Nobel prize is awarded to doctors who discovered *H pylori*

Geoff Watts *London*

In choosing Barry Marshall and Robin Warren as winners of the 2005 prize in physiology or medicine, the Nobel awards committee has turned away from basic research this year and plumped instead for old fashioned medical detective work.

Professor Marshall, 54, and Dr Warren, 68, are cited for their 1982 discovery of "the bacterium *Helicobacter pylori* and its role in gastritis and peptic ulcer disease." What the brevity of that citation conceals is the extent to which their work opened the way to a simple cure for a common problem. It also turned an often performed surgical procedure into a relative rarity and stimulated the search for other microbes that may be the cause of chronic conditions.

The two researchers, both Australian, were by no means the first to consider the possibility of a link between microbes and gastric ulcers. The first observations of characteristically curved bacteria among the cells lining the stomach date back to the late

Dr Robin Warren (left) and Professor Barry Marshall walk to a press conference at the University of Western Australia after winning the Nobel prize in physiology or medicine

19th century. But because no one could isolate and grow these organisms, the observations were variously neglected or put down to experimental artefact.

As a clinical pathologist at the Royal Perth Hospital, Dr

Warren examined many stomach biopsy specimens. He began to notice a parallel between the severity of the inflammation and the number of bacteria present. Working with Professor Marshall, at that time a trainee doc-

tor in the same hospital, he set out to show a causal connection between the two observations.

The pair's initial attempts at culturing bacteria from stomach biopsies were unfruitful. With echoes of Fleming's work on penicillin, their eventual success seems to have owed as much to luck as to judgment. The period that one set of plates was allowed to incubate was unintentionally tripled, allowing a flourishing growth of the microbe we now know as *H pylori*.

But did the organism cause the inflammation—or was it the inflammation that allowed *H pylori* to flourish? This chicken and egg uncertainty was resolved in the time honoured manner: through self experimentation. Marshall swallowed a culture of the bacteria, developed gastritis, and then underwent endoscopy and stomach biopsy. *H pylori* was present in the tissue samples; the requirements of Koch's third and fourth postulates had been met in triumphant fashion. □

Alternative therapies could save the NHS money, says report commissioned by Prince Charles

Roger Dobson *Abergavenny*

Many complementary treatments could make an important contribution to health care in the United Kingdom, says a report commissioned by the Prince of Wales and published this week.

Greater use of some complementary treatments could result in major savings in healthcare costs too, says the report, which calls for the National Institute for Health and Clinical Excellence to assess the cost effectiveness of such treatments.

"Despite the fragmentary nature of the evidence, there seems good reason to believe that a number of complementary and alternative medicine treatments offer the possibility of significant savings in direct health costs," says the report.

The report, which focuses on acupuncture, homeopathy, chiropractic, osteopathy, and herbal medicine, says that deprived communities in particular could benefit from the treatments.

On homeopathy, the report says, "There is a large literature on the costs and benefits of homeopathy, and many studies over the past 40 years—randomised controlled trials in humans and animals as well as cost-effectiveness studies—appear to suggest that homeopathy is better than placebo."

On herbal medicine the report says: "The literature scan for this section of the enquiry suggests that there is evidence of clinical benefit relating to musculoskeletal problems, including rheumatoid arthritis, viral infections and the common cold, osteoarthritis, depression, Alzheimer's disease and dementia, heart problems, circulatory problems and benignly enlarged prostate."

Christopher Smallwood, the economist who chaired the investigation for the report, said, "We are not talking about sweeping savings. What we are saying is that as far as individual therapies are concerned, some of them are likely to be cheaper than conventional medicine."

Edzard Ernst, professor of complementary and alternative medicine at the University of Exeter, said, "There have not been enough rigorous studies on the cost effectiveness of complementary treatments, and those which have taken place have found they would add to the cost of the NHS." □

The Role of Complementary and Alternative Medicine in the NHS can be found at www.freshminds.co.uk.