HAI in ICU - 2017) and CDC (2018) def.

- HAI
  - CDC: infection with diagnostic infection sign or symptom occurred 2 days or more after the admission day = ***NSIH BSI surveillance def.***
  - ECDC (PPS protocol 2016-2017): infection with an onset after day 2 of the current hospitalisation = ***NSIH BSI surveillance def.***

# Protocol: points to be discussed

- Registration of CL-days?
  - Indicator to evaluate decrease of CL-day:  $\text{CL-days}/\text{patient-days}$
- Registration denominators at ICU (and other units)?
- Registration for minimum 1 quarter or for the whole year?
- Registration per campus or for the whole hospital group (RIZIV/INAMI number)? → Registration has to be the same for all surveillances and denominator data!
- Possibility to indicate if not all campuses participate in registration.

# Protocol: points to be discussed

- ‘Ward speciality’ *versus* ‘Patient speciality’?
  - In ECDC PPS both are reported
  - In NSIH BSI surveillance ward speciality is reported → problems with mixed ward – are becoming more common
- Reporting of healthcare associated BSI occurred outside the hospital setting?
- Terminology: use ‘blood culture’ (=hemocultuur) (ECDC) or ‘blood specimen’ (=bloedstaal) (CDC)?

# Protocol: MO and resistance profiles

	AB1	AB2	AB3	AB4
<i>Staphylococcus aureus</i>	OXA	GLY		
<i>Enterococcus</i> spp.	AMP	GLY		
<i>Enterobacteriaceae</i> ( <i>E.coli</i> , <i>Klebsiella</i> spp., <i>Proteus</i> spp., <i>Serratia</i> spp., <i>Enterobacter</i> spp., <i>Citrobacter</i> spp., <i>Morganella</i> spp., enz.)	AMC	C3G	ESBL	CAR
<i>Pseudomonas aeruginosa</i>	PIP	CAZ	CAR	COL
<i>Acinetobacter</i> spp.	CAR	COL		

AMC, amoxicilline/clavulaanzuur; AMP, aminopenicillines (ampicilline, amoxicilline); C3G, 3de generatie cephalosporine (cefotaxime, ceftriaxone, ceftazidime); CAR, carbapenems (imipenem, meropenem); CAZ, ceftazidime; COL, colistin; ESBL, Extended Spectrum Beta-Lactamase; GLY, glycopeptides (vancomycin, teicoplanin); OXA: oxacilline; PIP, piperacillin met of zonder enzyminhibitor.

## Adapt as in ECDC HAI-ICU protocol, May 2017

- *Enterobacteriaceae*
  - remove ESBL
  - add COL (recommended)
- *Pseudomonas aeruginosa*
  - Replace PIP by piperacillin-tazobactam (TZP)
- *Acinetobacter* spp.
  - add CAZ (recommended)

# Denominator protocol

- See <https://www.healthdata.be/dcd/#/collection/NSIH-Denominators/version/19> or [http://www.nsih.be/download/Protocol\\_Noemermodule%20en%20gemeenschappelijk%20gebruikte%20referentielijsten%20en%20variabelen%20\(PDF\)\\_2018.pdf](http://www.nsih.be/download/Protocol_Noemermodule%20en%20gemeenschappelijk%20gebruikte%20referentielijsten%20en%20variabelen%20(PDF)_2018.pdf)
- Def. admission and patient-days as in 'Minimum Hospital Data' (MZG/RHM)
- Choose: Reporting on hospital group level or hospital campus level
- But to be able to map infection data with denominator data → Same level of reporting for all NSIH-surveillances is needed



# Denominator protocol

- Add to Healthdata registration tool (for all NSIH registers) possibility to indicate if hospital register
  - for the whole hospital,
  - for all campuses, or
  - for only some campuses/one campus

# Healthdata BSI surveillance registration and reporting

- Do not forget to register denominator data = separate register: in HD4DP NSIH-Denominators
- Reporting in Healthstat
- Extraction out of HD4DP of raw data by year?