

PDF hosted at the Radboud Repository of the Radboud University Nijmegen

The following full text is a publisher's version.

For additional information about this publication click this link.

<http://hdl.handle.net/2066/24852>

Please be advised that this information was generated on 2020-10-27 and may be subject to change.

Scenario analysis of the future of clinical pharmacy

• Hubert Leufkens, Yechiel Hekster and Steve Hudson

Introduction

Since the foundation of the European Society of Clinical Pharmacy (ESCP) in 1979, there has been a continuous debate about the objectives, roles and added value to patient care of clinical pharmacists. In 1983, ESCP compiled an education document with requirements and standards for the expertise and skills of clinical pharmacists [1]. In the same year, the Federation Internationale Pharmaceutique (FIP) published the proceedings of the symposium on the 'Roles and Responsibilities of the Pharmacists in Primary Health Care' in Copenhagen, from which ensued challenging conclusions on the clinical roles of community pharmacists [2]. Since then, the World Health Organisation, the Nuffield Foundation and many other institutions have recognised and championed pharmacists as essential health care providers [3-4].

In 1992, ESCP reinforced this position in its publication 'The Future of Clinical Pharmacy in Europe' [5]. These published statements reflect the rapidly changing role of pharmacists in the health care system. This change is almost universal among different countries and is related to developments in medical technology, health economics, informatics, socioeconomics, and professional relations [6-7]. The autonomy of almost all clinical practitioners, including medical practitioners and clinical pharmacists, in the choice of diagnostic and therapeutic approaches has been eroded in various ways in recent decades. The pressures of changes in legislation and regulation, the increasing role of insurers and other third parties have combined with the development of protocols and guidelines and the growing influence of the patient/consumer [8-9].

The concept of pharmaceutical care has developed from the practice of clinical pharmacy [10] and while it has been influential in contributing new approaches to education, practice and research, the transitions to new systems of health care delivery are difficult to anticipate. Even with well defined professional targets, it remains uncertain what the future of clinical pharmacy will bring us [5]. In today's circumstances forecasts and target-setting scenarios might have only limited value in deciding future policy. A range of plausible scenarios are perhaps required to help us better prepare for the 'new world' ahead [11].

At the annual congresses of ESCP in Prague 1995 (24th) and Lisbon 1996 (25th), we moderated a number of scenario analysis workshops with respect to the future of clinical pharmacy. In Lisbon 1996, there was special focus on the future role of the clinical pharmacist in optimizing pharmacotherapy. Delegates have been participating actively in this process and contributed a great deal in identifying and evaluating the driving forces behind the developments in clinical pharmacy and in constructing alternative scenarios. In this paper we report from these scenario planning workshops and will present the relevant results in the context of policy making by the profession.

Hubert Leufkens, Yechiel Hekster and Steve Hudson. *Scenario analysis of the future of clinical pharmacy.* *Pharm World Sci* 1997;19(4): 182-185.

© 1997 Kluwer Academic Publishers. Printed in the Netherlands.

Hubert Leufkens (correspondence): Department of Pharmacoepidemiology & Pharmacotherapy, Utrecht University, P.O. Box 80.082, 3508 TB Utrecht, The Netherlands.

Yechiel Hekster: Department of Clinical Pharmacy, University of Nijmegen, The Netherlands.

Steve Hudson: Department of Pharmaceutical Sciences, University of Strathclyde, Glasgow, Scotland, United Kingdom.

Keywords

Clinical pharmacy
Scenario analysis
Future
Policy making
Professions

Abstract

The role of clinical pharmacy in the health care system is changing rapidly. This change is almost universal among different countries and is related to developments in medical technology, health economics, informatics, socio-economic status, and professional relations. Transitions to new systems of clinical pharmacy are difficult to anticipate. Even with well defined targets, it remains uncertain what the future of clinical pharmacy will bring us. The construction of plausible scenarios may help us better in preparing for the 'new world' ahead.

At the annual congresses of ESCP in Prague 1995 (24th) and Lisbon 1996 (25th), a number of scenario analysis workshops with respect to the future of clinical pharmacy were organized. This paper gives a report of the results of these scenario sessions and reflects on the implications for future policy making. After we identified the driving forces behind the future of clinical pharmacy, various sets of assumptions were made and from them scenarios were constructed which are plausible: they 'could' happen. This analysis provided a logical framework in which we ultimately depicted three alternating stories of the future of clinical pharmacy, named 'CLERK', 'CONTROLLER' and 'CARE MANAGER'. These scenarios are intended to help clinical pharmacists to break free of familiar mental maps and to stimulate creative thinking on the future.

Accepted January 1997

Methods

Scenario analysis was introduced to participants as a form of futures research which since the 1980s has emerged as a technique which aims to centre not on single forecasts or targets but on plausible scenarios - futures which 'could' come about as a result of present or emergent trends. This approach has grown in popularity as modern society has grown more complex. Thus, such scenarios are 'stories of the future' which are both conceivable and consistent in the light of our knowledge of the present and past [11]. Preparing for plausible futures helps us generate the mental awareness, knowledge and interpretation needed to deal with the 'real' future. The aim of scenarios is to help policy makers to take a long view and, by doing so, to step outside current limited concepts and to make the readjustments in 'mindset' to be prepared adequately for the future. A systemic step-approach is an important prerequisite in developing scenarios; we adopted this approach from the work of Schwartz on scenario analysis [11] and have successfully applied it in the scenario analysis on the future of medicines [12].

Small groups of delegates in syndicate sessions were facilitated through the process of the identification of major trends and forces (the 'driving forces') behind today's world of clinical pharmacy. After we identified the predetermined elements from this list of driving forces, we were left with a number of uncertainties. A critical uncertainty, is an uncertainty that is key to the future of clinical pharmacy. These uncertainties play an important role in selecting the most critical dimensions and these may be capable of being better understood by simplifying and resolving them into one or two axes, called 'scenario drivers'. On the basis of various sets of assumptions derived from that analysis, scenarios were constructed which are plausible - they 'could' happen. Finally, we evaluated the features of these scenarios in different groups within ESCP in order to adjust and further refine the initial (crude) analyses. During the Lisbon sessions, the scenarios were also contrasted against the question of what future roles clinical pharmacists could have in optimizing pharmacotherapy.

Results

The scanning of possible clues for 'driving forces' resulted in a long and extensive listing of a wide range of candidates, representing developments, forces and observations in clinical pharmacy and health care in general. After regrouping these, a total of six 'driving forces' were identified.

1 Increased need to demonstrate added value of pharmaceutical services

There is continuous pressure on the profession of clinical pharmacy to make its role visible and to demonstrate its added value to benefit both patient outcome and economic criteria. Justification of pharmacy services is more and more required by payers and hospital managers to counter the rationing of resources. To acquire a share of the health care budget has become a matter of demonstrating 'evidence-based' practice, not only for pharmacists but for many health care professionals.

2 Patient focus

Patients and other health care consumers, especially those concerned with particular types of disease (chronic diseases, AIDS), bring political pressure to bear with a view to increasingly maximizing the availability of relevant services. Society also continues to seek improved protection in terms of provider liability and safety of medical technology. Demographics add to these developments in terms of increasing the need for care of the chronically ill.

3 Changes in the market place and in decision making

Patterns of power in health care are shifting as the position of health care providers weakens. New players, including insurer-based pharmaceutical benefit schemes, managed care organizations, are taking over new powerful positions in the health care arena. New configurations of health care purchasers and health care providers are catalysts of a dramatic change in decision-making power, over-riding the one-to-one relationship between the health care provider and the patient.

4 New technology, robotics and the expansion of information technology (IT)

The successful synergy of basic sciences with technology has accelerated information technology, materials technology and biotechnology, which increases the likelihood of future breakthroughs in drug treatment. The management of these new treatments will require advanced pharmaceutical expertise and new skills. The growth of information technology facilitates risk monitoring, the automation of routine procedures and will provide increased opportunity for feedback of data to help the implementation and control of therapies and to provide strategic management information.

5 Shift to disease orientation

Traditionally, drug compounding, distribution services and quality assurance were key components of pharmacy practice. These product-oriented tasks are diminishing, with a shift to more clinical and disease-oriented tasks. This driving force is not specific to the profession of pharmacy; but reflects a more general paradigm shift in patient care, where disease management is becoming seen holistically, rather than as a series of processes of detection, diagnosis, treatment and follow-up.

6 Changes in training and education

Pharmacy education has increasingly become more patient orientated, particularly in the past decade, preparing new pharmacy professionals for prominence in pharmacotherapy, delivery of clinical services, computerisation and formulary management. However, the innovators within the profession and the educational institutions generate role models who are influential but not necessarily accepted by all pharmacists. Demographically, today two out of three pharmacy graduates are females, and these changes have a major influence on the emerging role models and on professional attitudes.

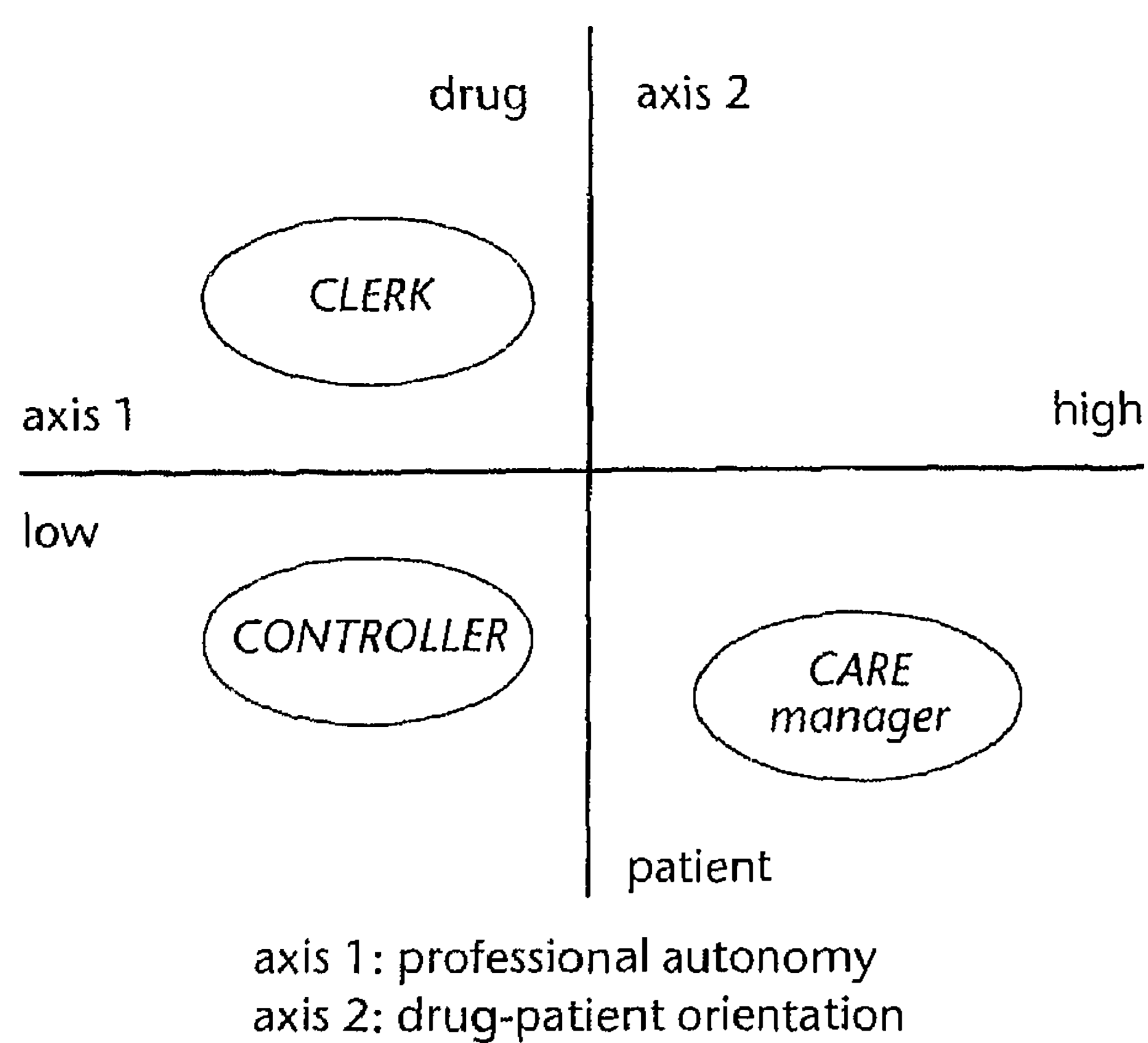


Figure 1
Three scenarios of the future of clinical pharmacy along two axes.

Scenario axes

We resolved those uncertainties, sharing some commonality into two orthogonal axes. Then we defined a matrix (two axes crossing) that allows us to define in theoretical terms four distinct, but plausible, quadrants of uncertainty. The successful increase in visibility of the added value of the pharmacist to the drug use process, thereby reasserting professional autonomy, was found to represent one important dimension (axis 1: professional autonomy-high versus low). A critical uncertainty remains around whether the shift to patient orientation in pharmacy can be maintained, whether consistency can be established internationally - or paradoxically given today's forces -

whether the profession will reconcile itself to its original turf, the drug product (axis 2: orientation to drug versus patient). These two dimensions provide the framework in which we ultimately depicted three alternating visions of the future of clinical pharmacy, namely 'CLERK', 'CONTROLLER' and 'CARE MANAGER' (Fig. 1).

Table 1 shows how the major features of the three scenarios are listed. The 'CLERK'-scenario is driven by a transition back to the original turf of 'traditional' pharmacy practice where pharmacists operate as drug oriented employees, have low professional status and have in a limited and dependent role in optimizing pharmacotherapy. In the CONTROLLER-scenario, pharmacists are the guardians of accountability and protocol based practice. They are in charge of budget control and have far reaching responsibilities to 'control' prescribing behaviour. The CARE MANAGER-scenario is strongly patient focused with large set of independent responsibilities for treatment and care strategies. In this scenario, pharmacists are partners to physicians and are proactive in setting standards.

Discussion

The value of scenario analysis lies in the stimulation of thinking and debate on the future. The participants of the scenario analysis workshops were prompted to think in ways that help them to prepare themselves, in terms of their knowledge, skills, activities and attitudes, for what the future holds. It is important to break free of old mental habits if we are to remap our professional course by approaching the future with an open mind. The results of the different sessions provided three different scenarios, all of which represented plausible futures. Observation of the international scene of pharmacy today provides evidence of the features of all three scenarios. For instance, the pharmacy department at Duke University in the US recent-

Table 1 *Three scenarios of the future of clinical pharmacy in key words*

	<i>Clerk</i>	<i>Controller</i>	<i>Care manager</i>
Driven by	Back to original turf, employee, logistics	Custodian, accountability	In charge of personal care, patient first
Professional status	Low	Moderate	High
Model of attitudes	Passive	Reactive	Proactive
Focus and target	Logistics	Protocol	Patient
Relationship to physicians	Dependent	Watch dog	Partner
Impact of female pharmacists	High	Low	High
Optimizing pharmacotherapy	Limited role, whistle blower for the doctor	Budget control, disease management	Partnership, dual commitment with doctors
Opportunity for outsourcing services	Limited; clerks need inside supervising	Good; external accounting model	No, is based on long-standing relationship

ly dealt successfully with a re-engineering initiative substantiating the value of the pharmacy's services to the medical centre and its patients (CARE MANAGER-scenario) [13]. In this project, the clinical pharmacy department actually gained 1 pharmacist FTE in a climate of reduction of FTEs for other departments and a loss of 800 FTEs for the entire medical centre. An example showing a different emphasis is the development of so-called clinical pharmacy companies [14]. These organisations provide services for identifying opportunities for drug cost savings in managed care plans and for drug use review programs [15]. Although such companies employ clinical pharmacists, they represent very well the features of the 'CONTROLLER'-scenario. The pharmacist is not at stake but fulfils a cost-containment role.

What can we learn from such scenario planning exercises? Many of the health-care changes set in motion in the early 1980s are rooted in an interplay of factors as the drive for better control and accountability, cost-containment and pressures for professionals to demonstrate the added value of their services. The debate on limits to care brings in various social and ethical issues as well. The distribution of scarce resources, the need for efficiency, and the far-reaching implications of health care technology are prominent today.

The scenarios presented here are intended to help clinical pharmacists in their mission to serve patients and doctors in a changing world. None of the three will probably represent the 'real' future, but anticipating them in a creative and strategic way will provide a framework for clinical pharmacists to be prepared and to adjust their mental maps. Moreover, the scenarios can be used in a proactive way in stimulating a drive to create new practice standards in the profession and to underpin new leadership initiatives in a rapidly changing society [16]. Here, we should be aware of the risk in losing the followers of change. Birenbaum has pointed out the paradox that the profession needs innovative leaders to make progress but that a great majority of the profession will miss the link with these leaders when timing and pace of progress are not appreciated by this majority [17]. For ESCP, we believe there lies an important responsibility to build bridges between the leaders in innovative practice concepts and the rest of the profession. We all lose, when society judges the role of clinical pharmacists by judging the value of its weakest link in the chain.

Acknowledgements

The authors thank all participants of the scenario analysis workshops at the ESCP congresses in both Prague 1995 and Lisbon 1996. By organising these workshops, ESCP has provided an innovative forum for thoughtful thinking about the future of clinical pharmacy. The critical comments on an earlier draft of this paper from Drs Ruud Dessing, Niels Muller, Linda Stephens and Georges Zelger are greatly acknowledged.

References

- 1 European Society of Clinical Pharmacy. The clinical pharmacist: education document. Barcelona, 1983.
- 2 Breimer DD, ed. Roles and responsibilities of the pharmacists in primary health care. Proceedings of the 42nd international congress of FIP, Copenhagen 1982. The Hague, 1983.

- 3 Lunde I, Dukes MNG. The role and functions of the community and hospital pharmacist in the health care systems in Europe. WHO Collaborating Centre for Clinical Pharmacology and Drug Policy Science, University of Groningen, 1989.
- 4 Pharmacy, a report to the Nuffield Foundation. London: The Nuffield Foundation, 1986.
- 5 Bonal J, Burden M, Delporte JP, eds. The future of clinical pharmacy in Europe. Noordwijk: European Society of Clinical Pharmacy, 1993.
- 6 Waldo DR, Sonnefeld ST, Lemieux JA, McKusick DR. Health spending through 2030: Three Scenarios. *Health Affairs* 1991;231-42.
- 7 Anonymous. Hard to swallow - the cost of drugs. *Economist* 1992;April 18th:87.
- 8 Dukes MNG. Pharmaceuticals: take another look. *Pharm Weekbl* 1985;120:532-8.
- 9 Reinhardt UE, Pinto FJ, eds. New perspectives in health care economics. MEDIQ Ltd, London 1991.
- 10 UK Clinical Pharmacy Association Statement on Pharmaceutical Care. *Pharmaceutical Journal* 1996;256:345-6.
- 11 Schwartz P. The art of the long view. Planning for the future in an uncertain world. New York: Bantam Books, 1991.
- 12 Leufkens H, Haaijer-Ruskamp F, Bakker A, Dukes G. Scenario analysis of the future of medicines. *Br Med J* 1994;309:1136-40.
- 13 McAllister JC 3rd. Collaborating with re-engineering consultants: maintaining resources for the future. *Am J Health Syst Pharm* 1995;52(23):2676-80.
- 14 Keys PW, Goetz CM, Keys PA, Sterchele JA, Snedden TM, Livengood BH. Computer-guided academic detailing as part of a drug benefit program. *Am J Health Syst Pharm* 1995;2199-203.
- 15 Talley CR. Outsourcing drug distribution. *Am J Health-Syst Pharm* 1997;54:37.
- 16 American College of Clinical Pharmacy. Rewards and advancements for clinical pharmacy practitioners. *Pharmacotherapy* 1995 Jan-Feb;15(1):99-105.
- 17 Birenbaum A. Reprofessionalization in pharmacy. *Soc Sci Med* 1982;16:871-8.