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Antibiotics

The Stockholm-based European Centre for Disease Prevention and Control (ECDC) is running a campaign across 36 European countries to promote prudent antibiotic use in hospitals.

The move to ensure the application of best practice aims to reduce the number of patients – currently 400,000 annually – who suffer from infections resistant to multiple antibiotics. In *Klebsiella pneumoniae*, a common cause of infection among hospital patients, an emerging trend is the proportion of resistance to powerful last-line antibiotics, such as carbapenems.

Marc Sprenger, ECDC director, said: "Antibiotic resistance remains a serious threat to patient safety, reducing options for treatment and increasing lengths of hospital stay, as well as patient morbidity and mortality. We are seeing increasing multi-drug resistance and the emergence of resistance to last-line antibiotics in European hospitals which we must take urgent action to redress."

ECDC points out that up to 50% of antibiotic use in hospitals can be inappropriate due to a variety of practices. These include prescribing antibiotics when they are unnecessary; delaying their administration to critically ill patients; giving doses that are higher or lower than appropriate for a specific patient; or for too long or too short a duration. Other misuse includes overgenerous use of broad-spectrum antibiotics or incorrect application of narrow-spectrum antibiotics.

In each of the past two years, the centre has organised an European Antibiotic Awareness Day in mid-November to inform the public that antibiotics are not the solution for infections caused by viruses such as common colds and flu. With this year's emphasis on hospitals, Dr Herman Goossens, University of Antwerp, presented the initial results of research, conducted in partnership with the Institut de Veille Sanitaire in France and the Scientific Institute of Public Health in Brussels, involving 17,900 patients in 63 hospitals in 22 countries.

This found that the percentage of patients with healthcare-related infections ranged from zero to 23%. "If a hospital has 14% or more, it should look at what is going on since it could have a problem," Goossens suggested. At the same time, anti-microbial use in the hospitals surveyed ranged from almost 100% to 2%. "If a hospital has 60-70% of patients on antibiotics, it could have a problem," he warned, adding that antibiotics should only be given orally, not intravenously.

He reported back on the results of four workshops organised by the Belgian EU presidency, ECDC, European Commission and World Health Organisation in early November focusing on the antibiotic problem in hospitals. The first concentrated on emphasising the importance of hand hygiene through national and local campaigns. All European countries which are members of the WHO are being asked to sign up to its hand hygiene campaign – eight have not yet done so. The group set a target: 50% of hospitals in a region or country should fill in the WHO self assessment framework by 5 May 2011.

It was also suggested that the European Commission should support research on hand hygiene campaigns to determine their effectiveness in reducing infection rates and provide material tailored to the specific circumstances in individual member states. The Commission immediately took the idea on board and has promised to make some of its research funding available for the purpose next year.

The second workshop concentrated on hospital indicators and antibiotic management. Goossens acknowledged that mandatory public reporting and publication of indicators on processes, outcomes and structures, as in the UK and France, but not in many other countries, was a controversial issue. But he suggested this was a debate that should be addressed and also revealed that in Belgium each hospital has an antibiotic management team that is funded by the government.

The third group examined the creation of common European methodology on healthcare associated infections and the early findings from 63 hospitals presented above. The final workshop considered infection prevention and prudent use of microbial agents in long-term care facilities. This noted that as the elderly population increases in size, it is more at risk of infection. In some nursing homes antibiotic use is at 20% or higher – a level which Goossens describes as "unacceptable".

The ECDC notes that multifaceted strategies can help to ensure prudent antibiotic use. It advises continuous education of prescribers and specialists; use of evidence-based hospital antibiotic guidelines and policies; and close monitoring of hospital antibiotic resistance and antibiotic use data to guide empiric antibiotic therapy in severely ill patients. It also recommends taking microbiological samples before initiating empiric antibiotic therapy, monitoring culture results and streamlining antibiotic treatment based on the culture results.

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