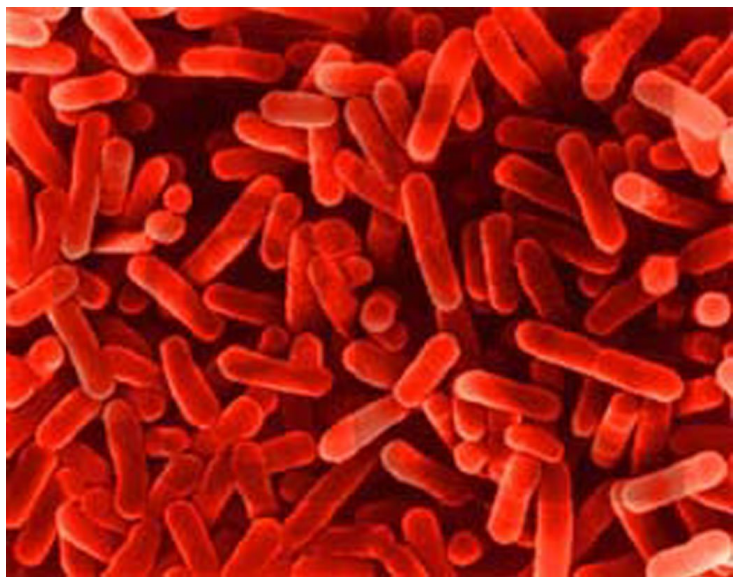


A computer program to detect antimicrobial resistance

08 January 2015 | News | By BioSpectrum Bureau

A computer program to detect antimicrobial resistance



Singapore: With major health organizations like the CDC, WHO sounding alarm bells over the continued rise in antibiotic resistance, researchers across the globe are brainstorming newer methods of prevention and control. A team of researchers have developed a computer program OSPREY, that can detect and predict emergence of resistant bugs.

In a study published in the journal, *Proceedings of the National Academy of Sciences*, researchers used their program, to identify the genetic changes that will allow methicillin-resistant *Staphylococcus aureus* (MRSA) to develop resistance to a class of new experimental drugs that are proven to be effective against the organism.

OSPREY, is a joint effort of the Duke University and the University of Connecticut. Mr Pablo Gainza-Cirauqui, Duke Researcher, explained in a statement, "If we can somehow predict how bacteria might respond to a particular drug ahead of time, we can change the drug, or plan for the next one, or rule out therapies that are unlikely to remain effective for long."

The program will help in predicting the development of resistant bugs, added Mr Gainza-Cirauqui. Researchers explained that OSPREY would also reveal some new mutations that hadn't even been considered, giving experts a means to preemptively prepare.

"We wanted to find out what countermeasures the bacteria are likely to employ against novel compounds [still in development]," said study co-author Bruce Donald. The team further explained that identifying the mechanisms will help in combating antibiotic resistance easily.

Mr Donald said that the team is currently using their algorithm to predict resistance mutations in other pathogens like *E. coli* and *Enterococcus*, hoping to detect resistant strains early.