

## SUMMARY

Debates concerning healthcare have in recent years been dominated by the issues of costs and cost control, leading to insufficient attention being paid to the benefits of healthcare. Besides health improvements at the level of the individual patient and that of the population as a whole, there are also less visible benefits, spread across the policy areas of three ministries (Health, Welfare & Sport or 'VWS', Economic Affairs or 'EZ' and Education, Culture & Science or 'OC&W'). They include such benefits as scientific expertise, high-quality knowledge institutions, patentable (and therefore tradable) know-how, new and innovative businesses, employment growth, economic growth, exports and tax revenues.

In a knowledge economy such as the Netherlands likes to be, it is essential for innovation processes leading from the concept to the market to proceed optimally. However, within health research, not all of the technological innovative possibilities are utilised. The innovation and R&D climate in the medical sector compares unfavourably to the situation in other European countries and particularly to the United States (although such international comparisons are difficult to make). That is assumed to cost the Netherlands a great deal of money. The exact sums involved would only become clear by dismantling the partitions between the ministries referred to above, particularly if looking beyond the short term to focus mainly on the long-term perspective.

In their joint request for advice to the Advisory Council on Health Research (RGO) in April 2000, the three ministries asked the RGO to investigate how the innovation process in the health industry works, who is involved and which factors encourage and inhibit that process.

The RGO drastically narrowed down the total field of the biotechnological, pharmaceutical and medical technology sector and, using Rogers' well-known innovation model and six case studies representing the entire spectrum, focussed mainly on innovation in practice. By concentrating on innovation in practice, a clear picture has been obtained of the experiences of the involved parties, patients, medical practitioners, hospitals, researchers (and/or research institutions), starting business and businesses both large and small, insurers and the government.

The three general characteristics of healthcare (structure, finance and image) were then described, being factors that help to determine whether or not healthcare has an innovative character.

The link to actual practice is formed by case studies. The six case studies have been arranged in accordance with Rogers' model and were chosen in such a way that the entire innovation process was covered. In those examples, publicly financed research was involved in order to obtain an inventory of the often grinding links between the 'trinity' of healthcare, science and industry. The various parties (or 'actors') that play a role in the innovation process have then been discussed, followed by a description of the factors that influence the innovation process, in particular where the links meet.

Finally, the various conclusions have been arranged once again in accordance with the line of the ministries requesting advice. Firstly, the general recommendation has been made to achieve coherence in innovation policy between the three ministries concerned (VWS, OC&W and EZ). The other recommendations are mainly directed towards the grinding links between (1) healthcare and science, (2) science and industry and, finally, (3) industry and healthcare.

The deficiencies in the innovation process, to be set out below, can only be resolved with the expertise, commitment, unity and political support of the ministries in an integrated approach. To enable a co-ordinated policy with respect to innovation in healthcare, the RGO believes that responsibility must be accepted at a high (i.e. ministerial) level. It is in any case necessary for an interdepartmental working group to be established, under the direct responsibility of high ranking civil servants.

#### THE "HEALTHCARE-SCIENCE" LINK

- The links between medical need and research are inadequate. On the one hand, the needs of patients should be articulated and classified by patients' associations and, on the other hand, those needs must be made known to medical researchers and businesses. The RGO recommends that resources be made available for innovation, to finance projects aimed at the articulation and 'translation' of medical needs.
- Professional practitioners in healthcare should realise that they play a key role in the practice and quality of healthcare, a role that they could also play with respect to the substance and practice of innovation. Attention

- should be paid to the importance of innovation in the training of professional practitioners.
- Social debate concerning innovative developments in healthcare relates not only to costs and quality but also to safety. It is often difficult to separate emotional and rational arguments. Prior theoretical debate offers no solution to the ethical problems that arise in daily practice, and more attention should therefore be paid to a development in ethics that proceeds in tandem with a development in innovation.

#### THE “SCIENCE-INDUSTRY” LINK

- The scientific medical culture in the Netherlands has few points of contact with the culture of businesses. The cultures and structures of universities are not geared towards co-operating with new and existing businesses in the development of applied knowledge. There is no easy solution for improving upon that state of affairs. An active policy is necessary to create scope for external, business-oriented concepts at universities alongside the traditional internal, scientific initiatives. We can look to our neighbouring countries for examples.
- The various forms of technology transfer are not yet functioning well. This is a matter of the vital expertise and experience that is in the rule lacking at research institutions. The questions involved include how to find potential candidate starters, how valorisation activities take place, how to protect intellectual property, how to draw up a business plan, how to find interested industrial partners etc. In a non-entrepreneurial culture, it is difficult to find workable solutions to those problems. The RGO recommends making resources available to finance the training and/or hiring-in of professionals for the purpose of technology transfer. The issue of technology transfer is of course not specific to the healthcare sector.
- The RGO believes that there are currently sufficient financial stimuli for young starters, even if it is a case of “too little, too late”.

#### THE “INDUSTRY-HEALTHCARE” LINK

It is not easy to secure market success for a good product or to secure that it is refunded by health insurers. Healthcare is characterised by an extremely regulated environment, with many diverse actors. The impending reform of the healthcare system and the larger role for insurers in the field of healthcare management do not necessarily mean that more innovative products and

processes will come up for discussion. In a general sense, VWS is advised to introduce more stimuli to encourage innovation by insurers. More specifically, it is necessary to ensure that in their management role in healthcare, healthcare insurers do not focus solely on low-price purchasing and efficiency but also, where possible, on differentiated, tailor-made packages and on offering innovative products in which sufficient research has been carried out in order to justify refunding. Above all else, that will require a different attitude to be taken to innovation, on the part of VWS as well.

Possible first steps in achieving that aim are (1) case studies into whether and how innovation, quality improvement and cost control can go together if a broader, longer-term perspective is adopted and (2) ‘calculating’ the effects of the impending healthcare reform on innovation, both to obtain an insight into the possibilities and the costs involved in order to optimise the regulations in this respect and to mitigate the calculating behaviour that arises in relation to any reform and that can have a negative effect on innovation. The results would naturally have to be taken into account in working out the details of the reforms.

The RGO believes that the grinding links in the technological innovation process as, referred to above, are clearly evident in practice, albeit not quantified or always backed up by scientific research. Besides the immediate implementation of a number of recommendations, a number of long-term attitude changes (i.e. increased integration and market-orientation) will be needed for any serious attempt to encourage innovation.