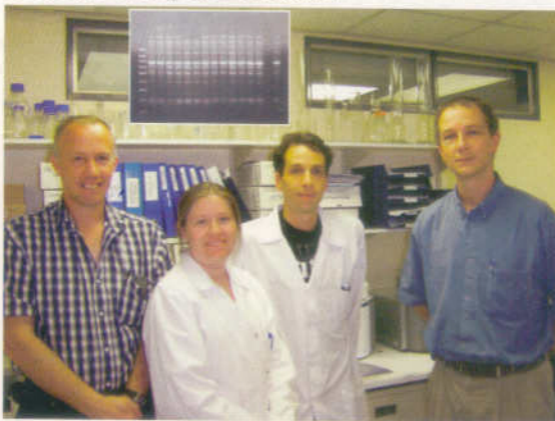


Hospitals are breeding ground for bacteria, many of which are harmless to healthy individuals but deadly to the sick. Babies, the elderly and adults with weakened immune systems are all vulnerable to infections, which can be spread by poor hygiene practices. Other sources of infection include 'moonlighting' personnel who work shifts at a variety of institutions.



*Members of the Ampath molecular biology lab staff: Dr Cornelis Clay (lab manager), Celmari Dorfling, Jake Darby and Dr Gerhard Weldhagen (pathologist). Inset: DNA fingerprints obtained from several Salmonella isolates originating from a recent typhoid outbreak.*

### **Multiple resistant bacteria**

The rise of the superbugs - bacteria immune to antibiotics - has made treatment much more difficult. According to Dr Weldhagen, this phenomenon makes it even more important to identify the culprit bacteria as early as possible, to contain the spread of the infection and implement early treatment options for the sick.

"In certain cases, PCR also enables us to test the drug sensitivity of the organism at a molecular level, to determine the most effective course of treatment," he said.

PCR kits are still primarily imported from the EU or from America although some pathology groups are developing assays in-house to deal with SA specific diseases. Due to intervention by the NPG, the price of imported PCR kits has almost halved, making the technology more accessible than ever. The quality and sensitivity of PCR tests continue to improve. Automation within the laboratory has also decreased the risk of contamination, another factor that is contributing to the growing use of PCR markers.