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CENTAUR GLOBAL NETWORK

2013-03-25-013 Drug resistance now a "catastrophe"

To: (09) Resistance of microorganisms;

DRUG RESISTANCE NOW A "CATASTROPHE"

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Sent: Saturday, March 23, 2013 7:36 AM

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Top health officials in the United Kingdom and United States have warned that resistance of bacteria to medicines is a catastrophe and nightmare, and as serious a threat as terrorism and climate change. Many persons have lost family members because of an infection contracted during an operation while in a hospital. They died after being infected by a superbug like MRSA that could not be eliminated by antibiotics. This in essence is the problem of antibiotic resistance – that a bacterium can evolve and change so that it become immune to the medicines given to a sick patient and that are meant to kill it. When a bacterium becomes resistant to one antibiotic, scientists develop a more powerful antibiotic to kill it. But bacteria can then change to also become immune to the new medicine.

These bactieria have then developed multi-drug resistance. And when the dangerous pathogens outrun the drugs developed to combat them, humanity is at risk of losing the race between life and death. More and more diseases are becoming very difficult to treat or even incurable, as the some pathogens are becoming immune to all antibiotics, including the most powerful ones. And equally problematic is that many of these incurable diseases are contracted when patients stay in hospitals, especially during operations. A major cause of the acceleration of antibiotic resistance is the inappropriate use of the medicines, and the inadequate action (or even inaction) of health authorities.

Drug companies often over-promote the use and sales of their medicines; some doctors over-prescribe or wrongly prescribe antibiotics (sometimes for the wrong ailment), patients who are not informed enough sometimes pressure their doctors for antibiotics for a quick cure and often do not use the medicines properly by not completing the course of medicines. And there's not enough action to make the public aware of the proper use of antibiotics, and not enough regulations (or their implementation) to ensure drug companies and medical personnel sell or prescribe the medicines properly.

The alarm raised by the two top health officials was aimed at pushing the regulators and also the patients into action.

Although there has been a great reduction in cases in English hospitals of MRSA (methicillin-resistant *Staphylococcus aureus*) which is a skin disease, this has been replaced by many times more cases of "gram-negative" bacteria which are found in the gut. These bacteria include *E coli* and *Klebsiella* (which causes pneumonia) which are resistant to many drugs. In the U.K. about 5,000 people die annually from gram negative sepis, in which the bacteria infects the patients' blood; half the deaths were due to drug resistant organisms. In Europe as a whole, "25,000 people die each year as a result of hospital infections caused by resistant bacteria, adding €1.5 billion to hospital, treatment and societal costs." according to a 152-page report issued by Davies.

Besides the new drug-resistant pathogens, resistance is also emerging in old pathogens. In particular the report cites tuberculosis, which has re-emerged in Europe in the form of new strains of TB that are

resistant to many or even all available drugs. Another classical disease with increasing drug resistance is gonorrhoea. The report also warned of a "discovery void" with few new antibiotics developed in the past two decades. "While a new infectious disease has been discovered nearly every year over the past 30 years, there have been very few new antibiotics developed leaving our armoury nearly empty as diseases evolve and become resistant to existing drugs," says a press release on the report.

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While resistance is building up, there have been few new antibiotics. No new classes of antibiotics have been developed since 1987, and none are in the pipeline across the world.

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