

## THE CLINICAL PRACTICE TRANSFORMATION PROJECT

### Sustainable practice for the 21<sup>st</sup> century

#### Document version control

Version	Date	Authors	Notes
1.0	2.12.2009	Sir Muir Gray Dr Frances Mortimer	The following people have been consulted in preparation of this document, although it does not necessarily reflect their views: <ul style="list-style-type: none"> <li>• Sir Christopher Edwards, Chair, Medical Education England</li> <li>• Dr Andrew Vallance-Owen, Global Medical Director, BUPA</li> <li>• Prof Mike Richards, National Clinical Director for Cancer Care</li> <li>• Prof Roger Boyle, National Clinical Director for Heart Disease and Stroke</li> </ul>

#### Healthcare is in crisis; the climate is in crisis.

These two crises of the 21<sup>st</sup> century are usually presented separately but they are in fact interrelated, and they are also interrelated with the 21<sup>st</sup> century health epidemics.

- Climate change is already creating significant health problems in developing countries.
- These health problems increase migration putting pressure on services in all countries.
- Climate change causes acute crises in developed countries, for example during heatwaves or flooding.
- The cost of energy will increase remorselessly, exceeding investment in healthcare.
- The response to climate change will set legal and regulatory requirements for carbon reduction – carbon budgets will be reduced far more rapidly than financial budgets.
- Use of fossil fuels for transport and food production is driving not only climate change but also increasing incidence of obesity, cardiovascular disease, diabetes and cancer.

The opportunity lies in the fact that measures taken to tackle the healthcare crisis are the same set of measures that need to be taken to tackle climate change. If a health service becomes more sustainable it improves health outcomes and patient experience while running at lower cost, using cost in the broadest sense of the term embracing not only finance as a currency but also carbon and the time of both professionals and patients.

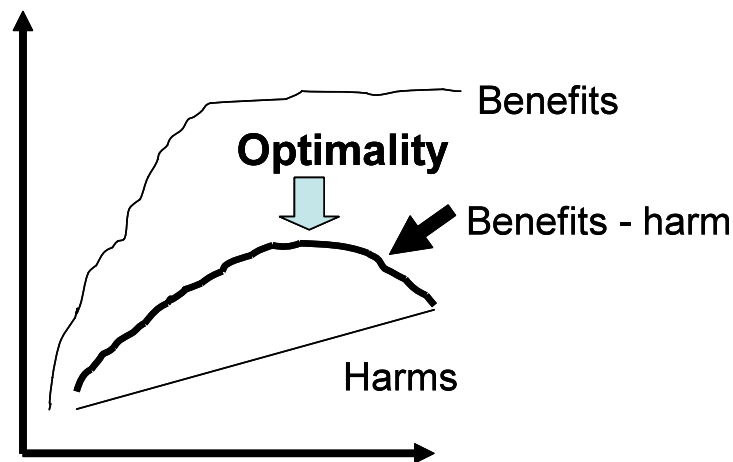
It is, however, necessary to be clear about the language being used at this point.

#### Quality and productivity, value and sustainability

The term “quality” as currently used in the NHS includes safety, efficiency and patient experience.

Conventionally “efficiency” is described as the relationship between inputs and outcomes, whereas “productivity” is defined as the relationship between inputs and outputs.

Within this distinction lies the concept of value. The value resulting from an investment of health services resources (for example, financial resources or a clinician’s time and effort) is a function of benefits, harms and costs. Low value healthcare is not necessarily ineffective; the clinician may request a treatment which has been shown to be effective in one group of patients when faced with another patient who does not share the same characteristics as the group in the research study. The benefit may be much lower with the probability of harm being the same or even higher, and these too need to be related to the cost. These principles were first put forward by Avedis Donabedian whose classic diagram on optimality is reproduced below.



For the future, therefore, it is insufficient simply to think of continuing with clinical practice as we know it and trying to do it to a higher standard or at a lower cost; as pressure on resources increases, we will need to focus on value, and the clinical community, with patients’ representatives, will need to address these issues when the budget is fixed and finite. In future, health services will run within programme budgets, for example a budget for musculoskeletal disease, and within that envelope decisions will need to be made such that high value services receive priority and lower value services receive funding only if all high value services can be funded. These judgements will need to be made by clinicians who manage resources – and almost every clinician can be seen as a clinician who is managing resources.

High value healthcare should also be low carbon healthcare, and the principles of lean design would obviously create a health service in which the carbon footprint was lower. However, the concept of sustainability is broader than the concept of low carbon care. It involves the need not only to manage the estate properly but also to think how the health service relates to the local community, to consider how the health service will be staffed without recruiting professionals from low income countries. The concept of sustainability considers the relationship of the health service to the community it serves and not simply the quality and productivity of the health service itself.

### **Sustainable clinical practice**

The NHS has been set a target of reducing its carbon footprint by 80% before the year 2050. Attention has been focused on energy but in fact the energy that the health service uses amounts to about one-fifth of the carbon footprint, with travel of both staff and patients amounting to another fifth. About 60% of the carbon is what is sometimes called indirect carbon, namely the carbon that has been used in the manufacture and distribution of the drugs and equipment that the health

service uses. The message is clear. The carbon reduction target cannot be achieved simply by improving energy supply and use.

Sustainable healthcare = sustainable estates and facilities + sustainable clinical practice

We obviously have to make the estates and facilities that are used as sustainable as possible but it is also essential to transform clinical practice. The model of sustainable clinical practice developed by the Campaign for Greener Healthcare has the four themes set out below.

### *Prevention*

The prevention of disease is the most sustainable step a health service can take and all clinicians need to be involved in prevention. The A&E consultant, for example can have a bigger impact on alcohol policy in the city in which they work than the public health consultant. The consultant in obstetrics, faced with a rising number of Caesarian sections due to obesity, can play a part in the promotion of exercise. Such is the charisma of, and trust in, doctors that the medical profession can be very influential with only a small investment of time.

### *Supported self-care*

Self-care has very important beneficial implications for resource use and sustainability. An informed patient can be supported to take on a greater role in their own care, for example managing their health data, adjusting medications, and embarking on home-based therapies. Knowing when and how to access care promptly (for example, based on agreed triggers) can help to avert complications and reduce demand for acute services. Reduced in-person contact with healthcare services not only saves on travel and NHS resources, but reduces unnecessary exposure to infection and other risks.

The Darzi Report recommended that all patients received their own lab results and about 150 million lab results are sent out each year in England. If only one-tenth of those lab results prevent a visit to the health centre then 15 million visits a year would be prevented. Furthermore, there is good evidence that many patients like this approach, and are happy to accept increased responsibility and manage their care electronically. A systematic review of INR monitoring in *The Lancet* showed that this is more effective and cost-effective than conventional treatment.

### *Lean pathways*

We need to make care simpler, for example by:

- developing integrated diagnostic services so that a woman with pelvic pain does not need to go to gynaecology one month and gastroenterology the next;
- reducing the number of steps in care pathways, for example by reducing the intensity of follow-up and monitoring by increasing the interval between visits where visits are absolutely necessary and stopping follow-up and monitoring where there is no evidence of benefit. It is important to emphasise that both clinicians and patients share in the practice of long-term dependency

### *A choice of low carbon treatment alternatives.*

The research agenda needs to change so that the carbon consequences of a new technology, treatment or service are evaluated as well as the financial and health impact. Furthermore, where there are treatment choices with different carbon footprints, commissioners and people who manage healthcare, most of whom are clinicians, need to consider the consequences of what service should be offered. As with the financial cost of treatment, it is not expected that the individual clinician should worry about the currency when faced with an individual patient, but

choices about treatment policies need to take this into account. For example, in elective surgery there is evidence that if patients are given full information about the probability of benefit and the probability of harm for operations where patient preference is important, an increased proportion of patients will choose the low carbon alternative.

### **Transformation for sustainability**

*“All doctors have a role in the maintenance and promotion of population health, through evidence based practice. Some will enhance the health of the population through taking on roles in health education or research, service improvement and re-design, in public health and through health advocacy.”* (The Role of a Doctor – consensus statement)

The clinical professions are of central importance in developing sustainable healthcare. Whatever decisions are made at Board level about the type of energy used or the allocation of resources, it is doctors and nurses and other clinicians who actually commit those resources.

Furthermore, as described above, the pursuit of sustainability in healthcare confers co-benefits to the quality of care, including safety, effectiveness, timeliness, efficiency and patient experience.

Finally, sustainability is a health issue. It is the duty of a doctor to protect and promote the health of patients and the public – and in the present day there is no greater threat than global climate change.