The national surveillance of healthcare associated infections and antimicrobial resistance in Belgian hospitals (NSIH)

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OVERVIEW AND SOFTWARE TOOLS

Since 1992, the NSIH programme of the IPH coordinates the national surveillance of health care associated infections (HCAI) and antimicrobial resistance (AMR) in Belgian hospitals in addition to other projects concerning infection control (Fig. 1). This surveillance network offers hospitals standardised methods to measure and follow-up different HCAI or AMR indicators and to compare them with other hospitals through confidential feedback of the results.

SURVEILLANCE

Surveillance of nosocomial bloodstream infections (hospital-wide)(SEP)
The incidence of nosocomial bloodstream infections (BSI) increased over the years due to an increase in the sensitivity of surveillance and increasing AMR in enterobacteriaeae, as reflected mainly in secondary BSI. However, the incidence of catheter-related BSI, most related to infection control, is decreasing (Fig 3).

Surveillance of ICU-acquired infections (ICU)
In the surveillance of ICU-acquired infections, risk-adjustment is crucial to make valid comparisons. Fig 4 shows the comparison of 7 EU countries using different indicators of ICU-acquired pneumonia in the European surveillance network HELICS.

Surveillance of Surgical Site Infections (SSI)
Surveillance of SSI is the most frequent type of surveillance in Europe. In Belgium participation to this module is rather limited, resulting in relatively high rates in few voluntarily participating hospitals, probably because of specific problems (Fig 5).

Surveillance of Clostridium difficile associated disease (CDDE)
Clostridium difficile is the most frequent cause of nosocomial diarrhoea. Since July 2006, national surveillance has been organised for all acute care hospitals in Belgium. Preliminary analysis of available data gives a mean national incidence of 2,8 cases/1000 patient days and of 1,9 nosocomial cases/1000 pd (Fig 6).

Surveillance of MRSA and MRE
Antibiotic resistance is a huge problem all over the world. In Belgium, many initiatives were undertaken to slow down the increasing trend. Recently, a promising evolution of MRSA and MRE-rates has been observed in acute care hospitals (Fig 7 & 8).

Surveillance of accidental blood contact (ABC) EPNet
Needlestick injuries and blood and body fluid exposures among HCW are frequent (mean: 10 ABC/100 beds/yr, or approximately 12,000 ABC corrected for underreporting) although 70% is preventable. Fig 9 shows when needlestick accidents occur the most. EPNet allows hospitals to create awareness amongst hospital staff, identify and analyse risk factors and evaluate prevention measures.

Surveillance of antibiotic use (ABU)
Prudent use of anti-infectious drugs is regarded essential to contain antimicrobial resistance. The Federal Public Service of Health (FPFH) therefore finances specialists in antibiotic policy in all acute care hospitals and chronic institutions with more than 150 beds. A methodology to monitor the use of a defined set of drugs and benchmarking are available in this context (fig. 10).

CONCLUSION

NSIH has offered to numerous hospitals indispensable tools for the local implementation of infection control strategies. NSIH also provides the necessary data to BAPCOC and the FPHS to guide national policy-making. 100% of the acute care hospitals participated to at least one of the modules in 2005 and 2006.

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