SURVEILLANCE OF ANTIMICROBIAL USE IN BELGIAN HOSPITALS

Eline Vandael, Thaddé Mahmoudian, Boudewijn Catry

NSIH symposium – Surveillance van zorginfecties en antibioticaresistentie
Donderdag 27 april 2017
Defined Daily Doses (DDD)

**DDD** = the assumed average maintenance dose per day for a drug used for its main indication in adults (70 kg)

- Numerator for drug consumption
- International unit
- To assess trends in drug consumption and to perform comparisons between population groups
- Normally one DDD for each drug (per administration route)
- Systematic update by experts
- See website World Health Organization (WHO)

https://www.whocc.no/atc_ddd_index/
ESAC-Net, 2015
Community and hospital sector
Antibacterials for systemic use

Consumption of Antibacterials For Systemic Use (ATC group J01) in the community and hospital sector in Europe, reporting year 2015

ECDC = European Center for Disease Prevention and Control
ESAC-Net = European Surveillance of Antimicrobial Consumption Network
Surveillance in Belgian hospitals

**ABUH**

- **Numerator/Denominator:** Data provided by hospitals
  - Categories for data collection + analysis:
    - Total
    - Pediatrics
    - Non-pediatrics
    - Intensive care
    - Hematology-Oncology

- **Numerator/Denominator:** Administrative data of RIZIV/INAMI
  - More detailed data per service

<table>
<thead>
<tr>
<th>Service</th>
<th>Service_label</th>
</tr>
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<tbody>
<tr>
<td>190</td>
<td>Neonatology, non-intensive</td>
</tr>
<tr>
<td>210</td>
<td>Surgery</td>
</tr>
<tr>
<td>220</td>
<td>Internal medicine</td>
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<tr>
<td>230</td>
<td>Paediatry</td>
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<tr>
<td>240</td>
<td>Mix</td>
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<tr>
<td>250</td>
<td>Infectious diseases</td>
</tr>
<tr>
<td>260</td>
<td>Maternity</td>
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<tr>
<td>270</td>
<td>Neonatology, intensive</td>
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<tr>
<td>290</td>
<td>Burns care</td>
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<tr>
<td>300</td>
<td>Geriatrics</td>
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<tr>
<td>490</td>
<td>Intensive care</td>
</tr>
<tr>
<td>610</td>
<td>Specialised cardio-pneumology</td>
</tr>
<tr>
<td>620</td>
<td>Specialised locomotion apparatus</td>
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<tr>
<td>630</td>
<td>Specialised neurologiques</td>
</tr>
<tr>
<td>640</td>
<td>Specialised chronic - palliative care</td>
</tr>
<tr>
<td>650</td>
<td>Specialised chronic polypathology</td>
</tr>
<tr>
<td>660</td>
<td>Specialised psycho-geriatrics</td>
</tr>
<tr>
<td>690</td>
<td>Specialised in transition</td>
</tr>
</tbody>
</table>
Surveillance in Belgian hospitals

- ↓ workload for hospitals
- ↓ variation in data
  ↔ ABUH: interpretation protocol
- Data per fusion and campus
  ↔ ABUH: loss of follow-up by (de)fusion
- Analyses per service, type of hospital, number of beds, ...
- Further back in time (2002)
Current data on antimicrobial use

Antibacterials for systemic use (ATC: J01)
DDD/1000 patient days, 2012-2015
Comparison all services and ICU only
Current data on antimicrobial use

Antibacterials and antimycotics for systemic use (ATC: J01+J02), ATC-subclasses
DDD/1000 patient days + DDD/1000 admissions
2012-2015
Realtime feedback

ABUH  →  NSIHweb

= still operable!

2013: N=99 hospitals
2014: N=62 hospitals
2015: N=36 hospitals
2016: N=6 hospitals
NSIHcode: 9999

Start
- Noemergegevens
- AB normer
- Surveillances
  - CDIF
  - staf Deelname Analyse
- MRSA
  - start
  - Deelname
  - Analyse
- AB
  - Start
  - Deelname
  - analyse
  - Ander hospitaal
  - Afmelden

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**Analyse - Hoofdmenu**

Gelieve een analyse type te kiezen.

- Staafdiagram
  - Vergelijk het AB gebruik van uw ziekenhuis met het nationaal gemiddelde.

- Evolutiegrafiek
  - Volg het AB verbruik op in de tijd.

- Excel rapport
  - Maak een Excel rapport van het AB verbruik.
Realtime feedback

ABUH

BeH SAC
Belgian Hospitals • Surveillance of Antimicrobial Consumption

NSIHweb

https://www.healthstat.be
1. Identification with ID-card

https://www.healthstat.be
2. Selection of organization

https://www.healthstat.be
### Product consumption evolution

**Select parameters**

**Analysis level**
- Merger (ERK)

**Benchmark**
- All hospitals from Belgium

**Period level**
- Year
  - Period from: 2011
  - Period to: 2014

**Unit**
- TOT - total for hospital

**Products**
- 5j01ba01 - chloramphenicol
- 5j01ba02 - thiamphenicol

**Indicator**
- DDD

**Denominator**
- nights

**Denominator 2**
- admissions

[Request report](https://www.healthstat.be)
https://www.healthstat.be

- Maximum (without outliers)
- Own use
- 75%
- Median
- Mean
- 25%
- Minimum (without outliers)
Login requirements → E-Health

Integration Benchmark & Evolution

Stratification by:
- ATC level (1-5)
- Departments/services
- Type of hospital (Primary, Secondary, Tertiary)
- Number of beds
- Others to be defined

Denominator:
- Number of admissions
- Number of patient days

→ APR-DRG
  = All Patient Refined Diagnosis Related Groups
Conclusions

- Use of AB in hospitals remains stable in time
- Most used AB subclasses remain the same

→ Still room for improvement!

In the meantime: NSIHweb
Acknowledgements

All participating hospitals

Anne Ingenbleek, Thaddé Mahmoudian, Kurt Van Brabant, Kris Vranken, Juan Quesada, Xavier Pretlot, Cedric Malache, Nathalie Verhocht, Tadek Kryzwania

Contact: eline.vandael@wiv-isp.be
nsih-info@wiv-isp.be