

European Observatory on Health Care Systems Series

Edited by Josep Figueras, Martin McKee, Elias Mossialos and Richard B. Saltman



Hospitals in a changing Europe

Edited by

Martin McKee and Judith Healy

Open University Press

Buckingham · Philadelphia

Open University Press
Celtic Court
22 Ballmoor
Buckingham
MK18 1XW

email: enquiries@openup.co.uk
world wide web: www.openup.co.uk

and
325 Chestnut Street
Philadelphia, PA 19106, USA

First Published 2002

Copyright © World Health Organization 2002

The views expressed in this publication are those of the editors and contributors and do not necessarily represent the decisions or the stated policy of the participating organizations of the European Observatory on Health Care Systems.

All rights reserved. Except for the quotation of short passages for the purpose of criticism and review, no part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the copyright holder or a licence from the Copyright Licensing Agency Limited. Details of such licences (for reprographic reproduction) may be obtained from the Copyright Licensing Agency Ltd of 90 Tottenham Court Road, London, W1P 0LP.

A catalogue record of this book is available from the British Library

ISBN 0 335 20928 9 (pb) 0 335 20929 7 (hb)

Library of Congress Cataloging-in-Publication Data

Hospitals in a changing Europe / edited by Martin McKee and Judith Healy.

p. cm. — (European Observatory on Health Care Systems series)

Includes bibliographical references and index.

ISBN 0-335-20929-7 (hb) — ISBN 0-335-20928-9 (pb)

1. Hospitals—Europe. 2. Hospitals—Europe—Administration. I. McKee, Martin. II. Healy, Judith. III. European Observatory on Health Care Systems. IV. Series.

[DNLM: 1. Hospital Administration—trends—Europe. 2. Health Care Reform—Europe. WX 150 H8345 2002]

RA985 .H676 2002

362.1T094—dc21

2001032135

Typeset by Graphicraft Limited, Hong Kong
Printed in Great Britain by Biddles Limited, Guildford and Kings Lynn

Contents

	List of figures, tables and boxes	vii
	List of contributors	xi
	Series editors' introduction	xiii
	Foreword	xv
	Acknowledgements	xvii
<i>part one</i>	The context of hospitals	1
<i>one</i>	The significance of hospitals: an introduction <i>Martin McKee and Judith Healy</i>	3
<i>two</i>	The evolution of hospital systems <i>Judith Healy and Martin McKee</i>	14
<i>three</i>	Pressures for change <i>Martin McKee, Judith Healy, Nigel Edwards and Anthony Harrison</i>	36
<i>four</i>	The role and function of hospitals <i>Judith Healy and Martin McKee</i>	59
<i>part two</i>	External pressures upon hospitals	81
<i>five</i>	The hospital and the external environment: experience in the United Kingdom <i>Martin Hensher and Nigel Edwards</i>	83

<i>six</i>	Are bigger hospitals better? <i>John Posnett</i>	100
<i>seven</i>	Investing in hospitals <i>Martin McKee and Judith Healy</i>	119
<i>eight</i>	Hospital payment mechanisms: theory and practice in transition countries <i>John C. Langenbrunner and Miriam M. Wiley</i>	150
<i>nine</i>	Linking organizational structure to the external environment: experiences from hospital reform in transition economies <i>Melitta Jakab, Alexander Preker and April Harding</i>	177
<i>part three</i>	Internal strategies for change	203
<i>ten</i>	Improving performance within the hospital <i>Judith Healy and Martin McKee</i>	205
<i>eleven</i>	The changing hospital workforce in Europe <i>James Buchan and Fiona O'May</i>	226
<i>twelve</i>	Introducing new technologies <i>Rebecca Rosen</i>	240
<i>thirteen</i>	Optimizing clinical performance <i>Nick Freemantle</i>	252
<i>fourteen</i>	Hospital organization and culture <i>Linda Aiken and Douglas Sloane</i>	265
<i>part four</i>	Conclusions	279
<i>fifteen</i>	Future hospitals <i>Martin McKee and Judith Healy</i>	281
	Index	285

List of contributors

Linda H. Aiken is the Claire M. Fagin Professor of Nursing, Professor of Sociology and Director of the Centre for Health Outcomes and Policy Research at the University of Pennsylvania, Philadelphia, USA.

James Buchan is Reader at the Faculty of Social Sciences and Health Care, Queen Margaret University College, Edinburgh, United Kingdom.

Nigel Edwards is Policy Director of the NHS Confederation, United Kingdom.

Nick Freemantle is Professor of Clinical Epidemiology and Biostatistics, Department of Primary Care and General Practice, University of Birmingham, United Kingdom.

April Harding is a senior specialist on private sector development for Health Nutrition and Population at the World Bank.

Anthony Harrison is Fellow in Health Systems at the King's Fund, London, United Kingdom.

Judith Healy is Senior Research Fellow of the European Observatory on Health Care Systems, and is an honorary senior lecturer in Public Health and Policy at the London School of Hygiene & Tropical Medicine, United Kingdom.

Martin Hensher is European Union Consultant in Health Economics for the Health Financing and Economics Directorate, Department of Health, Pretoria, South Africa.

Melitta Jakob is a health economist, Health Nutrition and Population at the World Bank.

John C. Langenbrunner is a senior economist at the World Bank.

Martin McKee is Research Director of the European Observatory on Health Care Systems and Professor of European Public Health at the London School of Hygiene & Tropical Medicine, London, United Kingdom.

Fiona O'May is Research Assistant at the Faculty of Social Sciences and Health Care, Queen Margaret University College, Edinburgh, United Kingdom.

John Posnett is Director of the York Health Economics Consortium, University of York, United Kingdom.

Alexander S. Preker is Chief Economist for Health, Nutrition and Population at the World Bank.

Rebecca Rosen is Fellow in Primary Care at the King's Fund, London, United Kingdom.

Douglas Sloane is Adjunct Associate Professor at the Center for Health Outcomes and Policy Research at the University of Pennsylvania, Philadelphia, and Associate Professor of Sociology at the Catholic University of America, Washington, DC, USA.

Miriam Wiley is Head of the Health Policy Research Centre and Senior Research Officer at the Economic and Social Research Institute, Dublin, Ireland.

Series editors' introduction

European national policy-makers broadly agree on the core objectives that their health care systems should pursue. The list is strikingly straightforward: universal access for all citizens, effective care for better health outcomes, efficient use of resources, high-quality services and responsiveness to patient concerns. It is a formula that resonates across the political spectrum and which, in various, sometimes inventive configurations, has played a role in most recent European national election campaigns.

Yet this clear consensus can only be observed at the abstract policy level. Once decision-makers seek to translate their objectives into the nuts and bolts of health system organization, common principles rapidly devolve into divergent, occasionally contradictory, approaches. This is, of course, not a new phenomenon in the health sector. Different nations, with different histories, cultures and political experiences, have long since constructed quite different institutional arrangements for funding and delivering health care services.

The diversity of health system configurations that has developed in response to broadly common objectives leads quite naturally to questions about the advantages and disadvantages inherent in different arrangements, and which approach is 'better' or even 'best' given a particular context and set of policy priorities. These concerns have intensified over the last decade as policy-makers have sought to improve health system performance through what has become a European-wide wave of health system reforms. The search for comparative advantage has triggered – in health policy as in clinical medicine – increased attention to its knowledge base, and to the possibility of overcoming

at least part of existing institutional divergence through more evidence-based health policy-making.

The volumes published in the European Observatory series are intended to provide precisely this kind of cross-national health policy analysis. Drawing on an extensive network of experts and policy-makers working in a variety of academic and administrative capacities, these studies seek to synthesize the available evidence on key health sector topics using a systematic methodology. Each volume explores the conceptual background, outcomes and lessons learned about the development of more equitable, more efficient and more effective health care systems in Europe. With this focus, the series seeks to contribute to the evolution of a more evidence-based approach to policy formulation in the health sector. While remaining sensitive to cultural, social and normative differences among countries, the studies explore a range of policy alternatives available for future decision-making. By examining closely both the advantages and disadvantages of different policy approaches, these volumes fulfil a central mandate of the Observatory: to serve as a bridge between pure academic research and the needs of policy-makers, and to stimulate the development of strategic responses suited to the real political world in which health sector reform must be implemented.

The European Observatory on Health Care Systems is a partnership that brings together three international agencies, three national governments, two research institutions and an international non-governmental organization. The partners are as follows: the World Health Organization Regional Office for Europe, which provides the Observatory secretariat; the governments of Greece, Norway and Spain; the European Investment Bank; the Open Society Institute; the World Bank; the London School of Hygiene & Tropical Medicine and the London School of Economics and Political Science.

In addition to the analytical and cross-national comparative studies published in this Open University Press series, the Observatory produces Health Care Systems in Transition Profiles (HiTs) for the countries of Europe, the Observatory Summer School and the *Euro Observer* newsletter. Further information about Observatory publications and activities can be found on its web site at www.observatory.dk.

Josep Figueras, Martin McKee, Elias Mossialos and Richard B. Saltman

Foreword

The publication of the World Health Report 2000 entitled *Health Systems: Improving Performance* has stimulated policy-makers worldwide to look again at their health care systems. Advances in knowledge, technology and pharmaceuticals enable health care to make a much greater contribution to health than was possible in the past. Unfortunately, this potential is still unrealized in many countries. Health care systems often fail to provide effective care or to respond to patients' legitimate expectations.

The hospital plays a central role in the delivery of health care. Yet for too long it has received relatively little attention from academics and policy-makers. In part, this is because hospital reform is regarded as a difficult issue. Hospitals are complex institutions, often shrouded in mystique. Their distribution and configuration often owe more to the needs of previous generations than to those of today, and hospitals often appear resistant to change. But the demands they face, from changing populations, diseases and the need to respond to technological developments and popular expectations, are constantly changing. Thus both policy-makers and the hospitals themselves must respond to these pressures for change.

What, then, is the role of the hospital of the future? This book identifies the multiple goals of the hospital but also its centrality in promoting health. It stresses the need for governments, and those acting on their behalf, to invest in the prerequisites for effective care, including people, facilities and knowledge. It emphasizes the need to link together the different parts of the health care system, within a framework characterized by cooperation rather than conflict.

In producing this study, the European Observatory on Health Care Systems has drawn on the conceptual skills of senior academics as well as the practical experience of policy-makers to provide a basis for more effective health policy-making.

Marc Danzon
WHO Regional Director for Europe

Acknowledgements

This volume is one in a series of books undertaken by the European Observatory on Health Care Systems. We are very grateful to our authors, who responded promptly both in producing and later amending their chapters in the light of ongoing discussions.

We particularly appreciate the detailed and very constructive comments of our reviewers, Phillip Berman, Antonio Duran, Zsuzsanna Jakab, Charles Normand, Constantino Sakellarides, Richard B. Saltman, Igor Sheiman, Per-Gunnar Svensson and Andrew Woodhead. Additional material was provided by Ellen Nolte, Reinhard Busse, Elias Mossialos and Jeffrey Sturchio. We should also like to thank the Observatory's partners for their review of, and input to, successive versions of the manuscript.

Anne-Pierre Pickaert provided invaluable research assistance in the early stages on the book. Caroline White patiently and with good humour processed and formatted successive versions of chapters and coped with meeting deadlines.

We also thank all our colleagues in the Observatory. In particular, we are extremely grateful to Josep Figueras for commenting in detail on two drafts of the book and for his encouragement – as well as for his frequent reminders of slipping deadlines. Thanks go also to Reinhard Busse, who commented on several chapters. Special thanks are due to Suszy Lessof for coordinating the studies, to Jeffrey Lazarus, Jenn Cain and Phyllis Dahl for managing the book delivery and production, and to Myriam Andersen and Sue Gammerman for administrative support. We are also grateful to David Breuer for copy-editing the manuscript.

We wish to thank Random House for permission to reproduce an extract from *In Siberia* by Colin Thubron (publisher Chatto & Windus), to John Murray (Publishers) Ltd for permission to reproduce an extract from *Where the Indus is Young*, by Dervla Murphy.

Finally, we are grateful to our partners, Dorothy McKee and Tony McMichael, for their support and forbearance.

Martin McKee and Judith Healy

part

one

The context of hospitals

chapter one

The significance of hospitals: an introduction

Martin McKee and Judith Healy

Why a book on hospitals?

Hospitals are an important component of the health care system and are central to the process of reform, and yet, as institutions, they have received remarkably little attention from policy-makers and researchers. They are important within the health care system for several reasons. First, they account for a substantial proportion of the health care budget: about 50 per cent in many western European countries and 70 per cent or more in countries of the former Soviet Union. Second, their position at the apex of the health care system means that the policies they adopt, which determine access to specialist services, have a major impact on overall health care. Third, the specialists who work in hospitals provide professional leadership. Finally, technological and pharmaceutical developments, as well as more attention to evidence-based health care, mean that the services that hospitals provide can potentially contribute significantly to population health (McKee 1999). If hospitals are ineffectively organized, however, their potentially positive impact on health will be reduced or even be negative.

Attention to hospitals is timely, since hospitals throughout Europe are facing growing and rapidly changing pressures. These include the impact of changes in populations, patterns of disease, opportunities for medical intervention with new knowledge and technology, and public and political expectations. These changes have important implications for how hospital care is provided, since new types of care require new configurations of buildings, people with different skills and new ways of working. One implication is the need to shift the boundary between hospital and primary care, where hospitals are sometimes

criticized for being slow to adapt and to take advantage of developments that permit community-based alternatives.

Hospitals are, however, changing. Since the early 1980s, many countries have sought to reduce their hospital capacity and to shift care to alternative settings (Saltman and Figueras 1997; Brownell *et al.* 1999; Pollock *et al.* 1999; Street and Haycock 1999). Hospitals increasingly focus on acute (short-term) care, only admitting people with conditions requiring relatively intensive medical or nursing care or sophisticated diagnosis or treatment. Hospitals must adapt internally to these new circumstances.

The people responsible for implementing change face many uncertainties about how to proceed. This book argues that an essential first step is to seek out the research evidence on the best strategies for improving hospital performance and also to draw on the experiences of other countries. There is now considerable information on what does and what does not work, although this is not always easy to locate and evaluate. We have tried to assist in this process by reviewing the evidence and, we hope, presenting it in an accessible way.

This book is aimed at people interested in health policy as it affects hospitals. They include, we believe, policy analysts and researchers and those working within governments, insurance funds and regional health authorities, but also practising hospital managers interested in the policy environment within which they work. This is not, however, a textbook on how to manage a hospital. For that, the reader must look to the many books on this topic published elsewhere.

This publication differs from much that has been written previously about hospitals, as it focuses on their role, as part of a wider health care system, in improving health and responding to the legitimate needs of people who use hospitals. Specifically, although this book recognizes that hospitals must be sustainable financially, it is not concerned with issues such as maximizing profits or market share. These are of little relevance in Europe, and people wishing to explore these issues should look to literature from the United States.

The focus of this book is on the hospital in Europe, both western and eastern Europe. We use these broad terms for convenience, although we are well aware that the borders of Europe as well as the acceptable terms are much debated. Where appropriate, reference also is made to sub-regions, such as the countries of the European Union, central and eastern Europe, the former Soviet Union, and the former Soviet republics of central Asia. Europe is, therefore, very diverse (McKee and Jacobson 2000), with each country's health care system reflecting its unique culture and history. Although much can be learned from the experience of other countries, we argue that a policy that works in one setting should not be applied uncritically in a very different setting. This can be illustrated by the frequently asked, but difficult to answer, question of what is the right number of hospital beds. For example, while there is general agreement (at least among western European experts) that Soviet-era levels of hospital capacity in eastern Europe should be reduced, comparisons with western countries must be made cautiously. First, the social context is quite different, with few support mechanisms in place, whether social services or supermarkets. Second, some argue that downsizing has gone too far in some western countries, such as the United Kingdom and the United States. In these countries, reductions in staff and facilities have not been matched by reductions in workload, so that increasing

pressures on staff have led to a decline in the quality of care (Hensher *et al.* 1999; Reissman *et al.* 1999). Finally, there is the question of whether a reduction in hospital capacity on its own can achieve the intended savings, since the intensity of treatment in the remaining facilities increases (Shanahan *et al.* 1999).

What is a hospital?

At the outset, it is necessary to be clear about the subject of this book. What, precisely, is a hospital? One definition is that it is 'an institution which provides beds, meals, and constant nursing care for its patients while they undergo medical therapy at the hands of professional physicians. In carrying out these services, the hospital is striving to restore its patients to health' (Miller 1997). Although this captures its essence, a hospital can cover very diverse structures. A hospital might be a ten-bed building without running water in a Siberian village or a large specialist centre equipped with the most advanced technology in a western European city (Box 1.1). This diversity is not surprising, given

Box 1.1 Two hospitals

The hospital in Potalovo: In the mid-1990s, the travel writer Colin Thubron travelled through Siberia. Here is his description of a hospital in Potalovo, a small village on the River Yenisei in the northern Russian Federation.

His hospital was a low, wooden ark. Reindeer moss caulked the gaps between its logs, and it buckled at either end from permafrost. . . Inside the building was a simple range of three-bed wards, a kitchen and a consulting room. It had no running water, and its lavatory was a hole in the ground. Between the double windows the sealing moss had fallen in faded tresses. It was almost without equipment. But the rooms were all washed white and eggshell blue, and three part-time nurses tended the five children in its narrow, iron beds, while a woman recovering from premature childbirth lay silent in another.

(Thubron 1999: 131)

Johann Wolfgang Goethe University Hospital, Germany: Founded in 1884 by the City of Frankfurt, this municipal hospital was taken over by Goethe University medical faculty in 1914 and in 1967 by the State of Hessen, and now is run by a board of directors. The hospital is a large medical complex that carries out medical treatment, research and teaching, with an annual budget of a322 million. It has over 60 buildings, 4500 staff and 1443 hospital beds. The hospital annually treats 41,000 inpatients and 170,000 outpatients in 11 medical centres that include 26 specialist departments. Research is conducted through 26 research institutes, while as a university hospital it annually trains over 3500 medical and dental students, 180 nurses and 160 medical technicians. There are close links to affiliated teaching hospitals in Frankfurt and to other research institutes around the country.

Source: Johann Wolfgang Goethe University Hospital.

<http://www.klinik.uni-frankfurt.de/en/patient/patinfo/p33.asp> (accessed 21 January 2001)

that some countries in Europe spend less than a50 per head of population per year on hospitals, whereas others spend almost a14,000.

Second, the type of hospital can be difficult to classify. For example, how does one classify a facility that links a small acute care service to a larger long-term care facility? What is the difference between a small community hospital offering mainly nursing care and a nursing home visited daily by a physician? This dilemma was captured by the travel writer Dervla Murphy who, commenting on a hospital in northern Pakistan that closed on weekends, public holidays and religious feasts, described it as 'more a statistic than reality' (Murphy 1995).

Third, a hospital may spread across many buildings, or hospitals on different sites may merge into one organizational structure. Thus, the United Kingdom stopped counting 'hospitals' in 1992 and instead publishes statistics on hospital trusts, the latter often incorporating buildings on more than one site (Hensher and Edwards 1999). In other countries, multi-site hospitals may function as a single organization but are counted separately. Consequently, although data on hospitals and beds for different countries are available – for example, from the WHO European Health for All Database (WHO 2001) – these statistics can be difficult to interpret.

Fourth, does the definition of a hospital cover only the activities undertaken within its walls? Hospitals in the United States have embarked on vertical mergers that incorporate other service types such as rehabilitation and post-discharge care. Schemes such as 'hospital without walls' or 'hospital at home' link the hospital to a wide range of outreach services (see Hensher and Edwards, Chapter 5). Advances in short-acting anaesthetics create opportunities for free-standing minor surgical units offering day surgery. Midwives and nurse practitioners provide care in free-standing obstetric units, and units managing chronic diseases provide care that elsewhere would be provided by physicians.

Again, this exploration of diversity offers no simple answers. Perhaps the most that can be said is that any hospital policy must consider the type of hospital and its function within its environment. Chapter 2 (Healy and McKee) looks back in history to understand how and why different hospitals systems have developed. Analysing hospitals of the present requires understanding their evolution from the past and the pressures that may shape the hospitals of the future.

Researching hospitals

Despite the large share of the health budget devoted to hospitals, and in contrast to the growing body of research on primary care, there has been much less research on hospital performance (Edwards and Harrison 1999). The research that exists is rarely well known, and the reasons for success and failure remain poorly understood despite massive restructuring of hospital systems. The lack of research on systems and organizations in health care stands in stark contrast to the enormous amount of research on clinical interventions.

A new drug cannot be introduced . . . without exhaustive scientific trials, but we usually introduce new ways of delivering health services with little or no scientific evaluation. We rationalise, change and formulate new systems, often based upon economic and political imperatives, and yet rarely evaluate their impact upon patients. Significant morbidity and mortality may be associated with new models of healthcare delivery. If healthcare system changes were submitted to the same scrutiny as new drug evaluations, they would probably not even be allowed to move from the animal to the human experimentation stage.

(Hillman 1998: 239)

The scarcity of research on how to maximize the impact of hospitals on health may appear surprising until one considers the enormity of the task. First, a hospital is a complex organization and not a simple entity. The goals of a human service organization, such as a large hospital, are multiple and conflicting (Hasenfeld and English 1974; Wildavsky 1979) and may differ from those of individual departments, such as intensive care units and diagnostic laboratories. A hospital also brings together many professional groups, each with its own specialized body of knowledge and own value base. The evaluation of a complex organization is very different from narrowly focused, reductionist research; for example, assessing the outcome of a single intervention in a randomized controlled trial of a drug or the respective merits of artificial heart valve A compared with valve B.

This book draws, as far as possible, on a rigorous analysis of evaluative research to identify what is and what is not known. Inevitably, the empirical base is firm on some issues, shaky on others and depends on the context for many. We try not to seek excessive refuge in the argument that 'the jury is still out', but aim to offer carefully considered advice to policy-makers.

This extensive review of the research is combined with a comparison between countries that, although limited in its ability to attribute observed outcomes to specific policies, does challenge preconceived notions and offers scope to learn from experience (Healy 1998; McKee 1998). Cross-country comparisons enable policy alternatives to be identified, the success or failure of a particular strategy to be evaluated and the importance of context to be understood better (Rose 1993). Comparisons of data must, however, be treated with caution given differences in concepts and differences even in quite basic definitions, such as a hospital bed or a qualified nurse. As noted earlier, the term 'hospital' may have different meanings and functions in different countries. At the risk of generalization, most hospitals in western Europe now concentrate on acute care, whereas most hospitals in eastern Europe and some parts of southern Europe continue to provide social as well as health care functions.

This book also draws on international research, which is uneven in its geographical coverage, at least in a form accessible to the international community (Table 1.1). Much of the literature comes from the United States and United Kingdom. It was not possible, using standard bibliometric terms, to distinguish evaluations from reports and reviews, but inspection of the papers involved showed that primary evaluative research is even more concentrated in the United States and United Kingdom. This uneven coverage is inevitably

Table 1.1 Number of articles in a Medline search on hospital-related topics

	<i>Hospital design or construction</i>	<i>Hospital administration</i>	<i>Hospital costs</i>
Australia	0	20	20
Canada	3	29	23
France	4	17	26
Germany	4	38	64
Italy	4	11	15
Netherlands	4	10	18
Russian Federation	4	3	2
Spain	1	17	15
Sweden	5	11	24
United Kingdom	33	79	119
United States	57	311	380

Note: Articles published between 1991 and August 2000 were identified and indexed according to the country of the lead author as identified in Medline and medical subject headings.

reflected in this book, although strenuous efforts have been made to draw on the experience of as many countries as possible. We hope, therefore, that this book will catalyse more interest in hospital research among the European research community.

Several chapters focus on eastern Europe, drawing on internal reports by the World Bank and other agencies. These countries have been the settings for large-scale natural experiments, the results of which provide important information for policy-makers everywhere about how hospitals change (or do not) in the face of changing incentives.

We have chosen to range broadly in covering topics of interest to policy-makers across Europe. As we have noted, Europe encompasses countries that are very different and therefore have different health system priorities. The priority may be to rebuild a hospital sector that has been devastated by war, to enhance primary care and reduce hospital capacity, or to implement new systems for hospital governance. We have chosen, therefore, to review a broad range of strategies and tools for change. The unifying theme, however, is the need for mechanisms that support continuing development and change. Although the precise nature of the challenges may differ, health policy-makers everywhere cannot afford to stand still in an ever-changing environment.

Changing hospitals

Even where a particular policy is based on clear evidence, the implementation of change encounters many barriers. The structural inflexibility and long time frame of hospitals contrasts with their rapidly changing environments. Hospitals are remarkably resistant to change, both structurally and culturally. They are, quite literally, immovable structures whose designs were set in concrete, often

many years previously. Their configuration often reflects the practice of health care and patient populations of bygone eras. In western Europe, some hospitals still occupy buildings that once were medieval monasteries, but even relatively new hospitals have failed to keep pace with changing patterns of disease and treatment. These range from rooms with too few sockets for the increasing range of electronic monitors to too few operating theatres to accommodate the rise in day surgery.

The culture, or ethos, of a hospital also must adapt to changing circumstances. Hospitals have been described as palaces of medical power, and prestigious hospitals staffed by the elite members of the medical profession can marshal opposition to threats to their survival and growth. Furthermore, hospitals are inhabited by a proliferation of occupational groups, so that considerable effort must be put into developing good working relationships. What levers are effective in promoting multidisciplinary working? How does one create a culture that places the needs of the patient before those of the professional? The concept of patients' rights, for example, is difficult to promote in many countries and is an utterly foreign concept in others.

Why now?

Given these barriers to change, why should policy-makers embark on hospital reform? First, some important lessons have emerged from the experience of health care reforms in Europe over the past two decades. One is that policies based on market principles, such as competition, have been less successful in containing costs than regulatory and budgetary policies (Saltman and Figueras 1997; Mossialos and Le Grand 1999). The latter include policies directed specifically at the hospital, such as capping hospital budgets and regulating the distribution of hospital beds.

Second, the environmental factors that affect the health of populations and, by extension, hospital care are now better understood. These include changing population age distributions, changing patterns of disease and rapid technological change.

Third, the steadily increasing volume of research on hospitals (although from a low baseline) provides important new evidence on issues such as the optimal configuration of hospitals and how to change the behaviour of health professionals. The experiences of countries in eastern Europe in restructuring their large hospital systems over the past decade also help to illuminate the success or otherwise of particular policies and their implementation.

Although hospitals are a key element of health system reform, they have long been regarded as a black box with regard to their effects on health. There are now good reasons, however, for researchers and policy-makers to look inside that black box and to ask how well hospitals are performing. Those responsible for planning and managing hospitals and for making decisions about investing in them need to understand why hospitals in each country are as they are and the nature of the challenges facing hospitals now and in the future. They must assess the arguments for different hospital configurations, how best to provide high-quality health care and how to ensure that expensive hospital facilities are used optimally.

A systems approach to the hospital

This book looks at the hospital from a systems perspective. Systems concepts and principles have been applied in many fields, including the study of complex organizations such as hospitals (Checkland 1981; Perrow 1986). Based on a biological analogy, general systems theory offers several concepts that help to explain the behaviour of a hospital and that have helped us to identify and to order the issues addressed in this book.

A key property of an open system is that it must interact with its environment to secure the resources necessary for survival, adaptation and growth. This means that a hospital must be considered within its environment and that this environment itself is an important focus of study. The way a hospital responds to policies and incentives depends on its role and function as well as the beliefs and experiences of those who interact with it. For these reasons, knowledge is needed about the past history and trajectories of hospitals in European health care systems (Healy and McKee, Chapter 2). The hospital is acted on continually by many external influences (the environment), and these we have considered collectively as a series of pressures for change (McKee, Healy, Edwards and Harrison, Chapter 3). These pressures include changes in the composition of the population being served, in patterns of diseases and in public expectations, all of which have implications for hospital services.

A second concept is that a system exists within a hierarchy of other systems, so that a hospital can be studied from different system levels. An individual hospital must, therefore, be considered within the wider hospital system, within a country's health care system and, ultimately, within the broader socio-economic and political environment. We set the context for understanding individual hospitals by tracing trends in hospital systems throughout Europe (Healy and McKee, Chapter 2). Furthermore, examining the hospital from different levels leads to our main division in analysing policy strategies: the division between external and internal levers for change.

A third fundamental concept of systems theory is the interdependence of the various elements that comprise the organization. The systemic property arises from the organizing relations between the parts, and the properties of the parts can only be understood in relation to the whole. A hospital is a complex organization, since it contains a series of subsystems. These might include, for example, systems for recruiting and retaining staff, for running housekeeping and catering services and for performing diagnostic imaging services for clinicians. These subsystems can be expected to pursue their own interests, but any significant change to one part will have repercussions for others.

As described by Checkland (1981), a system consists of a pattern of organized relations: a configuration of components and relationships that are characteristic of a particular system. Furthermore, systems theory uses the concept of self-regulation; that is, an organization maintains a quasi-steady state through homeostatic mechanisms that involve information feedback. This analogy may be taken too far: a hospital is not a biological organism. However, this concept does help to explain why hospitals are resistant to radical change and why a hospital cannot change itself into an entirely new type of organization. Chapter 4 (Healy and McKee) addresses the differing roles and functions of a hospital.

The boundary or interface is a key concept in systems thinking, since the organization is seen as an open system in continual interaction with its environment, while the organization itself is made up of many subsystems. For the purposes of this book, we have defined the boundary of the hospital system to include acute care hospitals that provide secondary and tertiary health care, but we exclude long-term care hospitals, although this superficially simple definition conceals some major difficulties. A key question for modern hospitals is what types of health care should be provided within the hospital and what elsewhere. Chapter 5 (Hensher and Edwards) reviews the experience of shifting hospital boundaries in one country, the United Kingdom.

The elements of a system, in this case including individual hospitals, are in a dynamic relationship with one another and with changes in the wider environment. These relationships affect the optimal size of each element and how they should be distributed. Chapter 6 (Posnett) reviews the research on the optimal size of a hospital and, in particular, the relationship between economies and scale and between volume and outcome.

The impact of different systems on a hospital means that those seeking to bring about change must act at the appropriate level. Considering who has responsibility for which function is therefore necessary. *The World Health Report 2000* (WHO 2000) discusses the concept of stewardship, which sets out the responsibilities of governments to safeguard their health care systems. Although quasi-state or private organizations can undertake operational management, governments retain ultimate responsibility for health system performance. This implies that governments must set the overall goals for the health system, among which *The World Health Report 2000* includes ensuring high and equitable levels of health, services that are responsive to public expectations and fairness in paying for health services. Governments, or those acting on their behalf, should therefore play an active role in the direction taken by the hospital system, and they have at their disposal many potential levers for changing aspects of hospital services and performance.

External factors may be the most likely and appropriate way to change some aspects of hospitals and hospital systems. These include actions to enable hospitals to provide care, to specify what type of care they should provide and to monitor what they do. We have grouped together these activities as external levers for change (McKee and Healy, Chapter 7). Financial incentives can act as powerful levers for change, but their effects are sometimes unexpected. Chapter 8 (Langenbrunner and Wiley) reviews the evidence on the effects of different payment systems.

A systems approach requires that links be made between systems at different levels. In this case, incentives created outside the hospital must be consistent with those used inside it. Chapter 9 (Jakab, Preker and Harding) explores the challenges involved.

Change within the hospital involves assembling the resources needed for high-quality care, such as optimal use of buildings, people and equipment, and organizing them in a way that provides high-quality care (Healy and McKee, Chapter 10). This requires a new way of working. This has been termed 'clinical governance', a set of activities that bring together the often separate tasks of management and quality assurance. It is based on the premise

that those responsible for using resources efficiently must also take account of the outcomes the resources achieve; those responsible for enhancing the quality of care must also be able to influence the use of resources.

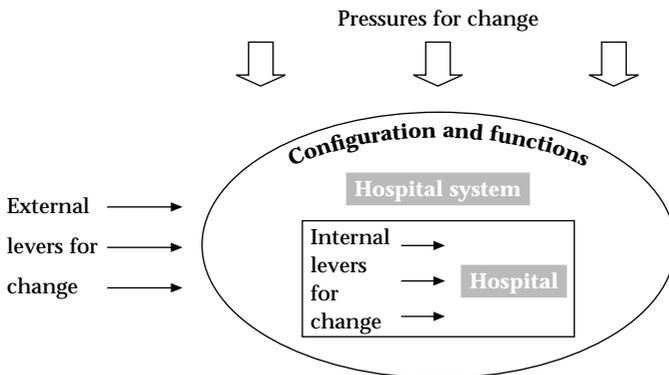
People and technology will confront policy-makers with some of their toughest tests in the future. As the patients and conditions treated within hospitals change, so will the skills needed by staff. New types of staff will be needed, but this must take account of the changing workforce from which health care workers will be drawn in Europe. Chapter 11 (Buchan and O'May) reviews some of the emerging challenges. Advances in technology offer many opportunities, but they should promote the goals being pursued by the hospital rather than divert from them. Chapter 12 (Rosen) draws on a case study on the introduction of complex technology to offer guidance on how to maximize its health benefits.

Although many of the subsystems within a hospital are important, improving the clinical performance of staff is central to the hospital's role. The challenge is to assess the quality of care provided and to change clinical practice to make it better. Chapter 13 (Freemantle) reviews the evidence on how this can be done.

Systems theory emphasizes the importance of the culture within which activities take place. Chapter 14 (Aiken and Sloane) reviews emerging evidence that shows that a hospital characterized by good communication and relations between professions not only retains staff more successfully, but also obtains better outcomes for patients.

Returning to the hospital as a system, the many issues covered in this book clearly interact, and the boundaries between them also reflect the immediate concerns of the particular policy-maker. These issues can be grouped broadly under four headings. The first is the set of pressures to which the hospital system must respond in the future. The second relates to how the system should be configured and managed: the size, shape, distribution and functions of hospitals. The third and fourth are the levers for change, both external and internal. The relationship between these groups is shown in Figure 1.1. They provide the framework around which this book is organized.

Figure 1.1 The hospital as a system: opportunities for change



References

- Brownell, M.D., Roos, N.P. and Burchill, C. (1999) Monitoring the impact of hospital downsizing on access to care and quality of care, *Medical Care*, 37(6): JS135–50.
- Checkland, P. (1981) *Systems Thinking, Systems Practice*. Chichester: Wiley.
- Edwards, N. and Harrison, A. (1999) The hospital of the future: planning hospitals with limited evidence. A research and policy problem, *British Medical Journal*, 319: 1361–3.
- Hasenfeld, Y. and English, R. (1974) *Human Service Organizations*. Ann Arbor, MI: University of Michigan Press.
- Healy, J. (1998) *Welfare Options: Delivering Social Services*. Sydney: Allen & Unwin.
- Hensher, M. and Edwards, N. (1999) Hospital provision, activity, and productivity in England since the 1980s, *British Medical Journal*, 319(7214): 911–14.
- Hensher, M., Edwards, N. and Stokes, R. (1999) International trends in the provision and utilisation of hospital care, *British Medical Journal*, 319(7213): 845–8.
- Hillman, K. (1998) Restructuring hospital services, *Medical Journal of Australia*, 169(5): 239.
- McKee, M. (1998) An agenda for public health research in Europe, *European Journal of Public Health*, 8: 3–7.
- McKee, M. (1999) For debate – does health care save lives?, *Croatian Medical Journal*, 40: 123–8.
- McKee, M. and Jacobson, B. (2000) Public health in Europe, *Lancet*, 356: 665–70.
- Miller, T.S. (1997) *The Birth of the Hospital in the Byzantine Empire*. Baltimore, MD: Johns Hopkins University Press.
- Mossialos, E. and Le Grand, J. (1999) Cost containment in the EU: an overview, in E. Mossialos and J. Le Grand (eds) *Health Care and Cost Containment in the European Union*. Aldershot: Ashgate.
- Murphy, D. (1995) *Where the Indus is Young – a Winter in Baltistan*. London: John Murray.
- Perrow, C. (1986) *Complex Organizations: A Critical Essay*. New York: McGraw-Hill.
- Pollock, A.M., Dunnigan, M.G., Gaffney, D., Price, D. and Shaoul, J. (1999) The private finance initiative: planning the 'new' NHS. Downsizing for the 21st century, *British Medical Journal*, 319(7203): 179–84.
- Reissman, D.B., Orris, P., Lacey, R. and Hartman, D.E. (1999) Downsizing, role demands and job stress, *Journal of Occupational and Environmental Medicine*, 41(4): 289–93.
- Rose, R. (1993) *Lesson Drawing in Public Policy*. London: Chatham House.
- Saltman, R.B. and Figueras, J. (1997) *European Health Care Reform: Analysis of Current Strategies*, WHO Regional Publications, European Series, No. 72. Copenhagen: WHO Regional Office for Europe.
- Shanahan, M., Brownell, M.D. and Roos, N.P. (1999) The unintended and unexpected impact of downsizing: costly hospitals become more costly, *Medical Care*, 37(suppl. 6): JS123–34.
- Street, A. and Haycock, J. (1999) The economic consequences of reorganizing hospital services in Bishkek, Kyrgyzstan, *Health Economist*, 8(1): 53–64.
- Thubron, C. (1999) *In Siberia*. London: Chatto & Windus.
- Wildavsky, A. (1979) *Speaking Truth to Power: The Art and Craft of Policy Analysis*. Boston, MA: Little, Brown and Company.
- WHO (2000) *The World Health Report 2000. Health Systems: Improving Performance*. Geneva: World Health Organization.
- WHO (2001) *WHO European Health for All Database*. Copenhagen: WHO Regional Office for Europe.