The trouble with screening

It seems so simple: if a screening test can detect future disease in an otherwise healthy person, why not be tested? The answer is far from simple. For example, the debate about screening mammography for breast cancer continues to rumble. In an April 2 paper in *BMC Medical Informatics and Decision Making*, John Keen and James Keen calculate that such screening started at age 50 and repeated will, over 15 years, avert 1.8 deaths from breast cancer per 1000 women screened. Their data were criticised in a commentary in the same journal, by Stephen Duffy from Cancer Research UK, because they used modelling. His view of the data from randomised trials gives a figure of about 3 per 1000.

In February this year in the *British Medical Journal*, Peter Gotzsche, a long-time (some might say controversial) critic of screening mammography, presented his views about the facts given to women before agreeing to the procedure. He claims that information leaflets are simply misleading. The main downside of screening—overdiagnosis and overtreatment—is often not mentioned, and claims in some leaflets of less invasive surgery or simpler treatment are wrong, because screening mammography can lead to more surgery, more mastectomies, and more use of radiotherapy. Gotzsche’s views led to a letter in *The Times* of London, by a well-known slew of mammography screening sceptics. “The most disturbing statistic is that none of the invitations for screening comes close to telling the truth. As a result, women are being manipulated, albeit unintentionally, into attending”, they wrote. The irony is that the title of the leaflet by the Cancer Screening Programme in the UK is called Breast screening: the facts.

Gotzsche and other authors have drafted an alternative, and they would say properly informative, leaflet. The leaflet’s summary starts: “It may be reasonable to attend for breast cancer screening with mammography, but it may also be reasonable not to attend, as screening has both benefits and harms.” The leaflet goes on to say that one woman will avoid dying from breast cancer out of 2000 screened regularly for 10 years. But, at the same time, ten healthy women will become cancer patients and be treated unnecessarily (lumpectomy, mastectomy, radiotherapy, and sometimes chemotherapy). And about 200 healthy women will have a false alarm, with attendant psychological distress. News reports last week indicated that the UK’s Cancer Screening Programme will revise its information leaflet.

Next, enter the UK’s Department of Health which announced last week a massive programme—called Putting prevention first—of screening of otherwise healthy people for vascular diseases and diabetes. Such checks, argues the Department, would lead to a higher uptake of primary prevention interventions (statins, antihypertensives, exercise interventions, weight management, lifestyle management for impaired glucose tolerance, and smoking cessation). The aim is to reduce the risk of vascular disease and to allow earlier detection and treatment of kidney disease and diabetes. If applied to 15 million people aged 40–74 years, the programme could prevent 9500 heart attacks and strokes a year (2000 of them fatal), prevent at least 4000 people a year from developing diabetes, and detect a year earlier at least 25 000 people with diabetes or kidney disease. Screening will be done in general practices and possibly in community pharmacies. The average annual cost for checks every 5 years and subsequent interventions will be £332 million, with savings of £3678 million in quality-adjusted life years gained. The Department’s view is that the extra staffing resources required will be modest, even though the programme will need an extra 800 general practitioners, 470 nurses, and 750 health-care assistants per year of implementation. But then there is the ominous warning that the extra number of general practitioners needed might put “upward pressure on input costs”.

Around the world, different countries have screening programmes for many diseases, including cervical, breast, prostate, and colorectal cancers, and cardiovascular diseases. Each one is surrounded by controversy, not only because the data on benefits and harms are not straightforward, but also because of the vested interests (eg, fee per service) that make screening into a business. The public is left totally confused, and usually at the mercy of screening providers. Before becoming a patient, a healthy individual deserves fully informed consent, with information provided at the individual and population level. In the April issue of the *Journal of Medical Ethics*, Gotzsche returns to the fray with a sensible decision: keep the responsibility for the information provided separate from that for the screening programme. ■ The Lancet