Health policy and systems development

An agenda for research

Edited by
Katja Janovsky

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FOREWORD

The world today is characterized by ever increasing tensions, contrasts and complexity: decreasing resources and increasing demand; the rise of the market and substantial change in the role of the state; tremendous technological progress and continuing breakdown of equipment, facilities and supply chains; emerging democracies and never ending war and civil conflict; and all the while, the gap between rich and poor growing both within countries and between them.

Against this turbulent background, health policy makers and systems managers must carry on, obtain adequate resources for the sector, allocate them wisely, set and maintain standards, monitor performance, review options for change, and design and implement reforms. This book identifies some of the most important issues in the development and reform of health policies and systems, and the kind of research needed to help us move forward.

The health policy research agenda is defined by national policy makers, international agencies and bilateral donors, both at the global and at the national level. It is to these groups we address this book. We ask for their attention and support in order to produce and effectively share greater knowledge about developing and sustaining health systems that are capable of delivering quality services in an equitable, efficient and responsive way, and ultimately achieve better health.

Aissatou Koné-Diabi  
Assistant Director-General  
World Health Organization  
Geneva
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INTRODUCTION AND OVERVIEW
Katja Janovsky

This book is about research needs, methods and priority topics in health policy and systems development. It contains twelve papers on key topics, preceded by a general chapter on methodology, relevance and priority setting for research. The papers were commissioned with common terms of reference. Authors were asked to develop a conceptual map of each subject area covered; to provide a rapid overview of research efforts to date, commenting on the quality and reliability of available research and on gaps in knowledge; and to outline research priorities. Authors were also asked for their views on international and comparative research, and on ways of fostering complementarity between national and international perspectives. Finally, the papers were to address the critical issue of the use of research findings in decision-making, and suggest approaches to strengthening the link between researchers and decision-makers. The resulting collection of papers covers a wide range of topics and perspectives.

The papers in this volume were originally prepared for the Ad hoc Committee on Health Research and serve as background documentation for its report1. As part of the Committee’s work, an informal questionnaire was sent to health policy-makers, health systems managers, bilateral and international agencies and researchers worldwide, to obtain opinions as to the most important current concerns regarding health policy and systems development in general, and research in particular. The topics selected for review were based on the results of this survey. It is noteworthy that priority setting and health financing not only came at the top of the list, but scored over a third of all available points.

Some important subjects are missing, and will need to be addressed in future work. First, human resources policy and employment structures are critical aspects of health sector and public sector reform. Second, a greater understanding of how to engage in a constructive dialogue with civil society and communities with regard to health development is needed. Third, the influence of other sectors on health outcomes, and the role the health sector can play in advocating and guiding action for health requires further scrutiny.

Questions related to planning and management of service delivery are also not covered here. This is because the type of research needed in this area is more operational and context-specific, whereas the focus of this volume is primarily on upstream policy issues.

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The remainder of this chapter briefly highlights key issues identified for each of the subject areas and comments on divergences and commonalities in the perspectives of the different authors. Cross-cutting issues concerning international and comparative research and use of research in decision-making are the subject of the next chapter (Janovsky and Cassels).

*Priority Setting, Allocation of Public Resources and Health Needs Assessment*

Priority setting is the main theme of several papers in this book, albeit from different perspectives. Chris Ham sets the scene and addresses a broad range of issues, giving due weight to both technical content and political process. Although the examples in his paper are focused primarily on industrialized countries, the territory covered, concerns raised and research topics proposed are relevant to developing and developed countries alike. Ham, like other authors, points to the growing gap between available resources and demand for health care, exacerbated by demographic pressures, advances in technology and stagnation of public spending, as the reason why priority setting is high on the agenda. He asserts that whilst the private sector has clearly expanded (more on this in the Bennett and Berman papers), countries are by and large not likely to abandon public financing and government regulation.

Given continuing commitment to universal access to health services in most countries, Ham makes the point that the debate on priority setting and rationing has not been about restricting coverage but about defining the scope of coverage of publicly financed services. He describes five levels at which priorities are set: first, allocation to the health sector as a whole; second, allocation between geographical areas and services; third, allocation between particular forms of treatment; fourth, allocation between types of patients; fifth, how much to spend on individual patients. Whereas choices at the macro or top level are mostly the domain of politicians, involving major stakeholders in government and in the health sector, and shaped by the economic context, choices at the micro or clinical level are primarily the responsibility of health care professionals. The conclusion is that the degree to which technical arguments are modified by politicians and health care professionals varies between the levels at which the allocation is decided.

Ham’s list of research priorities starts with a call for more descriptive analysis on a systematic and comparable basis of the range of services covered, the nature of exclusions and the reasons for exclusions in basic benefits packages. Other priorities are the review of different approaches to priority setting, including consultation with the public; research into priority setting at the clinical level in individual systems, as well as comparatively; and studies of the relationship between macro and micro levels of decision-making, tracing the relationship between different levels. Ham also proposes to examine the impact of differences in health care expenditure among countries on utilisation, access and health outcomes, covering not only variations among countries but also variations at regional and district level within countries (a proposal also made by McPake).
Ham stresses that priority setting involves judgement which is informed by evidence and by values. Thus, tools and measures, such as QALYs and DALYs, are only one element in priority setting. The process of arriving at decisions is at least as important as the decisions themselves. For this reason, future work will need to proceed on both tracks. This perspective is further elaborated by other authors in this volume, particularly Foltz and Walt.

José Luis Bobadilla provides a detailed map of the main elements involved in formulating priorities, and a thorough review of the technocratic approach to priority setting. This entails quantitative analysis of the burden of disease, preferably through a single indicator; analysis of cost effectiveness of alternative interventions, and the selection of a package or list of interventions that can be delivered with the available budget and through the current health system. He outlines recent progress and setbacks in the development of indicators and methods, focusing on DALYs and cost effectiveness analysis. Bobadilla’s research priorities include the development of inexpensive methods to collect information; research and data collection on risk factors; on the marginal cost effectiveness of interventions of different scales; assessment of community preferences; and more analysis of the trade-offs between efficiency and equity. Bobadilla also acknowledges the need to bring the political context of decision-making into work on priority setting.

Martin McKee’s review of methods for assessing health need and determining the extent to which a health care system meets the needs of the population for which it is responsible, builds on the concepts of need, demand and use, and the way they relate to one another. He asserts, however, that whilst a health service should seek to meet health care needs within the limits of available resources, in actual fact the functions of the health system are more often developed primarily to meet the demands of interest groups or to implement political ideology, with the meeting of health needs as a second order objective.

Against this background, he considers a number of epidemiological and professionally defined models of needs assessment, current approaches to involving the public, and the use of technical information in priority setting and decision-making. McKee’s research priorities include the development of methodologies to assess burden of disease in communities in ways that reflect those dimensions important to individuals; research to identify and understand population groups that are unable to translate need into demand, according to socio-economic and clinical characteristics; variation among individuals’ preferences with factors, such as culture and gender. Like Ham, McKee wishes to examine the strengths and weaknesses of different ways of incorporating the views of the public into the debate on priority setting.

Financing
Barbara McPake’s paper focuses on financing mechanisms in low-income countries and seeks to address the most common policy questions regarding user charges, pre-payment systems and community financing. Her review of the current literature and her
recommendations for future research are organised in sections about user charges and utilisation response; equity and exemption mechanisms; quality, its cost and its relationship with demand; incentives on the demand and supply sides; and health insurance.

Although health care financing, particularly the subject of user fees, is a relatively well researched area, much remains to be known. In the first instance, there is a need to extend studies on user fees geographically, and to explore the implications of different fee levels. Specific attempts to isolate which supporting conditions are key to the achievement of positive results are needed. Of particular interest is the presence or absence of external financial and technical support which appears to have played an important role in the best documented and most publicized success stories. In this context, McPake also points to the need for exploring broader issues around the implementation of policy, not only in monitoring of pilot projects supported by external groups, but in considering how national policy translates to local level implementation.

Issues of equity and the effectiveness of exemption mechanisms require further study, either through comparative descriptive research or, where possible, through experimentation. Inquiries should cover not only exemptions at the individual level but also by geographic area, type of facility and type of intervention. Understanding the kinds of quality improvements which secure high utilisation and their cost are critical, but should be pursued as part of larger quality studies that consider quality and health outcomes. There is, therefore, a need to ensure links in designing and selecting studies (see also Heiby on quality assurance).

A wide range of questions remains to be explored with regard to incentives as they influence demand (for example, the effects of different charging systems and scales), and supply (for example, reimbursement mechanisms and levels and their impact on provider behaviour). The informal context of health financing reform, particularly the wide-spread practice of charging "unofficial" fees, is another important area for research.

As many of the poorest countries are beginning to embark on new or expanded health insurance programmes, research in this area becomes a top priority. This is particularly important in view of clear indications that many nationally organised health insurance programmes create important equity problems. McPake reports that they usually cover richer households, coverage is restricted by high premiums and the unequal distribution of suppliers prevents equitable outcomes, with government subsidies effectively favouring the better-off groups in the population.

*Public and Private Sector Roles in Health Care*

The private sector and questions about the public/private mix in health care have appeared relatively recently on the policy agenda. Only in the early nineties has the magnitude of the private sector financing and provision of health care in low and middle-income countries
become apparent. Private sources of finance are reported to comprise the largest share of national health expenditures, and private provision accounts for most of ambulatory care. In light of this evidence, policy-makers and planners in most of these countries are now beginning to review ways of harnessing the private sector to achieve national health goals, and to explore approaches to regulation that will reduce potentially harmful effects of unconstrained free market forces in the health sector.

Of the two authors dealing with the subject, Sara Bennett focuses on provision, while Peter Berman covers both provision and financing. Bennett offers a useful way of categorizing research to date, distinguishing between the well-trodden turf, related research and emerging research initiatives. The well-trodden turf includes conceptual work on market failure and government intervention, as well as quantitative descriptive research reviewing numbers of providers, resource flows and out-of-pocket payments or third party payers. In this context, Berman comments on the need for improved survey instruments and methods to compensate for the lack of accurate and valid data, whilst Bennett asks the question of how accurate descriptive data needs to be. She suggests that crude estimates may be sufficient in the short term. Both authors agree that emphasis in the longer run should be on developing routine information systems which can capture the most important information.

Regulation and incentive setting, integrating private practitioners into the health care system, and evaluating alternative modes of private practice by public doctors, emerge as top research priorities. Work on consumer attitudes, contracting and management structures in different types of hospitals come next.

Both authors discuss the need to move forward from data bases and descriptions of provider characteristics to considering provider behaviour and how this behaviour is determined. Research strategies would involve the design of intervention experiments, using different approaches for increasing private provider coverage and the effects of such action on the growth of the private sector, prices, cost, quality and utilisation. Another suggestion is to design, implement and evaluate targeted subsidies to assure that access for the poor and other vulnerable groups is not significantly reduced.

A key concern of both authors is the need to agree on common definitions and basic concepts. The uncertainty of language seriously hampers any comparative work at this stage, as does the lack of well developed research methods. The interdisciplinary nature of the subject poses additional challenges.

Bennett suggests that the polarized debate among researchers about the relative merits of public and private sectors represents a constraint on work in this area. This is exacerbated by a history of suspicion between the two sectors which creates a lack of dialogue and openness. Research programmes will need to be carefully designed in collaboration with key stakeholders to overcome these difficulties and to provide policy-relevant information.
Decentralization

Thomas Bossert's and Charles Collins's papers both reveal that the traditional boundaries of decentralization, shaped by the public administration literature and mostly concerned with the definition of the appropriate levels for delegating functions, responsibility and authority, do not encompass many of the current trends in health systems decentralization. A relatively new perspective in decentralization, the managed market model, has emerged in the context of the rise of neoliberalism and the new public management. Under this model, service institutions and/or health authorities become actors with significant autonomy to react to the market, and considerable emphasis is placed on achieving greater efficiency and quality through consumer choice and market forces. Whilst the market model involves breaking up bureaucratic structures, government nevertheless retains overall responsibility for defining and monitoring policy and its implementation, and takes on a new or strengthened role in exercising regulatory powers in order to correct for market failure. The compatibility of these two models is in the first instance a question of ideological perceptions and underlying assumptions surrounding decentralization, and points to the need to redraw the conceptual map of health systems decentralization. Beyond this, empirical research is needed to provide good descriptions of the regulated market approach in practice, and to depict its co-existence with the public administration approach and local government.

Both authors are sceptical about the claimed effects of the various forms of decentralization on a wide range of objectives, given the strong political nature of most decentralization efforts and the limited evidence of impact to date.

Bossert suggests two major lines of inquiry. The first is about the effect of decentralization on outputs and outcomes, assessing whether decentralization improves equity, efficiency, quality, health outcomes and democratic processes, and, if so, which forms, mechanisms and processes of decentralization are most effective in achieving these objectives. The second is about conditions for effective decentralization. To be addressed here are questions about the relationship between general political and administrative decentralization and health sector decentralization; the role of information systems in shaping power in decentralization processes; the human resources element in decentralization; the relationship between administrative decentralization and public sector markets; and the policy process of decentralization. Collins also suggests research on decentralization to and within major provider institutions, and on the role of the centre under different forms of decentralization.

That there are formidable methodological difficulties is fully acknowledged. As with other topics, the problems of obtaining comparable data on output and outcome objectives, and the challenge of comparing forms, mechanisms and processes of decentralization through

\[2\] Also referred to as the regulated or planned market model.
systematic and consistent methodologies are paramount. These points are further discussed in the Janovsky and Cassels paper.

**Quality Assurance and Monitoring Systems**

James Heiby's review specifically regards quality as compliance with technical standards for the process of health care in developing countries. This means that a number of issues, such as the development of standards themselves, are not directly addressed. This relatively narrow, but well defined, focus allows the author to make a coherent and concentrated argument for quality assurance through improving management and support systems such as supervision, training and management information.

Heiby suggests that the most pressing need is for descriptive research to provide objective documentation of a variety of efforts to assess and improve quality, including the organisational arrangements associated with sustainable and productive quality assurance programmes. He also proposes intervention studies, actively comparing alternative quality assurance approaches, including competency-based training, job aids, patient counselling and communication of standards. In the longer term, work is required on material and non-material incentives related to (preferably measurable) staff behaviour and performance. Questions about the relationship between cost and quality, and the issue of patient satisfaction are also raised. For the latter, Heiby proposes the adaptation and rigorous evaluation of some more advanced developed country techniques in developing countries. He also suggests research into regulatory strategies for enforcing quality of care standards in the private sector.

In identifying research priorities regarding monitoring systems, Richard Cibulskis and John Izard have divided their review into three areas: techniques and technology for obtaining better information; experiments and experience in setting up systems; and the use of monitoring systems to influence decision-making. Under the first heading, they suggest that the "indicator movement" is likely to flourish without prompting. Although work measuring outputs and impact is important, the authors feel that a top priority is the development of indicators to measure the use of financial and human resources. They place considerable emphasis on developing and refining methods for assessing the status of a health system, and whether it can deliver the services expected of it. Another of their concerns is the identification of simple measures that can be generated from existing systems rather than definition of measures that require special efforts to collect data.

With regard to information technology, Cibulskis and Izard suggest that recent developments in software, such as knowledge-based systems and geographical information systems, have enormous potential in facilitating the analysis and use of information. However, in practice, they are difficult to implement unless a well developed computing infrastructure is in place in the country. Their value at this time is, therefore, limited. In the meantime, more basic systems, such as EpilInfo, need to be developed.
The authors also comment on the important differences between projects and large scale monitoring systems, the frequent neglect to establish sustainable systems and the need to report on failures, all recurrent themes in this volume. Among their suggestions are case studies of major failures of monitoring systems, such as disease outbreaks, analysing reasons for non-use of information and possible remedies.

**Policy Process and Policy Analysis**

Anne Marie Foltz' paper on the policy process starts with a number of definitions. Research to date is reviewed from two perspectives, the *rationalist approach*, often linked with scientific and technical tools, such as Program Evaluation Review Technique (PERT), Management by Objectives (MBO) and Program Planning and Budgeting (PPB), and the *incrementalist approach*, based on the assumption that decision-making is an interactive process of mutual adjustment where the key actors look at their general problem and adjust their responses to those of other actors, with no pretence of unbiased or objective thinking.

Foltz suggests that due to the influence of epidemiologists and health economists, the rationalist approach to policy analysis is particularly strongly established in the health sector, emphasising provision of tools to policy-makers. However, Foltz asserts, there is limited evidence that these contribute to rational decision-making in developing countries any more than they do in the developed world.

Foltz approaches the question on priorities for research on the policy process by asking how policy-makers can use analysis of the policy process more effectively in their decision-making. She identifies three sets of actors who care about the process: policy-makers themselves, international and bilateral agencies, and policy analysts. Between these groups, there is a need to resolve conflicting, but usually unacknowledged objectives, and to develop strategies for improving and enabling the policy process.

Opportunities for complementarity between rationalist and incrementalist approaches undoubtedly exist. The author uses the example of DALYs as determining policy content, while at the same time policy-makers are assisted to understand and work more effectively within their own *policy arenas*. This, she suggests, requires more research on the arenas themselves as well as abandoning prescriptive approaches.

The most important gaps in knowledge thus concern different policy environments, policy formulation processes, and the way in which policies are formalized and implemented, particularly in very poor countries or newly independent states. An important issue raised by Foltz is the role of policy analysts, particularly when supplied as technical assistance, with research required to assess factors determining their effectiveness.
Foltz's review is complemented by a paper on the same subject by Gill Walt which, though covering much of the same ground and sharing similar convictions, adopts an advocacy position, promoting policy analysis as an approach and a method.

Walt explains the current crisis in health systems and the need for better policy analysis in terms of the shift from consensus to uncertainty in the policy arena. Health systems today are concerned with performance, accountability and consumer choice rather than technology; dominated by managers rather than doctors; and are undergoing major reform rather than small incremental change, implying a move from low to high politics. To tackle the problems confronting the health sector, Walt proposes a framework which takes account of contextual factors, processes of policy-making and the influence of different actors, as well as substantive content.

Walt lists a number of weaknesses ascribed to policy analysis, including the lack of tools and methods to analyze so complex a process and its outcomes; the difference of interests between policy-makers and analysts; the inherent political nature of the process; and the qualitative nature of information leaving it open to bias. Similar concerns are raised by other authors in this volume. Nevertheless, they, like Walt, conclude that a better understanding of the policy process and environment is essential. With growing interest in the subject will come refinement and development of theories and methods.
OVERVIEW

Health systems can act as a major constraint to the implementation of cost effective health interventions. Murray (1995) offers two types of explanations for technical and allocative inefficiency in health systems: insufficient knowledge about cost effective ways of achieving health gains, and poorly performing institutions. Murray believes that there is at present insufficient evidence to judge whether there is likely to be a greater yield from more research into a knowledge-based approach compared to research into institutional change.

This paper reviews the case for research about institutions and their role in shaping policy and improving implementation. We set out the boundaries of the field by looking at current definitions of the health system, health policy and health sector reform (section 1). We then map out four different research approaches and discuss methodological issues in relation to each (section 2). Next, we address questions about the relevance and use made of research findings in decision-making (section 3). Finally, we propose a simple framework for setting research priorities in this complex field (section 4).

Health Systems

Moore (1995) issues a much needed warning against succumbing to definitional obsessions, whilst acknowledging the need for conceptual clarity and a minimum of common ground for investigating and communicating about issues in the field of institutional development. As part of the recent wave of publications on health sector reform, much effort has gone into producing conceptual maps of the health system and health policy (Frenk, 1994; Cassels, 1995; Berman, 1995; Mills, 1995; Walt, 1994). These are interesting and useful providing, of course, that their production and elaboration does not become an end in itself. After all, a conceptual scheme will survive only as long as it continues to help clarify issues, and to stimulate and guide investigation.

Although there remain some differences in interpretation, on the whole there is increasing convergence in defining the key actors in the health system and on the nature of the functional interactions between them. Table 1 classifies health care providers and users in terms of supply and demand respectively. The state and institutional purchasers govern the interaction between supply and demand.
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(Adapted from Cassels, 1995; Frenk, 1994)
Health Policy
Policy is one of the dimensions of the health system. Others are resources, organisational structure, management and support systems, and service delivery (Cassels, 1995; Janovsky et al, forthcoming). Walt (1994) casts the net widely with her definition: "Health policy embraces courses of action that affect the set of institutions, organisations, services and funding arrangements of the health care system. It goes beyond health services, however, and includes actions or intended actions by public, private and voluntary organisations that have an impact on health."

Health policy covers both technical policies, for example, on malaria, AIDS, health promotion, and institutional policies, for example, regarding financing, the private sector, organisation and management of service delivery. Part of the debate on priorities in health policy research revolves around the relative balance between technical and institutional concerns. Both are needed, of course. But the concern of this paper is with institutions. Another debate concerns the weight given to process rather than content or, as Ham (1990) puts it, the analysis of policy (as a descriptive activity) versus the analysis for policy (which is more prescriptive). We return to the question of prescription later in this paper.

Health Sector Reform
According to a recent definition (WHO, 1995), health sector reform is a sustained process of fundamental change in policy and institutional arrangements, guided by government, designed to improve the functioning and performance of the health sector and ultimately the health status of the population. Health sector reform is concerned with defining priorities, refining policies and reforming the institutions through which those policies are implemented. As with health policy, there is increasing awareness that the process of reform and the difficulty of implementing policy and institutional change has been relatively neglected, compared with the debate about the content of reform (Walt & Gilson, 1994; Cassels, 1995).

HEALTH POLICY AND SYSTEMS RESEARCH

Research Approaches
It is useful to distinguish between different approaches to health policy and systems research on the basis of data needed and types of results generated.

Clarification of concepts and issues
Included under this heading are studies which develop a conceptual framework for analysing issues around topics -- which can be quite specific, such as user fees or hospital autonomy, or more broad, such as aid policies and decentralization. Research in this case is concerned with clarifying meanings and setting boundaries of system components or policy issues. It can serve to generate a common understanding of terms used and questions to be addressed, and thus provide the basis, and a clear direction, for more empirical
studies. Such analytic frameworks are essential to guide international comparative studies of institutional and policy issues. Conceptual research also can change the way we think about health systems by introducing new ideas (such as internal markets) or demonstrating links with other sectors (such as social marketing). To provide new insights into complex issues may not require the collection of primary data. It does mean that researchers must have access to a wide range of well-documented international experience. Papers that provide such an overview are included in this category.

**Data sets on systems performance**
The establishment of data sets involves the collection and analysis of standardized, usually quantitative, information, using classification systems which allow comparison over time and across different institutions and countries. An obvious example is national health accounts, designed to collect and compare information about resource flows. Basic information about public and private service provision, about distribution of human resources or about service quality would also fall under this heading. The development of standard tools for obtaining data and denoting different aspects of performance is an integral part of this kind of research.

**Retrospective case studies**
This term covers a wide range of descriptive analyses of situations and events. These studies may vary considerably in scope, covering one or more policies or interventions, and one or more places or countries. Retrospective case studies may evaluate either process or outcome, or both, and tend to emphasise the documentation of "lessons learned". Usually, less emphasis is placed on comparing specific indicators before and after the adoption or implementation of a particular policy, not least because it is difficult to obtain consistent information on changes in key indicators over time. For this reason, retrospective case studies are often considered less rigorous and reliable than experiments. Under both this and the following heading, a common framework for analysis is indispensable for comparative work.

**Prospective evaluations and experiments**
Experiments are set up from the outset to test the viability of a particular policy and to evaluate the relationship between specified actions/interventions and their outcomes. Outcomes may be ordered hierarchically and encompass health outcomes as well as achievement of such policy objectives as efficiency, equity and quality. Experiments require a rigorous framework to allow conclusions to be drawn about these relationships. However, whether quasi-experimental designs and natural experiments are suited for systems and policy research is a matter of controversy. Attempts to imitate natural science methods have resulted in a relatively narrow focus on inputs and outcomes, and in the neglect of analysis of how and why outcomes have or have not been achieved.
Methodological Challenges
Almost everyone laments the limitations of descriptive and qualitative case studies. There is increasing demand for evaluations that move the field beyond description of experiences toward establishing direct and indirect effects of particular policies or institutional arrangements on specified outcomes. To what extent are adopted policies and institutional changes achieving their objectives? What is the evidence that the right institutional arrangements lead to the adoption of the right interventions? There is also much debate about the need for comparative research to establish the patterns that hold across different countries and contexts.

Rein (1976) suggests that the search for establishing direct causal effects is elusive: "There are no general laws in social science that are consistent over time and independent of the context in which they are imbedded" (emphasis ours). No particular patterning of events will remain stable for very long, and generalisations about them cannot provide a firm theoretical basis for interventions." If we accept this statement, we must confront head on the limitations of social research in directly linking means and ends (policies/strategies and attainment of policy objectives) to cause and effect relations, and in developing global prescriptions without substantial qualification. This means that policy and systems research has to develop its own yardstick for what constitutes valid and useful research.

A number of issues need to be considered. The first concerns the limitations of experimental design in research on systems and institutions. The second concerns legitimizing and further developing the methods available for studying context and process, and the third, the requirements and conditions for comparative work.

Some recent investigations on the effects of particular interventions, using experimental design, are held up by some as good examples of policy research. It is worth examining this claim more closely. In the first place, the relevance of this approach depends on the degree to which the policies to be studied can be likened to interventions as defined in experiments -- well bounded in terms of both content and timing. Even where this is the case, there are several caveats to be considered. The studies in question are almost without exception related to relatively small-scale pilot projects, often based on one district or a handful of health facilities or villages. Experimental or quasi-experimental design entails rigorous testing of hypotheses about causal relationships between a predefined set of variables, involving intervention and control areas. The basic concern is with what has been done and with what effect. Although a high degree of internal validity can be achieved with careful design, experimental research tends to neglect questions of the context and timing of the intervention, and the level of effort and institutional arrangements required. Heroic assumptions or blatant disregard characterize the way in which the issue of translating small-scale experiments to system-wide adoption and implementation is addressed. Yet clearly, as their scale and scope increases, programmes become more complex; require more coordination; greater commitment of resources; and have wider political implications. The context in
which they operate changes and new social, political, economic and organisational factors affect what can be done. Large scale implementation requires facing the structural and system-wide issues from which small-scale projects are effectively protected (Pyle, 1982; Cassels & Janovsky, 1991).

The much quoted Litvack and Bodart study of user fees and quality of care in Cameroon (1993) is a case in point. It uses a pre-test post-test controlled experiment involving five health facilities and concludes that user fees do not adversely affect the poor when substantial quality improvements accompany fee increases. What the study does not tell us (and this is acknowledged) is what is required to achieve greater quality throughout the system in a sustainable way, in Cameroon and elsewhere. Yet, this is the very question one would explore when considering options for institutional change. Here as elsewhere, the experimental approach needs to be complemented by research that features quite different methods to gain an intimate understanding of, firstly, what conditions shape and influence outcomes and, secondly, how these conditions are to be put in place.

**The Way Forward**

The difficulties described here should not be taken to mean that it is useless to try to unravel complex relationships through research. Rather, they point to the challenge to develop methods for understanding context and process, and the need to take a holistic approach to analysis in contrast to the reductionist research tradition of the bio-medical sciences. There is a need to legitimise analytic research approaches that feature broad-based, often qualitative assessments, identify a range of policy options, indicate what specific conditions are associated with success (or failure) and under what circumstances, and provide some guidance on how to identify opportunities for introducing and implementing change.

Advocacy of research about process and context (Cassels & Janovsky, 1991; Walt & Gilson, 1994; Walt, 1994; Reich, 1994; Cassels, 1995) is gaining momentum, and the potential contribution of a relevant body of knowledge outside the health sector (Grindle & Thomas, 1991; Brinkerhoff, 1996; Moore, 1995) is increasingly recognized.

A global WHO study on decentralization and health systems change currently in progress attempts to address some of these issues: "Recognizing the difficulty of establishing direct causal links between different forms of decentralization and changes in the health system, the study framework facilitates the search for plausible links between its different components and other important events. Equally, acknowledging the difficulty of arriving at universal conclusions, the study underscores the need for examining the specific conditions under which certain forms of decentralization achieve the desired effect before drawing overly optimistic conclusions about the transferability of lessons from one country to the next" (Janovsky, 1995).
Policy and systems research is likely to benefit if the limitations of both experimental and qualitative research are explicitly recognized; methods from the natural sciences are not imitated where not appropriate; and the development of research approaches is pursued by looking for complementarity in addressing both what and how questions.

Is policy research less useful to decision-makers because of the inherent uncertainty of outcomes from policy initiatives? This is unlikely. After all, politicians and senior policymakers more than anyone else are masters of bargaining and decision-making under conditions of turbulence and uncertainty (Kalumba, forthcoming).

**RELEVANCE AND USE OF RESEARCH**

If health policy and systems research is to provide the basis for adopting and guiding institutional reform, it is useful to examine what factors are most likely to influence the use made of research findings in decision-making.

That the "correct" policies are often not adopted or implemented is now generally accepted. Policy models that assume rational decision-making and perfect implementation conditions are being abandoned in favour of those which acknowledge that the variables involved in policy change are numerous, that they extend beyond the narrowly economic and technical to include social, political and cultural dimensions, and interact in complex ways that are highly context specific and difficult to predict (Brinkerhoff, 1995). Recognition that the policy process does not proceed in sequential temporally and functionally distinct steps also comes into play here. Porter (1995) suggests that on-the-ground realities of policy-making are better captured by a model in which streams of problems, solutions and politics move independently, rather than sequentially through the policy system. The three streams join occasionally, though rarely predictably. It is against this background that our position regarding the opportunities and limitations of health policy research has been developed.

**Ownership, Participation, Client Orientation**

Where policy-makers take the lead in defining research needs and setting priorities, and get involved in the research process either directly or through commissioning studies, chances of implementation are usually greatly improved. Toward this end, a number of global initiatives, most notably the Council on Health Research for Development (COHRED) and the International Health Policy Program (IHPP), have supported national efforts to establish a policy-relevant agenda for research and to build capacity both to identify research needs and carry out research. Initially, much of this work has focused on health services delivery, with traditional surveys and epidemiological tools as the methods of choice. More recently, the attention has shifted to broader-based research on health financing and economics.
Donor support has been aimed at a mix of academics and university institutes on one hand, and central and peripheral health systems managers on the other. In most places, the different interests and approaches of researchers and policy-makers continue to make for a less than satisfactory alliance. At worst, we have witnessed researchers insisting on addressing policy issues on their own terms and in their own language under the mantle of academic freedom, and as a result failing to make their results accessible to the client and other non-academic consumers of research. The ability to turn research findings into policy briefs that are clear and comprehensible appears not be well developed in most academics. Yet, it is one of several conditions for ensuring that research findings become a factor in the policy process. It is important that researchers begin to realize that being responsive to the needs of policy-makers does not preclude, and may in fact enhance, their influence on the policy agenda.

Many academic institutions in developing countries that have a role in health systems research aim to emulate the institutions in developed countries from which many of their staff have received post-graduate education. This is happening at a time when the role and relevance of schools of public health in the North is increasingly being questioned. On one hand, therefore, there is a need for a radical rethinking of how such public health training institutions should operate, where their priorities should lie, and how and on what basis they should be funded by governments. On the other, it is necessary to assess the potential for developing alternative institutions which are in a position to be more responsive to the needs of policy-makers and which focus on policy and systems issues from a holistic perspective rather than one based on specific disciplines, such as epidemiology and economics.

**International and Comparative Research**

Are national research priorities at odds with international research interests? Is ownership and participation incompatible with international comparative research? To what extent is it possible to meet multiple objectives?

There is no need to belabour the fact that policy-makers around the world are demanding information of what is being done elsewhere, what works, what does not work, why, whether it can be imported, adapted, and how. These questions are best answered through some form of comparative analysis, using a common framework and drawing on experiences, evaluations, experiments in different countries. The critical point is how to judge the relevance of one country’s reform to another. To answer this, the questions raised in the previous section are revisited. To be useful to the policy-makers who are considering alternative courses of action, comparative analyses and single country case studies alike need to address explicitly the question of the context and conditions under which policies and strategies have been adopted and implemented. The policy-maker also needs to have simple methods for assessing the situation prevailing in the country that wishes to adapt and adopt policies and reforms. When one country is inspired by another’s policies, a word of caution
(and perhaps more research) is in order: it is not unusual for a particular strategy to be adopted that is just beginning to be questioned or even abandoned in the country which has pioneered the "model".

Who sets the health policy and research agenda? In neither case is the answer simply that this is done by each country on its own. The agenda is set in the interplay between policy and systems problems, solutions and opportunities, by both national and international actors. That there are fashions in research and development cannot be denied. To what extent it is possible to find a more objective or systematic way to inform the research agenda is a question explored in the next and last section of this paper.

SETTLE RESEARCH PRIORITIES

How should health research priorities be set? Is there a bottom line against which priorities should be evaluated? One can set out two extreme positions:

- Develop an absolute standard against which all competing demands can be judged. Priorities in health research, be they concerned with health systems or disease control, should be assessed in terms of the potential impact or link between the research initiative or its outcome and improvements in health measured on a common scale.

- At the other end of the spectrum is the perspective that systems for setting priorities will depend on the nature of the issue, the type of research, the values of the decision-maker, the type of country and so forth. In other words -- it all depends.

Between these two extremes exists a spectrum of intermediate positions. For many people the first of these positions is scientifically the most attractive. It suggests that a wide variety of different types of health-related research can be accommodated in the same frame, and that decisions between competing demands for resources can be made objectively. However, it is fair to ask whether the commonly used measures of health status or impact (such as DALYs) genuinely constitute an objective standard. Are they really the value-free bottom line?

In their attempts to develop a common currency for assessing disease priorities and cost effective interventions, the authors of the World Development Report 1993 recognised the need to make decisions about values (for example, the value to be attached to averting disease or death at different ages). The method makes these decisions explicit but this does not alter the fact that they have to be made. DALYs, therefore, represent a systematic and explicit way of assessing priorities. In other words, the same set of assumptions are applied consistently. But, because the calculations could be based on a different set of assumptions,
they are not, strictly speaking, objective. The difference is more than of purely academic interest. If DALYs are not an objective measure of health outcome, then it is arguably legitimate to consider other systematic approaches to setting research priorities.

However, even if measuring impact on health status is not strictly an objective method for setting priorities, it would certainly appear to be a convenient one. Before exploring alternative or additional methods, it is reasonable to ask whether looking at potential health impact can be used as a common currency for priority setting in relation to all kinds of health related research.

Clearly, determining priorities according to their potential effect on health status lends itself most readily to bio-medical research. Research into the prevention or control of disease x will have the greatest potential pay-off because it kills or maims ten times more people than disease y. In relation to disease x, present evidence suggests that research into vaccine development is more likely to reduce prevalence than research into vector control. The categories that are being ranked are diseases, risk factors, technologies or health interventions. For each of these categories there is a direct link with health status.

So why not add health systems factors to the list of categories? As argued at the outset, many cost effective interventions achieve less than their predicted effectiveness because of the limitations imposed by the failure of systems or the behaviour of people. It is therefore reasonable to suggest that factors that constrain implementation and limit the effectiveness of technologies are prime candidates for research. This is indeed so, but they act in a different direction, and exert their effect on health status through the medium of the intervention they affect. This can be a quite straightforward relationship: a shortage of needles affects immunisation programmes. A broken down truck, however, will affect not only the distribution of needles and vaccines but other drugs and supplies as well. If the systems constraint is an imbalance between salary and operational costs -- all field programmes will be affected.

For the most part, health systems issues cut across and thus constrain a number of interventions. Those that are usually perceived as being most important act at a higher level of the system. They therefore affect not just a wide range of potentially effective interventions, they also limit the capacity of the health system as a whole to make cost effective or rational choices of any kind.

One might still argue that it should be possible to determine health systems research priorities in terms of health status, if we suppose that the potential effects of different interventions (e.g. health insurance, decentralized management, greater reliance on paramedics) affect health status through the common medium of a basic package of services. If this were the case, then the potential effect of a systems intervention might be to increase service utilisation and thus by relating patient contacts to available services we are home
and dry. Unfortunately, things do not work like this. Firstly, one cannot assume that a common package of services actually exists. Secondly, changes such as those cited may affect utilisation, quality and the availability of services in different and unpredictable ways. Some Herculean assumption-making would be necessary to reach the health status bottom line -- to an extent that it would be hard to defend the validity of any conclusions reached in this way.

Finally, health policy or systems development requires a holistic approach. One can make judgements about potential health benefits of research into malaria vaccines compared to research into rehabilitation following cerebro-vascular accidents. It is more difficult to decide on whether research into user charges, drug logistics, financial management or human resource planning should receive priority. Health systems issues are inter-related. For example, the imposition of user charges may be linked to the purchase of drugs, which will make more demands on financial management and accounting systems and require personnel with different skills to be posted at the health facilities where fees are collected. Results will also be much harder to generalise and are more likely to be country or situation-specific. Research in health policy and systems is concerned less with generating information that will guide choice between broad categories of intervention (financial management versus drug logistics), and more with assessing or predicting the net effect (in terms of equity, efficiency, quality etc.) of different combinations of institutional change.

The implications of the above are far-reaching. If we abandon the idea of a common standard for assessing all health research priorities, then it will not be possible to say that research into disease control interventions is a better investment than research into health systems or household behaviour. This may be perceived as a loss by those that are convinced that resource allocation decisions are likely to be determined by rational technical argument alone. However, it is also reasonable to conclude a) that research in all three areas is important b) that systematic approaches to priority setting are needed in all three areas, but that they might be based on different criteria, and c) that the decision as to whether to invest in disease control, household behaviour or health systems research will be influenced as much by the values and orientation of the institution making the investment, as it will by rational analysis of their potential health impact.

This still leaves us with the problem that some areas of health systems research are more important and represent a better investment than others. To what extent is it possible to develop a global agenda for health systems and policy research, which will provide decision-makers with some form of systematic guidance?

Assessing Health Policy and Systems Research Priorities
A framework for setting research priorities will have to take into account at least three sets of factors:
Firstly, there is a need to assess the perceived importance of the topic. If this cannot be judged in terms of impact on health status, then the assessment must be based on potential impact in relation to other policy objectives, such as efficiency, equity or responsiveness to users. In addition, priority topics for health policy and systems research will necessarily already be on the policy agenda, nationally or internationally. In other words, there must be an expressed interest and a client who has a stake in addressing the policy issue concerned.

Secondly, even if the topic is perceived as being important, there is a need to decide whether the research proposed will advance the current state of our knowledge about the issue -- either globally or locally. To receive priority, a research initiative must have the potential to tell us something new, and add to the "state of the art" in relation to the topic concerned. In this respect, international and local priorities may conflict. Locally, for example, it may be politically important to support research that documents the problems associated with introducing national health insurance in the context of a specific country. In terms of adding to the global picture, however, a research study that provides further confirmation of the difficulty of insuring a population with a large informal sector may receive much lower priority.

Thirdly, there is a need to consider the extent to which there is an appropriate match between the issues to be investigated and the research methods to be used. Returning to the problem of methodology discussed earlier in this paper, there is little to be gained by studies that focus on important health system problems if the research methods proposed are unlikely to generate information that is useful to policy-makers. Even if experimental studies are rigorously designed, they have limited value if they do not take adequate account of the context in which the change is taking place. In assigning priority to competing claims for research funding, it is essential to take into account the need for methodological development in the area of health policy and systems research.

REFERENCES


This paper provides an overview of international experience of priority setting in health care. It begins with an analysis of why priority setting is on the health policy agenda and an assessment of the different levels at which priorities are set. The paper then goes on to review experience in a number of different countries at the forefront of efforts to set priorities on a more explicit basis. This leads into a discussion of the research agenda in this area encompassing both research efforts to date and priorities for the future. In this part of the paper, the need for comparative research is addressed. The paper concludes with a summary of the main issues discussed.

WHY IS PRIORITY SETTING ON THE AGENDA?

In a landmark study published in 1974, Maxwell analyzed international trends in health and health services (Maxwell, 1974). Maxwell’s study reviewed the pattern of expenditure on health care in different countries, and it identified the pressures to increase expenditure. This was not the first analysis of its kind, but at a time when the oil crisis was forcing a reappraisal of public expenditure priorities on a world-wide basis, it served to highlight the dilemmas facing health policy-makers. Since then the existence of infinite demand and finite resources in the health sector has become part of the conventional wisdom among health policy analysts.

Priority setting in health care is not a new phenomenon. Nor is it confined to those countries where expenditure on health care is low in comparative terms. Priorities have to be set in all health care systems whatever their level of expenditure and regardless of the methods of financing and delivery that are adopted. The nature of the choices that have to be made, and the locus of these choices does vary between systems but the inevitability of priority setting is universal.

If this has always been so, then why is priority setting perceived as a significant challenge at the present time? In the twenty years that have elapsed since Maxwell’s study was completed, there has been a growing gap between the availability of resources and the demand for health care. One of the reasons for this is that the rate of growth in health care expenditures has slowed considerably in many countries. This is a direct result of government policies designed to control public spending on health care.

In parallel, demand for health care has increased as a consequence of demographic pressures. In particular, the ageing population has placed additional demands on health services, reflecting the high levels of expenditure on health care experienced in the later
years of life. At the same time, advances in medical technology have opened up new opportunities for intervention in relation to pharmaceuticals, diagnosis and surgery. Although specific developments in technology do not always result in expenditure increases -- witness day surgery -- the cumulative effect of the changes which occurred has been to add to the pressures on constrained health care budgets.

Policy-makers responded to these pressures by seeking to reform the financing and delivery of health services. During the 1980s a wide variety of reforms were initiated in different countries. In relation to health services financing, a review carried out by the WHO described the policies pursued in a range of countries (WHO, 1993). As the review noted, changes were made to the sources of finance used, payment mechanisms and the roles of different actors. Demand outstripped supply in countries at all levels of development, leading to an increased role for the private sector. Yet with limited exceptions, such as Chile, few countries abandoned public financing and government regulation. Indeed in industrialised countries there was a tendency for the government share of total health financing to increase. This was partly because governments in these countries focused more on changes to the delivery of services than reforms to basic financing arrangements.

A number of studies have reviewed the health care reform policies pursued in different countries (Harm, Robinson & Benzeval, 1990; OECD, 1992 and 1994; NERA, 1993). At the risk of oversimplifying, these policies can be grouped into three categories. First, there was interest in making use of budgetary incentives as a way of increasing efficiency. At one level, this involved changes to the way in which doctors and hospitals were paid, designed to influence the supply of services to patients. Examples included paying doctors on a capitation basis and making use of fixed budgets for hospitals. At another level, attempts were also made to influence the demand for health care through the use of incentives, for example by the imposition of charges or co-payments (WHO, 1993).

Second, policy-makers introduced a range of measures aimed at strengthening the management of health services. This included policies to encourage doctors and other health care professionals to play a bigger part in management. These policies went hand in hand with the development of peer review and clinical audit, the promotion of health care accreditation and related quality initiatives, and the establishment of standards and guidelines to assist clinical decision-making. In addition, technology assessment and health services evaluation received increasing attention. Taken together, these measures were designed to ensure greater cost effectiveness in the use of scarce resources.

Third, there was interest in a number of countries in making use of markets as well as management as an instrument of reform. This was stimulated in part by disenchantment with planning and regulation as mechanisms for improving performance, and in part by the election of conservative governments committed to market-oriented reforms. In no case did policy-makers abandon planning and regulation. Rather, they sought to combine planning
and competition in the development of managed markets. To this extent, there was a degree of convergence in health care reform, with systems based on competition showing greater interest in managed care, and systems based on management introducing elements of competition into the organisation of health services. In some cases, competition was limited to providers, while in others encompassed insurers or purchasers of health care too.

As this brief review has indicated, the reforms that have taken place in the last decade have not on the whole resulted in the wholesale privatisation of health services (however this is defined). Notwithstanding the rhetoric of governments elected on the basis of manifesto promises to roll back the welfare state and cut public spending, there has been no retreat in most countries from the expansion of publicly financed health services and a commitment to universal coverage, at least in the industrialised world. Indeed, as the review carried out by the OECD (1992) has shown, health care reform in a number of OECD countries has sought to extend rather than restrict coverage. The main and important exception is the United States where attempts to mandate universal coverage signally failed. To be sure, there has been increased use of co-payments in some countries in an attempt to bridge the gap between demand and supply, but these changes have occurred mainly at the margins and have not (at least yet) fundamentally affected access to health care of different groups in the population in the countries studied. Change has been more radical in some other countries (WHO, 1993) and in a few cases (for example, China, Colombia and Thailand) has resulted in substantial increases in the private sector share of total health spending. Nevertheless, governments are everywhere an important source of health services financing, and they are also increasingly involved in regulating the provision of services.

In view of the commitment in most developed countries to guarantee universal access to health services funded mainly through public sources, it is not surprising that debate about priority setting has come to focus on the scope of coverage of publicly financed services. This has meant that alongside reforms based on budgetary incentives, the strengthening of management and the use of competitive mechanisms, there has been increasing interest in attempts to define the range of services that should be funded. In Europe, the analysis commissioned by the Dutch government to define the basic benefits package to be included in the reformed social insurance system is one of the best known examples, while in New Zealand a government appointed committee has been charged with defining the core services to be provided in that country’s health service. Other notable initiatives include work undertaken in Oregon to define the services that should be provided in the Medicaid scheme (that is the publicly-funded scheme for the very poor), the report of an expert committee set up by the Swedish government to advise on choices in health care, and the policies pursued in the United Kingdom (UK) to establish priorities within the national health service (NHS).

Before summarising the experience of these countries, it may be helpful to distinguish between different types of priority setting within the health services. Following Klein (1992),
it can be suggested that priorities are in practice set at a number of levels. At the macro or systems level, there is the decision on the level of funding to be allocated to health services -- the priority, that is, for health care in relation to other competing claims on resources. Also at the macro level, there are choices on the distribution of the health care budget between different geographical areas and services. At the next level, decisions have to be made on the allocation of resources to particular forms of treatment within service areas, for example, the priority to be attached to hip replacements and knee replacements within orthopaedics. Then there are choices about how to prioritise access to treatment between different patients, if treatment cannot be administered immediately. Finally, there are decisions on how much to invest in individual patients when access to care has been secured.

**Different Levels of Priority Setting**

1. Macro: the level of funding to be allocated to health services
2. The distribution of the budget between geographical areas and services
3. The allocation of resources to particular forms of treatment
4. The choice of which patients should receive access to treatment
5. Decisions on how much to spend on individual patients. (Based on Klein, 1992).

As this analysis indicates, priority setting is a pervasive feature of health care systems. If health care were left to the market, then many of these decisions would be based on the ability of individuals to pay for services -- or at least to insure against sickness. Given the well known weaknesses of markets in health care, in practice, governments in many countries have chosen to intervene to guarantee at least a minimum level of security against sickness. This means that responsibility for priority setting is shared by politicians, purchasers or insurers, providers and patients. In relation to Klein's analysis of different levels of decision-making, choices at the macro or systems level are usually the province of politicians, whereas choices at the micro or clinical level are primarily the responsibility of doctors and other health care professionals.

In between these two extremes, a number of stakeholders play a part in decision-making. The way in which these decisions are made is not always easy to understand because priority setting often takes place implicitly in the privacy of doctors' consulting rooms, and in the committee rooms occupied by those responsible for policy-making and resource allocation. The examples cited earlier of countries that have taken the initiative to discuss priorities are unusual, in part because they represent attempts to establish priorities on a more explicit basis than has usually been the case in the past. Yet, even in these examples, debate has focused more on macro aspects of priority setting than on the decisions that directly affect individual patients. Of course, policy choices about the scope of coverage of publicly-funded health services have an influence on clinical decisions, but the latter have not been studied to the same extent as choices at the macro level, precisely because they
are less transparent. Against this background, we now go on to review the experience of different countries (for further analysis see Honigsbaum, Calltorp, Ham & Holmstrom, 1995; Ham & Honigsbaum, 1996; Abel-Smith et al, 1995).

INTERNATIONAL EXPERIENCE OF PRIORITY SETTING

Priority setting at the macro level is increasingly the outcome of a political process. This reflects the importance of health care in all societies and the impact of health care spending on national economies (and vice versa). It also reflects the shift in many countries from private financing to public financing of health care. The move away from markets to governments as the allocators of scarce health care resources, has been associated with politicisation of priority setting both in terms of the level of funding of health services and the distribution of the budget between geographical areas and services. The way in which these issues are handled varies between countries, and a full account would require a paper in itself. Nevertheless, a number of features may be noted.

To begin with, decisions on the level of funding for health care are strongly shaped by economic policies and the share of national income allocated to public expenditure. As we noted above, the oil crisis of the 1970s forced governments to limit the growth of public expenditure as a whole, and health care spending in particular. This has served to constrain the volume of resources available to fund new services. In many countries, decisions on levels of health care spending are arrived at through a political bargaining process involving major stakeholders in government and in the health sector. These decisions are in turn shaped by the economic context in which they are taken. Countries experiencing high levels of economic growth not surprisingly find it easier to allocate additional funds to health care than countries experiencing low levels of economic growth. In this respect, finance ministries have an important influence on health care spending. It is this interplay between economics and politics which explains decisions on priority setting at a macro level. Technical arguments relating to the need and demand for health care may play some part in this process but are often of lesser importance.

Decisions on the distribution of the health care budget between geographical areas and services is more open to technical influences. For example, in the United Kingdom the way in which the health care budget is distributed between regions and districts is shaped by a resource allocation formula designed to share out the budget on the basis of the populations need. The resource allocation formula draws on an extensive programme of research going back over many years. The formula takes the size of the population as the starting point and weights this for age, gender, illness and other relevant characteristics. In practice, techniques are combined with politics, as health ministers in the UK have chosen to implement the formula in a manner which reflects the pattern of political support across the country.
The distribution of the health care budget between services may also be the subject of technical analysis. The UK again offers an example. In the 1970s, programme budgeting techniques of the kind originally developed in the United States defence department were used to determine priorities for the health and personal social services (Department of Health and Social Security, 1976). The use of these techniques reflected the belief prevalent in the 1960s and 1970s in rationality in government. Although they were subsequently abandoned, there has been a continuing interest in using information and evidence of different kinds to influence decisions on priorities between services. This includes drawing on the results of economic analysis, including cost effectiveness studies. Health economists in particular have argued that allocative efficiency in health care would be improved, if priorities were set on the basis of the cost per quality adjusted life year (QALY) derived from different interventions. Yet, even more so than in the case of the allocation of resources between geographical areas, technical arguments are strongly modified by the influence of politicians and health care professionals. In part, this reflects weaknesses and gaps in the techniques that are employed by economists and others, and in part, it illustrates the impossibility of removing priority setting at the macro level from the political process.

Notwithstanding these comments, in a number of countries, attempts have been made to introduce greater rationality into priority setting. As an example, priority setting in the Netherlands has focused on the work of a government appointed committee set up to advise on the benefits package to be included in the reformed social insurance system. The committee’s report was published in 1992 and put forward a framework to guide decision-making (Dunning Committee, 1992). In brief, the committee recommended that services or treatments should be required to pass four tests before they were included in the benefits package. These tests involved demonstrating that care was necessary from the community’s point of view, that it was effective and efficient, and that it could not be left to personal responsibility.

As illustrated in the accompanying Figure 1, services would be passed through a series of sieves or filters, and would form part of the benefits package if they qualified according to these criteria. Examples of services that would be excluded are dental care for adults (on the basis that this could be left to personal responsibility) and homeopathic medicines (on the basis that evidence on effectiveness was lacking). In addition, the committee recommended that new health care technologies should be evaluated before being funded through the social insurance scheme. This was linked to a proposal that clinical guidelines should be developed to ensure that services were provided to patients who were able to benefit from treatment. A key element in the committee’s thinking was that services were sometimes provided inappropriately, and that guidelines would assist in concentrating scarce resources where they would achieve the greatest benefit. A further proposal was that explicit criteria should be used to determine the access of patients onto waiting lists for hospital treatment and from waiting lists into hospital.
In New Zealand, the government established a committee in 1992 to advise on the core services to be funded within the New Zealand health service. At an early stage in its work, the committee concluded that it was neither helpful nor sensible to seek to draw up a tightly defined list of services to be provided within the health care system (National Advisory Committee on Core Health and Disability Support Services, 1992). This view was based on the belief that the services actually provided represented the result of a series of decisions made over many years, and as such were probably as good an assessment as could be made of the scope of service coverage. Accordingly, the committee went on to make a broad judgement of relative priorities within the range of services provided, and it concentrated its efforts on advising on priorities within specific areas of service provision. This was achieved by staging consensus development conferences on services, such as joint
replacement and heart surgery, and using the results to formulate guidance on levels of service provision. As in the Netherlands, this was linked to work focusing on the development of clinical guidelines to determine which patients should receive access to care. One of the features of the approach adopted by the core services committee was the effort made to involve the public in the process of debating priorities.

This was also the aim behind the initiative taken in the state of Oregon in the United States to determine priorities in the Medicaid programme (Kitzhaber, 1993). The intention was to use the package of care that was agreed for Medicaid to determine the basic benefits package available throughout the state. The Oregon experience is in some ways the most ambitious of all the cases reviewed here. It has involved an extensive programme of work carried out under the aegis of a Health Services Commission designed to rank in priority order those services that should be included in the Medicaid programme. After a lengthy period of development, the Oregon scheme finally came into operation in 1994. In the scheme that has now been implemented, 565 treatments out of a total of 696 have been funded. The Health Services Commission began its work by analysing the cost effectiveness of different treatments but this method was abandoned because it produced anomalous results. Instead, data on cost effectiveness were used alongside information gathered during a consultative exercise with the public. Taking into account information from these different sources, and responding to concerns that the methodology used discriminated against people with disabilities, the Health Services Commission used its judgement to advise the legislature on priorities. Although the scheme has been in operation for a short time, there are already indications that demand for the use of services exceeds the available resources, and that tighter limits may have to be introduced to keep expenditure within budget. Alternatively, the legislature may decide to find additional resources to close the funding gap (Honigsohn, personal communication).

The approach taken in Sweden has not yet had a direct influence on the services provided in that country in the way that has occurred in Oregon. Rather, an expert committee appointed by the government in 1993 has analyzed the issues involved in priority setting, and has set out the principles that should guide decision-making (Health Care and Medical Priorities Commission, 1993 and 1995). These principles are human dignity, need or solidarity, and efficiency. The expert committee argued that priorities should be based on these considerations and should not be influenced by other criteria such as age, income or chance. The committee then went on to identify different categories of priority, attaching greatest importance to the treatment of life-threatening acute diseases, and least importance to mild disorders and illnesses where self care was sufficient. The work of the expert committee at a national level has been complemented by a series of regional initiatives taken by county councils to determine priorities for health care in their areas.

In contrast to the other cases reviewed here, the United Kingdom has not explored priority setting through a government sponsored national initiative. Instead, responsibility for setting
priorities has been placed on health authorities at a local level. The UK government has so far resisted calls to set up a royal commission to examine the scope of coverage of the NHS, and has argued that it is still committed to providing comprehensive health care to the whole population. Nevertheless significant pressures have built up in relation to the continuing care of patients who no longer require acute medical treatment, access to general dental services within the NHS, and the provision of intensive care for critically ill patients. Also, there have been well publicised examples of patients (including children) being denied care or having to wait for treatment. In this context, the UK government has placed the emphasis on supporting health authorities to make decisions on priorities by publishing information on the cost effectiveness of different services. The government has also encouraged the greater use of clinical guidelines, thus echoing developments in the Netherlands and New Zealand. These initiatives are part of a programme designed to promote evidence-based medicine and to improve clinical effectiveness.

Looking beyond these countries, it is worth noting that a major review of health care reform published in 1993 concluded by advocating a strategy of reform centred on the development of a guaranteed health care package (NERA, 1993). The scope of the package was not specified, but implicit in the report was the assumption that the package should cover essential health services only, leaving the remainder as a matter of personal responsibility. This followed from an analysis of the funding pressures facing health care systems around the world, and the difficulty confronting governments in maintaining a commitment to comprehensiveness while at the same time pursuing prudent fiscal policies. The logic of the report's analysis was that other developed countries would sooner or later have to follow the example of the Netherlands, and in so doing would be forced to adopt a narrow rather than broad definition of the basic benefits package. The problem with this line of argument is that it is difficult to implement politically in those countries like the UK and New Zealand which have a commitment to fund comprehensive services. Oregon has been able to make greater progress because of its very different starting position, including the focus of Medicaid on low income groups only, and the opportunity to balance restrictions on service coverage with extensions to the population groups included in Medicaid in Oregon. In this respect, there is contrast between rationing by exclusion (as in Oregon) and rationing by guidelines, the approach pursued in both New Zealand and the UK (Ham, 1995). A universal methodology applicable in all countries is an unlikely goal, and the approach taken to priority setting needs to be sensitive to the particular traditions and expectations of the jurisdiction concerned.

This applies as much to developing countries as to those in the developed world. A recent review by the World Bank (1993) has documented improvements in health in the developing world and associated changes in health services. The review argues that further improvements in health depend at least in part on the better direction of health spending. Although developing countries spend only about half as much of their GDP on health care compared with the average in OECD countries, there is evidence that resources could be
used to greater effect. Specifically, the World Bank report suggests that resources should be directed towards cost effective interventions and on public health programmes to improve the conditions which give rise to illness. This includes concentrating on the provision of essential clinical services to the whole population, with lower priority being attached to specialised hospital care.

It is recommended that these services should include five groups of interventions to address large disease burdens. The five groups are: pregnancy related care; family planning services; tuberculosis control; control of sexually transmitted diseases; and integrated management of the sick child. It is also suggested that a minimum package of essential services should include some treatment for minor infection and trauma. The report acknowledges that richer developing countries may choose to include a much broader range of interventions, including those directed at non communicable conditions. Examples include treatment of heart disease, cervical cancer, and removal of cataracts. Nevertheless, by focusing resources on cost effective public health programmes and essential clinical services, it argues that considerable progress can be made in improving health.

The World Bank's recommendations draw heavily on the results of the Health Sector Priorities Review carried out between 1987 and 1993 (see Murray & Lopez, 1994). This used disability adjusted life years (DALYs), which are a particular form of QALYs, to map the global burden of disease and to analyse the cost effectiveness of different interventions. The results of the Health Sector Priorities Review indicated wide variations in the cost per DALY of some fifty interventions, and it was this that the led the World Bank in the World Development Report of 1993 to argue for the redirection of health care resources to interventions of proven clinical effectiveness.

Yet, as with the approach to priority setting adopted in developed countries, the use of DALYs needs to be treated with caution. To begin with, gaps in the availability of data make it difficult to undertake systematic comparisons between interventions. For this reason, reliance was placed on expert judgement where data were lacking. A further issue is that analyses of this kind may not always be consistent with professional or user preferences. Equally important is the fact that few interventions are either wholly beneficial or entirely useless. This means that broad assessments of priorities have to be translated into practice guidelines to ensure that interventions are actually delivered to those who can benefit. This applies as much to the Oregon approach to rationing as to the use of DALYs to determine priorities. Furthermore, as the World Bank acknowledges, the cost effectiveness of interventions varies across localities, limiting the validity of analyses conducted at a global level. For all of these reasons, DALYs are only one element in the priority setting process, however attractive they may appear to health policy analysts.

One of the most important, even if most obvious, conclusions to emerge from this review of international experience is that priority setting is inherently difficult. Choices in health
care are not amenable to a quick fix, and they cannot be resolved simply on scientific or technical grounds (Klein, 1993). This is because health care priorities involve making judgements between treatments and services of quite different kinds, and these judgements need to be informed both by evidence and by values. As the above discussion has indicated, it is for this reason that policy-makers have sought to invoke not only the results of research in arriving at decisions, but also they have consulted the public and other stakeholders. Future work in this area needs to proceed along these two tracks simultaneously as approaches to priority setting are refined and developed.

A further conclusion is that there are limits to the use of techniques in priority setting. As we have noted, this is partly because of weaknesses in the techniques, and partly because of the need to generate political, professional and public support for choices in health care. This suggest that the process of arriving at decisions is at least as important as the decisions themselves. Priorities are likely to be seen as more defensible and legitimate if they have been arrived at following rigorous debate and discussion, than if they have been determined unilaterally by a remote technician or decision-maker. Techniques can contribute to this debate but can never on their own resolve conflicts of values.

The other conclusion to emphasise is that health policy-making inevitably involves making trade offs between different objectives. These include balancing equity and freedom of choice, and comprehensiveness and cost containment. A wide range of policies are available for the achievement of these objectives, and the choice of policy is likely to depend on social and political considerations. This task is complicated by the lack of good evidence on the impact of alternative policies. Notwithstanding the large volume of research on health financing and delivery and priority setting, there are many gaps in our knowledge. It is for this reason that we now explore areas for research.

THE RESEARCH AGENDA

Turning to the research agenda, the first point to make is that there is a growing body of research and publications in the field of priority setting. At one level, this involves studies of how priority setting is undertaken in individual countries. Thus, for each of the countries whose experience has been reviewed here, there is a large and expanding volume of work. There is also increasing interest in comparative studies. A well known example is the comparison of the UK and the USA, undertaken by Aaron and Schwarz (1984), and this has recently been joined by other work in a similar vein (for example, BMJ, 1993; Honigsbaurm, Calltorg, Ham & Holmstrom, 1995). Despite the existence of this work, much more is known about some systems than others (the experience of Oregon has been particularly well documented, for example), and policy is evolving so quickly that existing studies date quite rapidly. The quality of these studies is also variable: some are thorough pieces of scholarly research, while others have been deliberately written for a more popular audience.
A second point is that a major theme in the research literature is the way in which techniques drawn from economics can contribute to priority setting. Given that much of the health economics literature addresses issues of scarcity and choice, there is an argument for including all or nearly all of this work in this review. This would, however, not be possible in the space available, and in any case only a proportion of the research into the economics of health care deals directly with the theme of this paper. What work has been done focuses on the use of economics techniques to inform decisions on priorities and to illuminate choices in health care. For example, there is a sizeable literature on quality adjusted life years (QALY) and on cost per QALY league tables (for example, Mason, Drummond & Torrance, 1993). More recently, this has been supplemented by work on disability adjusted life years (Jamison, 1993). There is also work on programme budgeting which explores how this approach can be used in practice (Mooney et al, 1992). Marginal analysis is another method used by economists to compare priorities for investment. Again, the quality of these studies is variable, and only recently have serious attempts been made to provide a bridge between the research literature, often written by academics for academics, and the policy community in health care.

A third area of investigation has been the involvement of the public in priority setting. The literature in this area is less extensive than in the other two areas discussed so far, although again much of the generic research into methods and experience of public participation in health care is relevant. In view of the significance of the work undertaken in Oregon, and the emphasis placed there on public involvement, research into the Oregon experience figures prominently in the literature (Leichter, 1994). This is increasingly being supplemented by studies from other systems (for example, Bowling, Jacobson & Southgate, 1993). One of the conclusions to emerge from the research in this field is the difficulty of involving the public effectively in priority setting. The research also indicates that the results of public consultation are sensitive to the methodologies used. In this area, as in the application of economics techniques to decision-making, the importance of rigour in the tools that are employed cannot be emphasised sufficiently.

The extent to which research has influenced health policy and systems development has not been studied systematically. While there is some evidence that research into the experience of particular systems is transferred and studied in other systems, it is more difficult to demonstrate a direct relationship between research on the one hand, and policy and practice on the other. In some cases, it appears that research into systems wide approaches to priority setting has a negative influence in persuading policy-makers not to copy approaches tried elsewhere. As an example, health ministers in the UK rejected the Oregon approach (Bottomley, 1993), arguing that rationing health care by excluding services from the benefits package was unnecessary. This view was based on the argument that effort should be concentrated on achieving greater cost effectiveness in the use of resources before deciding that some services should not be funded at all (see also, Department of Health, 1995). Yet paradoxically, in the same system, those responsible for priority setting at a local
level have made use of techniques used in Oregon (Carroll, 1993). Beyond this, little is known about the relationship between research and policy.

In relation to the impact of economics research, the literature on QALYs is much more in evidence in the academic community than among policy-makers. While some attempts have been made to summarise information on QALYs in a form that can be used for decision-making purposes (Department of Health, 1994), even the most enthusiastic supporters of cost utility analysis are cautious about using this information in its present form. This reflects the uneven quality of the data on which QALYs are based, and the need to see QALYs as at best an aid to judgement. Research into priority setting at a local level within the UK NHS has found little evidence of the application of economics techniques (Ham, Honigsbaum & Thompson, 1994; Klein & Redmayne, 1992), although there have been reports of the use of these techniques in individual health agencies (Cohen, 1994).

Research into methods of public participation in priority setting appears to have had some influence on practice (for example, Ong et al., 1991), but again this has not been studied systematically. A current research project into public participation in priority setting in the UK is uncovering a lack of awareness of the literature in this area on the part of practitioners (Mullen, personal communication). As a consequence, the techniques adopted are sometimes inappropriate and potentially misleading in terms of the data they produce. In this field, at least, there would appear to be scope for policy learning, although this is dependent in part on finding more effective ways of summarising what is known, and making it available in an accessible format for decision-makers.

THE FUTURE

What are the priorities for research in future? The first priority is to build on existing work, filling gaps where they exist and updating data on a regular basis. For example, as far as systems-wide research is concerned, there is a need to document experience in a wider range of countries, including developing countries. This research should describe on a systematic and comparable basis the range of services covered, the nature of any exclusions, and the reasons for these exclusions. Of particular value would be a review of the content of basic benefits packages where these have been defined and the way in which they were arrived at. Future research should also review other approaches to priority setting, such as attempts to limit demand through the use of co-payments and waiting lists for treatment. Where these approaches are employed, the impact on service utilisation and patients merits investigation. To give just one illustration, to what extent do co-payments influence demand for different kinds of treatment and at what level do they begin to have a significant impact? Furthermore, is there any evidence that restricting demand in this way has an adverse effect on health status? There is some work in this field but more research is required.
A second priority is to explore the operation of priority setting at a micro or clinical level. In general, this has been investigated less than priority setting at the macro or systems wide level. There is a need to complement systems wide research with work which focuses on decisions about how much to invest in particular patients, and how to prioritise access to treatment between different patients. Remarkably little is known about how doctors take these decisions in individual systems, let alone on a comparative basis.

One of the few exceptions is research into access to renal dialysis in the UK NHS. This has explored the reasons behind the much lower provision of dialysis in the UK compared with other countries, and has highlighted the existence of age related rationing (Halper, 1989). There would be particular value in research along the same lines looking at the utilisation of other services (for example, hip replacements, heart surgery, intensive care) and exploring the reasons for any variations that are found. In this area, it should be possible to make connections to the literature on clinical practice variations (Ham, 1988), but to go beyond this in order to analyse how doctors respond to differences in the availability of resources, for example by adjusting treatment thresholds. This would include assessing the role of age and other criteria in balancing demand and supply.

A third priority follows on from this, namely the need to study the relationship between macro and micro levels of decision-making. In some systems there is a clear separation between these levels with politicians taking decisions at the macro level and doctors taking decisions at the micro level. In other systems the distinction is not clear cut. The result is that clinical decisions may be subject to political or managerial influences, and equally doctors may seek to shape the setting of priorities by those in policy-making positions. Whatever the arrangement, it is clear that micro decisions are influenced by the macro context, although the way in which this operates is imperfectly understood. An analysis of how clinicians in different systems respond to the resource and policy constraints under which they function would help to fill this gap. Again this could involve taking a small number of service areas as illustrations and using these to trace through the relationship between different levels of priority setting as identified by Klein (see above). It would also entail examining the implementation of macro decisions on priorities and the impact of decisions to shift resources between services and geographical areas.

The fourth and final priority is to examine the impact of differences in health care expenditure between countries on service utilisation, access and health outcomes. This is an area where quite a lot of research has been conducted, not least by the OECD (1987). Nevertheless, there are a number of outstanding questions to be investigated. At the most fundamental level, they include the additional benefits (if any) that accrue from higher levels of expenditure, and (the other side of the coin) the effects of lower levels of expenditure on the population's access to health services, and ultimately health. While it would be foolish to believe that these issues are easy to analyse, they are of such importance that they cannot be ignored. Ideally, a study in this area would focus not only on comparisons at the systems
level but also on how countries vary at the regional and district levels (for example, Pearson et al, 1968; McPherson et al, 1982).

The issue that remains to be addressed is the use of research findings in decision-making. As discussed already, this is arguably a research priority in its own right. It would appear on the basis of available evidence that there is often a gap between those carrying out research and those in decision-making roles. There is no single or simple way of filling this gap. A concerted effort is needed to communicate the results of research to decision-makers, and to do so in a way which acknowledges the pressures and timescales under which they function. Equally, it is important to remember that decisions are not made solely or even mainly on the basis of research evidence. Particularly at the policy-making level, a whole range of factors come into play, and it would be naive to believe that research in itself will ever determine policy outcomes.

Nevertheless, more could and probably should be done to promote evidence-based policy-making (Ham, Hunter & Robinson, 1995). This includes funding basic research to add to the stock of knowledge about priority setting, developing a strategy for disseminating the results of research, and facilitating direct communication between researchers and decision-makers. Furthermore at the international level there is considerable potential for comparing and sharing the results of research and practical experience of priority setting. As The Economist has commented:

"Most countries are dealing with health-care reform as if each was on Mars. Few have tried to learn from others... This indifference to the international face of doctoring is a huge mistake... there are lessons to be learnt from looking at different ways of paying for and delivering the goods. Instead of each country trying out its own experiments, they should be studying each other's for ideas and pitfalls" (1991).

Amen.

CONCLUSIONS

This paper has reviewed international experience of priority setting in health care and it has identified areas for research. The paper has concentrated on countries at the forefront of efforts to set priorities on a more explicit basis although reference has also been made to experience in other countries, including those in the developing world. It is clear from our analysis that priority setting is a universal phenomenon, and that countries have much to learn from each other. Future research should focus on experience of priority setting in different countries and at different levels of decision-making. Work is needed to increase understanding of how basic benefits packages are defined and how these vary between
systems. Research is also required into priority setting at the clinical level to illuminate the processes by which patients get access to treatment and the criteria used by doctors and other health care workers in this process. Alongside these research priorities, work should be put in hand to understand the impact of differences in health care expenditure on service utilisation, access and outcomes. Finally, more should be done to ensure that research findings are utilised by policy-makers. This includes conducting research into the decision-making process itself to explicate the relationship between research and policy.

REFERENCES

INTRODUCTION

Despite the progress made in the past 40 years to improve the coverage and utilization of health services around the world, the population health needs continue to overwhelm the health systems' capacity. The situation is compounded by the increase in demand resulting from population aging, and the adoption of life styles that promote a rise in noncommunicable diseases. Government health expenditures, unfortunately, have stalled or shrunk in many countries, widening the gap between systems' capacity and population health needs. Health policy-makers face difficult choices when resources are allocated, but lack analytical tools to set health priorities. In response, researchers have increased their efforts to develop conceptual frameworks and design indicators and methods to set health priorities through explicit criteria.

Setting health priorities with explicit criteria is still experimental. Significant pieces of knowledge are lacking to understand the political and management process of decision-making, and to integrate in a reasonable way all the information that is relevant. Research and practice will help to answer basic questions on priority setting. Unfortunately, the amount of current research is insufficient and its focus is misplaced.

The purpose this paper is to briefly describe the conceptual domains of health priority setting, review the main contributions to our knowledge on this field and suggest priority areas for research and capacity building. The main emphasis of the paper is on setting health priorities in low- and middle-income countries¹.

CONCEPTS AND BOUNDARIES

Like other sectors, the health sector has finite resources. All governments must address the mismatch between health resources and health care needs, although in low-income countries the problems the governments must confront are more severe. The situation is compounded by the fact that health care needs, defined as physical and mental problems that require medical counselling, diagnosis or treatment, are considered infinite. No matter how healthy a population, their health needs and demands will always exceed the ability of health institutions to produce services.

¹ Low-income countries include those with income per capita in 1994 lower than US$695. Middle-income countries refer to those with US$696 to $8625.
Rationale for Setting Priorities
A number of changes are taking place in the epidemiological profiles of populations and the financing and organisation of health systems that have increased the need to set health priorities.

The demand for health care is growing. Studies have shown that as income per-capita grows, life expectancy at birth increases. However, as income per capita rises, the utilization of health care services and the unit cost of treating an individual also increase. This health utilization paradox can be explained by four socio-demographic changes which correlate strongly with income:

1. The medium-term effect of fertility decline is a sharp shift in the age structure of the population. Populations are aging and imposing a heavier burden on health services because older people are sicker, consume more health services and their services are more expensive than those for any other age group (Mosley et al, 1993).

2. More education and information on health issues and risks lowers the population’s threshold of physical and mental normality increasing the prevalence of perceived morbidity and, in turn, the health care demand. (Berman & Ormond, 1988).

3. Life styles of urban middle and upper classes pass through a stage of regressive behaviour. Tobacco consumption, alcohol abuse, excess animal fat consumption and lack of exercise become more prevalent as people increase their income. However, after a few decades of indulgent behaviour, certain sectors of the population (the more educated and wealthier) smoke less, consume less fat and exercise more often. Between these two stages, the incidence of many chronic diseases, most notably, cardiovascular disease and lung cancer, rise and impose a significant, and sometimes heavy, burden on health services (Bobadilla & Costello, 1996).

4. The technology needed to diagnose and treat diseases and injuries has been rapidly developing during the past 20 years. As countries increase their wealth, their adoption of new medical technologies tends to grow at a faster rate. Generally, new drugs and techniques in clinical medicine lead to higher costs of health care, with marginal benefits in the population health status (Bronzino, Smith & Wade 1990).

Over the past 30 years, most low and middle-income countries have begun to experience one or more of these changes. Many middle-income countries in Latin America, East Asia and Eastern Europe have experienced all of them, with a wide range of intensity.
Strong arguments can be made for setting health priorities mainly because the health problems which affect populations are becoming more complex, and the absolute burden of disease and the demands for health care are increasing rapidly. To be sure, if financial resources for health were simultaneously increasing, prioritization would not be needed; unfortunately, this is not the case.

Resources for health are shrinking or not growing fast enough. Due to the debt crisis in the 1980s and to other macroeconomic problems, most low and middle-income countries have reduced their public spending per-capita on health (Lafond, 1995).

Government spending is under greater scrutiny than before. Governments facing a severe fiscal crisis in the 1980s and 1990s increasingly had to justify the use of public funds to produce goods and services (Birdsall, 1993). As a result, governments have reduced their funding in the production of a vast array of goods and services. Although there are strong reasons to justify some public financing for health (World Bank, 1993), there is no agreement on what the right level is.

The domains of health priorities
Setting health care priorities refers to the selection of health services, programmes or actions that will be provided first, with the purpose of improving the health benefits and distribution of health resources. Health research priorities, on the other hand, refer to diseases, injuries, risk factors that produce a significant burden of disease, but lack an effective intervention for their control.

Health care priorities are inclusive of all actions, interventions and programmes that are primarily justified by their positive health effects. Apart from typical medical interventions, many other programmes routinely managed by other sectors should be included in the menu of health care choices. Social programmes that work indirectly to produce health benefits, such as the formal education of girls, activities which generate income, or direct subsidies to the poor, are not part of the menu because their implementation is not primarily justified by their health benefits. On the other hand, environmental interventions that are justified by their health benefits, even when the real effect in morbidity and mortality is minuscule or moderate, are included in the universe of health choices.

Although health priorities can be set for any type of health organisation, private or public, their relevance is more obvious for public institutions. Private health insurance agencies often set priorities, mostly through the definition of intervention exclusion lists. Public health institutions are accountable for the use of resources entrusted to them; tax payers expect, and sometimes demand, an efficient use of health resources (Musgrove, 1995).

Health care priorities are an intrinsic part of all health systems. All systems have a built-in mechanism for setting priorities which applies implicit criteria. The current decision-making
process in the public sector based on implicit criteria is unsatisfactory due to the distortions found in resource allocations and a lack of transparency of the steps and actors involved in the decision-making process. Establishing priorities, with few exceptions, is heavily influenced by political pressures and delegated to health managers who often have serious conflicts of interest, such as hospital managers who want to expand the degree of sophistication and size of their medical facilities, but have no incentives to use hospital resources to provide more cost effective services to their patients. Moreover, in many countries, public sector health institutions spend most of their money in urban areas, often at the expense of the rural populations’ access to health care. A more subtle way to set priorities is through the under-funding of recurrent and maintenance costs which leads to an ongoing deterioration in the quality of care.

The sphere of health priorities overlaps inevitably with the study of other health system components. Figure 1 presents a map of the main elements involved in the formulation of current priorities and changes which may be required in the future. Current health priorities will always be inadequate to deal with the emerging health needs, since they were chosen (implicitly or explicitly) to respond to perceived health needs in the past. The success of previous decisions on setting priorities leads to a new epidemiological profile that, in turn, calls for a new assessment of priorities and a new selection process.

Priorities in the health sector cannot be set in a vacuum but must be commensurate with the social values and principles with regards to health, life, reproduction, welfare, and equality of opportunities, among others. Such values should be reflected in the national health policy as defined by the government. Figure 1 highlights five basic goals of health policy. Two goals, allocative efficiency and equity, more strongly demand a review and change of current priorities. Community satisfaction may be affected by the type of priorities chosen, but not so strongly as the other two. Equity in this context refers to the fair distribution of health resources between socio-economic groups, and allocative efficiency refers to the selection and delivery of interventions that will save more lives and prevent more disability with the available resources.

The institutional and legal frameworks of the health system establish the limits in which health priorities can be set and implemented (see bottom of Figure 1). Unless intentions to change such frameworks through a radical reform of the health system are implemented, the institutional organisation and the legal basis for its operation, are considered constraints to set new priorities.

Current priorities are strongly influenced by factors which are rarely under the control of decision-makers and researchers in the health sector. The budgetary inertia of the system is largely due to the high recurrent costs of hospitals operation and the dominant payment mechanisms for providers: global budgets based on retrospective expenditure and facility size. More dynamic determinants of health priorities exist. The demand for health care
FIGURE 1 THE DOMAINS OF SETTING HEALTH PRIORITIES

SOCIETAL VALUES AND PRINCIPLES ON HEALTH AND REPRODUCTION

HEALTH POLICY

Equity Allocative Efficiency Technical Efficiency Community Satisfaction Quality of Care

Dynamic Determinants
- Demand for health care
- Political pressures
- International agencies priorities
- Other

Current Health Priorities

Technical Criteria
1. Health Status
2. Cost-effectiveness of intervention
3. Community Preferences

Feasibility Requirements
- Health System Capacity
- Financial prospects for the health sector
- Political acceptance

New Health Priorities

Implementation

INSTITUTIONAL AND LEGAL FRAMEWORK OF THE HEALTH SYSTEM
obviously influences the content of care in health centres and hospitals, yet, the demand for public health actions is often weaker or non-existent, which is why this priority is often lower than clinical services.

Political pressures will always influence decision-making on how to spend public money. The medical profession is known to influence decisions on equipment acquisitions and building facilities for specialized medical care; trade unions can affect decisions on the location of hospitals and health centres among others. International health programmes are highly relevant in shaping priorities in many low and some middle-income countries. These, and other determinants, change every two or three years and may not be commensurate with real health needs as measured by burden of disease analysis.

Although not indicated in the diagram, dissatisfaction with the performance of the current health system is needed to justify a reassessment of priorities. Such dissatisfaction comes from concerns over the inequitable distribution of resources, resource waste due to unnecessary interventions, and a neglect in the provision of some cost effective services. The health care reforms that have spread across all world regions are mainly justified by the discontent of populations and their representatives of the way services are financed, distributed or organised. Another common justification to assess current priorities is generated by the competing demands for public funds from advocacy groups, which use outcomes that cannot be compared to assess their merits.

To select priority interventions in public institutions, interventions need to meet at least three commonly used technical criteria: they should be able to reduce significantly the burden of disease; be reasonably cost effective; and, satisfy population preferences. Not all the technically defined priorities can be implemented in the short or medium term. They, however, need to comply with three critical feasibility requirements: priority interventions should be delivered with reasonable quality by the current health system; they should be accessible to all the population or almost all within the projected budget; and, there should be political acceptance of the selected priorities.

The mainstream scientific literature suggests a technocratic approach to priority setting. This approach involves three stages: First, the quantitative analysis of the burden of disease, preferably through a single indicator. Typically, premature mortality and disability losses would be estimated with a breakdown by immediate causes (diseases), sex and age (Murray, 1994a). Second, the analysis of the cost effectiveness of the alternative interventions to control the diseases that cause the largest health losses (Jamison et al, 1993). And third, the selection of a package or list of interventions that can be delivered with the available budget and through the current health system (Bobadilla et al, 1994a).

Optimizing health care resources is not automatically achieved through prioritizing resources or health needs, but comes from assessing the cost effectiveness of health interventions.
Research on cost effectiveness is largely confined to health interventions, which is why they are commonly chosen as the best object of prioritization. Equity goals, however, may be at odds with the allocation of resources made exclusively through prioritizing cost effective interventions. Therefore, socio-economic groups are often selected to set priorities to fulfill equity goals.

The resulting health priorities should be compared with present priorities in order to identify gaps and make recommendations on any additions and cuts. The main mechanisms used to change the current allocation of resources are an expansion of service coverage to the poor; the improvement of the quality of priority interventions, on a selective basis; the modification of laws or regulations to subsidize medical care costs for priority interventions; cuts or freezing growth in the financing of low-priority interventions; the reallocation of funds from one part of the system (specialized hospitals) to another (public health and health centres); and direct investment in health research.

After new health priorities are set, they need to be implemented and merged with the current ones. Often, significant changes need to be introduced in the rules that govern the relationships between the health system actors. Among the most important instruments that potentially can be changed are: regulations on payment mechanisms of providers; laws and norms that modify the behaviour of consumers and vehicle owners; the introduction of revised clinical protocols to diagnose, refer and treat patients; new accounting systems with modified content and processes for programming and budgeting recurrent costs for health facilities; and more restrictive rules for the acquisition of expensive equipment and technology.

RECENT PROGRESS IN THE DEVELOPMENT OF INDICATORS, METHODS AND DATA

Research efforts primarily directed at improving priority setting in the health sector of low- and middle-income countries have been incomplete, scarce and of fair quality. Most of what we know about priority setting has, in fact, been gained through research efforts that have had indirect objectives connected to the process of priority setting. The main weakness of the available research is its narrow focus on the measurement of cost effectiveness and cost-utility analysis, and to some extent on the burden of disease. Issues associated with the political process of priority setting, the ethical implications of various methods, the institutional and management implications of proposed priorities and the role of social values in the allocation of health resources have been largely neglected.

Table 1 summarizes the main areas of development that have influenced policy-makers in low- and middle-income countries in conceptualizing health priorities. The development of a single indicator to measure health status has been a major step forward for the setting of health priorities. The disability adjusted life year (DALY) and its variations have been
extensively used since the publication of the WDR 1993. To a large degree, the DALY is a "clone" of the quality adjusted life year (QALY), which was developed about 20 years ago (Feachem, 1993). The main merit of this indicator is that all health benefits from health interventions are comparable, regardless of their outcome and the characteristics of the individual affected. In effect, theoretically all health losses -- being premature mortality, acute morbidity, permanent disability, pain or discomfort -- can be aggregated into a time measure.

Table 1: Recent Progress in Health Priorities Research

<table>
<thead>
<tr>
<th>Subject</th>
<th>Main Contribution</th>
<th>References</th>
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<tbody>
<tr>
<td>Measuring health status</td>
<td>- Design of the Quality Adjusted Life Years (QALY)</td>
<td>Zeckhauser &amp; Shepard, 1976.</td>
</tr>
<tr>
<td>Cost-effective analysis</td>
<td>- Applications to medicine and health</td>
<td>Weinstein &amp; Stason, 1977; many other authors.</td>
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<tr>
<td>Integration of criteria to set</td>
<td>- Integrating analysis of health status and cost-effectiveness</td>
<td>Ahumada et al, 1976; Ghana Health Assessment</td>
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<tr>
<td>priorities</td>
<td>- Integrating interventions into packages of health services</td>
<td>Project Team, 1981.</td>
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<td>King, 1974; Walsh &amp; Warren, 1981; World Bank, 1993;</td>
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Many critics of this indicator emphasize the problems derived from age weightings and discount rate of future health gains, which are built into the original formulation of the DALY (Anand & Hanson, 1995). Both dimensions of the DALY are social preferences and therefore cannot be justified on technical grounds alone. The usefulness of the DALY to
measure mortality and morbidity as a single indicator is maintained regardless of the choices made on age-weighting and discount rate preferences.

Two schools of criticism regarding the DALY can be identified: one which questions the subjective aspects of the indicator, and the other which claims it has technical deficiencies. The former criticism is not easy to resolve and addressing it should wait until more research is done on social preferences, whereas the latter can be addressed with relatively minor modifications to the original formula.

The DALY imposes social preferences that have not been validated: The discount rate, the age weights and the disability scale reflect the preferences of a small group of researchers and international professionals (Anand & Hanson, 1995). They are arbitrary and may not necessarily reflect the preferences of those affected by results of the analysis. Current practice in setting priorities through mortality information by cause impose an equivalent set of values likely further away from the beneficiaries' values: zero discount rate, no concern about the value of time lost due to deaths at different ages, flat age weights and complete disregard for disability.

The age weights do not reflect common preferences among health specialists, economists and general population: Concerns have been expressed about the two extremes of the age span. The DALY values a year of a 50-year-old at about 25% of a year of a 25-year-old. According to Morrow and Bryant (1995), this relation is at odds with preferences from most societies; however, technically this problem would be easy to solve. At the other extreme of the age span, the value of one year of life at birth is equal to one year at age 25 years old, when empirically most people seem to value one adult life year four to seven times more than that of a newborn. No matter how many changes are introduced into the DALY formula, it is impossible to reach the preferred ratios (Jamison, 1996). This problem reflecting the need for a new DALY formula.

The exclusion of late fetal deaths is unjustifiable: WHO defines a fetus as viable when it reaches 1,000 grams of weight, or is at approximately 28 weeks of gestation. If a woman with severe obstructed labour is properly treated, her daughter would be saved from a sure death before birth. If the burden of disease assessment ignores late fetal deaths, the cost effectiveness of treating obstetric complications is nil. The data is routinely collected in most countries where vital statistics are reliable, and although the reliability is lower than that of under five deaths, the problems are not more serious than those of neonatal deaths (Bobadilla, 1992).
The application of the DALY at the national level over-estimates the years of life lost: Two main arguments support the use of life table models with high life expectancy in the Global Burden of Disease assessment. The model should have at least as many years of life expectancy at birth as the known national population with the highest life expectancy (the Japanese). Second, in order to avoid fostering health inequalities between countries, the standard model for low mortality countries should be applied to high mortality countries. These arguments do not apply to the national level. Since the planning time horizon is typically five to ten years, the use of a life table with 80 years at birth is clearly unrealistic for countries with life expectancy at 60 years or lower (Shepard, 1996).

DALYs violate the rule of rescue: Daly's are insensitive to the density of years lost by individuals: the value of 30 years lost through death by one individual is the same as the one year lost by 30 individuals. Easy to correct, but introduces problems in the statistical manipulation of aggregated DALYs for a country.

The disability weights ignore the handicap attached to some permanent disabilities in different societies: The same disability has different effects on the lives of individuals in different countries. Some traditional societies stigmatize and reject individuals with specific permanent impairments, such as infertility, AIDS or psychosis. The real health loss in these individuals is greater than estimates using the DALY. Similar to aforementioned criticisms, this poses a problem for national Burden of Disease (BOD) assessments.

The disability due to cognitive development is not fully captured: Children with deficient cognitive development are permanent disabled. Lack of early stimulation and some mild forms of protein-energy malnutrition could be the cause of significant cognitive deficiencies. The DALY fails to capture the disability and many of the causes of cognitive developmental impairments.

DALYs are not applicable in countries with scarce health information: The information required for a national BOD assessment with DALYs is not available. The estimates are unreliable, particularly on disability (Ugalde & Jackson, 1995; WHO, 1995).

It is clear that the measurement of disease burden through years of life lost due to specific diseases and injuries provides an incomplete picture of health priorities. The proximate determinants or risk factors of diseases and injuries need to be measured as well. The interventions that would be recommended through the analysis of years of life lost to specific risk factors differ substantially from those that would emerge from the analysis of diseases and injuries. The former would almost entirely demand modifications of the
environment and the behaviour of individuals, whereas the latter would more likely suggest clinical interventions. Methods to estimate health losses due to risk factors are only partially developed.

Several problems need to be solved. The proportion of years lost by a risk factor in a specific socio-economic setting is likely to differ from the proportion in a different setting. This makes it difficult to generalize results from high-income countries, where the vast majority of the studies take place, to other countries. In order to estimate the amount of years of life lost that would be averted if a specific risk factor would be reduced, analysts need information on the prevalence of other risk factors. This information is typically not available, leading to inaccurate estimates of the BOD due to the risk factor. As an example, the use of seat belts in the United States is associated with a 40% reduction of road traffic accidents' fatalities. Their use in a middle-income country would, however, probably prevent less than 40% of deaths, because the contribution of other risk factors of fatal road traffic collision is greater; for example, speed of vehicles, higher prevalence of driving under the influence of alcohol, more pedestrians and less protective signals per vehicle, and a relaxed application of traffic laws and regulations.

The exaggeration of the years of life lost to a specific risk factor is also due to the limitations of the current scientific knowledge on risk factors, which cannot account for all the cases and deaths. Ischemic heart disease, for example, would not disappear if all the known risk factors -- smoking, lack of exercise, high cholesterol and hypertension -- would be eliminated. About 30 to 40% of the burden of ischemic heart disease remains to be explained. It is common to find studies that distribute the burden of a specific disease among the risk factors that have been identified, neglecting the burden due to unknown factors. Infant mortality has been a good example. The sum of the claimed infant deaths according to the estimates of attributable risk yields a figure greater than the total deaths counted through reliable methods.

Cost effectiveness analysis (CEA) has been increasingly used in clinical decision-making, particularly in high-income countries (US Congress, Office of Technology Assessment, 1994; Sloan, 1995). Setting priorities in public health has incorporated CEA at a slower pace. In effect, the dominant application of CEA in clinical medicine has been extended only in the past few years to assess interventions at the population level in low- and middle-income countries.

Even when countries and institutions in practice have been able to link burden of disease measures and results from CEA (Bobbadilla & Cowley, 1995), the technical bases for building packages are still weak. Some of the technical problems often encountered in the application of CEA to improve allocative efficiency of health systems are briefly outlined below.
Allocating resources from ground zero or at the margin

There are two ways to make an optimal resource allocation. First, in the ground zero approach, all of the health budget can be reassigned to maximize the DALYs bought by providing health interventions. (Murray, 1994b) This is probably the most cost effective means to optimize resources. The coverage scale can be adjusted to overall health interventions whereby the combination of interventions and the level of application are all effective at the margin. In that, coverage for intervention A increases until intervention B becomes more cost effective. An additional benefit of the zero approach is its accurate estimate of sunk-costs for the current health system: the losses from a significant change. However, access to care is higher for the population who lives in urban communities and receives more care per capita compared than the rural population. This is due to the problems of access given the distance from health infrastructure and the dispersion of the population. Further problems include poor management and the political feasibility for carrying out this approach.

Adding new interventions at the margin is a second approach which assumes that resource allocation can only be changed at the margin. (Murray, 1994b). This is usually politically feasible, it is technically simple, and it does not pose managerial problems. However, its main limitation is that it does not try to eliminate the inequities of the health system and stop inefficient practices. Its objective is only to reduce the gap, and if the change at the margin is very small, then the expected effects on the system will be negligible.

Incremental cost effectiveness

The basic cost effectiveness approach for simple optimization only applies to selecting independent alternative interventions to fit a given budget. However, when the budget must be spent on interventions where all the combinations are not feasible because their effects are not additive, there is a need to use an incremental cost effectiveness approach. (Weinstein, 1995) These interventions are then alternative mutually exclusive, but competing, interventions for the treatment of the same disease. In this case, the incremental cost effectiveness ratio relative to the next costly option should be compared to the cost effectiveness ratio of the last intervention selected, which is part of the current budget.

Morrow and Smith pioneered the application of explicit criteria in order to set health priorities in Ghana at the end of the 1970s (Ghana Health Assessment Team, 1981). The authors used the number of healthy days of life lost to assess the health impact of diseases. Five disease conditions were the most significant: malaria, measles, childhood pneumonia, sickle-cell disease and severe malnutrition. The relevance of this analysis is that the results were used in the design of the Ghanaian primary health care programme, and the methodology proposed has served as a yardstick for subsequent developments in the assessment of the burden of disease.
National applications of quantitative methods to set priorities have proliferated in the past decade. Following the publication of the WDR 1993, Mexico was the first country to measure the burden of disease and undertake CEA to design a package of essential services (Bobadilla et al, 1994b). There are at least 27 countries that have engaged in a review of health priorities in the past seven years. The methods used and the results obtained in high-income countries have been briefly reviewed elsewhere (Ham & Honigsbaum, 1995).

**RESEARCH AND DEVELOPMENT NEEDS**

Although the scientific basis for setting priorities has been developing during the past few decades, it is not yet ready to influence decision-making at the systemic and programmatic levels. Concurrently, the *status quo ante* of setting health priorities is contributing to allocative inefficiency, inequitable distribution of resources and dissatisfaction among consumers. Health managers within the health systems, decision-makers in bilateral and multilateral organisations and some health researchers are aware of the serious biases in the current allocation of health resources in most countries.

Existing methodologies to set priorities are incomplete because they deal exclusively with the quantitative analysis of health needs and the economic assessment of alternative options to deliver services. There is, hence, very little attention given to other dimensions of setting priorities, particularly the political context, the decision-making process, and the ethical implications of making explicit priorities at different levels of the system. The quantitative analysis to set health priorities is weak because the data to assess health needs is incomplete and unreliable in most countries, and our understanding of the efficacy of health interventions is still being developed.

The available information and methods to set priorities are not used in decision-making at a desirable level because of three interrelated factors. First, known tensions between research and policy-making exist regarding the time required to produce results; the level of sophistication of the process and quality of information needed; and the approach needed to set priorities. Second, decision-makers find it politically "inconvenient" to be explicit with priorities because transparent methods and explicit priorities lead to open public disagreement from socially organised groups, particularly those who lose previous benefits. Many political actors also realize that explicit criteria reduce their discretion and power to allocate resources. Third, in many cases, the research and public health communities are not particularly interested in convincing decision-makers to apply current methods to set priorities. Public health specialists in particular often have specialized in one group of interventions which they consider high priority, which may be threatened by the application of explicit criteria to set priorities.
The list of knowledge areas that need to be developed to improve our ability to set health priorities is extensive, and it is beyond the scope of this paper to fully describe and provide the rationale for such a list. Rather, a selection of short and long term priority topics will be highlighted.

**Short Term Priorities in Low-Income Countries**

The key priorities in low-income countries are related to the development of inexpensive methods to collect basic information on the main determinants and the technical criteria to set health priorities. Health status information, particularly on mortality, is indispensable. New emphasis on testing verbal autopsies and the application of a sample registration system needs to be supported by governments and international agencies. Despite the renewed interest in community participation in the health sector, reliable methods to assess community preferences in health care remain lacking.

In many countries, public health institutions are weak and cannot guide priorities and other strategic decision made for health care delivery. The donor agencies, as a result, make decisions which often fill the policy vacuum of health ministries and develop vertical disease control programmes. Setting priorities on paper, when the capacity to implement them is weak, is clearly a futile planning exercise. Analysis of the degrees of freedom to change priorities is a high research priority in these countries.

**Short Term Priorities in Middle-Income Countries**

Many middle-income countries have population groups in several states living in conditions similar to populations in low-income countries. The research priorities for these regions, where the largest burden of disease is concentrated, are no different from those in low-income countries.

In contrast with low-income countries, middle-income countries need information on morbidity and disability, since 35 to 40% of the disease burden is due to these health problems. Although there is disenchantment with interview-based health surveys to collect morbidity data, there has been little research on inexpensive methods to measure temporary and permanent disability by disease and injury that cause the disability.

Epidemiological research and data collection on risk factors of the main diseases and injuries are urgently needed in many middle and high-income countries. More and better quality research is needed to identify the attributable risk of deaths classified by immediate cause for each of the major risk factors. An international classification of health risk factors is also needed for this research.
Middle-income countries should invest more in measuring the effectiveness of alternative public health programmes, including those related to environmental control. Efficacy clinical trials can usually provide useful information to assess the effectiveness of the same interventions in different countries. The results from effectiveness research of public health interventions in high-income countries, by comparison, cannot be generalized to other countries because the institutional framework and the behavioral response from the population is specific by country, and sometimes even by sub-national region. More clinical research is needed in health institutions of middle-income countries to understand the determinants of effectiveness associated with interventions for high burden diseases.

The need for methods to assess community preferences is similar in low- and middle-income countries, although the research questions may be different because health expenditures are higher and the menu of alternative priorities is larger.

Medium Term Research and Development Priorities
Equity goals cannot be achieved through the provision of the most cost effective interventions. For some populations equity goals and resource allocation efficiency goals may lead to contradictory results. Dispersed and isolated rural communities are often the last population group to be reached by services. The marginal cost effectiveness of delivering health services for these communities is very unfavourable. Most of the costs are higher than elsewhere due to the added cost of transport and the need to pay basic services (water, sanitation, telecommunications, etc.). Furthermore, the effectiveness of interventions is lower because these communities tend to utilize less services and often adhere poorly to medical prescriptions. One hundred percent coverage, even when feasible, may not be warranted due to the high opportunity costs involved. Still, on equity grounds, these communities may be the highest priority to receive health services. Research is needed to assess the trade-off between cost effectiveness and universal coverage of health services in countries where dispersed, isolated communities exist.

Partially related to the previous issue is the lack of information and research on marginal cost effectiveness of interventions of different scales. Average cost effectiveness is useful to design a normative packages of services, but could be misleading if the package is intended for delivery in different settings, as often happens with rural communities. Although the cost information could be easily collected, measuring effectiveness for the same intervention in different settings is expensive and involves complex research designs.

Most of the public institutions in the health sector operate with budgeting and programming systems that classify expenditures by criteria different from those used in setting health priorities. Health facilities, salaries, equipment, transport, drugs and
other medical consumable are examples of the most common categories. The routine conversion of such categories into interventions or health programmes is impossible. Research on alternative systems of budgeting, programming and accounting in the health sector would yield valuable information. Furthermore, managers and decision-makers in the health sector would be more effective if they could assess the relationship between their expenditure patterns and the potential cost effectiveness of a particular list of priority interventions.

Many of the disease priorities that the current system should address are not expressed in the current burden of disease. Chronic diseases, frequently, have lag periods of 15 years or more between the exposure to a risk factor and the presence of disability and premature death. Setting health priorities on the basis of the current burden of disease is misleading for many chronic diseases like AIDS, liver and lung cancer, to name but a few. Research on projecting disease burden given the current prevalence of risk factors is required to reduce the under-estimation of chronic diseases.

Research Capacity
The capacity to undertake the research priorities proposed in this paper is not well developed in low and middle-income countries. The scarcity of health researchers is a problem common to all health subjects, but research in health priorities is adversely affected by a severe shortage of skills. The current training in epidemiology, on the one hand, and health administration, management and public health, on the other, is weak in the methodology and theory relevant to setting health priorities. Even if an average group of epidemiologists decided to assess the health status of the population, their training may be insufficient to use morbidity and mortality statistics to establish a composite indicator of health status. A similar case can be made for economists with regard to cost effectiveness analysis. The development of a single indicator of health status has only limited applicability in the short term. The technical tools for setting priorities are highly specialized, and their level of complexity goes not only beyond the public health practitioner, but is also not part of the core training of researchers.

This gap means that research on health setting priorities will not improve with "more of the same". A concerted effort is needed to train professionals and researchers in the health sector to produce and consume information on disease priorities, make assessments of the information available to set priorities, and develop methods to undertake feasibility studies of a given set of priorities.

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Introduction
This paper seeks to provide a brief overview of the theory and practice of assessing need for health care at a population level. It begins by differentiating need for health from need for health care. Focusing on need for health care, it then explores the concepts of need, demand, and use, and the ways in which they relate to one another. Methods of assessing need and setting priorities are then discussed, supported by examples of how this has been attempted. It concludes with suggestions for further research.

Why Measure Need?
The arguments in this paper rest on a basic assumption that a health service should seek to meet the health care needs of the population for which it is responsible, within the limits of available resources. Other considerations flow from this statement, in that those responsible for managing health services should seek to identify those needs, should determine what interventions are effective in meeting them, and should prioritise the provision of interventions in a manner that reflects the prevailing ethical approach to the distribution of scarce health resources. Each of these issues will be considered in turn.

Are Health Systems Designed to Meet the Needs of their Populations?
There is an extensive literature on the evolution of health systems throughout the world. Two common themes emerge. The first is the role of international exchange of ideas in response to common challenges. Field (1989) and Mechanic (1975), developing the concept of convergence, envisage the demographic transition and increasing national wealth that have been common to most industrialised countries leading to the creation of common solutions. Current changes are a consequence of post industrialisation, with continually increasing demands but relative reductions in resources.

The second theme is the importance of national factors and, in particular, the power of particular groups in society, although the relative importance of these groups is seen differently by those who have written on this issue. Some see a central role for the market in which the customer is supreme. It is exemplified by the statement that "it is still the citizen who, through their voice in the market, determines how their money will be allocated" (Fuchs, 1979).

Others give greater prominence to the power of vested interests (Starr, 1982), in which health policy arising from the interplay of competing elites, such as the medical profession, trade unions, and insurance companies. Navarro, adopting a Marxist perspective (Navarro,
1986), argues that the key issue is the relative power of the labour movement, expressed through its economic (trade unions) and political (parties) instruments. The different types of funding and organisation of health systems are explained primarily by the degree to which different class aims have been achieved through class power relations. These are influenced by, among others, the strength of the capitalist class and the ability of the industrial working class to forge alliances with other key groups such as farmers.

These two elements have been brought together by Frenk and Donabedian (1987) who identify a series of factors promoting both convergence and national divergence. Examples of the former include industrialisation and urbanisation, the medical world economy (what Mechanic has described as the "international knowledge, technology, and manpower marketplace"), and the world ideology of modernity in which there is acceptance of both health care as a right and the inevitability of expansion of modern medicine. National variation is promoted by the stage of development of funders and providers at time of change, the relative strength of the medical profession, funding organisations, and trade unions, and norms about legitimacy of ownership, such as who society believes can legitimately own a hospital. Roemer brings together these elements and others (Roemer, 1977), arguing for the importance of a historical perspective, the political process, the socio-economic environment, and the cultural characteristics of the country.

All of these theories have certain limitations in a particular situation (Ellencweig, 1992) but their importance in the present context is that the health needs of the population are not considered explicitly in any of them. Examples abound of how major changes in health systems have been introduced to reflect the prevailing view of the relative strengths and weaknesses of market based or planned systems, or how powerful groups, such as the medical profession, have been able to obstruct change. These include the stop-go policy towards Medicare/Medibank by successive Australian governments during the 1970s and 1980s, the introduction of national health services in Spain, Portugal and Greece during the 1970s and 1980s under socialist governments (Figuera et al, 1995), and the development of a market based approach to health care by a right wing British government in 1990. This is not to argue that many of the functions of health systems do not meet health care needs. Rather, it is that they are more often developed primarily to meet the demands of interest groups or to implement political ideology, with the meeting of health care needs as a second order objective.

Having concluded that health systems do not develop primarily to meet the health needs of the populations for which they are responsible but rather to meet the needs of politicians or those working in health care, why concern ourselves with assessing need? It is because there is a growing recognition that, even if the basic structure of health systems reflects other interests, there is a tension between increasing demands for health care, whether through changing demographic structures or the availability of expensive modern technology, and the resources that politicians are prepared to make available to meet these demands.
Coupled with the emergence of the "outcomes movement", which argues that a significant proportion of the health care currently provided is ineffective, there are growing demands to ensure that what resources are provided are used as effectively as possible.

This idea underpins the concept, which has gained favour in some industrialised and middle income countries, of separating purchasers of health care, who are responsible for assessing health care needs, and those who provide services. Although such planned markets (Saltman & von Otter, 1992) have thrown the importance of assessing need into sharp relief, arguably even where they do not exist, there is a strong case for ensuring that services are targeted as effectively as possible.

**Need for Health or for Health Care**

At the outset, it is important to differentiate the need for health and the need for health care. A need for health can be argued to exist where there are individuals whose health is less than perfect. This is not necessarily the same as a need for health care, which only exists if an effective intervention exists that will meet, at least in part, that need for health.

There is an extensive literature on assessing need for health. A variety of measures can be used. The simplest is a measure of mortality, such a crude or age standardised death rate. A further variation on this theme is the amount of life lost due to premature disease (Sullivan, 1966). The methodological issues surrounding this have been reviewed in detail by Murray (1994). It can take several forms, such as the recalculation of life expectancy in the absence of deaths from a particular cause, the potential years of life lost, which involves summing the differences between the age of death and a figure chosen to represent the normal life span, typically 65 or 75, or the period expectation of years of life lost, that has the advantage of allowing for the effects of competing mortality. The choice of method involves a series of implicit value judgements, such as the relative value of life among people dying at different ages, from different causes, and in different places. Each of these methods can be refined further by techniques such as differential weighting to allow for variation in social value of life at different ages (Barnum, 1987).

Finally, it is also possible to measure morbidity. This has traditionally been done with readily available measures such as days lost from work but, increasingly, it is recognised that the many factors involved limit the value of such a measure. Other approaches include the use of survey data asking about, for example, the prevalence of long standing illness. This can be refined by including a wide range of health status measures (Bowling, 1991). A related issue, especially when seeking to allocate priorities to different needs, is the value to be placed on different health states. A variety of techniques have been developed to do so, incorporating both the value (or utility) of the health state and the length of time spent in it. This is most often used to relate the benefits to be obtained with two or more treatments to their cost. These measures are based on the idea that a year of life in less than
perfect health should be valued as less than one year of "quality adjusted" life, by application of a weighting factor derived from surveys. This involves developing weights for different health states and applying them to data from surveys of the prevalence of these states. Perhaps the best known examples are the quality adjusted life-year (QALY) (Gudex, 1986) or disability adjusted life-year (DALY) (Murray and Lopez, 1994a). The former uses weights allocated to health states, normally in a two dimensional matrix encompassing distress and disability whereas the latter allocates weights to six different levels of disability.

Both are controversial (Carr-Hill, 1991). There is debate about, for example, whose values should be incorporated, the technical approach to be used to assign weights (or utilities) (Streiner & Norman, 1991), and the validity of aggregating the utility of individuals' health states within a group (Arrow, 1963). Other criticisms include the use, in the most widely used version of the QALY, of only two components of disutility, the allocation of weights to particular health states, and the extent to which distress and disability may be felt differently by different people at a given level of symptoms (Naese et al, 1995).

Furthermore, it is not always clear what is being measured. For example, instruments designed to measure quality of life may capture different combinations of impairment, disability and handicap (WHO, 1980), with implications for how the results should be interpreted (Hunter et al, 1995a). Nonetheless, the DALY now seems well established as the standard measure of the benefits of different interventions, largely because of its use in the 1993 World Development Report (1993) but, as noted above, these measures do not assess need for health care directly. They only do so when health care can be linked with evidence that an effective intervention is available.

Need for Health Care
The remainder of this paper will examine need for health care but, before doing so, it is important to note that health care is only one factor involved in promoting health. The various influences have been brought together succinctly in the health field concept, in which human biology, the environment, and lifestyles are also determinants of health (Lalonde, 1974). Those responsible for ensuring health services are provided to populations, such as social insurance organisations and health authorities, are increasingly recognising the importance of addressing these other factors although they will not be addressed further here.

To understand the development of ideas on assessing need for health care, a brief examination of some underlying ideas is appropriate as they influence the ways in which different researchers have addressed this issue.

The first question is whether need is an absolute or a relative concept. In other words, is there some absolute or categorical level of health that is overriding, and thus everyone has
a right to attain it (Doyal & Gough, 1991)? Certainly it has been argued in general terms that individuals have a right to adequate health, nutrition and shelter, as without them that individual is unable to function as a human being (Wiggins, 1987). Unfortunately, there is little to guide how such a basic level of health might be defined, and it has proven impossible to develop a definition that has attracted widespread acceptance in practice. An alternative school of thought holds that need is relative and an individual’s need relates to what is available to others. He or she needs to have the access to health care that will enable him or her to participate in society. This debate has important implications for the related, and possibly equally impossible quest for a minimum benefit package that might be offered by a health system. These two views will be noted but not addressed further here.

The second question relates to whether there are different types of health care need. The most widely cited taxonomy was developed by Bradshaw who differentiated four types of need (Bradshaw, 1972). Normative need is defined by professionals. Felt need is defined by individuals who may or may not translate it into expressed need, or demand. Finally, comparative need is related to the level of provision for different populations and introduces the concept of equity. Others have sought to refine this taxonomy by, for example, noting that normative need may vary between groups of professionals and that comparative need often simply reflects differences in normative need between geographical areas (Clayton, 1983). Nonetheless, Bradshaw’s taxonomy is still widely used as a basis for thinking about different methods of assessing needs and will be drawn on in the following sections.

**Epidemiological Approaches to Assessing Need**

Epidemiological assessment of health care need draws on a model containing three related but distinct concepts, need, demand, and use. A need for health care is defined as the ability to benefit from a health care intervention (Acheson, 1978). This implies that there is an intervention available that is effective for people with particular indications and that the individual concerned has those indications. Drawing on Bradshaw’s taxonomy, this is normative need. Demand arises when the individual is aware of this need and seeks health care to meet it although it may also arise in the absence of "need", as defined above. Use is when the intervention is provided, irrespective of whether or not it is needed or demanded. These concepts can be considered to form three overlapping circles. Where all three overlap, professionally defined need is demanded and met. Other combinations exist, such as where need and use overlap but not demand, such as compulsory treatment for mental illness, or demand and use but not need, which might be defined professionally as hypochondria.

Need is not automatically translated into demand. Whether it is or not, is determined by the model of illness behaviour adopted by the individual. Whether demand is translated to use is determined by clinical judgement, with the health care professional retaining discretion.
as to whether or not to provide the service. Health care professionals may also either repress or induce demand for care.

This model offers an approach to determining the extent to which a health care system meets the needs of the population for which it is responsible. In this paradigm, a system that is effective in doing so will meet the professionally defined needs of those groups who are not in a position to translate their needs into demand. This can arise where individuals may have the ability to benefit from a preventive intervention because they are at risk of developing a serious disease but are unaware of this. This is the situation with many screening programmes, such as those for breast or cervical cancer. It can also arise when they recognise that they have a need for improved health but they are not aware that an effective intervention is available. This is the case with many of the consequences of aging, or where there has been traditional undersupply of services so that the individual is aware of others with the same condition who have not received treatment. Finally, it may arise when individuals are aware of both a need for improved health and the existence of an effective intervention but are inhibited from seeking help. This may be due to financial barriers, such as charges, travel costs or loss of earnings, or non-financial ones, such as distance or absence of child care.

**Epidemiological Assessment of Need in Practice**

In its purest form, this involves identifying an intervention that is effective in some circumstances, defining those individuals who will benefit from it, in terms that are measurable, and assessing how many such people exist in a defined population (Frankel, 1991). This is easiest with interventions such as screening programmes where the target population can be defined in terms of factors such as age or sex. It is more difficult for curative interventions. Here, it is necessary to develop an explicit and measurable definition of those with appropriate indications for the intervention being studied. Then, drawing on knowledge of the circumstances in which the intervention produces a net benefit for health, a threshold of disease severity can be defined, above which the intervention is appropriate (McKee & Sanderson, 1992). This must be operationalised to enable the prevalence of those with appropriate indications to be measured. Several examples show how this can be done, such as assessment of need for hip replacement (Wilcock, 1979), in which a measure of hip function was used, and cataract surgery (Harries et al, 1994), which used visual acuity to identify those with a need for treatment.

A further example, that of prostatectomy, illustrates how this may be achieved in practice. In one study, indications for treatment were defined by an expert panel of urologists and general practitioners, drawing on a literature review and using formal consensus methods (Hunter et al, 1994a). The agreed indications, combining the nature and severity of symptoms with a measure of co-morbidity, were then used to design an instrument that was used in a survey of 2,000 men aged over 55 selected at random from the population.
(Hunter et al., 1994b). Those with appropriate indications were then asked, after reading a description of prostatectomy, whether they wished to undergo it and whether they had actually sought treatment. This survey provided measures of need, demand and use (Hunter et al., 1995b).

A similar approach has been developed in Canada, although it is directed more specifically at need for new technology (Feeny et al., 1986). This involves identification of major causes of the burden of illness in a community and of technologies that may be able to reduce it. The efficacy of these technologies and how patients who will benefit from them are determined is used to estimate the benefit to harm ratio at a population level. When combined with economic analysis, this can be used to support policy statements on the use of the technologies.

Examination of the challenges posed by these approaches highlights many research needs. Knowledge of what interventions are or are not effective in particular circumstances remains extremely limited. Where high quality evaluative research has been undertaken, it has often excluded large sections of the population, such as women, the elderly, and those with coexisting diseases (Stephenson & McKee, 1993). And understanding by professionals of the relevant evidence may be incomplete or biased (Oxman, 1988).

Certain strategies have been developed to overcome, in part, some of these problems. Systematic reviews of evidence, such as those undertaken by the Cochrane Collaboration (Chalmers & Altman, 1995), are required to ensure that decisions are based on the best available evidence. Nominal group techniques can be used to identify consensus, or lack of it, on indications for an intervention where the evidence is absent or conflicting, although understanding of the validity of this approach remains incomplete (Scott & Black, 1991).

Several difficulties, however, remain. First, these approaches to assessment of need can only be used where indications for an intervention can be defined in a way that can be measured non-invasively. Although this will exclude many diseases, many more case-definitions could be developed and the development of agreed operational clinical terms, by creating a shared language, would bring benefits to many other areas of health care. Second, such studies will assess the prevalence of need rather than incidence, which is most commonly needed to plan services. It is, however, possible to derive estimates of incidence from prevalence using modelling techniques (Murray & Lopez, 1994b) although, again, more work is needed to develop them further and, in particular, much more information on the natural history of common diseases is required. Finally, information on clinically defined need must be supplemented by an assessment of whether the individual concerned would seek treatment if offered it. Relatively little is known about how this should be assessed and, in particular, the nature of the trade off between the provision of complete but comprehensible information on risks and benefits. It has been suggested that techniques such as interactive video discs may provide a solution in some circumstances but again more
work is needed, especially as even physicians' decisions are often highly sensitive to the
way in which information is presented (Farrow, 1992).

**Alternative Professionally Defined Models**

These problems have led health service researchers to adopt alternative approaches. In the
British National Health Service, where health authorities have been given the task, if not the
resources, to assess need and ensure that services are available to meet them, a taxonomy
of methods of assessing need have been developed that includes epidemiological (as
described above), comparative, corporate, and pragmatic (Stevens & Gabbay, 1991).

*Comparative assessment* of need draws directly on Bradshaw's definition of comparative
need. It is used where variation in the population-based rate of an intervention, after
standardisation for age and other relevant factors, has been identified and it is inferred that
the population (defined in terms of area of residence, social class, ethnicity or some other
factor) with the lower rate is in need of a higher level of services. It can be criticised on the
basis that it confuses use with need and ignores other possible factors, such as differences
in the prevalence of the relevant condition. In addition, it implies that the higher (or some
arbitrarily defined) level is the correct one, and the necessary analysis is often complicated
by some members of the population seeking treatment across geographical or sectoral
boundaries or by inadequate information on previous levels of treatment (Saunders et al,
1989).

*Corporate assessment* of need is a term, arguably implying a greater degree of objectivity
than is warranted, that reflects what is often the actual situation in which "need" is defined
explicitly by groups of experts, typically from the medical profession, although its
proponents advocate involvement of the public and other stakeholders. It is open to criticism
because those involved may not have access to information about the epidemiology, natural
history and effectiveness of treatment for many conditions. It also risks legitimising existing
professionally defined patterns of service that have no rational basis.

The *pragmatic approach* is defined as a combination of these approaches, drawing on evi-
dence from a variety of sources but recognising the limitations of each of the approaches.
Stevens and Raftery have developed this concept, in the context of the United Kingdom, in
two volumes that examine the evidence on need for a wide range of interventions within
a common framework (Stevens & Raftery, 1994). For each intervention, subcategories
relevant to the interventions are defined, such as insulin dependent and non-insulin
dependent diabetes. The available evidence on incidence and prevalence is summarised,
the range of services available identified and the evidence for their effectiveness is reviewed
systematically. Finally, optimal models of care are defined, as are measurable objectives that
can be used to monitor their implementation. This approach accepts that there are important
gaps in the information needed to inform decision-making but takes the view that this
should not preclude acting on the best available evidence. Certainly, while much of this work relates to the context in the United Kingdom, it offers a sound basis for similar work elsewhere.

For completeness, it is necessary to mention concept related to the use of mortality rates that incorporates the concept of availability of effective treatments that can prevent death. They include what is variously termed as "avoidable" (Rutstein et al, 1976), "amenable", or "preventable" deaths. These are those conditions from which death should not occur before a particular age if appropriate treatment is provided. Although superficially attractive, and useful in highlighting regional differences in patterns of disease (Holland, 1993), this approach has been criticised because of the lack of evidence that a cause of death can be avoided and because of the impact of national and regional differences in the classification of disease (Carr-Hill et al, 1989).

Involving the Public
The approaches described above are based on a normative approach to assessing need, although they can involve the public at various stages in the process. The Rapid Appraisal approach offers an alternative that seeks explicitly to involve the public at all stages in the process (Rifkin, 1992). Rapid appraisal focuses on a community's own view of need, which is not constrained to only health or health care and can also encompass broader aspects of social need. Representatives of the community should be involved in the design, analysis and implementation of results. It involves interviews, potentially organised and undertaken by representatives of the community, with a sample of individuals who can represent different viewpoints, such as those with a professional understanding of issues, including teachers and health visitors, those who are recognised as community leaders, such as elected officials, and those who are important within local networks, such as shopkeepers. These are supplemented with a range of relevant information, such as census data and other surveys. Ong and Humphris have described the results of a series of such exercises undertaken in the United Kingdom (Ong & Humphris, 1994).

Using Information on Need for Health Care
The preceding discussion sets out a rational model that is similar to the financial concept of zero-based budgeting, from which some may imply that health systems start with a blank sheet and determine what should be provided on the basis of evidence. In practice, as noted earlier, the pattern of provision of health care interventions most often develops from the interplay of competing elites (Walt, 1994) and especially marketing by the pharmaceutical and medical technology industries, often on the basis of selective evidence (Freemantle & Maynard, 1994) and, on some occasions, supported by financial incentives to decision-makers. Exceptions, in which governments or their agents decide to offer a service on the basis of explicit evidence of need for effective care remain relatively infrequent, other than
in the cases of certain public health programmes such as immunisation or screening programmes. Consequently, a more realistic assessment indicates that these approaches only offer scope for changes at the margin, although these may be significant, especially where other factors create opportunities to introduce change, such as the closure of an obsolete hospital or the retirement of a senior doctor.

Setting Priorities
Returning to the rational model, it is suggested that once needs have been identified it will be necessary to make decisions about what to do in the face of competing priorities. The following paragraphs offer a brief introduction to the processes that have been used.

The commonest approach argues that services should be provided in response to conditions that are important because of their impact on the population. The importance of a disease may be based on evidence about its ranking in a study of the burden of disease in a population, using one of the methods described above, possibly supplemented with information on the costs of doing so. At its most basic, this can take the form of a simple cost analysis. This calculates the costs to health services or to society that arise from the conditions in question. Such calculations are difficult because of the cost differences of treating a condition at different stages in its natural history, the limitations of costing techniques, and the sensitivity of costs to change in factors such as the configuration of services, the introduction of new technologies, or simply differences in the money paid to doctors (Weinstein, 1986).

Notwithstanding these problems, the approach can be extended to a cost-benefit approach, in which the outcome of an intervention is expressed in monetary terms, as are the inputs to the intervention. This clearly involves making a large number of highly questionable judgements. These include how to value the outcome of treatment, even if one can measure it in meaningful terms, and, with much more difficulty, how to measure the reassurance that often accompanies diagnosis and treatment. Methods such as the "willingness to pay" approach (Jones-Lee, 1976) have been proposed to overcome some of these problems but they have also been criticised because of, for example, the absence of information on which to make such decisions. They also include judgements about which costs and benefits to include and, in particular, what to do about those falling on families and society. Different decisions will give different results. Finally, costs and benefits are discounted as individuals are known to place a higher value on benefits now rather than in the future. There is, however, little evidence to justify the choice of discount rate, the use of a fixed percentage over time, or the same rate for different types of benefit (Krahn & Gafna, 1993).

Cost-utility analysis is another method of economic evaluation that has been proposed as an aid to setting priorities. In this case, the outcomes of treatment are assessed in
comparable non-monetary terms such as the QALYs mentioned earlier. As noted above, this approach has been criticised on several grounds.

**Priority Setting in Practice**
The following paragraphs address attempts to move away from the traditional implicit, and somewhat opaque process from which most actual priorities emerge. There have been several attempts to make decisions more open and democratic. In some cases, this has been designed to stimulate wider debate and understanding of scarcity in relation to health care funds, partly to give greater legitimacy to difficult political and moral decisions, and partly because no-one knows how best to make these complex decisions so involving a plurality of interests is likely to produce more acceptable results. Most have also sought to incorporate evidence of effectiveness of interventions and policies, as described above.

The best known example is the "Oregon Experiment" in which an attempt to change the basis of rationing care was attempted by increasing the number of low-income people covered by Medicaid, funded, in part, by excluding coverage for certain treatments (Dixon, 1991). This required that conditions and corresponding treatments be ranked in order of their perceived value. This has been described in detail elsewhere but, in brief, the initial formula provided rankings based on explicit ratings of the probability of a beneficial outcome, the value placed on that outcome, and the length of time that the outcome would last. The initial rankings were then modified extensively on the basis of value judgements on costs and public health impacts by health commissioners. Further work, following evidence of inconsistencies and socially controversial judgements about quality of life that had been derived from a telephone survey led to a further readjustment of rankings by the health care commissioners. It also became apparent that a high proportion of those attending public meetings were health care workers, and thus somewhat unrepresentative of the general public, whose views were being sought. As a consequence, the intention to provide an objectively derived set of priorities based on the views of the public was not realised.

The Netherlands has also attempted to define a core package of health care as part of a process aimed at extending eligibility to previous ineligible members of the population. A Report on Choices in Health Care (Government of Netherlands, 1992), produced by a committee chaired by a cardiologist, A.J. Dunning, advocated that treatments should have to pass through four sieves. These were that they should be necessary, effective, efficient, and not appropriate to be left to individual responsibility. Necessary services fell into three categories. The first could benefit every member of the community and guaranteed normal functioning as a member of that community or protected existence within it. These included care for those who are unable to look after themselves, such as those in nursing homes and with learning disabilities. The second were facilities that again benefitted all members of society but which concentrated on restoring the ability to participate in social activities, such as emergency services, prevention of infectious diseases, and treatment of chronic disease.
to prevent complications or improve quality of life. The third category included services that
can or may not be appropriate depending on the impact of the disease and the number of
people suffering from it. Effectiveness had to be proven and documented. Applications of
these sieves include the exclusion of in-vitro fertilisation because there is not an innate right
to have children and it is typically only 30% effective, and of homeopathic treatment
because it has not been shown to be effective.

Similar committees have been established in several countries including New Zealand,
Sweden, Norway, and Germany. In general, they have concentrated on reducing
investment in treatments thought to be ineffective although, typically, those treatments so
identified are marginal in the context of total health care expenditure and are limited to
treatments such as cosmetic surgery, in-vitro fertilisation, and alternative therapies such as
homeopathy, hypnosis, and spa treatment.

The difficulty in obtaining information on effectiveness has been discussed above. Involving
the public directly in setting priorities also creates challenges. Several examples have been
reported from the United Kingdom. In part, this is seen as a response to the perceived need
to ration services combined with the "democratic deficit" that has arisen following the
removal of local government representatives from health authorities (Jenkins, 1995). As in
Oregon, these attempts have been criticised by others who have drawn attention to the
limited representativeness of those taking part.

There are also methodological challenges. In the United Kingdom, one community survey
asked the public to rank either broad groups of services or specific treatments (Ham, 1993).
Examples of the former included long stay care for the elderly, preventive services such as
screening and immunisation, and medical research into new treatments. Examples of more
specific services included treatments for infertility, family planning services, and cosmetic
surgery. The surveyors compared the priorities indicated by the public, with those decided
by groups of physicians. The rankings of the public differed from those of physicians. Further
more small changes in wording also had a significant effect on ratings.

There is also concern that public consultations may be used to give legitimacy to con-
troversial decisions made by politicians and others. Selective presentation of information
could also be used to make political decisions more palatable. Finally, there is debate about
the extent to which the public wish to be involved in such decisions at a population level.
Almost certainly this will vary in different countries, reflecting national differences in how
the relationship between the individual and the state is viewed but, even in a single country,
surveys have come to different conclusions, apparently due to differences in the way that

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See: Core Services Committee, New Zealand; Health Care and Medical Priorities Commission,
Stockholm, 1993; Royal Ministry of Health and Social Welfare, Norway, 1987; Advisory
the questions were asked. The first, by a market research organisation (Heginbotham, 1993) found that most preferred to leave the decision-making to health professionals, health service managers and, to a lesser extent, politicians rather than to the public. Conversely, another survey, also in the United Kingdom, found that 88% of respondents felt that surveys of public opinion should be used in planning services (Bowling, 1996) although, again, the differences may be due to changes in the way questions are worded.

So Where Now?
This paper argues that the empirical basis for assessing need and setting priorities at a population level is still very poorly developed. Far too little is known about the natural history of many diseases and the effectiveness of the interventions used to treat them. In particular, there is often very little information on the impact of patient factors (such as age, gender, and co-morbidity) or supply factors (such as the quality of the physician, the volume of cases treated) on outcome. There have also been remarkably few attempts to explore the ethical framework within which priority setting should take place, with a major exercise undertaken by the Swedish government a notable exception (McKee & Figueras, 1996). Some of the research being undertaken, and especially that seeking to allocate measurable utilities to specific health states, is reminiscent of the arguments in medieval times about the number of angels that could be placed on the head of a pin. Despite their superficial attractiveness, the apparently sophisticated scientific measures used in many economic analyses often have no greater validity than the arbitrary judgements they seek to replace.

This somewhat negative analysis seeks to counter the more extravagant claims for "rational" solutions to what are often essentially political decisions. This is not, however, to suggest that researchers wishing to see their work implemented in practice should give up. There are many examples from history of treatments once popular but now known to be valueless (Beeson, 1980). There is enormous scope for disinvesting from those treatments that, on the basis of existing evidence, are clearly ineffective.

An Agenda for Research
This paper also provides some pointers for the research needed to improve this situation. But a programme of relevant research will not arise spontaneously if simply left to the usual system of providing funds and awaiting proposals from researchers, especially given the weakness of health service research infrastructure in many countries and the relative advantage that is often given to basic scientific research. If countries wish to tackle these issues so that they can ensure that the limited resources available to be spent on health are used more effectively, they will have to develop effective means of directing research.

The first step is to develop criteria for prioritisation, such as the extent to which conditions contribute to the burden of disease or, as in the case of diseases such as AIDS, they offer
a major risk in the absence of action. A systematic review of what is already known is then required to identify the gaps that exist in our knowledge and to ensure that efforts are not duplicated. This can then be used to develop calls for research to fill these gaps.

In many countries this will require a major change in the approach to managing research. Governments must also provide opportunities for research training and career development of researchers. A few have begun to do so (Peckham, 1991) but much more could be done.

Turning to the specific issues concerning assessment of need, there is first a requirement for both methodological development of instruments and use of those that are already available to assess the burden of diseases in communities in ways that reflect those dimensions that are important to individuals.

Second, if need for health care is to be measured, there is a requirement to address the major gaps in our knowledge of what interventions work and for whom. This topic would justify a book in its own right and many issues arise, such as the timing of evaluations and the relative merits of randomised controlled trials and observational methods. The key issue is, however, that far too many interventions are introduced into routine clinical practice without ever having been adequately evaluated.

Third, if evidence on effectiveness is available, there is a requirement to develop methods by which it can be operationalised to develop survey instruments that can be used to identify those who might benefit but are not presently receiving treatment. In particular, there is a requirement for more research on how to identify and understand those groups in the population who are less able to translate need into demand. This will include groups defined on the basis of socio-economic characteristics, such as age, income, or ethnicity, and on clinical characteristics, such as those that might benefit from screening and preventive programmes.

Fourth, we need to understand better the preferences of individuals, including how these vary with factors such as culture, education and gender, and how to establish and implement priorities, taking into account specific national features.

Finally, we need to understand, both at an ethical and a practical level, the strengths and weaknesses of the various ways that have been proposed to incorporate the views of the public into the debate on priority setting.

This proposed agenda has implications for both national and international bodies. In the former case, as indicated above, there is much that can be done to reorientate national efforts. But the international dimension is also extremely important. As countries move to systems of prioritising topics for research it is essential that they avoid duplicating work in progress or already undertaken elsewhere, unless there are specific reasons for doing so,
such as testing the extent to which an answer is context specific. The increasing numbers of registers of trials can contribute to this, as does the Cochrane Collaboration, mentioned earlier, with centres undertaking systematic reviews in a co-ordinated manner in many countries throughout the world.

The evaluation of effectiveness and cost effectiveness of interventions often demands international collaboration, simply in terms of the number of subjects that must be recruited to trials if they are to have sufficient statistical power. There are already many examples in areas such as obstetrics and cardiology where this already happens.

Some of the research methods described above simply cannot be undertaken in certain countries for reasons such as data protection requirements, the absence of population based registers to generate sampling frames, or the lack of sufficiently precise geographical information systems. International collaboration serves to highlight these difficulties and may stimulate action to overcome them. Until this is done, however, if these countries are to understand the likely pattern of illness in their societies and the determinants of health seeking behaviour, they will have to draw on work undertaken elsewhere.

There is also scope for international collaboration to increase understanding of factors that are likely to be culturally determined, such as preferences for treatment and responses to questions on health status. If this is not done, there is a danger that innovations will be transplanted uncritically from one society to another, even though they may be neither effective or appropriate.

Finally, there is much that can be learnt about the mechanisms of managing research from international collaboration. Some countries have already made substantial progress in this area while others have yet to begin.

This is a large project and, given the changing nature of disease and constantly evolving technologies, probably never ending. This is not, however, a reason for failing to start.

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BACKGROUND

This paper aims to provide guidance on research priorities in the area of health services financing in a low income country context. It is assumed that the objective of the research under discussion is to provide policy-relevant information and that the subject area should therefore be defined with respect to the policy questions which the research hopes to inform. Questions in this paper are restricted to those of financing mechanisms, and exclude those relating to allocation of financial resources and resource and finance flows. This allows a manageable scope of material and avoids duplicating other commissioned reviews, particularly that of priority setting (see Ham, and Bobadilla, in this volume).

Although the number of potential policy questions in this area is large, a few questions cover a high proportion of those in practice found on countries’ policy agendas:

- Should user charges be introduced and if so, how can they be implemented in such a way as to best serve the objectives of health services policy?
- Should a pre-payment system be introduced and if so, how can it be implemented in such a way as to best serve the objectives of health services policy?
- Should community financing systems be introduced and if so, how can they be implemented in such a way as to best serve the objectives of health services policy?

These questions subsume a large number of others such as "What are the implications of the introduction of user charges for efficiency and equity?", "How can financing changes promote improved quality of services?", and "What type of exemption policy can best ensure the access of those unable to pay?". Such questions are too numerous to provide in the form of a list but those which have formed the focus of past and current research, or which it is considered should be the focus of future research are the subject of the remainder of the paper.

Logically, a full list of alternative mechanisms would include taxation. Reforms to taxation systems are prevalent and important in low income countries, and have the same aim of increasing the financial resources available to the public sector. However, the scope of concerns raised by taxation reforms goes far beyond that of the health sector, and specific concerns are raised only in respect of earmarked health taxes. These are rare but are broadly similar in their implications to compulsory health insurance. They are otherwise not covered by this paper.
Health insurance mechanisms (the main form of pre-payment) are also being developed and reformed in middle income and transitional countries, which are not the primary focus of this review. A very substantial volume of research has been ongoing in these countries and a research agenda, in most respects quite distinct from that of low income countries has emerged. This paper deals relatively briefly with health insurance, reflecting its more limited importance to low income countries, and tries to focus on those questions most relevant to low income countries which are usually introducing insurance for the first time, or attempting to activate systems which have never achieved a substantial role in the country’s health financing system. Many of these questions parallel those asked of user charge systems. For example, it is just as relevant to consider the exemption of those unable to pay, from insurance premia and co-payments, as from user charges, and provider incentive changes are equally important for both types of mechanism.

Community financing systems are usually considered quite separately from systems established, planned and often even administered at national level. Nevertheless, the only difference is the level of operation, and in practice, there is a spectrum of programmes from small-scale pilot-like community financing programmes to highly centralized systems. In the middle are programmes where, for example, policy is set nationally but implementation and administration are under local control, and it is not clear where a line can be drawn. Many of the issues surrounding the introduction of community financing are the same as for nationally introduced programmes, and it is easier to consider the issue of the level of retention of revenues (for example), as one affecting all types of programme.

RESEARCH TO DATE

Creese (1990) and McPake (1993) review published research on user charge introduction, up to about 1990. Since most of the material included in these reviews has now been discussed extensively in many papers, this paper will only summarise the conclusions at this stage, and will mainly focus on developments since 1990. Both overviews cite studies based on cross-sectional household comparisons which conclude that price and distance are not strong influences on demand for health services (in Malaysia, the Philippines, Mali and Benin) but are stronger influences on the poor than the rich (in Peru, Côte D’Ivoire, the Dominican Republic and India), and sometimes quite strong influences on the poor. They both also cite the evidence of "before and after" studies which suggest that large and sustained drops in utilization take place following introduction of charges (in Zaire, Ghana, Swaziland, Bangladesh and Lesotho) and suggest that the conflict between these findings and those of the cross-sectional studies, may be explained by better understanding of quality perceptions. Urban and rural differences in utilisation patterns are noted in Ghana and Tunisia, but other types of disaggregation of utilisation data was not successful where attempted, reflecting the weak data base on which utilisation statistics rely. Further, not all of the studies controlled adequately for the full range of alternative providers consulted by
the population and, therefore, distinguished between falling utilisation, and utilisation substitutions made. Revenues raised from user charges have not amounted to large proportions of national health expenditure but do appear significant when viewed from the perspective of peripheral health facilities and individual health projects which may use locally based community financing systems.

These overviews suggest (implicitly or explicitly) the need for a number of areas of further research, many of which have been carried out in the early 1990s, or are underway at the time of writing. The following list of themes will inevitably prove incomplete given long time lags between research and publication, and the large number of research organisations and individuals involved in the field. Nevertheless, it suggests that a wide range of further and much more detailed work is underway. Most of the work detailed below has studied aspects of user charge systems, by far the most common health financing change to have been effected by low income country governments over the last decade or so (Creese & Kutzin, 1994).

**User Charges and Utilization Response**

The failure to give adequate consideration to quality perceptions and the failure adequately to disaggregate utilisation data, particularly by socio economic group, in the user charge research up to 1990 were emphasised. Litvack and Bodart (1993) presented empirical evidence to demonstrate the importance of this omission, by detailing a project in Cameroon in which charges, accompanied by improvement in quality, led to utilisation increases which were greatest among poorest households. A number of questions arise from the study: First, it was not clear whether or not such findings could be replicated in other settings. Cameroon is, despite recent economic decline, still one of the highest income African countries, and the area of the project a relatively prosperous and cash-rich one. Second, it was not clear exactly what type and amount of quality improvement would be necessary to affect quality perceptions sufficiently to produce this result. In the Litvack and Bodart study, drug availability, health worker motivation and training of a community health and management committee were all thought to have improved. Drug availability has often been assumed to have been the crucial component. Third, there may be hidden external support costs which question replicability in less well supported projects.

Research which attempts to clarify some of these issues is underway and some has been published. A large study conducted by the Health Financing and Sustainability (HFS) project, in Niger, supported by a household survey and conducted over a two year period is nearing completion and a number of interim and draft final publications have now been prepared. These largely confirm the replicability of Litvack and Bodart's results -- in a poor rural African context, and therefore the potential of user charge policy to support health

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1 A USAID supported project carried out by Abt Associates Inc, Bethesda (prime contractor) and Management Sciences for Health, Boston (sub-contractor).
sector objectives, given specific policy components, although a local tax based financing system was shown to work even better (Diop et al, 1995).

The most important policy components necessary for more successful outcomes have been listed by Creese and Kutzin (1994) in a recent overview to be: clarity in the purpose of cost recovery policy; managerial capacity and institutional development (capacity to use revenues to improve quality of care at local and national levels); retention of some or all fee revenues at collecting facilities; and periodic adjustment of fee levels integrated into the system. Another recent study of user fees in Jamaican hospitals found no evidence of a negative utilisation effect, although this was not the major focus (Lewis & Parker, 1991). Nevertheless, evidence continues to amass in other contexts that such circumstances are frequently still absent (for example, Hecht et al, 1993) and where absent, negative utilisation effects are repeated (for example, Hongoro & Chandiwana, 1994; Haddad & Fournier, 1995).

**Equity and Exemption Mechanisms**

While some of the most important equity questions are addressed through the utilization impact studies discussed above, some recent and current studies have also been looking explicitly at whether the access of the poor can be improved through means testing and exemption mechanisms at the individual level. Russell and Gilson (1995) compiled the results from a postal questionnaire seeking description of user charge policy, including exemption and means testing. Both Willis (1993) and Gilson et al (1995) provide recent and comprehensive reviews of the equity of user charge policy, including exemption and means testing components. Although they emphasise that very little is known about the effectiveness of exemption policy, both conclude that success in protecting the poor appears limited. Kutzin (1994) is also sceptical about the success of exemption policy to date, arguing that it has often benefitted the non-poor more than the poor. He quotes Weaver et al (1990) who reported that the income of non-exempt patients was lower than the average in Niamey Hospital, Niger. Gilson et al (1995) identify the following suggestions to improve on the success rate: means testing should build on available data and not require new data collection; complementary policies to establish informational and management capacity to implement targeting are needed; widespread participation in health sector reform debates is needed -- in particular to inform patients of their rights; withdrawal of benefits from powerful groups should be gradual and less than complete; complementary reforms are needed to protect equity both inside and outside the health sector -- health sector reform has to be located within strategies to combat poverty as a whole. Willis suggests the following: clear, formal criteria with little discretion left to the person administering the test; at least some local or central government involvement in the screening, registration, or verification process (rather than placing the entire load on facilities); a requirement that exemptions be renewed periodically; and routine measures to verify information. All these suggestions have (by the admission of both papers) to be considered tentative and preliminary given their flimsy empirical basis -- research in this area is much needed.
Willis (1995) reports findings from the HFS project in Niger that after introduction of cost-recovery, the poorest 25% of households were less likely to pay fees than the rest of the population, and in one district, these poorest households were 80% less likely to pay than the others. Ensor (1995) found that exemption mechanisms did not effectively exempt the poor in Vietnam but rather prioritised other groups such as those wounded or losing family members in the war. Another study currently underway is a comparison of the impact on the poor of Bamako Initiative programmes in three sub-Saharan African countries (Health Economics and Financing Programme, 1993).

Quality, its Cost and its Relationship with Demand
There is now a quite substantial amount of work describing quality in a number of settings and establishing viable methods of defining and measuring it (Garner et al, 1990; Gilson, 1992).

Wouters (1991) summarised the need for further research on quality to inform health financing policy as follows: "health-care demand studies generally indicate that quality is an important determinant of utilization patterns, but do not clearly identify those components of quality most important to the patient. On the supply side, cost analyses have not closely examined cost-quality trade-offs, nor the net costs of quality." In both areas, researchers have been working towards filling these gaps in the intervening period. Wouters et al (1994) and Wouters (1995) summarise the progress which has been made. A number of recent demand studies have explicitly included alternative measures of quality as independent variables (Ellis & Mwabu, 1991; Lavy & Quigley, 1993; Mwabu et al, 1993) In general, these have found significant impact of quality on demand, although Mwabu et al (1993) produced confusing results probably as a result of confounding variables, and concluded that experimental approaches would be needed. Litvack and Bodart (1993), a study which has been discussed above, is the closest to an experimental study on this subject available. Explicit questioning of individuals regarding willingness to pay for quality improvement using contingent valuation or similar approaches confirms a significant impact of quality on demand (Abel-Smith & Rawal, 1992; Weaver et al, 1993). Much less work is reported measuring the costs of quality improvement. A study of the costs required to achieve quality improvements for several procedures in a hospital in the Dominican Republic has been completed (Lewis et al, 1990). Wouters (1995) reports the results from the HFS project in Niger, and another HFS research project in Senegal. In neither case did cost recovery revenues achieve coverage of the variable costs of quality improvement, seen as a minimum condition. A further study by Johns Hopkins University (1993) is underway in Nigeria.

Clearly, specific measurements of willingness to pay for specific types of quality improvement and the costs of achieving them must be country specific to be useful to policy-makers.
Incentives on the Demand and Supply Sides

Creese (1991) highlighted the need for more research on the impacts of different fee charging systems, an example of the need to explore the impact of different types of incentives on the demand and supply sides. To date, there has still been little work exploring this in the context of user charge systems, except at the most basic level (how charging or not charging affects demand, for example).

A number of small scale studies of the impact of alternative charging systems on demand and prescribing practice have been carried out by the Britain Nepal Medical Trust in conjunction with revolving drug fund projects (Chalker, 1992; Fryatt et al., 1993) and a larger scale study is beginning (Holloway, 1994). In comparison with a district without a drug scheme, a programme using fee per script resulted in more drugs being prescribed. Both polypharmacy and fewer resistance causing under-doses were noted (Chalker, 1992). Results from comparison with a newly introduced scheme using fee per item prescribed showed fewer drugs prescribed, average cost per prescription half that of the fee per script scheme and fewer stockouts of ten essential drugs (Fryatt et al., 1993). The larger scale study will test these findings using a larger sample size and will establish performance against specific criteria of appropriate prescribing (Holloway, 1994).

On the supply side, two questions are being addressed by current or recently completed studies. First, how different reimbursement mechanisms affect the behaviour of providers and second, how level of reimbursement affects motivation and performance. Bitran and Block (1992) provide a review of what was then known of the impact of different provider incentives and found little prior work in developing country settings. The experience of PROSALUD, a USAID funded non-profit organisation in Bolivia, is recounted in some detail. It confirms that providers respond to the incentives inherent in reimbursement mechanisms, and that they can be used to influence project outcomes. In Benin and Guinea, Knippenberg et al. (1990) describe a system of offering incentives for preventive service provision but do not assess its effect. An incentive system in two of the zones of the Zaïre financing programme might help to explain performance differences (Shepard et al., 1990). Bitran and Block (1992) propose a study of personnel incentives and performance as a component of the Niger HFS study. No results of this study have yet been published.

The second question, the effect of level of financial reimbursement on motivation and performance, might be viewed as a component of the larger question discussed earlier -- the ability to finance quality improvements using user charge revenues. At least two studies relating specifically to financial incentives needed to motivate health workers are underway. The first is being carried out within the Dar-es-Salaam urban health project (Department of Public Health and Epidemiology, Swiss Tropical Institute, 1993) and aims to test the hypothesis that monetary incentives improve the performance of health personnel. The second, in Uganda, takes a broad view of the economic behaviour of health workers and changes brought about by movement from very low salary based reimbursement to a user
charge based system of cost recovery with large proportions of revenue used for health worker salary supplementation. The effects on both formal and informal economic behaviour are being studied (McPake et al., 1993; Asiimwe et al., 1996). This study highlights the importance for incentives of the informal context of financing reform. Reform may be undermined by health workers and managers if it interferes with informal income generating activities such as unsanctioned charges and private practice, or demands increased accountability.

Health Insurance
As many of the poorest countries are now beginning to embark on new or expanded health insurance programmes, research in this area will become a high priority for them.

Much existing research focuses on middle and transitional countries, for which health insurance is either well established or has been the major focus of health financing reform. Some lessons from this research suggest issues poor countries must heed in introducing or expanding this mechanism, but will not be replicable there until the policy is further developed. Nationally organised health insurance programmes are commonly agreed to present a number of important equity problems. In general, they usually cover only richer households (McGreevy, 1990; Vogel, 1990; Kutzin & Barnum, 1992). Most commonly, coverage is restricted by high premiums, a problem exacerbated by cost inflation, and even where coverage is universal in theory, unequal distribution of suppliers prevents equitable outcomes (Kutzin & Barnum, 1992). Government subsidies often constitute substantial proportions of financing for the schemes, and therefore imply a subsidy to better-off groups (Mesa Lago, 1986). In some schemes, further inequities follow from the presence of high copayments which imply decreased accessibility to the poorer among the insured (Dahlgren, 1991; Yang, 1991).

Kutzin and Barnum (1992), in an overview of four countries’ experiences of health insurance, conclude that incentives strongly affect the performance of insurance systems, and that it is very difficult to design systems with incentives favouring both equity and efficiency. Retrospective reimbursement of providers on a fee-for-service basis leads to cost inflation. The problem is exacerbated where the insuring organisation is a separate entity from the provider and sees its role as purely financial. Such problems are common in Latin America where there is a growing imbalance between revenue and benefits in many countries, and frequent duplication and overlap between services provided under different insurance programmes and for the uninsured (WHO, 1993). Korea’s case, in which high copayments apply, suggests that cost inflation is not easily controlled through incentives operating on the demand side.

Poor countries do have experience of community-based risk sharing schemes, and research has been carried out examining their impacts. Equity outcomes are thought to be better, not least because their intention is to extend insurance arrangements to the under-served
(Chabot et al., 1991; Shepard et al., 1990). Nevertheless, 27% of households interviewed in Burundi gave financial inability to purchase a CAM (carte d’assurance maladie) as their reason for not joining the commune based scheme (Arhin, 1994). Other programmes have achieved almost 100% coverage at village level at least for some period (Eklund & Stavem, 1994).

Community-based programmes also appear better able to deal with the problem of incentives, at least allowing more flexibility of programme design. The Bwamanda health zone in Zaire developed an unusual structure of insurance merging the provider and insurer roles and covering only hospital care following referral. Nevertheless, despite having removed the incentives for cost escalation, the system did not solve the problem of inaccessibility for the (uninsured) poor, and resulted in inequity of utilisation patterns (much higher rates of utilisation for the insured than uninsured) and probable adverse selection (Kutzin & Barnum, 1992).

The main lessons for voluntary insurance programmes agreed by Shepard et al. (1990) and Griffin and Shaw (1994) are: the need for acceptable quality as a pre-condition; the need for cost control to keep premia affordable and cost recovery levels sustainable; the need for decentralized management and earmarked revenues; and policy design which minimises tendency towards moral hazard and adverse selection. The main lessons for compulsory programmes found were the need to address provider incentives to keep costs down and enable extension of coverage (McGreevey, 1990; Kutzin & Barnum, 1992).

**PRIORITY FOR RESEARCH**

**Introduction**

Two main factors determine priorities for future research: relevance to policy agendas; and the extent of the information gap remaining, given prior research efforts. The questions of adoption of the recommendations stemming from research results (and strategies where information is available but policy fails to respond) are considered in detail below.

User charges are probably still the most prevalent policy change taking place in the area of health financing. Although the majority of countries have implemented some kind of user charge programme, these are mostly under continued review and a sizable minority of countries are still at the stage of considering their introduction. While the discussion above indicates a now substantial body of research complete or underway, the range of contexts in which it might now be applied suggest that replication rather than direct adoption of the policy implications of results, is appropriate. The existing research guides global policy debates which help individual countries to think about what directions might be viable, gives more detailed policy advice in the specific contexts in which it has been carried out, and establishes the viability of particular research methodologies for the investigation of
specific questions. At the same time, the research gives rise to new questions, on which
evidence even at the global level is still lacking. Both types of research are discussed below.

Countries which now have more established user charge systems are increasingly
contemplating introduction or expansion of health insurance. In the coming decade,
evidence will be emerging of innovative forms of insurance, and of insurance schemes
operating in contexts quite different from those which have been studied to date. Thus,
research is urgently needed on this topic, and much will be of the preliminary type -- asking
new questions not yet addressed anywhere.

The following discussion is divided into sections reviewing first the themes identified above
in the existing research, suggesting where replication is most needed and what directions
are appropriate within those themes in the future; and second, new themes which are likely
to become important.

User Charges and Utilization Response
The recent studies which have established the possibility of linking utilization, introduction
of charges and quality improvement to overall positive effect have been in West Africa. This
is a very limited basis for predicting similar possibilities in other parts of Africa and in other
continents. Studies which propose to address similar issues in these areas are, therefore,
needed. Where reform to pre-existing user charge systems is the main development, studies
will need to consider the implications of different levels of fees, and the extent and type of
quality improvements which are most needed, and which the population are most likely to
respond to.

Second, further and more specific attempts to isolate which conditions are key to the
achievement of positive results in this respect are needed. One suggestion is that the role
of external support, both financial and in the form of technical expertise (present to a
significant extent in both the Cameroon and Niger studies) was crucial. Much of the work
on the relationships between cost, demand and quality will help to unravel that issue, but
unless programmes with low levels of external support can be shown to produce similar
results, the implications of the existing studies for user charge policy will be slight. Other
possible conditions which should be explored include dimensions of the local economy, the
density of population needed to ensure an adequate market, and the position of the public
sector provider in relation to alternatives (geographically and with respect to other
determinants of its competitiveness).

Third, the overall implications on household expenditures, of a successful strategy have not
yet been established. A possible explanation of the Litvack and Bodart (1993) finding that
the utilization of the poor increased most in the context of a successful programme is that
it enabled an overall reduction in total health related expenditures -- when recourse to
alternative providers and purchase of prescribed drugs from private retailers is taken into
account. If total expenditures still increase, the possibility that people are making ill-advised or wealth reducing budgetary allocations towards health expenditures remains, with negative implications for user charges.

Besides research on quality, cost and demand, further research on equity and means testing, and on incentives will also explore some of the questions emerging from utilisation related studies.

**Equity and Exemption Mechanisms**

Much more work is needed simply describing existing targeting, means testing and exemption mechanisms and establishing how effective they are. Although frequently mentioned in the context of trying to find solutions to identified equity problems, researchers have only just begun to address these. The lack of work to date may reflect a broader lack of interest among policy-makers and project workers as much as among researchers, and perhaps the perceived lack of success of such measures as a consequence. In general, it would seem that little thought has gone into ways to make exemption policy work, despite its more usual than not inclusion in a user charge policy (Russell & Gilson, 1995).

Attempts to verify the appropriateness of the suggestions made by Gilson *et al* (1995) and Willis (1993) would provide a starting point for researchers. In some cases, this might involve comparative research of settings where particular conditions are and are not present. However, confounding factors are likely to result in rather vague conclusion from this type of approach and experimentation is likely to be more fruitful where it is possible.

Second, it is often argued that traditional systems perform better than bureaucratic ones in protecting the poorest. The ways in which traditional systems work in the specific context of reducing financial access barriers to health services for some groups need more study. Arhin (1994) has suggested that the CAM in Burundi is more effective in giving women control over health care seeking choices than the traditional system by which heads of household allocate resources. This exemplifies the sort of question which might be addressed. How households allocate resources to health, who within the household does so, and on what criteria; which groups have independent access to sufficient cash for health services, which rely on others and which are excluded altogether; and how different systems and levels of charging for health services affect these questions, need more study.

Third, the discussion so far has focused on exemption at the individual level. Exemption is also possible by geographic area, by type of facility and by intervention. Intuitively these would seem easier to operate but this has not been firmly established in a range of contexts. Evidence emerging from Uganda suggests that services exempted in principle are not always exempted in practice (Asiimwe *et al*, 1996). Study of these types of exemption in practice, in terms of utilisation response, population awareness of price differences and effectiveness in targeting those intended, would provide important information.
Quality Improvement, its Cost, and its Relationship with Demand
This area of work is one which encounters some of the greatest difficulties of all those
discussed in this paper in reaching clear conclusion. Difficulties in accounting for quality
were among the major constraints affecting earlier research on health financing, reflecting
difficulties in measurement and perhaps variation in the type of measure needed to account
for the influence of quality on different questions. Existing work in this area must be
regarded as only the beginning of a much greater volume which will be needed before
quality dimensions can be adequately accounted for in user charge policy.

With respect to the role of quality perspectives in determining the demand for services,
further consideration and investigation needs to take place, isolating different dimensions
of quality and their separate influences. The work of Mwabu et al (1993) suggests that
experimental approaches might be needed before adequate estimation of separate influences
will be possible, and study designs will certainly have to consider ways to avoid the
problems that study encountered. Given that information asymmetry is a well-known source
of market failure in the health sector, this work could help to avoid orienting financing
policy towards inappropriate demands, by establishing appropriate (or professionally
determined) dimensions of quality which are effective in attracting users.

With regard to the cost of quality improvements, costing models which include quality
components need to be developed. This is more likely to be possible using costing methods
which aggregate costs of successive inputs than ones based on cross-sectional analysis,
given the difficulties the latter encounter with even quite simple specifications of the factors
affecting cost.

Ultimately, the two areas of research need to be linked. The types of quality improvement
which secure high levels of utilisation need to be identified and the cost of achieving those
quality improvements known, for the purpose of informing financing policy. It is unlikely
that it will be sensible to conduct quality related research with the aim of informing
financing policy alone -- direct relationships between quality and health outcomes will
probably be researched more economically in combination, for example -- but the need to
make such links should be borne in mind in designing and selecting studies in this area.

Incentives on the Demand and Supply Sides
As discussed above, there is very little existing work here on either the demand or supply
sides -- most questions remain unanswered in any context.

On the demand side, the effects of different charging systems (fee-per-visit, fee-per-illness,
fee-per-item, fee-per-attendance card and other possible permutations) all need to be
explored. Other important studies would include those of the effectiveness of charging scales
which attempt to reinforce the referral system, or to serve other public health goals such as
encouraging the use of preventive services, curative treatment for infectious diseases, and services for target groups.

On the supply side, much more needs to be established regarding reimbursement mechanisms and levels, and their impacts on provider behaviour. There is now a wide range of experience with alternative ways of using revenues from user charges to support health workers. Bonus systems and staff welfare funds are direct ways of trying to motivate health workers and are roughly equivalent to fee-per-service or fee-per-case reimbursement mechanisms since the amount workers receive, at least indirectly, depends on the volume of work. Other impacts of user charge policy -- such as improved supply of essential inputs to health facilities may also have effects on staff motivation. There is now some possibility of doing cross-sectional or case comparison research to explore the implications of different systems. In addition to this, experimental work is likely to be capable of establishing relationships with fewer sources of confusion.

Also on the supply side, more studies exploring the informal context of health financing reform are necessary.

**Health Insurance**

The two different forms of health insurance (small scale voluntary and national compulsory) are discussed separately below since the feasible and priority research agendas for each are quite different. In both types, there is need to continue to document the details of existing programmes, the changes implied by reforms and the nature of new programmes being introduced.

The small scale voluntary forms of insurance face many of the same issues as user charges. Thus, many of the topics which might be highlighted here have been discussed above, although there may be differences in the required emphases. For example, in studying utilization questions, it is likely that different types of influences on demand will have to be considered -- in particular issues of trust in insurers (whether or not they are providers) and confidence in the persistence of changes in quality evident in the short term. These have implications across the questions of utilization effects; equity and means testing; and quality, cost and demand. Questions of incentives also require some particular emphases where health insurance is under consideration. On the demand side, pre-payment (by household, individual or other basis) and the covering of different lengths of time and different services, have to be considered alongside other payment bases with respect to their effects on consumer behaviour. On the supply side, the implications for health worker bonuses or welfare payments of adopting pre-payment, usually in addition to user charges need attention. In Lusaka, health workers are not in support of a local health insurance programme, probably because it is not generating as much income as user charges previously did (Atkinson, 1995). Many of the smaller scale insurance programmes involve coverage being offered by the provider (either directly or because there are no alternative
providers which the insured can feasibly attend). This approximates a capitation basis of payment. Whether or not providers respond as expected under this system of reimbursement is worthy of study. Where the two systems are in place concurrently, it might be possible to study these questions by assessing whether patients paying directly are treated differently to those covered by insurance. Again, both cross-sectional and experimental modes of investigation offer some potential.

The two important findings of the completed research on compulsory national programmes are the substantial inequities resulting, and the inefficiency caused by poorly planned incentives. National programmes are under considerable pressures to reform from both political and economic sides, and many countries with well established national programmes are embarking on major reform programmes. Documenting and comparing these reform programmes requires considerable effort. Evaluation of their outcomes with clear attribution of causes and effects is likely to remain inconclusive, however, given the number of changes taking place concurrently both inside and outside the insurance systems. More scope may be offered by the study of newly implemented or substantially expanded compulsory national programmes of insurance in countries where these have not played a major role to date. It is important that studies are planned early in relation to proposed new programmes so that baseline information can be collected. Before and after studies of health service utilisation across socio-economic groups and geographic areas; provider costs and prices; and quality of services, carried out in a large enough number of countries to ensure that the effects of other changes are not confusing results, will provide useful guidance to other countries considering this policy. Hopefully, policy-makers will take note of what is already known about the impact of different types of incentives on outcomes and researchers can then take advantage of the opportunity to measure the effects of innovative systems involving improved incentive structures.

**New Themes**

While the most important work has been covered above, a few new themes (or at least some not so far considered in this paper) should also be considered priorities. First, studies of the impact of alternative financing systems from the perspective of the household economy would help to address not only the health sector specific impacts but the interaction of these impacts with other economic developments and other policy changes which are often concurrent. User charges are often being introduced for health services, water, education and other services simultaneously. Each on their own may appear affordable or having only small impacts on household budgets but in combination the effects may be more serious. Such study would help to inform consideration of integrated social sector policy, and the impact of different central budgetary allocation decisions between and within the social sector, and to consider sectoral policies alongside macro-economic policy, as advocated by Cornia et al (1987).
Second, the issues around implementation of policy need more explicit study -- not only in the monitoring of pilot projects in which implementation is supported by external groups (although this is an important area of research which should be sustained), but in consideration of how national policy translates to local level implementation and all the factors in between which aid or constrain this process. Hecht et al (1993) suggest that important factors affecting implementation include fee schedules, billing and collection mechanisms, personnel and information systems and incentives for participating in new policy. This provides a number of ideas which could serve as a starting point for this area of research.

**Strategies for Implementation of the Proposed Research Agenda**

The main factors which hinder research in this area are the pace of policy change itself (many proposals rely on observation of implemented policy) and the relative scarcity of researchers in the area. The first is an ever relaxing constraint which enables a volume of work over time. It explains why there has been little research on national health insurance programmes in Africa, for example, and points to where major research opportunities are likely to arise in the near future. The second prevents fast replication of results in one setting to others where they could be relevant. The number of available researchers with relevant experience has not been documented although there is now a directory which might give an idea of trends within a few years (Health Economics and Financing Programme, 1994).

It would be perverse to suggest that the need for research should push the pace of policy change. Therefore, strategies to improve the rate of implementation of the proposed research agenda should focus on the pool of available and experienced researchers. A number of training programmes in this area already exist (for example the International Health Policy Programme) and these should be supported and enabled to expand. In addition to training, consideration of how to ensure attractive incentives in the short term, and career prospects in the long term, for economists to work in the health sector and for health researchers to work on financing issues, is needed. Most possible strategies will rely on the availability of financial resources.

**NEED FOR INTERNATIONAL AND COMPARATIVE RESEARCH**

International and comparative research is defined here as research which pursues an identical, or very similar, set of objectives in multiple locations (either in a number of countries or in a number of regions of one country) and thereby enables cross-national or cross-regional comparisons. One of its overall objectives is, therefore, to test the geographical specificity of its results.
No health policy research finding can be capable of generalisation throughout the world. Throughout this section of the paper, areas where international and comparative research appear warranted, have been highlighted as they have arisen.

The issue of testing the replicability of specific findings has been raised in several parts of the paper, and its importance emphasised across all the themes of research discussed. For many policy issues, specific local data are required for detailed planning. However, this does not necessarily imply "international and comparative" research since it can be done through many separate projects which are timed to complement the policy process in individual countries.

In a few parts of the paper, it has been suggested that research should specifically take the form of multi-centre studies, either on an international or sub-national basis. Such studies imply similar time periods of implementation and harmonised methodologies to ensure that data is as comparable as possible. Such research responds more to broad questions of policy direction, than to specific questions of policy detail. International comparative research is most relevant to international policy agendas, the general appropriateness of the items on them, and perhaps, the factors constraining and enabling more successful implementation. It follows that the importance of international comparative research is dependent on the importance of international policy agendas -- a subject explored further below. Sub-national comparative research is most relevant to national policy agendas, and helps national policy-makers to consider the variation of impact likely from identical policy in different settings, the appropriateness of across the board policy measures, and the potential of implementation strategies which are differentiated by region.

An advantage of both types of approach is their potential to give a much stronger message to policy-makers than a single centre study.

There are several important constraints to the conducting of international comparative research. Harmonisation of both methodologies and timing present problems. With regard to methods, routine data are likely to be used to some extent by most policy studies, but may measure slightly different things, have been collected in different ways or to different standards of accuracy. If community representatives, government officials and politicians are to be interviewed, different political structures will prevent perfect comparability and even direct observation of activity within health facilities is affected by differing health system structures. Since policies are not implemented in tandem from one country to another, a study which takes place within a limited time period must study implementation at different stages, again prejudicing comparability. A good international comparative study will not try to control all these factors, but will identify the important sources of bias in comparing one country with another, and specifically try to ensure a full range of the most important factors are included in the range of countries selected so that their effects can be estimated.
Secondly, there is often conflict between the interests in research of national policy-makers and those interested in issues at the international level. National policy-makers may not be sympathetic to the need to collect data using as comparative as possible a methodology as used in a different country, for example. They understandably place low emphasis on comparative findings -- which are often most useful for countries further behind in the process of policy implementation and not included in the multi-country study. Clearly, researchers need to balance the needs for comparison with those of responding to the questions of national policy-makers if they are to ensure cooperation and use of research results within the countries studied. It is difficult to suggest general principles of reconciliation since the likely conflicts are peculiar to specific research problems. One possibility is to recognise that there will often be a need for separate comparative components and specific national components (determined separately for each country) within multi-country studies.

Table 1 below summarises what has been concluded concerning needs for further research.

**USE OF RESEARCH FINDINGS IN DECISION-MAKING**

The questions of the extent to which research findings have been used in decision-making, and the identification of strategies to enhance this process, have been greatly emphasised by the international agencies and bilateral donors who finance health policy research. The questions of how international and national policy agendas are devised, and how policy and its implementation is transmitted from more to less central levels are commonly debated among professionals, but their sensitivity has prevented explicit study and much publication. A few exceptions, such as Dahlgren’s (1991) description of the process of financing policy development in Kenya stand out. While this description suggests the importance of international agencies and bilateral donors in setting agendas (rather than responding to them, or assisting governments after objectives have been set, for example), it also suggests that national governments have a range of strategies which enable them to evade the dictates of such organisations to some extent.

If the importance of all three groups -- international agencies, bilateral donors and national governments -- in setting policy agendas as well as helping to work out the detail of their implementation is accepted, it is clear that strategies to enhance the influence of research on policy, need to address policy-making in all three contexts. This stands in contrast to the assumptions which seem to underpin the usual strategies, almost entirely focused on national government policy-makers.

In this light, the relationship between research and policy-making becomes more complex, and new questions are raised. Since two of the three groups are usually the funders of research and, therefore, the ultimate arbiters of research agendas, the focus on ensuring that
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<th>Research area</th>
<th>Replication</th>
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<td>1. User charges and utilization response</td>
<td>Link utilization, introduction of charges and quality improvement</td>
<td>Isolate conditions needed for successful approaches. (Further work on relationships between cost, demand and quality; specific exploration of the role of external support) Implications of successful approaches for household budgets</td>
</tr>
<tr>
<td>2. Equity and exemption mechanisms</td>
<td>Describe traditional practice with respect to promotion of widespread access to health services.</td>
<td>Describe existing targeting, means testing and exemption mechanisms. Test recommendations of Gilson et al (1995) and Willis (1993). Describe impact on geographical, facility and service based exemption mechanisms.</td>
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<td>3. Quality improvement, its cost, and its relationship with demand</td>
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<td>Documenting and comparing reform programmes. Early planned study to evaluate outcomes of newly introduced or substantially expanded programmes.</td>
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National level policy-makers respond to research results is sometimes perceived as a means of furthering pre-determined agendas rather than an attempt to increase the rational basis of decision-making. This critique needs to be taken seriously if some of the barriers to
national level decision-makers responding to research results are to be understood. If a proposal has been the subject of negotiation, and is clearly already the preferred option of an international agency, national policy-makers are understandably cynical if the same option emerges as "rational" following research sponsored by the same organisation. More involvement of national policy-makers in setting the research agendas of international agencies and bilateral donors, and in determining the allocation of research budgets might reduce suspicion and increase national policy-makers' perceived stake in the research being carried out. In addition, the greater use of peer review groups in allocating research budgets, as practised by some agencies, may increase credibility.

It follows from the opacity of the processes of policy reform determination that the impact of one factor -- research -- on these processes can only be guessed at. There is reason to believe that research has played some role in the past. The dilution of World Bank health financing policy from the position of the Agenda for Reform (Akin et al, 1987) which uncritically promoted user fees, insurance and private sector involvement, to that of the 1993 World Development Report (World Bank, 1993) which presented much more balanced arguments, probably has many roots, but the volume of research results quoted in the latter document, many of them unsympathetic to the position of the Agenda for Reform may well be important among them.

This suggests a more complex role for health policy research generally, and financing research in particular. Commissioned by agencies which themselves have stakes in policy debates, it cannot entirely represent a neutral source of data for rational decision-makers. Instead, it can be considered a tool of the debate and negotiation between and within international agencies, bilateral donor organisations and national governments. Nevertheless, the use of this tool more than others leaves scope for those who support rationality in decision-making to enhance its influence. In this regard, a number of suggestions can be made:

- The strategies which have been developed to enhance the role of national policy-makers in research agenda setting and in interpreting results emerging from research policy are important components of research projects. There should continue to be an expectation that projects will contain these components. Further involvement of policy-makers in determining research agendas and in allocating research budgets might also be considered.

- Alongside national policy-makers, the range of objectives of research projects and audiences of research results need to be anticipated by researchers and funders of research alike in setting and responding to research agendas and in developing strategies of policy influence.
Recognition of the importance of the international arena suggests that funders of research need to give greater weight to international publication and dissemination. These should also be expected to form part of dissemination strategies.

The impact of different dissemination strategies on international as well as national policy debates needs consideration by both researchers and funders of research. Relatively unexploited strategies such as the use of national and international media organisations may be useful in this respect. Examination of the methods used by studies which have had clear influence on international policy debates may suggest some useful strategies.

It should be recognised that the sensitivity of policy-making processes requires that attempts to influence them often have to be non-explicit. Not all strategies can be written into research proposals, or form part of research contracts.

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BACKGROUND

Interest in the topic of the public/private mix for health care, particularly in developing countries, is relatively recent. Until the late nineteen-eighties, most health systems analysis in developing countries had a strong public sector focus. Little attention was paid to the private sector in either research or policy. A number of economic and political factors during the nineteen-eighties, including an ideological shift to the right, the fall of the Eastern bloc, and macro-economic crisis in many developing countries, helped put the issue of the private sector onto the policy agenda. Increasing the role of the private sector was advocated on the grounds that the private sector operated more efficiently than the public sector, that it would create more resources for health care and that private sector providers were more responsive to consumer preferences than public sector ones. The empirical evidence on which these claims were based was weak if not entirely absent. Often arguments which had been used to support private sector expansion in other sectors (such as infrastructure provision) were uncritically transferred to the health sector (Roth, 1988).

Since the mid to late nineteen-eighties, there has been substantial criticism and questioning of the pro-private policy recommendations made in reports such as Financing Health Services in Developing Countries: An Agenda for Reform (Akin et al, 1987). The policy recommendations being advocated have been modified and are now considerably more sophisticated. Recent emphasis has been upon increasing competition and diversity in health care provision (World Bank, 1993). From the debate so far, two areas of research have emerged which are both captured by the term "public/private mix". First, the sheer size and importance of the private health care sector in many developing countries has been brought to policy-makers’ and researchers’ attention. In the past, policies were often formulated and research carried out with little, if any, reference to this sector. It is now widely acknowledged that policy must take account of the dynamics of private sector activity. Second, the debate on the public/private mix has accepted that both market and government failures occur, and thus attention is now focused on how public sector efficiency may be improved, without necessarily resorting to privatization. This area of research and discussion has been stimulated by market-oriented reforms in many industrialized countries.

This paper on research priorities intends to address both of the issue areas identified above.

In discussing the term "public/private mix", a number of definitions and conceptual boundaries are commonly accepted. This paper focuses upon the modern allopathic health
care sector, although traditional providers are clearly part of the private sector and many of the concerns raised here apply equally to the traditional sector. Despite excluding the traditional sector, there is still considerable heterogeneity in the private sector. One of the commonest distinctions made is between for-profit and non-profit providers who are often believed to behave differently because of their different motivations. Private providers also operate at different levels of the health care system; there are different considerations with respect to private practitioners operating in their own clinics, large scale investor owned hospitals and diagnostic centres for example.

It is also helpful to distinguish between the financing and provision elements of health care systems. This paper focuses upon provision aspects, partly because financing is covered in separate papers (see McPake, and Berman, this volume). However, although financing and provision are conceptually distinct, there are close links between the two, for example promotion of private finance through private health insurance is likely to encourage private sector growth in provision. The distinction between finance and provision is also important in understanding the market oriented reforms taking place in the public sector. Previously, financing and provision aspects of health care were integrated in public health systems. By separating these two functions, it becomes possible to generate competition amongst providers whilst retaining a fully public system (Culyer et al, 1990).

RESEARCH TO DATE

Studies undertaken are classified here into three sorts:

1. well-trodden turf, that is areas where a substantial amount of work has been carried out and some degree of consensus or common understanding has been reached;
2. related research studies which do not have the public/private mix as their central concern but have provided important and relevant information;
3. emerging research initiatives, including a number of studies which are not yet complete but address the new concerns emerging in the area of the public/private mix for health care.

Well-trodden Turf

Much of the published literature on the public/private mix for health care, in both the developing and industrialized worlds is of a theoretical nature and considers the extent and form of market failure in the health care sector. In industrialized countries, this research strand can be traced back to writers such as Arrow and Titmuss in the 1960s (Arrow, 1963; Titmuss, 1963). More recently, many aspects of this debate have been revisited in developing country contexts (Bennett; 1991; Birdsall & James, 1992; Griffin, 1989).
The three main forms of market failure affecting the provision of health care are the presence of pure public goods (such as vector control), externalities which are present in the treatment and prevention of all communicable diseases, and asymmetric information between patient and health care provider. Whilst there exists a fair degree of consensus about the need for government intervention to solve problems associated with the presence of pure public goods, the need for government intervention is less clear for externalities and much less clear for asymmetric information. Though goods with externalities will need to be publicly subsidized if an optimal level of consumption is to occur, this subsidy could be made to public or private providers. With regard to information asymmetries, many economists would argue that such problems are prevalent throughout the economy, but rarely form an argument for extensive government involvement as seen in the health sector. Unfortunately, the extent of market failure and consequently the "appropriate" role for government is difficult to resolve theoretically, and much of the literature has been strongly polarized and ideologically driven. More recent work acknowledges the empirical nature of the question being posed. The extent of problems associated with asymmetric information will be influenced by institutional arrangements in the market, such as the effectiveness of regulatory controls, the predominant means of paying health care providers and the ownership and motivation of private providers. The extent of externalities will vary with morbidity and mortality profiles. Furthermore, although theoretical discussion may clarify the nature of problems in the market, empirical studies are needed to identify the best ways to resolve them; for example, what is the best way to provide subsidies for goods with externalities, such as immunization or family planning? In this context, it is difficult to see that further theoretical debate would be productive.

Several writers have produced typologies of private providers. Green (1987) lists seven different sorts of private health care providers. Berman and Rannan-Eliya (1993) offer a more complicated categorisation. Such discussions, in particular the two classifications described in the first section (for-profit/non-profit and financing/provision), have helped to define the conceptual foundations for descriptive empirical work.

The remaining research is descriptive. As actors in the international policy arena advocated a greater role for the private sector, it became apparent that very little was known about the scope of the private sector and its activities. Early studies were often quantitative, reviewing the number of private for-profit and non-profit providers active in a country, estimating the quantity of resources flowing to private sector providers, and the proportion of this which came from out-of-pocket payments or third party payers. Several pieces of work, both national and international fall into this broad descriptive category (e.g. Berman & Hanson, 1993; Bhat, 1991a and b; Griffin & Paqueo, 1993; Health Economics and Financing Programme 1993; WHO 1991; information generated from the World Bank Living Standards Measurement Surveys including, Alderman & Gertler, 1989 and Suarez-Berenguel, 1988). Such studies have highlighted the scale and significance of the private sector. However, several of the studies (especially those considering more than one country) are based
primarily upon secondary data, and as such are often marred by limited data availability. Recent work by Berman et al (1993) attempts to refine estimates further through developing a methodology for collecting such data. Researchers and policy-makers need to consider how accurate descriptive data needs to be. For many short term purposes, crude estimates may perhaps be sufficient, and in the longer run more emphasis should be placed upon developing routine information systems which can capture the most important information.

There has also been qualitative descriptive work, for example, international papers drawing upon experience in different countries have attempted to describe the type of pro-private reforms that governments have made and the nature of regulations in place (WHO, 1991). Several studies have focused upon one particular initiative, such as the establishment of a non-profit organisation providing health care in Bolivia (Fiedler, 1990) or government attempts to develop private health insurance in Chile (Viveros-Long, 1986). These studies are useful if only for communicating to others the type of reforms which are occurring across the globe. However, few of them have an explicit and well-planned evaluative component, and this makes several of such studies open to accusations of bias.

Related Research
Research has examined technical efficiency in health institutions. Where the institutions studied included both public and private facilities such studies are clearly relevant to the theoretical debate about the relevant merits of public and private sectors. Unfortunately most studies consider public and private non-profit facilities (Gilson, 1992, Mitchell et al. 1988), and thus it is difficult to explain the greater efficiency often found in private facilities in terms of competitive forces. Moreover, comparisons of efficiency alone are open to criticism that differences in cost per unit of output are not attributable to efficiency variation but rather are due to differences in quality of care, case-mix or severity. Some studies consider both efficiency and quality of care (Gilson, 1992), others control for case-mix, but it is rare that all these factors are controlled for.

There is a further problem with such research studies; often the results are difficult to interpret without understanding the incentive structures which are influencing provider behaviour, yet few studies in developing countries explicitly take incentive structures into account. Early studies comparing provider efficiency in the US started out from the hypothesis that for-profit providers would be more efficient than non-profit providers, but often found that this was not the case (Institute of Medicine, 1986). Many insurers at the time were providing full retrospective reimbursement which provided incentives to maximize the quantity of services provided thus raising costs and lowering efficiency. Research studies comparing efficiency need to have an understanding of the environment within which actors are operating.

Other studies looking at quality alone have provided interesting information in their own right. For example Uplekar (1989a and b) reviewed drug prescriptions made by private
practitioners for TB and leprosy in Bombay. The studies found that the prescriptions made generally cost considerably more than WHO recommended treatments and private practitioners’ knowledge was commonly out of date.

Another type of study which has shed light on the nature of the public/private mix are demand studies (e.g. Akin, 1984; Heller, 1982). These have used household level data to examine utilization patterns and have considered factors affecting choice between public and private providers. The demand studies carried out in the early 1980s were extremely influential; their findings suggested that even the relatively poor were willing to pay towards health care in the private sector. These findings, although later criticized (Gertler & Van Der Gaag, 1990) were used both to promote user fees and the private sector.

**Emerging Research Initiatives**

Much of the work now being undertaken addresses either the mechanisms through which private sector behaviour can be influenced or how market mechanisms may improve efficiency in the public health care sector. Research initiatives in these areas are relatively new, and results often not yet available. Thus, it is only possible to speculate on the reliability of the studies and their probable policy relevance.

**Regulation, enabling and incentive setting**

It is increasingly acknowledged that regulation is essential to the efficient and effective functioning of private health care providers (Cross & Levine, 1991; Ellis & Chawla, 1993, Bennett et al, 1994). In the past regulation has been viewed as a means of restricting or controlling private providers. Increasingly, the possibility of using positive incentives or enabling mechanisms as opposed to negative regulations is being pursued (Bennett & Ngalande-Banda, 1994).

Studies in Kenya and Thailand have reviewed the regulations governing the private sector (Mutungi, 1992; Tangcharoensathien, 1993). They suggest that regulations have built up over a period of time in an ad hoc, patchwork fashion. Often, key regulations governing private sector behaviour have not been amended for some years, despite considerable changes in the nature of the private sector. Some regulations appear needlessly bureaucratic whereas others appear very weak given the scale of the problem they are meant to address. A recent study in Malawi examines the impact of 1987 changes in regulations on private practice (Ngalande-Banda & Walt, 1995). Studies of regulations appear policy-relevant, particularly at the country level. Only recently has an overarching framework in which to consider enabling/regulatory arrangements been developed (Kumaranyake, 1996), and this has yet to be put into practice in the field.

The payment mechanism is one of the key ways in which incentives for private providers are defined. Studies of the impact of payment mechanisms are relatively wide spread in the industrialized world (Glaser, 1970 and 1987), but have only recently started to receive
attention in developing countries. Barnum et al (1995) provide an excellent review targeted at lower and middle income countries of alternative provider payment mechanisms and how these affect the quality and efficiency of care. Ellis and Chawla (1993) proposed a quantitative cross-country study of the influence of financial incentives on how physicians allocated their time between private sector activities, public sector activities and leisure. In Thailand, a study is in progress focusing on the effect of different payment mechanisms upon the efficiency and quality of care provided by hospitals, and how this relationship is mediated by hospital ownership (HEFP/HSRI/IMI 1994).

Non-financial measures, such as training, participation in conferences and accreditation, may also affect provider incentives. In Nepal, Kafle et al (1992) considered how training influenced private provider behaviour.

**Market mechanisms**

The LSHTM Health Economics and Financing Programme has commissioned a series of studies on contractual arrangements considering government contracting for clinical and non-clinical services, and also government contracts with mission hospitals in Sub-Saharan Africa. The results of these studies are currently being finalized. Preliminary indications are that in several countries, private sector activity appears potentially more efficient than that in the public sector, but there are problems concerning governments’ capacity to negotiate such contracts. Specifically, concerns about equity in contracts, risk sharing and pricing strategies have been raised.

**PRIORITY RESEARCH TOPICS**

There are clearly many unexplored research topics in the area of the public/private mix for health care. A range of potential research issues is considered below, and an attempt is made to prioritize topics based on both the policy relevance of research findings and the feasibility of studying the topic outlined. Until now research work on the public/private mix has been quite descriptive; it is argued here that research must move beyond simply descriptions of provider characteristics and start to consider provider behaviour and how this behaviour is determined.

All of the issues touched upon below have a strong political dimension. The public/private mix is an issue in which there are likely to be particularly strong vested interests, for example professional organisations, private companies, consumer groups and bureaucrats may all be affected by changes in the public/private mix and may have strongly held and articulated opinions. Understanding the positions of these groups is integral to ensuring that

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1 The Health Economics and Financing Programme is located in the London School of Hygiene and Tropical Medicine and funded by the UK Overseas Development Administration.
issue-oriented research on the public/private mix translates into policy thus research on the policy process with respect to the public/private mix is critical, however it is not discussed here, as other papers address the policy process in more detail (see Foltz and Walt, this volume).

Different countries and continents have different patterns in terms of the public/private mix and accordingly will have different research priorities. Where the research issue identified is likely to be of relevance only to a certain set of countries this is indicated.

The research topics are grouped under four headings:

1. The relationship of the state to the existing private sector
2. Market oriented reforms in the public sector
3. Financing arrangements and the public/private mix
4. The role of government in service delivery.

The State and the Existing Private Sector

Topic 1: Regulation and incentive setting
Regulation is an extremely complex task. Figure 1 illustrates the different agents and organisations which may influence the way in which private providers behave; each link is also a possible conduit for government to intervene in the market. None of the alternative approaches to resolving market failures are perfect. Regulation is often inhibited by the very same problems of asymmetric information which created the market failure in the first place; it is very difficult for the regulator to possess the same level of knowledge about a specific case as the care provider. Problems of asymmetric information are one of the reasons why governments often delegate regulatory authority to professional organisations, but professional organisations are commonly susceptible to regulatory capture, that is they tend to work in the interests of providers and not the patients. Each regulatory strategy will have costs and benefits, the magnitude of which will vary by country and for different regulatory functions. As very little research work has yet been done on regulation, there is substantial scope for research work.

Research questions could include:

How effective are existing regulatory systems? What are the factors affecting the effectiveness of regulation? What are the advantages and disadvantages of using different agents (professional organisations, third party payers, government, independent regulatory authorities) as the main enforcers of regulation for different regulatory functions? What capacities (individual skills and systems) are required for the alternative modes of regulation? To what extent do lower and middle income countries possess these capacities? What positive incentives are
Figure 1: Players in the Regulatory Process
there which may act as an alternative to regulation? What have countries experiences been with such incentives?

In India, as many as 70% of health care contacts take place in the private sector, yet stories of poor quality private sector care abound as they do in many other countries, including Pakistan and Nigeria. In several middle income countries, and amongst the more affluent parts of the population in lower income countries there is concern that private providers over-provide services, which may ultimately damage patients' health. Regulation is clearly an issue of central importance, but despite the widespread acknowledgement of the failure of regulatory systems in health care, both in developed and developing countries (Cross & Levine, 1991; Ellis & Chawla 1993; Bennett et al, 1994), there has been very limited research on it. Two country-specific reviews of regulation (Mutungi, 1992; Tangcharoensathien, 1993) highlighted basic problems with the regulatory framework which (with sufficient political will) could be relatively easily resolved. For example, in Thailand, whilst the Medical Council regulates doctors and the 1963 Medical Institutions Act regulates the infrastructure of medical facilities, there is no effective control over the ethical behaviour of non-medical hospital staff. This has proved problematic, as it is often hospital administrators who have been blamed for turning away emergency cases unable to pay for care.

As a first step existing regulations should be reviewed, the extent to which they are enforced and the capacity of regulatory authorities to enforce them should be investigated through interviews. Such reviews would then help to refine hypotheses for more sophisticated research studies.

**Topic 2: Integrating private practitioners**

In many developing countries private practitioners constitute the back bone of the private sector. Often, these practitioners provide care for relatively simple conditions, but are accessible and offer a more prompt and convenient service than public sector providers. There has been some research on the characteristics of such private practitioners (Aljunid, 1995; Uplekar, 1989a and b) and a useful review of the role of private practitioners in public health strategies (Swan & Zwi, 1996), but little evaluation of attempts to incorporate them better into the health care system. Whilst they remain isolated from the public health care sector there are many missed opportunities in terms of preventive care, rational prescribing, duplication of services between public and private sectors, and constraints upon health system planning due to poor information availability.

Questions to be addressed include:

*What is the quality of care provided by private practitioners? What measures would help to improve the quality of care? Which models of collaboration with private practitioners are most successful in encouraging the integration of private practitioners into the health care system, in respects such as: provision of routine
data and disease notification to the Ministry of Health; referral arrangements; provision of preventive services? Is the application of government funds to the promotion of the use of private practitioners an efficient use of resources? If so, how can government subsidies be used to help extend the care of private practitioners to the poor?

In several countries, there have been innovative interventions attempting to integrate private practitioners better, for example Malaysia, Nigeria and Zimbabwe have introduced financial incentives to encourage private practitioners to offer preventive services (e.g. providing free vaccines to encourage immunization activities). Anecdotally, these experiments seem to have been unsuccessful, but there is no clear understanding of why this is the case. In other areas there is less experience, but operational research may help illuminate which models are appropriate.

**Topic 3: Market conditions**
Knowledge of the basic market parameters such as degree of competition and profitability would be priority research topics in most other sectors of the economy. In health, they have received very little attention, except in the USA. Knowledge of the form of competition in the health sector is useful in shaping government regulation. Knowledge about market conditions would also help those who are keen to promote the private sector by enhancing understanding of what are the barriers to entry.

Research questions include:

*What is the level and form of competition in the health care market? How profitable are health care companies, and how is this profitability affected by the level of competition?*

Studies on this topic in the USA have relied upon extremely large databases to undertake complex quantitative analyses. It is clear that such information is unlikely to be available in most developing countries and, therefore, less sophisticated methods of analysis need to be developed. This is one area where methods are a constraint upon research.

**Topic 4: Consumer attitudes**
Andreano (1993) notes that "individual preferences for health care matter; private markets for health care exist because of this". Demand studies cast some light on the characteristics of those seeking private sector care and how price (including travel time) affects their choice. More recent studies incorporate provider characteristics into the analysis (Lavy & Germain, 1994), and this research will hopefully be developed further in the future. However, such quantitative approaches often fail to capture the reasons behind provider choice, whether this is the manner of staff or the "reputation" of a facility. Thus, qualitative approaches are needed to complement quantitative ones. Understanding the reasons for
choice better would not only help researchers understand the forces behind private sector growth but may also cast light on how public sector services can be improved.

Research questions include:

Why do consumers choose to use private providers? For which conditions do they choose private providers over public ones?

Methods for such research are relatively well established, though in the past the qualitative and anthropological techniques such as in-depth interviews and participant observation have often been applied to the traditional sector. More quantitative survey techniques such as those recently used in industrialized countries (e.g. Lupton et al, 1991) could also be drawn upon.

Market-Oriented Reforms in the Public Sector

Topic 5: Contracting

Although some research has already been undertaken on contracting, there are still many questions which remain unanswered. Further research is needed to establish under what conditions contracting is an appropriate way of arranging service delivery. In China, there appears to be a vast experience with contracting which has hardly been evaluated. In several northern European countries, radical internal market reforms have been made which separate financing and provision, and establish contracting throughout the health care sector. In contrast, until now, contracting in developing countries has taken the form of isolated contracting out arrangements. As some lower and middle income countries (notably Columbia) move towards more radical contracting arrangements, and other countries consider it, the evaluation of such reforms is essential.

What factors affect the success of contracting out arrangements for health care?
What are the costs and benefits to introducing internal market reforms in lower and lower middle income country contexts? What types of contract are there (e.g. joint ventures, management contracts)? What are the relative advantages and disadvantages of each in developing country contexts? What type of capacity does government require in order to negotiate successful contracts?

It appears that many countries already have some contracting arrangements, and these can be evaluated either by comparing the service before and after (where adequate data exist) or comparing a contracted service with a directly provided one. A considerable amount of evaluative research has been done in Sweden and the UK examining internal market reforms (Robinson & Le Grand, 1994; Saltman & von Otter, 1995) and this experience can certainly be drawn upon, although some adaptations to different conditions in lower and middle income countries will inevitably be required.
**Topic 6: Private practice by public doctors**

One of the greatest concerns facing Ministries of Health in countries where there is a substantial private sector relates to the retention of scarce human resources in the public sector. It appears almost inevitable that incomes in the private sector are higher than those in the public sector. Some countries allow practitioners to hold public sector posts while doing part time private sector work, others do not. In some, government hospitals doctors are able to practise privately within the hospital, admitting patients to private pay wards. Many countries have recently changed policy in this area. Mozambique legislated to allow private practice by public sector doctors. Malaysia is now permitting this amongst staff at university teaching hospitals with different models developed at different facilities. Thailand introduced a substantial non-private practice allowance to encourage public sector doctors to forego private practice. There has been no systematic evaluation of these various models.

Research questions include:

*What are the advantages and disadvantages of allowing private practice by full time public sector doctors (or conversely prohibiting private practice by government employees) in terms of retention of personnel, effect on work effort in the public sector, and inappropriate referrals from public to private sectors? How do the benefits of allowing private practice change with factors such as the supply of physicians, physician reimbursement systems and the role and strength of professional organisations? What sort of arrangements for allowing private practice work best? What are the advantages and disadvantages of establishing private pay wards in public hospitals (are full costs recovered in these wards, does it encourage appropriate use of staff time, is there a danger of scarce resources such as certain drugs and nurses being absorbed by these wards), and how can the beneficial effects be maximized?*

The wide range of existing arrangements in different countries (and sometimes, as in the case of Malaysia, within one country) would make comparative studies relatively easy.

**Topic 7: Management structures in public, private and trust hospitals**

Proponents of privatization have argued that private sector organisations are likely to be more efficient than public sector ones. Initiatives to establish trust hospitals (as in Ghana, the UK, and Zambia) are based upon the notion that by giving public hospitals greater autonomy and encouraging them to operate more like private institutions, efficiency benefits will be gained. However, little research on the internal organisations of hospitals has been carried out.

*What are the differences in the way that public, private and trust hospitals are managed? What lessons can be learnt from this to strengthen management in all three different types of hospital?*
Research could describe management structures in each of the different types of hospitals and perhaps look at key tracer management systems, such as those for drugs or personnel. It may also be interesting to consider both for-profit and non-profit hospitals in the sample.

Financing and the Public/private Mix

**Topic 8: Insurance, Medical Benefit Schemes and Private Providers**

Insurance or medical benefit schemes play a critical role in the development of the private sector (Griffin, 1989). First, insurance enables people to afford to seek private care where they might not otherwise have done so. Second, when a substantial amount of private providers' revenue comes from insurance or medical benefit schemes, then it is possible to structure incentives through the payment mechanism used under such schemes. Third, insurance schemes provide a crucial source of information about the behaviour of private providers, such information is generally difficult to come by without insurance or medical benefit schemes.

There is, of course, a separate set of questions about how such insurance schemes can be developed in developing countries, and under what pre-conditions this is advisable. Questions relating purely to insurance schemes as financing mechanisms are addressed elsewhere (see McPake, this volume). The questions posed below relate specifically to the relationship between insurance/medical benefit schemes and the public/private mix in the provision of care.

*What empirical evidence is there to support claims that certain forms of insurance or medical benefit schemes (e.g. HMO, PPO, etc.) have an inherent tendency to create better incentives for private providers? Which payment mechanism or mix of payment mechanisms promotes good incentives for both public and private providers, and how does this vary between different contexts? What are the appropriate types of information to gather on a routine basis about care provided under medical benefit or health insurance schemes?*

The Role of Government in Service Delivery

**Topic 9: Ways in which to identify services which government should deliver and which should be delivered privately**

The World Development Report 1993 (World Bank, 1993) identified sets of core cost effective services which it suggested should be financed and possibly delivered by government; health care services outside of this core should be privately financed and delivered. Besides the cost effectiveness criteria proposed by the World Bank, there are alternative ways in which to determine which services government should provide. Ellis and Chawla (1993) suggest that in making policy about how services be allocated between public and private sectors, government needs to take into account which services the private
sector is relatively efficient at providing and which services have a relatively small merit
good component. Certainly, it is naive for government to plan its own service package
without taking into account how the private market is likely to respond\(^2\). Industrialized
countries have used alternative methods to decide upon priority services which should be
delivered by the public sector (see Ham, this volume). Countries need to be able to select
a means of agreeing publicly financed and delivered services which fit in with their own
cultural values and service delivery system. For example, a decentralized health care system
may require different modes of priority setting to a highly centralized one.

Further cost effectiveness analysis to identify core public sector services is unlikely to reap
substantial benefits. Instead, research work on alternative ways of deciding upon core public
services may be illuminating.

*What ways are there to decide which services should be offered by the public
sector and which services private providers may take prime responsibility for?
Which criteria should be taken into account? Which process of decision-making
is most likely to involve and gain the commitment of key decision-makers?*

Both conceptual and applied work is required in this area. A large number of ways of
deciding upon core public services have been proposed. These need to be compiled,
reviewed and analyzed. Where methods have already been used (e.g. the DALY measure
of cost effectiveness in East Africa) experience with these methods needs to be carefully
reviewed. Elsewhere it may be possible to experiment with different methods -- perhaps
using different methods in different districts -- and exploring the strengths and weaknesses
of each.

**Priority Issues**
The areas outlined above constitute an immense research agenda, and there are many more
research issues of moderate importance which could be added to this. Where do the highest
priorities lie? In terms of the policy relevance of the research and the feasibility of
implementing studies three areas appear to be of highest priority for the short term, these
are:

- Regulation and incentive setting;
- Improved integration of private practitioners into the health care system;
- Evaluation of alternative modes of private practice by public doctors.

Generating a greater understanding of how insurance schemes may affect the behaviour of
private providers is the most promising path for the future. However, in many developing

\(^2\) The paper by Hammer (1993) is instructive in this respect, it models how private providers may
respond to alternative pricing strategies in the public sector.
countries, coverage by traditional forms of health insurance is limited and may well remain so for some years to come. Under such circumstances this topic must be seen as a high priority in the medium term.

Research on market conditions in the health care sector is key; it has implications for attempts to regulate and for policies to promote the private sector. However, it appears that this is one area where lack of methodologies/data is a constraint upon further work. Either methods or data need to be substantially expanded in order for progress to be made.

Work on consumer attitudes, contracting and management structures in different types of hospitals are probably of secondary priority. In terms of contracting out, there is currently substantial work going on, this work needs to be completed and stock taken of what has been achieved before going ahead with extra work in this area. However, monitoring and evaluating major new initiatives in internal market approaches (such as that in Costa Rica) is of very high priority. Consumer attitudes and management structures are both important areas but perhaps not of such immediate policy relevance as the issues identified above.

Finally, with respect to identifying the "optimal" public/private mix, it is unclear what practical policy benefits this work will offer. Besides problems both in collecting adequate data and in operationalizing any package defined, the very notion of an "optimal" public/private mix is questionable. During the past few years, the World Bank has put considerable energies into identifying the package of essential services which should be publicly provided, whilst alternative and equally valid approaches to deciding which services should be offered by government have hardly been explored.

ENCOURAGING PRIORITY RESEARCH

Given the recency of international interest in the public/private mix issue, a surprising amount of research has already been carried out. It is not easy to identify clear cut cases where research has influenced policy (particularly national government policy), however, this is perhaps inevitable given the short history of the topic and the inherent difficulties in tracing links between research and the policy process. Much of the research has been descriptive rather than analytic and policy oriented. This paper has argued that researchers should now turn their attention to more analytic, policy-related issues. There are a number of constraints which prevent this from being easily achieved.

The most critical constraint on work on the public/private mix has undoubtedly been the wide scope of work combined with the few number of people currently working in this area. This is probably the case for many similar topics. In addition, there are a number of constraints which are particular to the topic of the public/private mix.
There has been a tendency for researchers to become involved in the polarized debate about the relative merits of public and private sectors. Although this debate has helped to expand the conceptual framework, without empirical work further gains from it are likely to be limited. Moreover, without tying the debate to specific contexts, clear cut answers are unlikely to emerge as the performance of public and private providers depends so much on the institutional framework within which they operate.

This polarization is also apparent in the relationship between government and the private sector. There is commonly a history of suspicion between the two sectors which creates a lack of dialogue and openness. This has two major implications. First, data collection in the private sector is often difficult. Private providers are unwilling to give researchers access to data which may, for example, adversely affect their tax position, especially if they fear that ultimately results will be used to develop government policies which damage their interests. Second, the lack of dialogue means that it is difficult to define clearly the key research questions. For example, at the moment there appears to be considerable research effort focused on explaining what are the constraints upon private sector growth in Sub-Saharan Africa. Private sector providers argue that start-up costs are critical and that therefore, governments need to provide subsidized capital to potential private providers (Berman & Hanson, 1995). It is, however, difficult to collect reliable data to establish whether or not this is the case. Such problems are difficult to resolve because of the inherent conflict of interest between public and private sectors.

Related to the issues above is that of paucity of methods. For several specific issues in the public/private mix there are not clear methods available to address the research questions. Although some of the key topics, such as the nature of hospital competition, have been previously addressed in the USA, lack of data and poor access to private providers mean that these methods are not feasible in the developing world and new approaches must be established.

The nature of the topic means that there is a strong danger that research studies are spoilt by a strong ideological bias. This bias is particularly inexcusable where it has been imposed by outside funding agencies and does not match the values of the society under study. For example some recent USAID work has been explicitly focused upon ways in which private sector growth can be encouraged, although it is not always clear that such growth will contribute to the health of the people.

Finally the nature of the issues within the topic of the public/private mix mean that an interdisciplinary approach is desirable. Health service researchers are needed to address issues of quality of care, anthropologists or sociologists to address consumer perceptions, economists to consider efficiency and incentive structures, lawyers to understand contractual

3 Specifically the USAID "Initiatives" project.

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agreements, etc. Interdisciplinary research is always more complex to organise than single discipline work.

**Capacity Building**

In terms of enhancing opportunities for priority policy-relevant research in this area, the most important initiative would be to strengthen research capacity, particularly in developing countries. This need not be achieved solely by traditional post-graduate training courses, but should be encouraged through more collaborative research efforts between researchers. It is particularly important that when developing country researchers and policy-makers in the Ministry of Health return home after post-graduate training, they are given support in developing research protocols and seeking funding. In many developing countries, there may be only one or two health economists or medical anthropologists, and thus support locally is limited.

External support may take the form of strengthened South-South links or links with researchers in industrialized countries. The potential benefits of both these types of links are probably well recognised: during the past four or five years, there seems to have been an increase in regional networks and conferences (such as SomaNet, Asean sponsored meetings on health economics, etc.) but further support in this area is desirable. With respect to North-South links, the principles upon which such links should be based appear to be relatively well understood, but changes in funding strategies make it increasingly difficult to operate in an ideal manner. Ideally, collaborative research should be collaborative from the very conception of the research question through to dissemination processes. Thus, not only do both North and South researchers learn from seeing the whole research process through, but the research can be framed so as to address locally relevant policy issues. Unfortunately, the increasing commercialization of the funding base for many industrialized country research institutions, and the often short time period available to prepare research proposals means that it is still common for research proposals to be prepared in the North and research collaborators sought, once funding has been secured. Under these conditions, researchers from the South may perceive themselves more as consultants than collaborators; it is unlikely that they will have a strong hand in shaping the research and the research may not be relevant to local concerns. In order to avoid such problems Northern institutions need to build up research links with selected partners over a longer period of time. Research funding agencies could use more funds to support exploratory research, to be carried out by both North and South researchers, which will hopefully lead to a fully joint research protocol.

An alternative model which the Health Economics and Financing Programme (HEFP) has experimented with is that of a collaborative research network. In the network, the HEFP has provided support to researchers in developing countries, through compiling and circulating relevant literature on the public/private mix, organising workshops where researchers can exchange ideas, where possible, making a small financial contribution to local research
projects, and peer reviewing research protocols, data collection instruments and draft reports. Such a network ensures that local researchers are clearly autonomous and have ultimate responsibility for the work, but can receive support when necessary.

**International and Comparative Research**

One of the obvious advantages of international, comparative research work is that it opens both researchers and policy-makers minds up to alternative ways of doing things. This may be particularly useful when the research is largely exploratory, for example, research reviewing regulatory systems might be usefully approached from a comparative perspective. However, where specific, focused research questions exist (such as evaluating an arrangement for allowing public sector physicians to do private practice) there may be too many confounding factors for internationally comparative research to be useful. Radical decentralization in some countries adds new twists to the arguments about international comparability. In countries, such as Venezuela, where major differences in health care systems between decentralized states have emerged (Werna, 1995), national research comparing states may make more sense than international studies. In internationally comparative work, there is often a difficult trade-off between flexibility and comparability. Ideally, a research protocol is sufficiently flexible to allow researchers to address specific national concerns and yet sufficiently tight to ensure cross-country comparability. Sometimes incorporating specific case-studies into a broader research protocol, for example, of particular items of regulation or particular projects working with private physicians, allows this flexibility. The process of internationally comparative research which builds links between researchers and policy-makers in different countries may in itself be very useful, enhancing research capacity more than nationally based research. However, there is a danger where funding agencies require collaboration that this becomes a "paper" exercise and an additional administrative burden, rather than a truly interactive and enriching experience.

**RESEARCH FINDINGS IN DECISION-MAKING**

There is some debate in the literature on policy processes about the extent to which research findings can alone lead to policy changes. What seems apparent is that it is rare for research findings to have a direct linear impact on policy (Walt, 1994). Instead, the effect depends upon a complex confluence of different factors. In order for research to affect decision-making, the research undertaken must already be identified as a topic about which decisions are required, or alternatively there must be interest groups willing to take up the issues identified. Research findings need to be disseminated in a clear and not overly technical language. The timing of research can be critical, as can the credibility or perceived objectivity of the researchers.
As suggested previously, the topic of the public/private mix is often a highly political one. This may affect the type of research which is carried out and the uptake of research findings. For example, in Thailand one of the main groups driving growth of the private health care sector was public sector doctors who supplemented their government salaries through private practice. This practice permeated to the highest levels of the Ministry of Health with many senior officials having a financial interest in private hospitals. There was thus a reluctance on the part of the Ministry of Public Health to place the question of private health sector growth clearly onto the policy agenda and support research in this area (Bennett & Tangcharoensathien, 1994). On the other hand, in Malawi, a small group of well-known doctors managed to bring about a regulatory review which resulted in public sector doctors being allowed to carry out private practice and a general liberalization with respect to the health care sector. Clearly, what will and will not reach the policy agenda is highly context specific and researchers need to have at least some understanding of the policy environment in which they operate in order to ensure the uptake of research findings.

One of the reasons why research sometimes does not influence policy is because academic researchers are often at some distance from government and appear to be more concerned with using innovative methods or publishing papers than with helping to shape policy. This phenomenon is wide-spread both in developed and developing countries. It seems particularly problematic where the researchers are located in independent universities. In Thailand, despite considerable expertise in health economics at two major universities, the Ministry of Public Health has sometimes found it difficult to enlist the support of these departments in furthering the policy agenda. Recently, the Ministry established the Health Services Research Institute to work specifically on policy-relevant topics. A similar institute exists in Mexico. Elsewhere, there is markedly more success in encouraging university/government communication. In Zambia, for example, two university health economists sat on the Health Financing Task Force established by the Ministry of Health, and appear to have played quite a key role in both research and policy formulation. It is unclear, why sometimes a strong relationship exists and sometimes it does not, but undoubtedly, two way dialogue between Ministries and researchers is required.

Dialogue with private providers at the early stages of research is also important to ensure that research feeds into policy. Private providers may be one of the key groups affecting the feasibility of alternative policies, and understanding their perspective from the outset may help focus the policy options examined in the research.

Careful consideration needs to be given to the role which non-national researchers and donor agencies may play in research. Links with overseas researchers may strengthen the position of local researchers giving them greater credibility and clout, but conversely if it is thought that research is driven by outside interests, then this may threaten the perceived relevance of the findings. Donor funding may also threaten the apparent objectivity of the research if the donor is strongly associated with a particular policy line. Finally, a large
number of uncoordinated donor research initiatives may mean that results of all of them go unheeded by policy-makers.

CONCLUSIONS

Over the past five to ten years, the amount known about the public/private mix in health care systems, and correspondingly the amount still needing to be found out have expanded rapidly. What was once seen as a single discrete area of research has blossomed into many branches of study. The public/private mix in health care systems can be a controversial topic, it involves questions regarding the appropriate role for government and thus may become rapidly entangled in the ideological issues surrounding alternative roles for the state. Whilst acknowledging that political beliefs will always play a central role in defining policy on this topic, this paper has argued that there are a number of empirical questions which need to be addressed in order to provide policy-makers with a better information base for policy-making, regardless of their political colours.

In many lower and middle income countries a large number, if not the majority of health care contacts are in the private sector. Research studying how government can work best with private providers so as to ensure that these private sector contacts contribute positively to the public's health has been comparatively limited in the past, and must now be a high priority in many countries. There are several barriers to the successful implementation of such studies, notably the lack of capacity (particularly in terms of individual researchers), relationships between government and the private sector which are often tentative if not openly hostile, and the inherent difficulty of tackling research questions for which there are no clearly defined methods and for which interdisciplinary research is often required. International agencies, researchers both in the South and North, policy-makers and even private providers themselves all need to play a role in overcoming these barriers, for as Titmuss (1963) noted; "Theoretical shortcuts are no substitute for the slow and painful study of reality".

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