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Hospitals: Breeding the Superbug

Bacteria that have grown resistant to conventional antibiotics are infecting tens of thousands of hospital patients a year. The prescription: better hygiene and less antibiotics.



Show No MRSA

A nurse puts on a glove before an operation on a patient infected with MRSA, a methicillin-resistant bacteria, at a hospital in Berlin, Germany (Photo: Reuters)

Drenched in pale florescent light and fed with sterilized spoons, hospital patients might feel they are in a safe environment. But while medical staff may do their best, the idea of sterile hospital is an illusion. As the hub for the sick and afflicted, hospitals are inevitably maelstroms of infectious bacteria.

Even in modern European hospitals, one in ten patients pick up an infection, and roughly 50,000 people a year die as a result. Now health experts have a new worry -the emergence of "superbugs," bacteria that have grown resistant to conventional antibiotics. A 2007 study published in the medical journal, *Emerging Infectious Diseases*, reported a doubling of potentially life-threatening superbug cases in U.S. hospitals during 1999-2005.

The most famous of these superbugs is methicillin-resistant *Staphylococcus aureus*, or MRSA, which infects thousands of hospital patients per year. For most people who contract MRSA, it prolongs a stay at the hospital, because the first lines of defense - usual antibiotics - simply don't work. But infections are highly contagious and also can be deadly, particularly for patients who have undergone surgery or those with weakened immune systems.

Experts believe that one reason for the emergence of MRSA and other drug-resistant pathogens has been overuse of antibiotics by doctors over the last several decades.

"Many of the antibiotics prescribed nowadays are unnecessary," says Axel Kramer, president of the German Society for Hospital Hygiene (DGKH). "Resistance is promoted by incorrect use of antibiotics, taking them in insufficient doses, and taking them for too short or too long a period."

10 Deadly Pandemics (click on the image to enlarge)

An interactive tour of some of the world's most dangerous infectious diseases
(Animation: Allianz)

Because of strengthening pathogen resistance, some doctors have begun to scale back their use of antibiotics, resorting to them only when other methods of treatment do not work.

"Avoiding antibiotics is becoming increasingly common, but it is not easy," says J. Glenn Morris, a public health expert at the University of Maryland. "It is difficult for doctors to convince their patients that they can be treated without antibiotics."

Vive la Resistance?

Along with overuse of antibiotics, the study says that unhygienic conditions in hospitals are another major factor fueling spread of MRSA and nosocomial - originating in a hospital - infections, like Vancomycin-resistant enterococcus (VRE).

Former New York Lieutenant Governor Betsy McCaughey has complained that her state's hospitals and doctors' offices are not held up to the same sanitation standards as local restaurants, despite the fact that forty times as many people die each year from infections contracted in health care facilities as they did from eating bad food.

"These infections are caused largely by unclean hands, inadequately clean equipment, and contaminated clothing that allow bacteria to spread from patient to patient," wrote McCaughey in the Wall Street Journal in November 2007.

Axel Kramer and the DGKH have also called for higher hygiene standards in German hospitals. So far, only four of Germany's sixteen states have enacted legislation to improve hygienic conditions in hospitals. Kramer says that more nurses specially trained in hospital hygiene are needed, along with more training for doctors and medical students.

The problem of "infectious hospitals" has also gotten attention from both state and private health care providers, not to mention insurance companies, who are facing higher hospitalization costs for patients who contract MRSA or other infections originating in a hospital.

"We want to raise awareness of a topic that has gotten a lot of expert attention," says Ulrich Hartmann of Allianz, which together with the DGKH, released a study entitled "Infectious Hospitals" in 2007. "We think there is a need to sensitize the general public."

"We are also interested to see that hygiene standards improve, so that resistances do not appear on this scale, that less patients get infected," says Hartmann. "In the end, this will create less costs for us."

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