heart rhythm abnormalities – arrhythmias. Those who do are at higher risk of death than those who don't. Since there are drugs that suppress these arrhythmias, it seemed logical to suppose that these drugs would also reduce the risk of dying after a heart attack. In fact, the drugs had exactly the opposite effect. The drugs had been tested in clinical trials, but only to see whether they reduced heart rhythm abnormalities. When the accumulated evidence from trials was first reviewed systematically in 1983, there was no evidence that these drugs reduced death rates.[2]

However, the drugs continued to be used – and continued to kill people – for nearly a decade. At the peak of their use in the late 1980s, one estimate is that they caused tens of thousands of premature deaths every year in the USA alone. They were killing more Americans every year than had been killed in action during the whole of the Vietnam war.[3] It later emerged that, for commercial reasons, the results of some trials suggesting that the drugs were lethal had never been reported (See Chapter 8, p97).[4]

DIETHYLSTILBOESTROL

At one time, doctors were uncertain whether pregnant women who had previously had miscarriages and stillbirths could be helped by a synthetic (non-natural) oestrogen called diethylstilboestrol (DES). Some doctors prescribed it and some did not. DES became popular in the early 1950s and was thought to improve a malfunction of the placenta that was believed to cause these problems. Those who used it were encouraged by anecdotal reports of women with previous miscarriages and stillbirths who, after DES treatment, had had a surviving child.

For example, one British obstetrician, consulted by a woman who had had two stillborn babies, prescribed the drug from early pregnancy onwards. The pregnancy ended with the birth of a liveborn baby. Reasoning that the woman's 'natural' capacity for successful childbearing may have improved over this time, the obstetrician withheld DES during the woman's fourth pregnancy; the baby died in the womb from 'placental insufficiency'. So, during the woman's fifth and sixth pregnancies, the obstetrician

and the woman were in no doubt that DES should again be given, and the pregnancies both ended with liveborn babies. Both the obstetrician and the woman concluded that DES was a useful drug. Unfortunately, this conclusion based on anecdote was never shown to be correct in fair tests. Over the same period of time that the woman was receiving care, unbiased studies were actually being conducted and reported and they found no evidence that DES was beneficial.[5]

Although there was no evidence from fair tests that DES was helpful in preventing stillbirths, the DES story did not end there. Twenty years later evidence of harmful side-effects began to emerge when the mother of a young woman with a rare cancer of the vagina made a very important observation. The mother had been prescribed DES during pregnancy and she suggested that her daughter's cancer might have been caused by the drug.[6] This time the observation was correct, but most importantly it was *shown* to be correct. Since then, numerous studies have shown a range of serious side-effects of DES in both men and women who had been exposed to DES before they were born. These side-effects included not only an increased frequency of rare cancers but also other abnormalities of the reproductive system.

By the time it was officially declared that DES should not be used in pregnancy, several million people had been exposed to the drug. Knowing what we know now, if doctors had used the most reliable research evidence on DES available in the 1950s, many fewer would have prescribed it, because DES was never actually proved to be effective for the condition for which it had been prescribed in the first place. Tragically, this lack of evidence of benefit was widely overlooked.[7]

HORMONE REPLACEMENT THERAPY (HRT)

In women going through the menopause, hormone replacement therapy (HRT) is very effective in reducing the distressing hot flushes that are commonly experienced, and there is some evidence that it may help to prevent osteoporosis (bone thinning). Gradually, more and more beneficial effects were claimed for HRT, including prevention of heart attacks and stroke. And millions of