PMAC Keynote Lecture

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Prince Mahidol Award for Medicine 2012

Your Royal Highness. Over the past 40 years I have addressed thousands of audiences, ranging in size from a dozen or so, to huge auditoria with more than 20,000 people. I have never, however, had the privilege of speaking in the presence of a Princess of the Royal Blood. Thank you for this exceptional honour. And thank you, too, for presenting me with the Prince Mahidol Award for Medicine, for 2012, yesterday evening in the Chakri Throne Room. To be now numbered among those giants of medicine and public health, who have previously received this award, is very humbling.

My own professional life has been that of a physician-scientist combining the roles of teacher – to undergraduate and postgraduate medical students; a clinical investigator – largely devoted to research into the actions, effectiveness and adverse effects of medicines; and as a physician looking after patients with general medical problems.

These roles have been interconnected. The problems I encountered looking after patients under my care prompted my research interests. These were followed, in turn, by attempts to pass on my newly discovered knowledge to the next generation of physicians.

But I soon discovered that the passing on of knowledge was much more difficult than acquiring it. For example, in the late 1970s and early 1980s, I discovered (and published) a simple method for predicting safe and effective doses of the anticoagulant drug warfarin for individual patients. Patients' dosage requirements for warfarin vary forty-fold. If they are under-dosed they run the risk of developing clots in their blood vessels; and if they are over-dosed they run the risk of bleeding. In the 1970s finding the right dose was a matter of trial and error and could take weeks. The simple method that my collaborators and I developed allowed patients' dose requirements to be predicted after the first dose.

Although I managed to persuade my colleagues in my own hospital to use the technique it took 25 years for it to be widely adopted. I learned the hard way how right your Royal Highness's grandfather – Prince Mahidol – was when he stated: *"True success is not in the learning, but in its application for the benefit of mankind"*

In retrospect perhaps 25 years wasn't as long as it might have been. In general we now know that it takes, on average, 17 years for new ideas and methods to reach patients. This is not because health professionals, generally, are unreceptive to advances in medical knowledge. Rather it is because of the shear size of the burgeoning medical literature. About 2 million scientific articles are published, each year, relevant to the practice of medicine. It has been estimated that for a doctor to keep up-to-date in his

own field he or she much read between 18 and 20 original articles, each day, including weekends and public holidays.

This of course is impossible. And even if I accomplished this task for myself, for just one day, there is little chance that I would remember very much by the following morning. It was for this reason that I became enamoured by the potential utility of clinical guidelines – pathways of care – that map the most appropriate journey for patients with particular conditions and allowed their physicians to provide their patients with the best attainable care.

We have at the National Institute for Health and Clinical Excellence (NICE) now published over 160 clinical guidelines covering such disparate topics as diabetes in both adults and children, schizophrenia and depression, antenatal, perinatal and postnatal care, breast cancer and the febrile child. These guidelines are making real difference to the quality of care that patients in Britain get from our National Health Service.

But all countries seeking to provide universal access to healthcare for all their poples, whether in Britain or Thailand, have another problem. For in both developed and developing countries resources for healthcare are finite. We have to decide on priorities which means that we all have to take account of cost effectiveness, as well as clinical effectiveness, in deciding what we are able to provide for our peoples.

This is unquestionably a difficult and sometimes controversial task. But face it we must. For if we spend large sums of money on a few patients we will deny other patients, with other conditions, access to cost effective care.

And the amount of money that individual countries can devote to healthcare is a function of their wealth. Richer countries like Britain or France can afford to spend much more on healthcare than poorer ones such as Myanmar or Cambodia. Indeed, and as you might expect, there is a very close correlation between countries' gross domestic products and their expenditures on healthcare.

NICE was charged, at its inception 14 years ago, to take cost effectiveness as well as clinical effectiveness into account when providing guidance to, and deciding on priorities for, the British National Health Service. It was the first time, in the UK, that cost effectiveness was explicitly used in deciding on healthcare coverage.

At the time it was very controversial. The notion that considerations of cost should be taken into account, when deciding on the extent of healthcare coverage, was an anathema to some. But with the passage of time British healthcare professionals, parliamentarians, and the public have come to appreciate that in deciding priorities economic evaluations are necessary.

How did this change of heart come about? There have, I believe, been 6 essential ingredients. First – all of NICE guidance is based on a full review of all the available evidence. In developing a clinical guideline, for example, we

may have to undertake 15 to 20 full systematic reviews of the literature. Second, we try to involve all those with a legitimate interest in the topic to contribute. This includes relevant specialists, pharmaceutical and device manufacturers, and patients. We want them all to "have their say" even if they cannot all "have their way". Thirdly, we attempt to ensure that we are transparent about our processes and methodologies and about the evidence-base that we use in making our decisions.

Fourthly, it is the independent members of our guidance development groups make the conclusions we reach. They are chosen for their ability to exercise judgements about the reliability of the evidence and application of research findings to the British National Health Service. Fifth, as well as requiring scientific judgements to be made, judgements are also needed about social values. Should we, for example, be prepared to spend more on an extra year of life for a child rather than their parents or their grandparents? These are not decisions about which the members of our advisory bodies have any legitimacy to make. Rather they should be decided by the people who use, and own our National Health Service the public. So we have established a Citizens Council, drawn from the general public, to help decide the social values we should adopt in deciding our priorities in healthcare. And, finally, we always publish our conclusions in draft form to allow our stakeholders to comment. Where their comments are reasonable we change out guidance.

Each healthcare system must make its own decisions about its own priorities for healthcare. How conclusions are reached, and how decisions are made, are for individual countries to decide. NICE, through NICE International, seeks to help countries wishing to make evidence-informed healthcare policy, using our own experience in the UK, but recognising that ultimately individual countries must reach their own conclusions taking into account their own financial political and societal perspectives.

We, at NICE, have been very impressed by the arrangements you have put in place to support your own highly successful programme for universal healthcare coverage. Your Health Intervention and Technology Assessment Programme, HITAP as it is known internationally, has been a pioneer in the field and, as the result of its work, it has made a major impact in supporting evidence-based resource allocation decisions that include social values, and following a transparent process. It has, if I may make so bold, been a significant component in your nation's ability to offer universal healthcare coverage to all your people.

HITAP is though equally important in an international context. It is a model health technology agency and we, at NICE, have very much benefited from our co-operative engagement with HITAP. We look forward to continued working with your agency in the future.

Your Royal Highness – thank you for your interest, for your support to us through HITAP and, once again, for presenting me with the Prince Mahidol Award for Medicine for 2012.