

## **PREVALENCE RATE OF NOSOCOMIAL INFECTIONS IN BULGARIAN HOSPITALS (2006-2007)**

### **Objectives:**

Affecting 5 to 10 % of all hospitalized patients, nosocomial (hospital acquired) infections are associated with significant morbidity and mortality and represent a growing medical and economic burden to public health systems worldwide. It was assumed that the nosocomial infection rates in Bulgaria would be substantially higher than the average rates in industrialized countries. In order to prove this hypothesis, a one-day point-prevalence survey of nosocomial infections (NI) was carried out between November 2006 and January 2007 in 23 randomly selected hospitals across Bulgaria.

### **Patient and Methods:**

The study was designed to estimate the prevalence of NI, as well as to estimate the prevalence of various risk factors. Based on the surveillance protocol proposed by the *Hospitals in Europe Link for Infection Control through Surveillance/HELICS* (Version 7.0), the investigator(s) developed a version, adapted to the local situation in Bulgaria. All patients aged more than 1 year were included.

Four major types of NI were surveyed:

- a) Surgical Site Infection (SSI);
- b) Primary Bloodstream Infection (BSI);
- c) Urinary Tract Infection (UTI);
- d) Pneumonia (PNE)

### **Results:**

In a representative sample of 3`625 patients, an unexpectedly low overall prevalence of 2.43% (88 infections) was found. Surgical site infections (SSI) were the most common type, amounting 43.18% (38) of all NI, followed by PNE [27.27% (24)], UTI [20.45% (18)] and primary BSI [9.09% (8)]

Highest prevalence rates were found in intensive care units (15.2%), followed by surgical wards (4.1%).

The results of this study confirmed an association of NI with risk factors, such as indwelling vascular lines ( $p<0.0001$ ), urinary catheters ( $p=0.003$ ), surgery ( $p=0.002$ ) and length of stay in hospital ( $p<0.0001$ ).

### **Conclusion:**

This was the first prevalence survey of NI in Bulgaria to follow internationally accepted criteria and to be carried out by specifically trained Bulgarian teams. The results from the study imply the need for effective measures aimed at: (a) Enforcement of modern surveillance (including post-discharge surveillance); (b) Raising the awareness of both health workers and the general public about the social-medical burden of nosocomial infection and antimicrobial resistance; (c) More prudent use of antibiotics in Bulgarian hospitals; and (d) Implementation of target oriented infection control interventions.

Affecting 5 to 10 % of all hospitalized patients, nosocomial (hospital acquired) infections are associated with significant morbidity and mortality and represent a growing medical and economic burden to public health systems worldwide. Nosocomial infections are closely linked with the spread of drug resistant bacteria, which is also a global concern.