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Improving the Performance  
of Health Care Systems:  
From Measures to Action (A  
Review of Experiences in  
Four OECD Countries)

**Zeynep Or**

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**LABOUR MARKET AND SOCIAL POLICY - OCCASIONAL PAPERS NO. 57**

**IMPROVING THE PERFORMANCE OF HEALTH CARE SYSTEMS: FROM MEASURES TO  
ACTION (A REVIEW OF EXPERIENCES IN FOUR OECD COUNTRIES)**

**Zeynep Or**

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**English - Or. English**

**DIRECTORATE FOR EDUCATION,  
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## SUMMARY

There is growing interest in improving the performance of health systems in OECD countries. Many countries are developing initiatives to measure performance to guide and inform the improvement process. Indeed, measurement and improvement are increasingly linked, as is indicated by familiar phrases such as 'evidence-based medicine' and 'evidence-based policy'.

This paper summarises the findings of an investigation of recent initiatives to better measure and improve health performance in four OECD countries: France, the Netherlands, New Zealand and Sweden. It highlights a number of case studies in these countries, which have been chosen to illustrate initiatives to improve performance, which paid greater or lesser attention to measurement issues. An attempt has also been made to describe the role of institutional arrangements as well as various policy and management "levers" which are used to bring about change. The case studies and discussion presented in this paper draw upon a more comprehensive report (presented in the Annex) which provides detailed case studies of various initiatives and locates them within the broader institutional context of each country's health system.

Tentative conclusions include: the evidence of success from some initiatives in measuring and improving quality of health services, such as Sweden's National Quality Registers; the continuing need for self-regulation by health professionals and the case for financial and regulatory support to improve benefits from it; as well as increasing demand for more openness and accountability in health care provision; and the desirability of better evaluation of major health policy reforms, such as the setting up of internal markets.

## RÉSUMÉ

Les pays de l'OCDE sont de plus en plus soucieux d'améliorer les performances de leur système de santé. De nombreux pays prennent actuellement des initiatives pour que la mesure des performances puisse orienter et éclairer leurs efforts d'amélioration. De fait, la mesure des performances et l'amélioration des systèmes sont de plus en plus liées, ainsi qu'en témoignent des expressions comme médecine et/ou politique fondée sur des données objectives.

Le présent document résume les résultats de recherches portant sur des initiatives récentes visant à mieux mesurer et à améliorer les performances de système de santé de quatre pays de l'OCDE: la France, la Nouvelle-Zélande, les Pays-Bas, et la Suède. Il met en lumière un certain nombre d'études de cas retenues pour illustrer les initiatives qui ont été prises pour améliorer les performances en accordant une plus ou moins grande attention aux questions de mesure. Il tente également de mettre en lumière le rôle du contexte institutionnel, et des "outils" de la gestion et des politiques utilisés pour apporter du changement. Les études de cas et le débat présentés dans ce papier s'appuient sur un rapport plus complet (présenté en annexe), qui décrit en détail ces initiatives et les situe dans le contexte institutionnel plus global du système de santé propre à chaque pays.

On peut dégager un certain nombre de conclusions en première analyse : réussite apparente de certaines initiatives dans la mesure et l'amélioration de la qualité des services de soins, comme les registres nationaux de qualité en Suède ; besoin continu d'une autorégulation de la part des professionnels de santé; nécessité de soutenir financièrement l'autorégulation, ainsi que les efforts allant dans le sens d'une plus grande transparence pour en accroître les avantages; et l'attrait d'une meilleure évaluation des principales réformes des politiques de santé, telles que la mise en place de marchés internes.

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## INTRODUCTION

1. Improving the performance of the health care system is a major preoccupation in all OECD countries, reflecting common pressures for cost containment on the one hand and rising consumer expectations on the other. This has led to a number of recent initiatives both to measure and to improve performance against quality, efficiency and equity goals. Indeed, measurement and improvement of performance are increasingly linked as is indicated by desire to built 'evidence based policy'. Several OECD countries have been working on improving the accountability of their health systems through better performance measurement.

2. Supporting the evidence base by measuring what the health system is achieving across a range of indicators is vital. Equally important, if action is to be taken to improve performance, is the need to understand the roles and motivation of different actors and available instruments in each health system.

3. This paper aims to identify some examples of initiatives taken in Member countries in their efforts to measure and improve performance. "Performance" is defined as the extent to which the health system is meeting a set of key objectives. The key objectives for the health system are suggested as being: improving health outcomes and responsiveness to consumers, economic efficiency and equity of health (or access to care). In this context, an initiative/experience is considered to be successful if we can establish that it has led to an effective improvement in any of these objectives.

4. The success or failure of any initiative to improve health performance will depend on the political and institutional context in which it is placed. Hence it is essential to understand the role of institutional and financing arrangements in a given health system as well as the way primary and secondary care are regulated. It is also desirable to understand how various policy and management "levers" are used to bring about change. The country reports annexed to this paper provide a systematic description of how the "performance measurement and improvement cycle" works. This requires identifying institutions and mechanisms used in this process which runs from developing and measuring performance indicators to acting on the results by revising policies and by changing incentives and behaviour.

5. This paper presents a summary of the main findings of the case studies of different performance measurement and improvement initiatives in four OECD countries: France, the Netherlands, New Zealand and Sweden. It builds on previous OECD work describing performance measurement activities in four countries (Hurst and Jee-Hughes, 2001). A more systematic approach is adopted to the country reviews annexed to this paper, which among other things review the use of certain policy "levers" such as regulation and self-regulation, guidelines and financial incentives.

6. The analysis presented here is tentative. It should be viewed as setting out some further hypotheses about what works and why, which would need to be tested in a wider spectrum of countries before being seen as providing firm solutions for similar problems in different countries.

7. The first part of the paper identifies some of the key areas where countries are seeking to improve the performance of the health care system. This is followed in the second section by a summary of the main results from some of the case study material that has been collected (see Annexe, for the case studies in full). The third part of the paper identifies main approaches and summaries the institutional background for measuring and improving performance in the four countries under review. The final section draws some conclusions from these.



## I. WHAT ARE THE KEY ISSUES CONCERNING POLICIES TO IMPROVE THE PERFORMANCE OF HEALTH CARE SYSTEMS?

8. OECD countries face similar problems in assuring and improving the performance of their system. Some of the main topics that are increasingly being raised on the health policy agenda in most countries include the following:

- *Health status.* Improving health status and outcomes for the entire population;
- *Raising clinical effectiveness.* Ensuring that clinical decisions are based on the best current practice (avoiding over-use and under-use);
- *Improving safety or Reducing medical errors.* Developing health care organizations that are capable of detecting medical errors or adverse events to patients, and which are then able to effectively act on them to avoid future occurrences.
- *Raising responsiveness of the system.* Providing timely services (reducing wasteful delays) which are patient-centered and respectful of individuals' preferences, needs, and values;
- *Improving efficiency/containing costs.* Providing the right incentives to providers, funders and consumers to get better value for money; and,
- *Equity.* Ensuring that the same quality of care is provided to all, regardless of race, gender, geographic location, or ability to pay, and reducing the gaps in health outcomes across different regions and socio-economic or ethnic groups;

9. It is convenient to think of steps that can be taken to improve performance in the form of a performance measurement and improvement 'cycle'. If a health system, or part of it, is suspected of inadequate performance against the key objectives set out above, it is desirable to obtain measures of comparative performance to establish the extent of the shortcomings. It is also desirable to establish the likely causes, the potential levers for change and the prospective costs and benefits of interventions and reforms. If the case for change has been established, it will be necessary to take appropriate actions to change the incentives facing the consumers, managers and providers in the system, or to alter their behavior in other ways. After the changes have been made, it is desirable to monitor and evaluate their effects to establish whether the expectations embodied in the case for change were well founded or not. Following the steps of such a cycle would help to build 'evidence-based policy'.

10. Of course, it is frequently the case that actions are taken in health systems which skip some of these stages. For example, many health care reforms are necessarily based more on political convictions, or political judgements rather than on prior performance measurement and prospective policy analysis. So long as the evidence base is weak, it is inevitable that the judgmental content of policy making will be strong.

11. An attempt has been made to identify, below, examples in four countries of the implementation of policies to improve health system performance both in the presence of, and in the absence of, performance measurement.

## II. RESULTS: SUMMARY OF FOUR COUNTRY EXPERIENCES

12. In response to the common challenges, a large and diverse range of initiatives has been taken by OECD countries over recent years to improve health performance and its measurement. It may be possible to learn both from past actions and from actions that others are taking. Therefore, this section summarises the material from case studies of some specific initiatives that have been taken in four countries. It aims to draw out some of the possible lessons that may be relevant for other OECD countries that are seeking to improve the performance of their health care systems.

### a. Learning from French experience of guidelines

#### *Background*

13. The French health system is largely based on a national social insurance system that guarantees universal availability of health care. A strong central government administers the provision and financing of health care as well as the quality and cost of services. Health care provision is a public/private mix, with ambulatory care mainly private and a dominant public sector for hospital care.

14. Around two third of doctors work in ambulatory care as private practitioners and one third as salaried doctors in hospitals. Ambulatory care is organised around five principles defined by law: confidentiality of medical information; freedom of prescription and practice for physicians; free choice of the doctor by patient; and office-based fee-for-service practice. There is no control of access to secondary and specialist care. Patients have free access to any physician or any institution, either public or private with no limit to the number of doctors seen or the frequency of visits. Doctors are free to choose their place of practice as well as the procedures and drugs to prescribe.

15. At the same time, increasing health care expenditure has been a major challenge for the French health administration over the past two decades. While the reforms introduced in the 1990s appear to have been successful in capping hospital expenditures, there has been a continued rise in expenditure on drugs prescribed mainly in the ambulatory sector. The cost of pharmaceuticals went up from 15% of total health expenditure in 1980 to 20% in 1990 and to 22% in 1999. A study by the major insurance fund (CNAMTS) at the beginning of 1990s suggested that almost 20% of the prescribed drugs were unnecessary or had insufficient medical benefit (Beraud, 1992).

#### *An attempt to introduce mandatory clinical guidelines*

16. Regulatory practice guidelines, or *Références médicales opposables* (RMOs), were introduced in France in 1993 by law with three initial objectives: to contribute to the appropriate use of available resources for public health; to avoid dangerous medical practices; and most importantly, to control the cost of ambulatory prescriptions. RMOs are clearly stated, short, prescriptive recommendations always defining unnecessary or inappropriate care and prescriptions. The social security administration and unions representing doctors working outside the hospitals system signed an agreement stating that physicians who do not respect to RMOs can be fined. At the beginning of 1998, 26682 physicians (24% of the physicians working in private practice) had been inspected by the national health insurance fund (CNAMTS). Of these, 483 were considered for sanction, and 121 were fined (0.1%).

17. Evaluations of the impact of RMOs suggest that while the early RMOs (ones introduced in 1994 and 1995) had a significant impact on doctors prescribing habits and on associated pharmaceutical expenditures, this initial success appeared to fade with time. A recent survey of French physicians suggests that French generalists were unable to identify the topics of RMOs (Durieux *et al.*, 2000). Moreover, in 1999 the state council decided that the method of calculation of fines against physicians was not equitable. Therefore, there is no longer any legitimate sanction available for enforcing RMOs. While RMOs are still in circulation, the health insurance fund no longer carries out inspections to ensure compliance.

18. Overall, in the French context, the introduction of RMOs to contain cost appears to have created confusion among physicians about the role of clinical guidelines to improve the quality of care (Durieux, 2000a). The surveys showed that majority of the physicians were against the guidelines as they thought that the only objective was to reduce cost. The main principle behind the guidelines, that is achieving a reduction in costs while maintaining the same or better level of quality, had not been promoted well enough to get the support of the medical profession and the public. Moreover the loss of credibility in the financial sanctions undermined the impact of the guidelines.

19. Moreover, in a system where doctors are paid by fee-for-service and patients have freedom of choice, doctors are at financial risk if they refuse to prescribe against a patient's will. They do not have any economic incentive to minimise prescriptions if patients' expectations are different. Clearly, in a free-choice environment, physicians are under pressure from their patients, and changing the behaviour of patients *via* information should be part of any policy aiming to change the behaviour of physicians.

20. The French experience tends to suggest that it is difficult to persuade physicians to improve their practice by imposing a mandatory practice at a national level, at least in a fee-for-service environment. A sustained impact on physicians' behaviour depends on trust and legitimacy as well as quality of control. Other measures such as education and organisational changes aimed to improve clinical practice appear to be essential, as well as the close co-operation and involvement of doctors and the organisations representing them. Clinical "ownership" of guidelines and regulation may be a necessary condition for success.

## **b. Learning from the Dutch experience of self-regulation and benchmarking**

### *Background*

21. The Dutch health care system is characterised by a public and private insurance mix with almost universal coverage, and a well-defined distinction between providers and purchasers. The government regulates the access to health care and health insurance, the entitlements of the insured and the tariffs, fees and budgets of health care providers.

22. At the same time, health care is provided almost entirely by private institutions and by private or contracted health professionals. In the Netherlands, health care providers have traditionally borne the primary responsibility for controlling and improving the quality of the services they provide. They are directly responsible for developing quality control systems with explicit norms and procedures and for the process of certification. However, the government plays a quite active and delicate role in supporting self-regulatory activities.

*i) Government support for self-regulation*

23. The Dutch Institute for Health care Improvement (CBO) was established with funding from the Dutch government in 1979 to support the organisation of peer review activities in hospitals. Over time the CBO's role has expanded to provide support for all type of quality improvement activities in hospitals. The classic peer review approach has been modified towards a Quality Improvement (QI) approach and projects based on Total Quality Management theory where the evaluation covers the system-wide functioning of the hospital.

24. In 1991, as a result of a new regulation requiring greater accountability by providers for quality, external "visitation" programmes in hospitals were developed. In 1995, the Dutch Medical Association developed a structured "visitation" programme with formal questionnaires and interviews. Other health care professionals in the Netherlands have developed their own visitation programme taking this as a model. Today visitation is a widely accepted quality tool among specialists and other allied health professionals, nurses and dentists. The CBO supports actively the development of programmes and offers training, coaching, evaluation and supervision. Otherwise, visitation is a program directed and controlled entirely by physicians. Physicians set the standards, conduct the survey, formulate the recommendations and decide on the corrective actions to be taken.

25. The CBO takes part in the visitation as an observer. The visitation does not focus on the performance of an individual doctor, instead visitors evaluate the conditions under which clinical practice takes place, examining medical record keeping, facility management, interdisciplinary collaboration (especially with GPs), and treatment outcomes. However, despite the growing emphasis on outcomes and the intention to introduce some measures of performance, registration of specific outcome measures is rare. Every visitation results in recommendations for improvement. There is no sanction mechanism and confidential reports are provided only to the physician surveyed. However most of the physicians discuss the visitation reports with their hospital management (Klazinga, 1998). Participation in visitation is one of the requirements for re-registration of individual specialists.

26. In parallel with the visitation program, the CBO promotes two major projects to improve the quality of care in hospitals: Breakthrough and Reach-out. The Breakthrough program aims to identify problems and improve the quality of care at a departmental level across a number of institutions simultaneously. A quarter of the hospitals (40 out of 120) have been participating in a breakthrough project mainly concerning emergency rooms and intensive care. The project is financed by the Dutch Healthcare Insurance Advisory Board who also sets up a list of topics from which hospitals can select their own targets. The CBO provides hospitals with a quality improvement model (QIM) inspired by the model used in industry, which requires them to locate the problem, establish precise goals, define measures and introduce specific action plans for change. It also collects examples of best practices and actively supports the hospitals in their process of goal setting. Otherwise, hospital departments are free to decide what will be the problem to be addressed, how to measure it and what will be their action plans. A strong communication and collaboration network between participating hospitals has been created as an important part of the project.

27. The Reach-out project on the other hand aims to introduce total quality management (TQM) systems in individual hospitals. The two important principles of Reach-out are improving health care quality by improving the "care process", and continuous improvement through leadership and better management. Introducing a set of performance indicators and balance score cards are also stated as a major objective, but until now no progress has been made. In the last two years, out of the seven participating hospitals, two have established a TQM system. However, the information reported by hospitals is not standardised, each hospital is free to decide which aspects of the process are to be measured and on which measures to report.

28. CBO provides regular information to health professionals through a range of reports and articles on best practices, strategies for developing guidelines and indicators, new methods and systems for quality improvement etc. The CBO seems to represent a successful example of government support for self-regulation, which leads to much co-ordinated quality-improvement activity. But there is little if any public reporting of performance data or results from these activities. Accountability is required for carrying out quality-improvement activities, but not for the results. The outcomes have to be taken as successful mainly on trust.

*ii) Self regulation to control the cost and quality of pharmaceutical consumption*

29. Parallel to a strict price control policy, policies aiming to influence the prescription behaviour of physicians have been an important part of Dutch pharmaceutical policy. Since the end of 1980s, self-regulatory cycles (FTO groups) bringing together pharmacists and general practitioners have been in place to provide “peer advice” concerning prescriptions. The originally drug-oriented focus (cost-effectiveness of recent drugs, and the possibilities of substituting generic drugs for brand names) in the FTO-groups is losing ground for a more disease-oriented focus in which national guidelines are used. These mixed peer meetings are initiated and organised by the pharmacists who select the topics and prepare the programs based on local/actual problems (such as variations in prescription for diabetics). In this way, pharmacists hope to improve their contact with GPs and their prescription behaviour in order to improve the information and pharmaceutical control of patients. Re-defining the role of pharmacists in the health care system as care providers with more responsibility for the quality and cost of pharmaceuticals, and for the efficient use of drugs has been one of the major elements of new government policy in this area.

30. The prescription practices of Dutch hospitals have also been of concern. In hospitals, there is no budget mechanism controlling overall expenditure for prescribed drugs in outpatient clinics (in-patient drugs are counted in global budgets), which counted for about 15% of the volume of extramural use of pharmaceutical products and represented 30% of the extramural pharmaceutical expenditures in 2000. Prescriptions for new and expensive drugs have been identified as a major cause of the rising cost of pharmaceuticals. In this context, the Ministry of Health took the initiative in 1999 to encourage a system of regional consultation groups (FTTO) for outpatient clinics.

31. The Ministry offered funding through the regional health insurance funds to outpatient departments in order to experiment with different quality improvement programs for pharmaceutical prescriptions. The aim of these quality improvement programs is to improve the co-operation between GPs, pharmacists, specialists and clinical pharmacists in FTTO-groups and to contribute to more efficient prescription behaviour. The local groups were free to choose their own targets and develop their own methodology. The only condition imposed by the Ministry for financing a program was the presentation of measurable outcomes. After a year of experience with this initiative, the initial results suggest that it has been successful, not only in terms of reducing unnecessary consumption but also in promoting the quality of prescriptions through the development of national guidelines.

*iii) Benchmarking in home care: Yes, it is possible*

32. Home care in the Netherlands is part of the basic long-term health insurance scheme (AWBZ), and available to all who are deemed in “need”. Public expenditure for home care services represents about 0.4% of GDP (3.9 billion Dfl). Home care services are provided by some 140 private institutions, 90% of which are not-for-profit. Formerly, there was no reference system to assess the efficiency and/or quality of the services provided. There was also no regular quality control for home care services.

33. In order to improve the efficiency and quality of home care services, the Government launched a project to develop a benchmarking system for home care services. Benchmarking is seen as a tool for comparison of practices and outcomes across organisations with an aim to improve performance. In 1998, the Ministry of Health contracted a private firm to analyse sector-wide information on cost and quality and to develop a model to evaluate the performance of individual service providers. Participation was voluntary, but 95% of the institutions in the market participated in the program. Data was collected on the number and type of procedures and on costs and quality. While the database is actually managed by the private firm, ownership rests with the Ministry of Health. The private firm has also the obligation to provide detailed sector-wide analysis to the Ministry of Health as well as individual reports for each provider organisation comparing their situation with sector averages.

34. In order to evaluate the performance of home care institutions, a model was developed taking into account efficiency and quality of services. To calculate the efficiency of individual institutions, all the nursing tasks provided by home care institutions were divided into eight categories based on the technical difficulty involved. The costs for each task were measured and using data-envelope analysis an “efficiency frontier” was constructed for the provision of home care services. To measure the quality of care provided, a patient satisfaction survey was conducted of 50 000 patients receiving home care. The quality of care was evaluated based on three criteria: the continuity/reliability of service delivery, flexibility of service provision and the speed of the delivery (i.e. time taken to accomplish each task).

35. Bringing together the results from cost and quality surveys, an overall matrix was calculated where all the institutions who had participated being given a note ranging from AA (best quality/efficiency) to CC (lowest quality/efficiency). Moreover, based on these results, “reference cost” levels have been calculated for eight levels of care (based on the level of specification needed in service provision) and controlling for quality.

36. A report analysing the overall results for the home care industry, as well as presenting individual results for each institution and the underlying areas for improvement, was produced in 1999. Overall, this benchmarking exercise helped to improve transparency in the sector and encouraged providers to compete for cost and quality. A second survey is underway in order to assess the progress that has been made in the sector in terms of efficiency and quality.

37. Example for home care is encouraging as it shows that measurement and development of references are effective tools for improving performance. Even in the areas thought to be “difficult” the progress is promising.

### **c. Learning from the Swedish experience of quality measurement, regulation and market reforms**

#### *Background*

38. The Swedish health system is predominantly funded by local taxes collected by counties. There is a universal public health insurance scheme covering medical care costs for the entire population. County Councils and local authorities are responsible for the finance and provision of health services. Since the 1994 family doctor reforms, patients are free to choose their health centre, hospital and/or family doctor anywhere in the country.

*i) Where information makes a difference: National Quality Registers*

39. “Quality registries” in Sweden were originally started up by the medical profession to support learning about effectiveness and to improve the quality of clinical work. Participation is voluntary although strong peer pressure exists. The few initial local registries started in 1970s have since developed into over fifty national registers today as a response to the increasing demand for improvements in the monitoring, evaluation and quality of care. The main objectives of these registries are: describing variations in the utilisation of different treatment methods; identifying variations in outcomes as measured by re-admissions and complications; and detecting systematic errors and deficiencies in surgical implants.

40. Each unit in a hospital (or provider who performs a specific intervention) is covered by a register covering a standard set of information for each patient specifying the diagnosis, treatment and post-treatment outcomes. In recent years, there has been an increasing emphasis on using the registries for external performance assessment with improved and standardised data dissemination. Since 1990, the NBHW (National Board of Health and Welfare) has played an active role in improving the coverage and standardising the information by providing funding to registers. Registers have to submit an annual report containing basic sets of aggregate data such as average length of stay, data and trends on interventions, technology and outcomes to get funding. But the ownership of the registers stays with the medical profession who also has the control over non-aggregated data where the outcome of treatment could be linked to individual doctors or hospitals.

41. Quality registers enable to accumulate large quantities of nation-wide data every year. In general, the data can be used to analyse variations in care utilisation and technology dissemination in different regions and institutions. The dissemination of new medical findings is also much faster and cheaper with quality registers. Registers that have been active long enough have generated large number of scientific publications and changed medical practice yielding documented improvements in care quality, avoided costs and most importantly better outcomes for patients -- lower mortality, fewer complications.

*ii) A regulatory attempt to raise responsiveness: Maximum waiting time guarantee*

42. In Sweden, as in many other countries that control health care supply, excessive waiting times for certain procedures were considered as an important quality problem in the 1980s. In 1989, waiting times were reported to be more than 12 months for hip replacements, coronary by passes and cataracts.

43. By the end of 1991, the Ministry of Health and Welfare and the Federation of County Councils reached an agreement to offer a guarantee of medical care within three months for 12 procedures for which there were extensive problems of waiting times. The agreement guaranteed that patients who could not get the asked for services in their own hospital within three months would be offered the same care at another public or private hospital at the expense of the home hospital. Around 500 million SEK (about USD 70 million) were allocated for the guarantee, and counties that accepted the agreement received a per capita subsidy. All County Councils agreed to offer the guarantee, and the guarantee remained in force until end of 1996 by yearly agreements, but no additional funding was provided.

44. Waiting times fell dramatically after the agreement. Although, waiting times started to increase slightly after the third year, the progress made compared to the year before the agreement was introduced is still significant. For example, only 25% of cataract patients were operated within 3 months in 1991, compared with 70% in 1992 and 60% in 1995 (Hanning and Lundsrom, 1998). The agreement was considered to be a success as it helped to reduce backlogs and created a general awareness amongst providers concerning the need to lower waiting times. The initial success seems to be due to increased production and improved management of waiting lists. It is also suggested that the guarantee has

contributed to improvement of care quality and patients' choice in general by monitoring and widely disseminating the information on the departmental waiting times and waiting lists (Hanning and Spangberg, 2000).

45. While this focused intervention to reduce waiting times has been considered as effective in the short term, its success on the long term is less clear. Waiting times started to go up again after 1994. Moreover, giving priority to just 12 specific health conditions raised questions on the fairness and suitability of these areas as "priority" areas in the long term. It became difficult to continue the guarantee in its original form after 1996. Since 1997, the agreement relates to the accessibility of patients in primary care (GP visits) and outpatient visits to specialists in secondary care. The new law also provides general guidelines for which types of medical conditions should be given priority in health care. It appears that the capacity of waiting time guarantees in providing long-term solutions to deal with problems of excess-demand is limited.

*iii) Internal markets in the working: The Stockholm model*

46. The county council of Stockholm has the responsibility for providing health care services for its population of 1.9 million inhabitants, as well as for financing them mainly through local taxes. In January 1992, the council introduced a managed-market system. The main goals of the reforms were presented as achieving more efficient use of the County's resources and providing better choice of services for patients.

47. The first element of the reforms was to introduce a purchaser-provider split in the delivery of health care. The purchasing function was decentralised to 9 sub-county boards composed of elected local politicians, which act as purchasers of health care for the local population. The county council distributed resources to these boards based on a weighted capitation formula taking into account the demographic and social structure of the population. The one private and nine public hospitals were required to compete to get contracts for their services. Ambulatory services provided by hospitals are paid by a fee-for-service basis. In-patient services were reimbursed by Diagnostic-Related-Group (DRG) points based on a discharge diagnosis. DRG prices are set prospectively by the county according to a fixed-price schedule with an upper limit. Reimbursement rates decrease if activity exceeds target levels.

48. These new arrangements aimed to create competition between hospitals on the basis of accessibility and quality. The fact that there are multiple purchasers also implied that purchasing boards would compete with each other to obtain better value for money. However, there were some restrictions for providers. For example, a county hospital was not allowed to close down a department that is not profitable without the consent of the county board.

49. It is not clear how successful these reforms have been. First, evaluations of the impact of these reforms on the quality of care in hospitals suggested that both the providers and the purchasers have inadequate monitoring of performance in terms of the care quality and responsiveness. As the county council (or the purchasers) did not specify any requirements on what type of data and indicators should be reported, it was not possible to compare the data on quality of care between different institutions, or in one institution over time. There are some indications that the quality of care may have been a potential problem, as expressed by doctor surveys and high re-operation rates (Annex figure 1). Nevertheless, in terms of the impact on health (mortality rates, re-admission rates), there were no indications of inferior care or treatment.

50. It is known that the average length of stay (ALOS) in Stockholm is one day shorter than in the rest of the country, which may indicate relatively greater efficiency. However, it should be noted that the ALOS has always been lower in Stockholm even before the reforms. The available data suggests that



activity rates (measured by admissions, bed days and consultations per 1000 population) in the Stockholm county are not any higher than the rest of the country. At the same time, the net cost of health care per person appears to be higher in Stockholm compared with the Swedish average (see Annex figures 2 to 6).

51. A deepening recession in Sweden during this period of reform forced policy makers to become more concerned about the growing cost of health care. In an environment where cost containment became the number one priority, purchasers found themselves more preoccupied with ensuring that hospitals stayed within their budgets than with contracting for changes in the nature and/or quality of care (Harrison and Calltorp, 2000). Therefore, the council gradually decided to exert more direct control over the situation. In 1996, a “hospital board” was set up to oversee the provision of services in all hospitals and to report to a central “political board”, which now co-ordinates the purchasing of hospital care. The central board now has to consider the long-term service need in the county in purchasing decisions. In 1999, the number of purchasers was reduced to six, with primary care reorganised into four production units. These changes represent a significant shift from the market roles of purchasers and providers, putting more emphasis on co-operation and priority setting and moving away from competition. The NBHW suggests that purchasers need to monitor more closely the health care process to verify if they meet identified needs by setting targets, proposing indicators and designing strategies to deal with deviations from targets.

52. In terms of the overall success of the Stockholm model, it is important to examine the coherence between the instruments introduced and the current objectives of the system. The main features of the Stockholm model, such as a fee-for-service payment in hospitals and capitation, were designed to improve productivity and efficiency in a situation where waiting lists were the number one priority in the country. However, with changing economic circumstances, cost containment became an important preoccupation in Stockholm as in the rest of the country. Controlling cost while preserving equal access to care and improving quality being the objectives, different tools such as priority setting, planning and budget control appear to be more relevant to the current policy agenda. Without a clear assessment of the short-term and long-term targets of the system, it is difficult to make an appraisal of how successful the specific instruments used to achieve these targets have been.

#### **d. Learning from the New Zealand experience of internal market reform, performance reporting and clinical governance**

##### *Background*

53. In New Zealand, health care is mainly publicly funded from general taxation. Direct and free provision of secondary care through public hospitals is coupled with a system of subsidies for private primary care and for pharmaceuticals. About 70% of pharmaceutical expenditure and 40% of primary care is subsidised by public funds. New Zealand’s health care system underwent major reforms in 1993, 1996 and 1999. In 1993, the provision and purchasing of secondary care services were split and financing for all health services was combined nationally into a single purchasing budget managed by four Regional Health Authorities. In 1996 the regional authorities were replaced by a single purchaser, the Health Funding Authority and in 1999, the new Labour government abolished the purchaser/provider split altogether.

##### *i) Internal market reforms in New Zealand, 1993-1999*

54. Prior to 1993, hospital services in New Zealand were both funded and provided by 14 elected area health boards. The pro-market government elected in 1992 was dissatisfied with the performance of these arrangements because of a range of problems including budget deficits, rising waiting lists and falling public confidence. It replaced them with an internal market for health services. Purchasing was put

in the hands of four ministerially appointed, regional health authorities. Provision of hospital services was placed in the hands of Crown health enterprises which were required to earn commercial rates of return and were encouraged to compete. However, it has been reported that little competition between hospitals took place, purchasers were often dominated by providers, transaction costs were high and many Crown enterprises continued to generate deficits and had to be supported financially. In 1996 a new coalition government replaced competition by co-operation and the for-profit status of hospitals was removed. The four regional health authorities were replaced by a single Health Funding Authority. More recently, in 1999, a new Labour government abolished purchaser/provider separation altogether and re-introduced elected district health boards, 21 in number, to act both as funders and providers of hospital care. In many respects, structural reform of the delivery of hospital services in New Zealand has come full circle in less than a decade.

55. This seems to represent an example of the reform process where the measures taken were driven more by political conviction or judgement than by performance measurement and evaluation. Although there were initially high expectations for the internal market reforms, clear performance objectives were not set. In some respects, observable performance improved after the 1993 reforms -- for example, activity rates continued to rise and length of stay fell. However, rather as in the similar reforms in the UK, concerns were expressed that quality was being sacrificed at the expense of quantity of care. In other respects -- such as the continuation of deficits by some Crown health enterprises, it was clear that the results were disappointing. However, it is difficult to draw any strong conclusion from these reforms and re-reforms, partly because they were not allowed to operate for sufficient time to judge their long-term effects and partly because little formal evaluation seems to have been carried out of their impact.

*ii) Managing the performance of the Health Funding Authority*

56. The Ministry of Health entered into an annual funding agreement with the Health Funding Authority (HFA) throughout the period during which the HFA was responsible for purchasing health services in New Zealand. The funding agreement was the key accountability document against which the HFA would be monitored. It set out key objectives and the measures and reporting requirements to monitor performance against these objectives, and specified the funds that would be made available to carry them out. The agreement also outlined baseline services that the HFA would be required to ensure are available including terms of access and safety standards.

57. While the objectives were related to priority outcomes, most of the performance measures for the HFA specified processes and outputs that might contribute to these outcomes. For example, in 1999/2000, 12 objectives were set out including: 'Public certainty about access, quality and security of services'; 'timely, equitable and nationally consistent access to elective services' and 'decreased long-standing disparities in health status'. Performance measures relevant to these objectives included "improving service coverage information for public", "provision of information to providers", "credible level of access to surgical services", "purchase of services for Maori health priority areas".

58. A quarterly performance report was published. For example, the HFA performance report in the first quarter of 2000/2001 recorded that 30 performance targets had been achieved, and another 11 had been substantially achieved. Targets stated as "substantially" achieved included a significant reduction in the number of women at risk for cancer of the cervix waiting longer than 6 months for colposcopy, contracting additional mental health services to better address mental health needs and developing a strategy for support services for people with disabilities. Three performance measures were not achieved, including a target to reduce growth in expenditure on community referred laboratory services, and targets to reduce the incidence and impact of diabetes in New Zealand.

59. Most of the performance targets set for the HFA appear to have been related to process rather than outputs. However, data on all major areas such as waiting times for elective surgery, health status of different socio-economic and ethnic groups and service provision have been collected. Moreover, the Performance Management Unit at the Ministry of Health has prepared regular reports on risk-adjusted mortality, readmission and complication rates for hospitals in New Zealand. These are provided to monitor progress, raise questions and engender discussion. Since 2000, balance score cards pooling together information on cost, quality and outcomes, are used to compare hospital performance, and quarterly reports are available to the public.

60. Overall, this process of formalised contracting arrangements between the funder/government and a central purchaser appears to have improved accountability and transparency of care provision and purchasing in New Zealand through better data and measures of performance. Holding purchasers responsible for the delivery of outputs and process with close policy guidelines in terms of health targets or priority areas has permitted the funds to be allocated to areas long ignored such as Maori health, health of the disabled or dental care. However, it is less certain what has been the impact of these arrangements on health outcomes. In particular, no evaluation appear to have been done of the performance of the HFA compared with the preceding period when there were four purchasing authorities and providers competed with each other.

*iii) A model of self-regulated clinical governance: from Independent Practice Associations to Primary Health Care Organisations*

61. Primary care in New Zealand has been traditionally provided by general practitioners (GP) on a fee-for-service basis. Public subsidies are provided for low income and high-user groups as well as child and maternity care. The reforms introduced in 1993 had a significant but largely unplanned impact on the organisation and delivery of primary care.

62. As a reaction to the perceived threats posed by reforms, and to be in a stronger negotiating position, many GPs joined Independent Practitioner Associations (IPA) owned and controlled by GPs themselves. While participation was voluntary, the majority of practitioners joined in (80% by the end of 1997). The majority of practice associations claimed to be non-profit professional bodies with goals of “achieving better health outcomes for their patients” and “making better use of public money”(Malcolm *et al.* 2000). IPAs started to contract with Health Funding Authorities to hold budgets for laboratory tests and pharmaceuticals prescribed by GPs. However, they have continued to receive fees for their general medical services.

63. The incentive to budget hold for IPAs has been the opportunity to improve clinical decision-making and achieve savings to develop new services. Budgets were based on historical costs adjusted for projected growth. Associations were able to keep varying proportion of the savings from their budgets. As non-profit organisations, IPAs have used the savings to cover administrative costs, information systems, and the development and provision of new services and educational programs. On the other hand IPAs refused to bear the full financing risk as they did not have the capital base to cover over-expenditure.

64. IPAs have provided leadership in several areas which contributed to improve collective professional accountability in general practice, or what is called “clinical governance” (Bloom, 2000). They increased the awareness of quality of care issues with improved information systems. Nearly all IPA practices have established computerised registers including patient age-sex characteristics. These computerised registers allowed IPAs to provide routine feedback to GPs on variation in per capita expenditure and effects of budget holding strategies. One important contribution of practice registers has been the extension of the unique national patient number, National Health Index (NHI) initiated in the

hospital sector, to primary care. NHI is the key identifying data which enables patient data (and their characteristics) to be linked with utilisation (treatments, prescriptions, tests) and expenditure of primary and secondary services.

65. Many IPA practices have been successful in achieving some savings within their budgets. While agreeing budgets with funding authorities was not always easy, budget holding allowed IPAs to develop some new activities to improve the quality of general practice such as guideline development, personal feedback to GPs on prescribing behaviour and laboratory use, and peer group reviews and educational programs for better prescription. Outcome-oriented performance measurement and multidisciplinary practice teams were strongly supported. Some practices used the savings to improve patient services such as improved care for children, health promotion programs, immunisation and education.

66. The improvement in health information system helped to identify wide variations in clinical behaviour between different IPA practices, in terms of volumes of visits per capita and prescribed drugs and tests. Moreover, it appeared that primary care utilisation of poorer populations continued to be much lower than “better-off” populations. The adequacy of IPAs to address issues of equity and sector-wide effectiveness have been questioned.

67. With an emphasis on prevention, the current Labour government has developed a comprehensive primary health care strategy where services are organised around the needs of a defined group of people. Within this approach Primary Health Organisations (PHO) will be the structures to achieve health goals locally. People are encouraged to join PHO by enrolling with a provider of a primary care. PHOs are not-for-profit bodies paid by District Health Boards for the provision of a set of primary health care services for those people enrolled. PHOs are expected to involve their communities and practitioners in the governing process. Membership to the PHO is voluntary for GPs. The implementation of this new model is expected to take several years.

68. General practice in New Zealand has been through a significant evolution with the rise of clinical leadership or clinical governance in the 1990s. The development of collective professional accountability had a strong influence on improving awareness of quality of care and resource management issues in primary care. While the savings from budget holding were seen as modest, delegating budgets to general practitioner organisations did change the resource use, even when the practices do not bear the full financial risks. More importantly, the success in collective actions to improve clinical decision making *via* better information systems, formulation of guidelines and education programs established a base on which further enhancements have been built.

### III. DISCUSSION

69. The different types of initiatives that were presented in the preceding sector cover a variety of the main instruments or policy levers that are open to governments to improve health performance. These include regulation and self-regulation; guidelines; performance targets and various financial incentives. Depending on the country and the public/private split of health care provision and expenditure, there will be more emphasis on one approach and less on the other. Clearly, these instruments are inter-dependent. For example, the introduction and enforcement of guidelines or targets may involve either regulation or self-regulation.

70. The discussion in the rest of this section uses the country initiatives reported in the preceding section, and the more general institutional context given in the detailed country reports (see annex reports), to highlight some of the strengths and weaknesses that are associated with each of these instruments.

#### **a. The role of regulation and external scrutiny for measuring and improving quality of care**

71. In all health systems, regulation plays an important role in determining the availability, accessibility, cost and, increasingly, the quality of services provided. The major values and objectives of each health system are often secured *via* regulation. For example, in all of the four countries studied here, equity of access to care is a major objective of the health system, and this is expressed clearly in a regulatory framework. In the Netherlands, despite the existence of a large private insurance market, adverse selection is prevented by careful regulation.

72. However, the major focus of this study has been on the use of regulation for ensuring and improving the quality of care. In this context, regulation has been used to serve quite different functions in each country. It can have an extensive control function by defining and checking on unacceptable medical practices, or it can encourage good practice by providing positive principles according to which the medical profession should operate. Regulation also plays an important role in facilitating the accountability of the system and protecting patient's rights.

73. Of the four countries under review, France is the most active in developing external control mechanisms, not only to check the quality of services provided but also (may be more) to assure efficiency of resource use. A number of tools have been employed, such as accreditation of hospitals, financial incentives and sanctions, and mandatory guidelines. Improving the health information base has also been an important part of performance improvement efforts. Both in the Netherlands and in Sweden, mechanisms such as external audit and accreditation have not gained much popularity, probably because the medical profession and health care providers have been active in developing their own quality management measures. In both countries regulation appears to be strong in providing principles and goals for the system rather than in sanctioning. The experience of New Zealand over the past decade, introducing separate purchasing of hospital services, required performance measurement to be external and uniform as far as hospitals were concerned. External monitoring is carried out by purchasers.

## **b. Self-regulation under the spotlight ...**

74. Self-regulation can be defined as the rules and boundaries dictated “from within” because they originate and are applied by the medical profession (Allsop and Mulchy, 1997). Because of the high degree of specialized knowledge and expertise involved in the field of health care, self-regulation has been traditionally seen as the right form of regulating medical practice. Pure self-regulation, which operates without any state control does not exist in any country; there has always been some basic rules set by the State that define the boundaries of self-regulation.

75. Over the past ten years, both governments and consumer groups in several countries have been increasingly challenging the medical profession’s right to monopoly in regulating and defining health care. Concerns have not only been raised about the medical profession’s capacity to regulate/control bad practice but also over cost containment and the ability of the profession to provide clinical care in a cost -- effective way. Increasingly managers, patients and policy makers demand transparency -- through the development and implementation of clinical guidelines -- as to the definition of what are the appropriate levels of care and standards of treatment.

76. Consequently, in many countries there is a visible pressure to make the rules of self-regulation more transparent with more formal procedures for quality controls. The Netherlands is one of the rare countries where self-regulation plays a vital role in improving and rationalising medical care through formal procedures such as visitation programs and clinical guidelines. Each professional group (specialists, general practitioners, nurses, physiotherapists, etc.) is a self-regulatory body developing its own quality control system with specific rules. The State has a facilitating role in pointing out some problem areas and/or proposing some tools for improving care but does not go any further.

77. On the other hand, in France the State has much more responsibility for assuring the quality and efficiency of care, both in primary and secondary care. Self-regulation continues to work in traditional ways but there is increasing questioning of the medical autonomy of the profession, especially in the ambulatory sector who are seen as lacking accountability. In Sweden, despite the existence of a regulatory base, the general emphasis is on consensus building and educating health care providers rather than a top-down interventionist approach. Sweden has a long tradition of consultation between the State and the medical profession. There are not many formal audit mechanisms as in the Netherlands, rather self-regulation puts the emphasis on research, education and development of medicine by collecting and disseminating information. In New Zealand, it has been suggested that the competitive environment that prevailed in 1990s, following a number of market-based reforms, undermined some of the traditional norms and values of the medical profession. Between 1993 and 1997, there has been a significant shift towards thinking of health professionals, particularly those working in hospitals, as being the same as other employees. It has been suggested that collaboration between health professionals, sharing innovations and information to improve clinical performance was somewhat declined as different objectives and agendas were set by managers appointed externally (Ashton, 2001; France *et al.* 2001). However, in the primary sector, under pressure from the public and the State authorities, the New Zealand medical profession has sought to introduce new rules and procedures to improve its accountability and capacity to improve practice.

## **c. No improvement without information.**

78. The capacity to collect meaningful and consistent information on outcomes -- in relation to the means employed and the goals that have been set -- is vital for improving the performance of any system. The availability or unavailability of information on specific areas may tell a lot about the strengths and weaknesses of a system. For example, without information on patients’ experience of the system *via*

satisfaction surveys or on their re-operation, re-admission rates it may not be possible to evaluate the quality of health care provided. While there has been an international mobilization for establishing appropriate performance indicators for health systems, and procedures for collecting data, system-wide information on the quality of care still remains rare.

79. While what is being measured, and how, is important in a health system, equally relevant is who is doing the measurement and who has access to the information. The public dissemination of performance information on individual providers is not an easy decision in any country. Physicians and hospitals are often skeptical, underlying difficulties of interpreting data and importance of confidentiality for medical work. Examples from the United States suggest that disclosure of some performance indicators might produce adverse side effects (Hurst & Jee, 2001). In Sweden the major source of performance data (quality registers) was initiated and controlled entirely by the medical profession. In recent years, however, there has been an increasing emphasis on using the registries for external performance assessment with improved and standardised data dissemination *via* government funding. Aggregate data on trends in interventions, technology and outcomes is regularly published, and dissemination of information on the performance of different sectors is encouraged. On the other hand, control over non-aggregated data where the outcome of treatment could be linked to individual doctors or hospitals is left to the medical profession. However, it is not rare to see that individual medical professional groups decide to present comparative data for all participating hospitals.

80. New Zealand has been active in developing a health information infrastructure. About 98% of the patients are in a National information system (National Health Index) which allows linking patients' characteristics with treatment and expenditure data. Clinical data in the primary sector that is designed to warn health care providers about possible risk factors (Medical Warning System) is only accessible by the medical profession who also has the responsibility for maintaining the content of the system. However, publishing regular data on hospital performance has become a routine exercise in the past decade. Hospital specific mortality, readmission and complication rates are easily accessible. Since 2000, balance score cards pooling together information on cost, quality and outcomes, are used to compare hospital performance, and quarterly reports are available to the public.

81. In France, data collection is the responsibility of a number of government institutions as part of the management and planning of the health system. The data is centralised, and, *a priori*, is not available to health-care providers nor to patients. It would appear that there is a general reluctance about comparing outcomes (or the performance) of different providers. In the Netherlands, while there is no legal obstacle for performance comparison, a consequence of the Dutch type self-regulated performance control system is that there is a lack of comparable data at the national or regional level for policy makers, financing bodies and patients. *A priori*, data is collected by the providers for their own use. Each institution decides on what to measure and how (which indicators) which often means that information on the quality of care cannot be used for comparison. Moreover, when the data is collected, for example, surgeons have developed a national data system on complication rates, it is only available to the profession. A notable exception both in the Netherlands and in France is the newly developing networks for measuring hospital infections.

#### **d. Clinical Guidelines are becoming increasingly popular tools**

82. Identifying effective and efficient health care practices and understanding how they can be applied is fundamental both for producing better health outcomes and for improving the performance of the health care system. Clinical guidelines are increasingly popular tools not only for health care providers who want to improve health-care quality, but also for the public authorities who want to make sure that resources are used effectively to provide appropriate care, and they are not wasted.

83. While in most countries the medical profession leads the development of clinical guidelines, increasingly governments are involved in setting standards and implementation. The medical profession in the Netherlands has been one of the pioneers in this area and they have a total control over both development and implementation strategies. On the other hand, both in Sweden and in France, independent state agencies have significant responsibility for guideline development. France is one of the rare countries, which tried to impose mandatory clinical guidelines for medical practice. In New Zealand, guidelines are developed by a range of professional groups including IPAs, specialist societies, professional colleges and hospitals. An independent national body, New Zealand guideline group has also an important role in training both professionals and consumers in guideline development and implementation. A lot of progress has been made as to development and implementation of guidelines for better prescribing, especially in the primary sector. But there is an ongoing discussion about whether there is really a need for developing specific guidelines for New Zealand, rather than sharing international knowledge and concentrating more on the dissemination of best practice.

84. In all countries, most attention has been paid to the development of the guidelines, rather than to implementation issues. Despite the existence of guidelines, significant differences in medical practice within countries, indicating inefficient or unnecessary actions, are often cited as a continuing problem. Direct involvement of medical profession in developing and implementing appropriate health care standards is likely to increase the possibility that the guidelines are effectively followed in practice, but further work is needed to define what are the most effective implementation strategies that countries are following.

#### **e. Targets can be useful but are not a panacea**

85. Setting goals, targets and priorities is a part of effective management and provides the basis for improving the accountability of resource use and for achieving better health outcomes. Ideally, targets can serve to highlight the principal objectives of policy and can work as an incentive to increase commitment to policy implementation. This study has paid only limited attention to target setting procedures and the use of specific targets in the health systems of the four countries under review. The various strategies for target setting and the consistency of targets with specific policy objectives have also not been explored. Nevertheless, the limited information collected from the countries under review tends to support some general points made by the earlier literature.

86. For example, it is suggested that targets work best when they provide an overall goal which is realistic and relates to effective actions<sup>1</sup>. Otherwise, targets set on the basis of inadequate data and unrealistic, short-term objectives can be counterproductive, creating unnecessary stress on those having to achieve them. The experiences of France and the Netherlands with financial targets appear to support this argument. Not only have these targets not been successful in containing cost, but they also created much controversy.

87. There is also the risk that a policy based on targets may end up focusing on outcomes that can be more easily quantified at the expense of other -- outcomes that are more difficult to measure. For example, in hospitals, production levels (DRG rates, etc.) can easily be targeted, but improvements in production efficiency may be at the expense of less measurable areas such as quality and responsiveness of care.

88. In most countries the process of target setting appears to have received little attention, although New Zealand is a notable exception with its evidence-based process of priority setting to improve health

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<sup>1</sup> Campbell H, Gibson A (1997), "Health targets in the NHS : lessons learned from experience with breast feeding targets in Scotland", *BMJ*, 314 ;1030.



outcomes of the population. Setting targets that are realistic and meaningful, and creating the right incentives for the different actors in the health system to meet these targets, continue to pose considerable challenges for policy.

#### **f. Financial instruments have had a mixed reception**

89. Creating “internal markets” to improve efficiency has been the focus of recent initiatives in several countries. But it appears that making them work in practice is more difficult than was originally expected.

90. *Separating providers from purchasers.* While there was a tendency in the 1990s towards separating the roles of providers of health care from those of purchasers, the picture that emerges from this small sample of OECD countries is rather mixed. Of the four countries, the Netherlands is the only system that has traditionally functioned with separate providers and purchasers both for primary and secondary care. The emphasis in the Netherlands in the past decades has been on improving the contractor role of purchasers (insurance funds) *via* competition in the insurance market to put pressure on providers. In France, while primary care services are provided by private providers on a competitive basis, hospital care mostly provided by public institutions owned and managed by the State.

91. In New Zealand, the purchaser-provider split was introduced in 1993, as part of a range of radical health reforms. Purchasing authorities were set up and hospitals restructured as public “enterprises”. The contracting process was to be competitive to allow private hospitals, or other potential providers, to compete with public “health enterprises”. Significant changes to the original design occurred through the implementation process and by 1999, these reforms were judged by the public and the new Labour government to have failed. The new government has turned back to an integrated public provision system with local decision making, abolishing the split between purchasers and providers. A more cautious approach to introducing competition in health markets has been followed in Sweden. While in the 1990s almost half of the Swedish counties decided to adopt a kind of purchaser-provider model, in most cases there was much less emphasis on competition between purchasers and providers. The example from Stockholm county where competition has been seen as a means of containing cost, increasing efficiency and responsiveness to patients suggests that in publicly funded systems achieving these objectives *via* competition is not straightforward. Both in the case of New Zealand and Sweden, the lack of proper evaluation of these arrangements in terms of quality and efficiency of services provided is striking. Performance measures by which these initiatives can be judged have never been spelled out.

92. *Payment methods for providers.* The impact of method of payment for health services on the efficiency and quality of services provided is an important question for health policy. Finding the right payment mechanisms that would provide the right incentives for doctors and hospitals to improve production efficiency while controlling sector-wide costs is a major issue in all countries.

93. In the hospital sector, the setting of a global budget appears to be a relatively effective tool for encouraging hospitals to contain costs. Increasingly, countries are trying different ways to formulate budgets to create incentives for producers to improve their production efficiency. In France, budgets based on historical costs are replaced with prospective budgets taking into account not only the quantity of services to be provided given the local population needs but also the activities that are undertaken to improve the care quality and safety. In the Netherlands, different payment methods have been successively introduced to control costs on one hand and to improve production efficiency on the other, particularly in the area of reducing waiting times for elective surgery. A budgeting system based on the cost of specific services provided by the hospital has been introduced gradually, but the need to also improve the efficiency of service provision is still the top priority for policy action. In Sweden, global budgets are still the main

method of payment in most counties. But in about half of the counties, the payment mechanism has been shifted from fixed annual budgets to negotiated contracts, with the separation of purchasing from the provision of care. In New Zealand, after a period of contracting based on production service outputs, with the re-integration of purchasing and provision, the emphasis has been put on funding health services to meet objectives, targets and standards that are set nationally. Local health boards will be responsible for the level, mix and quality of the services to be provided following national priorities for improving overall health outcomes and reducing the health gap between different groups.

94. There have also been a number of initiatives to improve productive efficiency in the primary care sector. This has been an area of particular concern in the Netherlands, where the number of GPs is relatively low. A mixture of fee-for-services and capitation arrangement has been introduced, depending on each patient's insurance scheme. Targeting fee-for-service payments for preventive services such as vaccination and screening has also proved effective in encouraging preventive care. In France, primary care is characterised as being an "activité libéral", with private physicians being paid on a fee-for-service basis and patients having free access to any physician with no limit to the number of doctors seen or the frequency of visits. In this context, controlling the volume of services provided has been a major preoccupation. Financial targets and economic sanctions have been introduced as cost containment tools, without much success. Mandatory clinical guidelines were also introduced in an attempt to reduce unnecessary prescriptions by physicians. There is also an ongoing program for introducing capitation payment for GPs to work as gatekeepers, but this system does not appear to be popular amongst GPs yet. Interestingly, in New Zealand, while doctors are also paid on a fee-for-service basis for primary care, they appear to have developed collective responsibility for health expenditure, especially for laboratory and pharmaceutical services, through independent practice groups and budget holding. On the other hand, in the publicly operated Swedish health system, which is characterised by salaried physicians, the introduction of patient choice *per se* has not increased the cost of health care.

#### IV. CONCLUSIONS

95. This paper has investigated various activities to measure and improve health-system performance in four OECD countries and has highlighted some of the strengths and weakness of alternative policy approaches. Since the sample of countries studied in this paper is very limited, it would be premature to draw firm conclusions on the issues raised here. However, the experiences of these four countries appear to provide some tentative lessons:

1. The findings reported in this paper suggest that considerable progress is being made in measuring the performance of health services and in acting on the results in the four countries under review. Sweden's National Quality Registers have generated large numbers of scientific publications and provide examples of improvements in the quality and cost of hospital care. The Dutch experience of measurement of and improvement of the performance of home care services indicates that such processes can be applied successfully in the area of long-term care.
2. Because of the asymmetry of knowledge between the health professions on the one hand and consumers, managers and governments on the other hand, self-regulation of clinical care remains a vitally important institution in all the four countries reviewed here. A crucial aspect of measurement is how the information is collected and who has the "ownership". The experience of all these four countries suggests that self-regulation can benefit from some external regulation and financial support from governments. Such support is most evident in the Netherlands (via the CBO) and Sweden (via quality registers). In New Zealand, the advent of Independent Practitioner Associations (for GPs) has been an important development but it remains unclear how much progress IPAs can make in developing quality improvement initiatives without external support, at least in the difficult area of improving health outcomes.
3. Active collaboration between medical professionals and policy-makers/managers appear to be important for effectively implementing any policy. Professional ownership of clinical regulation and guidance may well be a necessary condition for successful implementation of performance improvements. The somewhat disappointing experience that France has had with RMOs suggests that guidelines which do not have clinical ownership may fail. However, it might be noted that the American experience with public reporting of CABG mortality rates was that it was the hospital managers who appeared to have acted on it, despite a lack of clinical ownership (Hurst & Jee, 2001).
4. The experience of Sweden and New Zealand with internal market reforms in the 1990s may provide rather a different lesson. Such reforms were based more on political judgements about the determinants of performance than on evidence-based policies. In the event, at least in the case of New Zealand, these reforms seem to have disappointed the governments which initiated them. They have now been watered down or put into reverse. Meanwhile, we seem to lack proper evaluation of these reforms. Governments cannot avoid taking leaps in the dark when there is a compelling case for change, even when the evidence base is weak. However, when they do, it is unfortunate not to take the opportunity to spell out the objectives of the reforms, the performance measures by which they can be judged and to monitor the results subsequently. That will help to establish the evidence base for policy, for the benefit of future policy makers at home and abroad.

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## ANNEX. IMPROVING THE PERFORMANCE OF HEALTH CARE SYSTEMS: FROM MEASURES TO ACTION

96. The results of case studies of some major initiatives to improve health performance and its measurement in four OECD countries are summarised in the main text. In this annex, these case studies are reported in more detail. The case studies are preceded by a brief overview of each country's health system. Placing these case studies in their institutional and country-specific context is clearly important in order to better understand why a particular initiative was taken, how it works and whether it has been successful or not.

### A. FRANCE

97. France has a population of 61 million people and spends about 9.5% of its GDP on health. French has relatively high income level (about 23800 US\$ per capita) and enjoy a social insurance system which covers virtually totality of the population for most of their health needs.

#### 1. Overview of the French health system

98. *Health outcomes.* French women have the second highest life expectancy in the world of 82.3 years, after Japan. However, life expectancy for men of 74.7 years is on the lower side of the OECD average. Compared with other OECD countries, France is particularly successful in terms of having low rates of infant and elderly mortality. On the other side, mortality for young adults, particularly men, is relatively high. Persistent inequalities between socio-economic groups and regions are also of concern for the French health authorities.

99. *Administration.* The French system is characterised by the existence of a strong central government that administers the provision and financing of health care as well as the quality and cost of services. The central Government regulates the supply of health personnel and materials, it is also responsible for training health professionals and establishing quality norms in health care institutions. On the other hand the responsibility for accommodating elderly and the handicapped rests at the departmental level since the beginning of 1990s.

100. The Health Ministry sets the prices for ambulatory care, the rates of cost sharing with the consumers and the overall increase in the hospitals budgets. It controls the number of posts and wages in public hospitals as well as the number of students entering medical school. It has also introduced regulation to control the volume of ambulatory services.

101. Administration of the social health financing occurs through the statutory health insurance funds, which are quasi-autonomous non-governmental bodies. The largest fund is the health insurance fund for wage and salary earners (CNAMTS), which covers about 80% of the compulsorily insured. It is governed by employers associations and the trade unions. The other two large funds CANAM (covering self-employed) and MSA (for farmers) cover about 15% of the population. The rest of the population is covered by 145 small funds.

102. At the local level, regional (DRASS, Directions régionales des affaires sanitaires et sociales) and departmental (DDASS, Directions départementale des affaires sanitaires et sociales) offices have the responsibility for defining health priorities and applying local policies in line with national objectives. There are 22 regional and 95 departmental offices. Despite the existence of local health bodies, the health system in France has been traditionally characterised by a top-down style to management and decision making. With the reforms introduced in the 1990s more power has been given to the regions through the creation of Agences Regional d'Hospitalisation (ARH).

103. *Financing.* In 1998, France spent about 9.5% of its GDP on health care, which is the second highest (after Germany) among European countries. The French health system is largely based on a national social insurance system that guarantees universal availability of health care. Compulsory health insurance funds pay almost 76% of total health expenditure, while state provides direct subsidies for only 1% of it. Supplementary insurance, “*mutuelles*” and private insurance cover 7 and 3% respectively. Out of pocket payments correspond to about 11% of the total health spending.

104. Virtually the entire population is covered by the health insurance system either directly through work-related insurance or as a dependent of an insured person. The unemployed are also covered. Since January 2000, a universal health insurance scheme (CMU) provides financing for the small 1% of the population who had formerly been left out of the social security system. Moreover, CMU provides free supplementary cover to people whose income is under FF3500 (about US\$580) per month per person.

105. *A priori*, patients pay the full fees directly to health care providers and obtain partial reimbursement from the insurance fund to which they are affiliated. In case of hospitalisation, the funds pay directly to hospitals. Out-of-pocket payments for patients amount to 30% of the cost of ambulatory care, about 25% of the cost of hospital care (with a cap) and 50% of the cost of (listed) treatment drugs. Increasing these payment rates (*ticket modérateur*) has been an important tool for control of public expenditure of health care in recent years. There is however a list of conditions, including pregnancy, cancer, diabetes and other chronic diseases, for which the *ticket modérateur* is waived.

106. In ambulatory care a formal national negotiation process between the government, insurance fund and the medical profession sets official tariffs for reimbursement. Doctors who agree to charge on the basis of the nationally negotiated fee (called sector 1 contractors) get, in return, their social contributions (including pension) paid by the CNAMTS. Doctors working as sector 2 contractors are free to ask for a higher price (with a ceiling), but must purchase their own pension and insurance coverage. The health insurance funds reimburse the amount based on the agreed price for sector 1, so patients may end up paying more if they choose to go to sector 2 doctors. The creation of sector 2 contractors in 1980 did not have the expected impact of reducing the volume of care consumed. Consequently, access to sector 2 has been limited since 1990; doctors working in sector 1 do not have the possibility to change their convention anymore, and each year only 1000 new doctors are allowed to work in sector 2. In 1998, about 74% of the physicians were respecting national tariff (compared with 82% in 1980).

107. Public hospitals and private, not-for-profit, hospitals are paid on the basis of prospective global budgets. Private clinics are paid on the basis of daily rates and fee-for-service payment for the specialist



services provided. Physicians practising in public hospitals receive a salary, but to a certain extent they are allowed to have private practice outside the hospital.

108. *Provision of health care.* Health care provision is a public/private mix, with ambulatory care mainly private and a dominant public sector for hospital care.

109. Around two third of doctors work in ambulatory care as private practitioners and one third as salaried doctors in hospitals. Ambulatory care is organised around five principles defined by law: confidentiality of medical information; freedom of prescription and practice for physicians; free choice of the doctor by patient; and office-based fee-for-service practice. There is no control of access to secondary and specialist care. Patients have free access to any physician or any institution, either public or private with no limit to the number of doctors seen or the frequency of visits. Doctors are free to choose their place of practice as well as the procedures and drugs to prescribe.

110. As to in-patient care, public and private hospitals have quite different and well-defined missions and ways of functioning. Public hospitals represent about 65% of total hospital beds and have responsibility for research and training. They have also the obligation of providing care to anybody in need, especially in case of emergency. Private, not-for-profit, hospitals are specialised more in medium- to long-term care, while the private, for-profit sector (20% of the total bed capacity) is specialised mostly on surgical procedures and is characterised by small establishment size. Public hospital management is undertaken by both elected local authorities and the Ministry of Health.

111. With more than 3.1 physicians and 4.3 acute care beds per 1000 population, France has relatively high medical care resources.

## **2. Performance measurement and improvement**

### ***2.1 Objectives of the French Health system***

112. Under the French health care system, the government has the prime responsibility for protecting all citizens against the financial risk of illness. There are three principles -solidarity, liberalism and pluralism -- defining the main objectives of the system. Solidarity requires equal access to care and a social protection system where the healthy and rich support the rest. Liberalism requires complete freedom for patients to choose their providers and for doctors to choose their place of, and way to, work. Pluralism is maintained by a balanced public/private mix and multiple health insurance schemes.

113. Since 1996, the objectives for the entire health system are set yearly by the National health conference which brings together the different parties in the health sector such as the government, health insurers, representatives of medical professionals. The 10 major priorities for the year 2000 included: reducing health inequalities within and between regions; providing access for all to quality care; improving the quality of care for the treatment of cancer; and better prevention programmes for young adolescents to stop alcohol, tobacco and drug dependency. More generally, in the last 5 years, the improvement of information systems on the cost and quality of health care, as well as on local area health outcomes, has become a priority in order to implement the various proposed reforms.

### ***2.2. Perceived problems***

114. The French health system is one of the most expensive systems in the world. The share of health expenditure in GDP rose from 7.6% in 1980 to 9.4% in 1999. Including supplementary insurance

contributions, working households spend on average 20% of their gross income on health (OECD, 2000). While the reforms introduced in 1996 have been somewhat effective in capping hospital costs, expenditure growth in the ambulatory sector has been seen as a major challenge for the French health authorities. Reducing spending on prescribed drugs is also another major target.

115. At the same time, persistent social and geographical inequalities in terms of health care provision and health status are considered to be an important health problem in France. There is a visible gap in health status between, on the one hand, blue-collar workers and people in poorer households, and, on the other hand, white-collar workers and people in richer households. There are also considerable differences between the North and South of France, and between rural and urban areas in access to general practitioners and specialists, as measured by physician density.

### ***2.3 Institutions and Incentives for Performance Measurement and Improvement***

116. This section identifies the roles of main incentive mechanisms in the French health system for improving health care performance in terms of quality, efficiency, equity and outcomes. It also presents the main institutions involved in performance “measurement and improvement cycle” and looks at some recent initiatives to tackle different performance issues.

#### *Regulation and external scrutiny*

117. A number of reforms known collectively as the “Plan Juppé” were voted by Parliament in 1996, and have been a major turning point for the French health policy. This involved not only a major remodelling of health financing but also a shifting of the responsibility for health system performance from the medical associations to the Government. In terms of health finances, the reforms aimed to shift the balance for funding health care away from employers and employees social security contributions and more towards a general income tax to give more power to the Parliament.

118. On the performance side, a range of measures were taken to initiate or promote quality assurance. These included: improving the information systems to measure the quality and cost of care; introducing systematic accreditation process both for hospitals and for ambulatory care; continuous medical training, introducing specific targets to control overall spending; and the use of quality references such as mandatory guidelines.

119. Prominence was given to the issues of quality through new funds for introducing a national system of accreditation and evaluation. The former institute for quality assurance (ANDEM) was transformed into a new agency (ANAES) with larger responsibilities to improve the quality of care in both the hospital and ambulatory sector. ANAES is an independent organisation with a mandate to establish the state of knowledge on diagnostic and therapeutic procedures and to contribute improving the quality and safety of clinical care. Its mission includes producing clinical guidelines and providing independent scientific and technical recommendations to financing agencies about products and services to be included for reimbursement.

120. The most important responsibility of ANAES is to set up a system of accreditation for all public and private hospitals in France. Accreditation became mandatory for all hospitals since 1998 following the 1997 decree on hospital reform. This process does not concern long-term care institutions. The accreditation works on a voluntary basis, but all the hospitals will be accredited by the end of 2002. By March 2001, 30 hospitals (out of 3700) have been accredited by ANAES. The accreditation procedure consists of an auto-evaluation performed by the institution followed up with an expert visit. No precise indicators are used or suggested by ANAES to measure the performance. The main considerations are with

respect to patients' right for information, building standards for safety and the quality of management. The accreditation reports for each hospital are available on the Internet, but no comparison is made between institutions or regions.

121. Parallel to the national agency for evaluation, new regional authorities are given the responsibility for management and strategic planning of both public and private hospitals in a given region. They are also responsible for assuring equal access to care and quality of care by restructuring the supply of care within their region. Quality of care is used as a criterion in negotiating hospital budgets. Quality is measured either by surveyors of state and accreditation (by ANAES) or by specific conditions upon which hospitals negotiate their financing with the Agences Regional d'Hospitalisation (ARH). Each institution develops a "*contract d'objectifs et de moyens*" with a part defining more precisely their quality and safety objectives and the areas where they would invest to improve the quality of care to get the financing. About 380 medical inspectors working for state regional and departmental offices (DRASS and DDASS) carry out regular visits to ensure the respect to safety and quality norms in hospitals, such as monitoring hospital infections or patient satisfaction. There are projects to develop more systematic medical "audits", but no decision is taken yet.

122. A set of laws enacted between 1985 and 1995 require the reporting of adverse effects in hospitals from the use of drugs, human tissues and cells, organs, blood and medical material. Moreover, since 1995 there is a national program to reduce nosocomial infections in hospitals. This program aims to improve both the measurement and the effectiveness of actions taken to reduce infections. There are several regional networks (C.CLIN) co-ordinating the data collection on hospital infections, and which produce guidelines for good practice and evaluate the actions taken by the participating institutions. A technical committee at the national level (CTIN) sets the priority areas and provides technical recommendations for organising individual networks and for putting in place necessary actions. The organisation of data monitoring and dissemination is largely based on voluntary participation. In 1996, the results of the first national survey of the prevalence of nosocomial infections was published based on the data from 830 institutions (about 25% of the institutions). Currently the second national survey is underway, and the results should be publicly available by the end of 2001. Since 1999, all the public and private institutions are obliged to have a specific committee responsible for observing the quality of hygiene. The committee has to develop a plan for monitoring and acting on hospital infections and reports once a year to CLIN (regional network) and to DDASS (state authority).

123. National health insurance funds (CNAMTS) have also a role in actual evaluation and promotion of the quality of care in hospitals. Insurance funds are represented in Agences Regional d'Hospitalisation (ARH). They contribute actively to the development and application of regional health plans (Shéma regional de santé) based on each local population's health needs and to the negotiation of individual plans for hospitals. About 450 physicians employed by the medical division of CNAMTS conduct regular investigations in different medical institutions to check if the services provided matches the health objectives developed by the ARH. They also conduct more targeted visits to ascertain "inappropriate functioning" such as checking the excess/deficit of beds and other material in medical departments, correct and timely treatment of patients, etc. These types of investigations are more punctual (when it is thought that there is a problem) than systematic.

124. On the other hand, in measuring and promoting the performance of providers in ambulatory care, National Health insurance funds have an important role. They collect "individualised activity forms" from all the physicians working in the liberal sector. These forms simply report number of consultations and number of patients for each physician and indicate the major categories of medical procedures (consultation, radiology, surgery, etc.). From these forms it is not possible to ascertain the details of the medical procedures which are actually performed. However, since 1998 the new coding system for pharmaceuticals allows for the details of all pharmaceutical prescriptions and biological acts to be tracked.

While this data is not linked to epidemiological data, it helps insurance funds to analyse consumption patterns and problem areas. The medical service department of the insurance funds (CNAMTS) plays an active role in assessing and promoting efficient and appropriate medical practices. In order to change physicians' practices in line with clinical recommendations they organise individual interviews with doctors as well as collective information sessions.

125. One of the most successful examples of the initiatives taken by the CNAMTS was its program to improve the quality of care for type II diabetics. As part of this program CNAMTS first sent to all office-based doctors in France a specific guideline or recommendations (prepared by ANAES and the Agency for the safety of health care products) concerning care for patients with type II diabetes. Simultaneously, regional offices of the sickness fund initiated a campaign together with the Union of Private Practitioners to raise the awareness of both doctors and patients. Moreover, medical advisors of sickness fund have organised interviews with individual doctors who treat patients with diabetes type II. From 1998 to 1999, the percentage of patients treated inline with the recommendations of the ANAES has progressed from 41% to 55%. The unnecessary prescription of laboratory testing of blood sugar levels after fasting has dropped about 4.5%.

### *Self regulation*

126. In the ambulatory sector traditionally doctors have the ultimate capacity to control the quality of care. Doctors are a self regulating profession who have to undergo continuous training and also must have a certificate of training to be registered. Re-registration is not required. There is a regulation enforcing professional ethics and practice.

127. Regional medical unions, *Unions Regional de Medecin libéraux* (URML), have the main role in evaluating the professional standards of practices, disseminating guidelines and facilitating evaluations undertaken in doctor surgeries. Comprised of general practitioners and specialists, URMLs were established in 1993 with the objective to support physicians in the areas of evaluation and economic issues and are financed by doctors' contributions. They participate in studies evaluating health system functioning, medical needs and practices, and have responsibility for providing information to the medical profession and to patients. Their activities in recent years include indicator development to measure the performance of ambulatory care.

128. At the end of 1999, a formal self-evaluation procedure was introduced by law to control medical practice in the ambulatory sector. Evaluation will be on a voluntary basis. The key responsibility in this procedure is given to the URLM who will decide on the "expert" physicians (*évaluateurs*) and provide an attestation to the physicians who went through this evaluation process. In case of low performance, it can alert the medical board (Ordre medicine) but it is not clear yet what type of sanction mechanisms would be employed. ANAES (National Agency for Health Evaluation and Accreditation) will train the doctors who want to be "*évaluateurs*" and provide a methodological guideline for "medical audit". The evaluation process will become operational by 2002.

129. There is also a proposition from the national health insurance fund (CNAMTS) to introduce a re-certification process (every five years) as part of the contract to provide services for sickness funds. This process would consist of confirming physicians' attendance at a number of continuing medical education sessions. However, no agreement is reached with the doctors' union yet.

130. The area where the medical profession has been most actively involved over the past ten years is in clinical guideline development. More than 20 medical societies have organised over 100 consensus conferences during the past ten years. The implementation of these guidelines put into practice mainly

through major public agencies and hospital networks. Nevertheless, the process of developing these guidelines and the consensus conference program itself have played an important role in alerting the medical profession more generally to the need for clinical guidelines and to their responsibility in assuring quality of care and restraining health care cost (Durieux *et al.* 2000).

### *Guidelines*

131. The development and implementation of clinical guidelines has been an important tool in France over the past 10 years, not only to improve quality of medical care but also to achieve cost containment. In the ambulatory sector mandatory medical practice guidelines, known as R  f  rences M  dicales Opposables (RMO), were established as part of a containment policy for health expenditure (Loi Teulade 1993). This policy will be discussed more in detail in the next section.

132. In the hospital sector, parallel to the development of accreditation procedures, some hospitals have developed internal tools of quality assurance. The most important of these initiatives was by Assistance Publique-Hopitaux de Paris (AP-HP), which is the regional public hospital system for the Paris metropolitan area. AP-HP groups some 50 hospitals and is responsible for 15 million people. The experience from AP-HP shows that clinical guidelines with the right implementation strategy can improve quality even in the context of budget constraints (Durieux and Ravot. 1998). A clinical guideline program was developed by the medical evaluation department of AP-HP with the purpose of evaluating and comparing hospitals' actual clinical practices in diagnosis and treatment. The underlying aim of the program was to promote efficient use of resources and quality assurance *via* clinical guidelines. In addition to a main guideline developed by AP-HP's central medical evaluation department, each hospital is asked to design its own guideline program based on its own priorities. It is thought that this development and implementation process would help physicians' acceptance of the guidelines, and make them more aware of the problems of quality.

### *Measurement and use of information*

133. French law forbids collecting data on health that could be traced back to an individual. Details of tests and drugs may not be entered on computerised patients' record.

134. Data collection is the responsibility of a number of government institutions with an aim to help the management and planning of the health system. The data is centralised, but fragmented as different organisations are interested in different aspects of the system, such as cost, procedures or outcomes and do not have much interest in sharing the information. *A priori*, information is not available to the providers of health care nor to the patients.

135. One important aspect of the recent reforms in the health sector was the mandatory recording of computerised information both by hospitals and for physicians in private practice. Moreover, in order to improve the responsiveness of the system, all hospitals are now asked to implement systematic patient satisfaction questionnaire at discharge.

136. Indeed, a system for collecting medical information, including DRG (Diagnostic-Related Group) based discharge and cost information (PMSI), has been developed since 1982 in France. However, despite the extensive research on DRGs, the actual data collection has not been put into place until the Government announced that sending hospital DRG statistics to the regional agency of the government was mandatory. The first year of comprehensive data production was in 1996, and the first utilisation for funding was in 1998 (see below). A guide to hospitals was published in 1999 by some journalists, *Le Guide des Hopitaux*, showing for the first time comparisons of case-mix adjusted mortality rates for

hospitals in France (with a black list of hospitals) and came close to being a best seller. Distribution of this information to the public without any warning provoked considerable adverse reaction from hospitals. Despite the initial reactions, this database (PMSI) has been increasingly used by the media to compare performance of public and private hospitals. Since, Ministry of Social Affairs has been working to develop a common framework to measure the performance of individual hospitals (DRESS, 1999, 2001).

137. As a first time in France the Ministry of Social Affairs (DRESS, *Direction de la Recherche, des Etudes de l'Evaluation et des Statistiques*) has also started to collect a common set of data from all hospitals (both public and private). Data is uniquely collected on the procedures and the infrastructure (safety features) of the institutions, not on the outcomes. The questionnaires have been sent in March 2001, data and some comparative tables will be available on the Internet by 2002.

138. On the other side, the National Hospital Federation (FHF, *Fédération Hospitalière de France*), which brings together 2500 public health institutions, has an active role in measuring and diffusing data concerning hospitals. FHF has been working to develop national indicators to measure the quality of care in hospitals. Like the Ministry, their approach is to look at variations in procedures and infrastructure (quality of patients' files, security, hygienic conditions, etc.) rather than outcomes. Participation to FTF database is voluntary, and they provide benchmarking data for participating hospitals. The *Bureau d'Assurance Qualité Hospitalisation Privé* also makes evaluations and develops indicators for improving quality in the private sector.

139. The National Health Insurance fund (CNAMTS) is also currently working on developing performance indicators for the hospitals. The aim is to establish a set of measures to understand variations in hospital outcomes, costs and procedures. *A priori*, data for each establishment together with the national and regional averages will be available to the public. But this project is still at the development stage.

#### *Target setting*

140. Targets have primarily been seen as tools for cost control and budgeting in France. One of the most important elements of the "Juppé plan" was introducing specific national targets to balance the total health budget. Since 1996, a constitutional amendment authorises the parliament to impose target limits on health expenditure for the National Insurance funds. Until then the expenditures of social security have been controlled by representatives of trade unions, employers' associations and the systems' own administration. Government's interventions were more or less limited to short-term consolidation measures covering *post* deficits of the health insurance funds mainly by increasing co-payments from patients. The two principal tools to control expenditure were global budgeting for public hospitals and controlling the growth of prices in the ambulatory sector. However, health professionals responded to controls on health care prices by increasing their activity volume, to maintain their income level. Increasing co-payment for consumers did not have much impact on patients' behaviour either as the supplementary insurance covered the cost for majority of the patients.

141. The introduction of specific spending targets for ambulatory care, hospital care (public and private separately) and long-term care based on a regular public debate is seen as a way to improve micro-economic efficiency and re-establish trust in health policy. In this context, an annual conference on health was introduced to help setting priorities for the health sector. The Haut Comité de Santé Publique has the responsibility to advise Parliament and set priorities for the entire health system based on the results of a yearly National Health Conference which brings together health professionals and various health institutions. The regional conferences feed this process by assessing the health needs and priorities for different regions. While the targets set do not have a compulsory nature (reimbursement is made even if

the target is exceeded), a set of initiatives have been taken to assure that the financial objectives are achieved.

142. In order to control the cost in the hospital sector Agences Regionale d'Hospitalisation (ARHs) were created in 1996 with the responsibility to ensure that planning for both private and public hospitals was coherent at the regional level. These regional agencies allocate the global budgets for the hospitals based on a strategic plan which takes into account the size and structure of the population, the types of activities conducted by the hospitals and their contribution to research, training and preventive work. The ARHs set also the envelopes within which the private hospitals must control their expenditure. Also as a first time in France, it has been required by law that, epidemiological needs of the population must be considered in budget allocation at local and national level. For example, a recent analysis based on population data showed that Paris metropolitan region is over-funded given the low rates of mortality compared with other regions in France.

143. The concept of a "quantified national target" for health spending was introduced for private clinics, nursing care and biological exams. The idea was to introduce a maximum number of activities per practitioner, above which the quality of care provided is considered to be compromised. Once this level is achieved the payments were to be cut.

144. Quantified targets have also been introduced to control high drug consumption in France and to offer incentives to the pharmaceutical industry. Specific targets for consumption in each therapeutic class have been defined and negotiated with drug companies and pharmacists with specific arrangements

145. In the ambulatory sector, doctors were threatened collective financial sanctions if the target limit set by the Parliament is not met. A doctor could be fined as much as FF14400 (\$US2450) a year. Physicians heavily protested this proposal with long strikes, and this measure has been voided gradually by the Constitutional Board (see below).

146. Overall the efficiency of quantified targets to control health care cost in France is questionable. Except for the hospital sector where global budgeting helps to cap total spending, the targets set by the Parliament have been exceeded for several years now. During the first half of the year 2000, health expenditure in France has grown at a rate of 4.9% -- almost twice the rate set by the Parliament for the year. The highest increase is reported for private practice with 7.9%.

### ***Financial Incentives***

147. As mentioned above, changes to the hospital funding principles were introduced through creation of new regional bodies representing local interest (Agence Régionale d'Hospitalisation, ARH). ARHs allocate the global budgets to hospitals based on a strategic plan that takes into account the size of the population, the types of activity provided by the hospitals, their contribution to research and training and prevention. Since 1998, acute care inpatient hospital budgets have been set partly on the basis of their DRG production (about 10% of the budget). The hospital budget is based on both hospital specific cost and an adjustment based on a regional casemix index providing mean cost per case.

148. While these reforms have been seen as rather successful to control expenditure in the hospital sector, their impact on the quality of care is increasingly questioned. There are continuing demonstrations against staff shortages and the National Union of Hospital Doctors claims that about 20% of hospital positions are not filled. Many hospital administrators complain about shortages of nurses and doctors and deplorable conditions for patients, but it is difficult to verify the accuracy of these declarations as no data on the responsiveness of the system (such as waiting times) have been collected systematically in France. A project started this year aims to collect comparable data across hospitals on waiting times.

149. With spending by the hospital sector seen as being somewhat under control, the French administration's attention has been increasingly focused on changing the behaviour of physicians, who are seen as having a major responsibility for overspending, through a number of financial (dis)incentives. In the past five years, one of the most controversial financial tools to control health care cost has been collective fines against doctors for over-prescribing. The initial proposition of the Juppé plan for controlling medical practice based on target spending limits and applying financial sanctions against doctors who are deemed overspending was adopted by the new (centre-left) Jospin Government in 1997 with little modifications.

150. The new plan not only kept the idea of recovering excessive spending from health professionals, but also introduced bonuses for those who stayed within the budget limits. However, when the government announced in 1998 that each GP would receive a bonus of FF9300 (\$1500) because they had spent within the budget set by the Parliament, this created much controversy. Many GPs protested, even before receiving their cheques that the principle of a bonus was unethical because a doctor should not be rewarded for prescribing less. On the other side, the specialists who did not respect the targeted expenditure and overspent their budget threatened to pay fines. The specialists refused to be made accountable for overspending in their sector, and subsequently won their case in the court. Consequently the plan was declared as void in 1998, as the collective nature of the fines proved to be unconstitutional.

151. One of the Government's new plans to control the cost of ambulatory care (which has not been challenged so far by the Conseil Constitutionnel) is to reduce the fees charged by general practitioners and specialists if the expenditure caused by one speciality or other is deemed to be in excess of the public health objectives. This strategy was used in 1999 for one speciality-radiology. Fees for various radiological procedures were lowered by an average of 13% because spending in this discipline far exceeded the limit set by the Parliament.

152. Measures also have been proposed recently by the government to restrain the cost of pharmaceuticals. Pharmacists may substitute less expensive generic drugs for branded drugs. Pharmacists are offered an increased mark-up on generic medicines if they achieve a certain rate of substitution between brand and generic drugs. In return there would be a slight reduction in their remuneration if these rates were not achieved. However, the incentives at the level of physicians to prescribe less costly medicines are limited.

153. Moreover, there have been experiments to introduce a gatekeeping system in ambulatory services with an aim to control increasing volume of specialist care. Patients have been given the possibility to choose a generalist (medecin référent) acting as a gatekeeper to secondary and tertiary services, in exchange for better reimbursement procedures. In 2000, more than one tenth of French generalists had signed a contract with the health insurance organisation to serve as gatekeeper, and about 180 000 patients had signed a contract with such a doctor. The new system is an attempt to avoid multiple consultations with different GPs and specialists, which is believed to be a common occurrence. The advantage for the patients is that they pay only one third of the fee for a GP visit (just the Ticket modérateur). The doctor receives the rest from the social security system. The impact of these arrangements on health care cost and quality seems to be marginal so far.

154. It is worth noting that, 1996 and 1997 has been marked with a falling share of health spending in GDP (OECD, 2000).



### 3. Learning from French experience: A case study of mandatory clinical guidelines implementation

155. This section examines more closely the French policy initiative to control medical practice by imposing mandatory clinical guidelines. This policy is quite unique and has created a lot of controversy amongst the different actors in the health system, but there has not been much assessment of the elements contributing to its success or failure and to its overall impact in terms of cost and/or quality.

156. *Background.* Increasing health care expenditure has been a challenge for the French health administration over the past two decades. While the reforms introduced in the 1990s seem to have been successful in capping hospital expenditures, the rise has been particularly visible in drugs prescribed mainly in the ambulatory sector. The cost of pharmaceuticals went up from 15% of total health expenditure in 1980 to 20% in 1990 and to 22% in 1999. Over this period, the share of hospital expenditure declined modestly from 48 to 44% of total health expenditure. In order to control the cost of prescriptions in the ambulatory sector, the public authorities negotiated a program with the national health insurance agency and medical unions.

157. Regulatory practice guidelines, or *Références médicales opposables* (RMOs), were introduced in France in 1993 by law with three initial objectives: to contribute to the appropriate use of available resources for public health; to avoid dangerous medical practices; and most importantly, to control the cost of ambulatory prescriptions. RMOs are clearly stated, short, prescriptive recommendations always defining unnecessary or inappropriate care and prescriptions. There are two types of RMOs. The first group defines dangerous or harmful medical practices and the second aims to limit the prescription of redundant and costly drugs, tests and procedures. Redundant prescription means a harmless prescription that was not required given the patients' condition.

158. The social security administration and unions representing doctors working outside the hospitals system had signed an agreement in 1993 stating that physicians who do not respect to RMOs can be fined. They also jointly determined the topics covered by RMOs. While there is no definite criteria for the selection of topics, high cost and high prevalence of disease as well as high variations in practice have been deciding factors (Durieux *et al.* 2000a). There was to be monitoring of physicians' compliance with the RMOs and sanctions for non-compliance.

159. The first guidelines, published in 1994, were produced by the medical department of the social security administration. New guidelines are developed by ANAES (an independent institution in charge of evidence based research) using a scientifically validated procedure. A list of new RMOs for different subjects is published in the Official journal (*Journal officiel de la République Française*) by the government every year. RMOs are also widely issued and discussed in French medical journals. Moreover, the list is mailed to some 110 000 physicians working in private practice by the major health insurance fund (CNAMTS). Each year the list of RMOs is revised, some new references concerning new topics appear and some RMOs are withdrawn. Between 1994 and 1998, a total of 247 references have been introduced, of which 77 concerned pharmaceutical prescriptions (Zalensky, 1998).

160. When the system was first put into operation, the national health insurance fund would inspect a number of randomly selected private practitioners. The inspection was carried out by the physicians working for the medical department of the national health insurance fund. Doctors were asked to indicate on every prescription form whether or not the item is covered by a guideline. After examination of all of the prescriptions in the past two months, if the inspection shows that the doctor did not comply with the references, a fine was given. Each fine was determined by a weighted combination of the indices of redundancy, harm and cost considering the doctor's patient population. A threshold for the minimum number of violations is set for each RMO, after which legal action is taken against a doctor. At the

beginning of 1998, 26682 physicians (24% of the physicians working in private practice) had been inspected. Of these, 483 were considered for sanction, and 121 were fined (0.1%).

161. No means for measuring the impact of guidelines on patients' outcome and satisfaction were planned.

*Impact of RMOs on cost of care*

162. Pharmaceutical expenditure rose by around 6 to 7% annually between 1990 and 1993. In 1994, the year RMOs were introduced, it rose by only 2.1% and the total volume of prescribed tests dropped by 15% (compared with a 1% increase in 1993). However, expenditure for pharmaceuticals subsequently rose by 6% in 1995.

163. The most targeted study of the impact of RMOs on pharmaceutical expenditure was conducted by CREDES, the French institute of research on health economics (Le Pape and Sermet, 1998). This study looked at the impact of 10 RMOs introduced in 1994 and a further 8 enacted in 1995 and was based on data drawn from a sample of 2300 doctors participating in a four-year survey from 1992 to 1995. It suggests that at the end of the first year (1994) changes could be seen in the prescription patterns of 26% of the physicians in the sample. The overall net reduction in expenditure from these 10 drugs, extrapolated to national level and taking into account the substitution effect, was estimated to be about FF337 million (US\$ 56m) for the first year after the introduction of RMOs. This represents about 0.14% of the total pharmaceutical expenditure. Furthermore it was estimated that if the guidelines had been applied fully by all doctors the savings for ambulatory sector would have been FF1.16 billion (US\$ 193m). For 1995 the saving from these 10 RMOs is estimated to amount FF40 to 47 millions. Trends for 1996 were similar. The 8 RMOs introduced in 1995 modified prescription patterns of 17% of the doctors, which resulted in FF86 million saving. The study suggests that the changes in the physicians' prescription habits were sustainable.

164. However, it does not appear to be the case that the therapeutic RMOs, which were published later (in 1997), have had much impact on the treatment practices of doctors. A recent survey of 350 French physicians suggests that French generalists were unable to identify the topics of RMOs or RMOs themselves. The high number of RMOs (currently 247) was suggested as one possible reason for these results (Durieux, 2000b).

165. In general, there have been three major problems hindering the impact of RMO policy on performance:

1. Legitimacy. From right at the beginning, there were concerns about both the number and the process of development of RMOs. The legitimacy of developing guidelines by the organisation, which pays for medical care, was questioned. The development of recommendations by ANAES and expert groups has been better accepted. Rapid change in medical knowledge and technology can also sometimes limit the medical relevance of the guidelines and the legitimacy for enforcing their use. It is clear that any recommendation applied nationally should be based on best evidence and should not to be subject to substantial consensus.
2. Monitoring compliance. Monitoring of compliance with the RMO guidelines depends on the capacity to monitor physicians' activity. The checks on the implementation of the guidelines had to be performed manually. All the reimbursement claims sent to the social security archives are matched against the original prescription. To check the prescriptions by one doctor for two months took 300 to 350 hours of work. The current computerisation of medical records and pharmacies could now make controls easier.

3. No real sanction mechanism. By 1998, from 483 physicians considered for sanction 121 were fined. The fines, varying from 1500 to 20000FF (about \$US250 to \$US3300), were calculated by a weighted combination of harm, cost and number of violations. The number of violations for each doctor was estimated for a year considering the total number of patients and consultations. The principle of taking into account each physician's total volume of activities in the calculations meant that different fines might be charged for the same action (doctors having more consultation would have to pay more). Physicians who refused to pay the fines made a court case. In 1999, the constitutional board accepted that applying different fines for the same act was not legitimate. Therefore, there is no more legitimate sanction for applying RMOs.

166. While RMOs are still in circulation, the health insurance fund no longer carries out inspections to ensure compliance.

167. It is also important to understand the impact of the political context and some other reforms on the RMO policy. The cost containment measures introduced in 1997 (see above) had a direct negative impact on the implementation of guidelines. The threat to sanction physicians collectively if they overspent the budget voted by the parliament created a major conflict between the government, social security and medical unions. Eventually this policy was considered to be unconstitutional, which also effectively undermined the legitimacy of the sanctions to enforce the RMOs.

168. Overall, in the French context, the introduction of RMOs to contain cost (while assuring the quality) appears to have created confusion among physicians about the role of clinical guidelines to improve the quality of care (Durieux, 2000a). The surveys showed that majority of the physicians were against the guidelines as they thought the only objective was to reduce cost. The main principle behind the guidelines, that is achieving a reduction in costs while maintaining the same or better level of quality, has not been promoted well enough to get the support of medical profession and public. Moreover the loss of credibility of the financial sanctions shadowed the impact of guideline policy.

169. At the same time, in a system where doctors are paid by fee-for-services and patients have freedom of choice, doctors are at financial risk if they refuse to prescribe against a patients' will. They do not have any economic incentive to minimise prescriptions if patients' expectations are different. Clearly, in a free-choice environment physicians are under pressure from their patients, and changing the behaviour of patients *via* information should be part of any policy aiming to change the behaviour of physicians.

170. The French experience tends to suggest that it is very difficult to persuade physicians to improve their practice by imposing mandatory practice at a national level, especially in a fee-for-service environment. A sustained impact on physicians' behaviour depends on trust and legitimacy as well as quality of control. Other measures such as education and organisational changes aimed to improve clinical practice appear to be essential, as well as the close co-operation and involvement of doctors and the organisations representing them. Clinical "ownership" of guidelines and regulation may be a necessary condition for success.

## B. NETHERLANDS

171. The Netherlands is the most densely populated country in Europe with more than 400 inhabitants per km<sup>2</sup>. In 1999 there were about 16 millions inhabitants, of which 13% are over 65 years. The total cost of health care in 1999 was about 8.7% of GDP.

### 1. Overview of the Dutch health system

172. *Health outcomes.* The Dutch population has a high standard of health in terms of life expectancy, which was over 80.7 years for women and 75.2 years for men in 1998. However, infant and in particular perinatal mortality rates are relatively high compared to other OECD countries. Premature mortality, especially of women by cancer is also relatively high. An estimated 45 to 50% of deaths each year are attributed to risk factors such as smoking, drinking and bad nutritional habits (RIVM, 1997).

173. *Administration .* The Dutch health care system is characterised by a public and private insurance mix with almost universal coverage, and a well-defined distinction between providers and purchasers. The State plays an important role in regulating the health care system in the Netherlands, having a control over pricing, planning, health care provision and deciding who is eligible for public insurance. At the same time, the actual provision of care is almost entirely carried out by private organisations. Public and private health insurance funds act as intermediaries between health care providers and consumers/patients.

174. One important aspect of the Dutch system is the existence of powerful interest groups that are formally represented in the decision making process. Recognised organisations of providers and insurers are entrusted with substantial authority to influence health policy. They are represented in a number of advisory bodies and their support is indispensable to the government to accomplish fundamental health care reforms. The government regulates the access to health care and health insurance, entitlements of the insured and tariffs, fees and budgets of health care providers.

175. *Financing.* The financing mix reflects one of the most distinguishing characteristics of the Dutch health system. More than 35% of the population is covered by private health insurance for acute care. Altogether more than 85% of health care expenditure is financed by social and private health insurance contributions. The government funds about 8% of total health expenditure from general taxation, to cover mainly public health and preventive services for which it has direct responsibility. Out-of-pocket payments account for about another 7% of health care expenditure.

176. There are two main public health insurance schemes covering 74% of health care costs. The first social insurance scheme, Exceptional Medical Expenses Act (AWBZ), provides cover for expensive chronic and long-term care including nursing home care, care for physically and mentally disabled and in-patient psychiatric care for all residents. Gradually the coverage has been extended to include day care for disabled persons, rehabilitation, home care and comprehensive mother and child-care. The AWBZ is a tax-based compulsory health insurance for all citizens.

177. The second social health insurance scheme, the Health Insurance Act (ZFW), covers most of the acute health services, paramedical and limited dental care, which are not covered by AWBZ. ZFW is a

means-tested compulsory health insurance scheme: employees with a fixed salary not exceeding Dfl. 65 700 (29 800 Euro) per year (in 2001) as well as social benefit recipients are insured. Elderly persons (over 65 years old) that are privately insured may choose to be insured under this scheme if their yearly taxable income is less than Dfl. 41 800 (19 000 Euro). Since January 2000, self-employed earning less than Dfl. 42 000 are also insured. For comparison, the average production worker in the Netherlands earned about Dfl. 60 000 in 2000. About 65% of the population is covered by the ZFW, which pay for 36% of total health expenditure. The ZFW is financed by income-related contributions, which are collected in a general fund. The disbursement of these funds is carried out by regional sickness funds (26 in 2001). Each person insured under the ZFW belongs to one of these funds, which are independent non-profit organisations with self-appointed boards. They contract health care services for their members and derive their budgets from the general fund based on a number of criteria such as age, gender, region and the disability status of their population.

178. Moreover, there are about 50 private insurance companies covering those who are not eligible for social health insurance. Private health insurance pays for about 15% of total health care expenditures. Although private insurance is not mandatory, almost all of the population concerned (35% of the total population) is covered. However, there are around 200 000 people (1.2% of the total population) who do not have any insurance coverage.

179. Private insurers offer a wide range of insurance policies with different health care coverage, financial conditions and eligibility criteria. With increasing competition, premium differentiation and risk selection became a problem for the elderly and high-risk groups in the 1980s (Schut, 1996). In order to assure universal access to health care, the government was obliged to create in 1986 a separate fund (WTZ) for high-risk groups of the privately insured. About 15% of the privately insured have access to the special WTZ scheme, and pay premiums controlled by the government (maximum 250Dfl a month). To support WTZ, all privately insured people participate into a mandatory cost-sharing system by paying an additional premium each year, around 400Dfl a year in 1998 (Okma, 2001). The health service coverage of WTZ is identical to ZFW.

180. There is a small, unregulated market for supplementary voluntary insurance, which can be provided by both the social sickness and private insurance funds. Despite the marginal volume of this third compartment (about 5% of the market) it is becoming an increasing point of leverage as the government intends to reduce the scope of benefits of the basic scheme (Lieverdink, 2001).

181. One of the major changes in the last 10 years in Dutch insurance market was the large number of fusions between insurance funds. While legally social sickness and private funds cannot merge, in practice the same corporations administrate both public and private insurance. Currently, 8 or 9 companies provide private and public health insurance covering 80% of the population<sup>2</sup>.

182. *Provision of health care.* Health care in the Netherlands is provided almost entirely by private institutions and self-employed or contracted health professionals.

183. Hospital care is provided by private institutions on a not-for-profit basis. Most health care facilities are owned by religious and charitable entities which have self-appointed boards responsible for overall policies and budgets. For-profit provision of health care is very limited. The hospital budgets for operating expenses are set by a process of negotiation with the regional sickness funds that are the buyers of hospital services. Each hospital can have contracts with more than one sickness fund. The parameters taken into account in these negotiations include the number and composition of the population to be served, the number of occupied bed days, admissions and consultation services and the number and type of

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<sup>2</sup> Health Insurance Federation, personal communication.

specialist positions. Hospitals operate freely and decide how to spend the money as long as they provide the contracted services and stay within the agreed budget.

184. Medical specialists are able to work in one hospital only (and are generally not permitted to work outside the hospital either). Most specialists (about 65%) are organised into small groups on a partnership basis within the hospital controlling their own budget. The rest work on a salaried basis, mainly in university hospitals. Both public and private insurers pay specialists on a fee-for-service basis. Fee levels are determined in national negotiations between representatives of specialists, public and private insurers. Since 1995, there has been a shift from separate fee-for-service payment for specialist services to lump-sum payments to hospitals who then have their own arrangements for paying their specialists.

185. General practitioners (GPs) act as gatekeepers for access to additional health care services. Public health insurance funds only compensate the cost of specialist, paramedical and mental out-patient care if patients are referred by their GP. However, this is not always an obligation for privately insured patients. The way general practitioners are paid depends on the insurance scheme of the patient treated. Fee-for-service is adopted for privately insured patients, while GPs receive a per capita capitation payment for each publicly insured patient on their list. The capitation rates and fee-for-service schedule are set nationally between the Health Insurance Board (CVZ) and the General Practitioners Association (LHV) and is subject to Government approval.

186. Since 1989, general practitioners are free to practice anywhere in the country. Previously, permission was needed from local authorities to set up a new practice. There are around 24 000 physicians (1.5 per 1000 population) of which 40% are general practitioners.

## **2. Performance measurement and improvement**

### ***2.1 Main values and objectives of the Dutch health care system***

187. The main policy objectives of the Dutch health system is to improve the health status of the population by safeguarding universal and equal access to care. Solidarity, universal access, equal treatment and providing good quality services are expressed as principal policy goals. At the same time, professional autonomy, patient choice and satisfaction have long been underlying principles of the health system in the Netherlands. Improving the quality, flexibility and user friendliness of both acute and long-term care systems are avowed policy objectives -- as part of the government's manifesto -- since 1998 (Okma, 2001).

188. At the same time, cost containment is also a particularly important target in the Dutch system. In fact, the level of public resources devoted to health has only grown very modestly over the past 15 years compared to other OECD countries. Improving the efficiency of health care delivery while keeping health care affordable for everyone has been the major objective of all of the major health reforms proposed during the past 10 years. The tension between the need for tight controls to achieve cost containment and reducing government intervention to give place to market competition is an important aspect of the Dutch system.

### ***2.2 Perceived problems***

189. The fragmented funding scheme, lack of accountability and lack of financial incentives for providers, insurers or consumers to act efficiently have been identified as major shortcomings of the Dutch health system by the Dekker Committee in 1987. After more than 20 years of discussion and despite the

introduction of a number of measures, the renewed interest in the propositions of Dekker Committee suggests that these are still the relevant problems.

190. Micro inefficiency is one of the most commonly expressed political concerns in the Dutch health care system. The growth in waiting lists for elective surgery is seen as being one of the major challenges for governments. The possibility of strengthening pro-competitive regulation -- which had been only partially adopted in previous reforms -- is increasingly being explored. Competition is seen as the appropriate incentive to increase cost-efficiency. However, it is worth noting that there is some research suggesting that the efficiency of hospitals in the Netherlands has been improving between 1985 and 1998 (SCPO, *Sociale en Culturele Studies*, 26).

191. On the other hand, poor information on the health care performance of providers as well as excessive command-and-control regulation are also expressed as problems by health insurance funds. There is a perceived lack of choice of health care providers as the number of specialists and GPs are controlled strictly.

192. The need to reform the fragmented structure of long- and short-term health insurance as well as the need for better collaboration between hospital and ambulatory services at the regional level have also been expressed as policy issues by different parties. Indeed discussions to restructure health insurance, with one basic insurance covering both health care and long-term services are back on the policy agenda.

### ***2.3. Institutions and incentives for performance measurement and improvement***

193. This section identifies the roles of main incentive mechanisms in the Dutch health system for improving health care performance in terms of quality, efficiency, equity and outcomes. It also presents the main institutions involved in the performance “measurement and improvement cycle” and looks at some recent initiatives to tackle different performance issues.

#### *Regulation and External Scrutiny*

194. While there is a strong tradition of self-regulation in the Dutch health care system, self-regulation takes place in a very regulated environment. Government plays a quite active and delicate role in supporting self-regulation. The Netherlands is one of the rare countries who have a national policy for quality management. In 1989, following a national conference bringing together all the parties involved in health care, a national policy for quality of care was launched. Since then, a national conference takes place every 5 years involving healthcare providers, financiers, government and patient organisations to evaluate the improvements and to create consensus for new activities. As part of national health policy, it is stressed that quality management is the joint responsibility of health care professionals and the management.

195. The definition and development of quality norms and systems is left to individual care providers, but the Quality of Health Facilities Act (1991) states that health care providers themselves bear the primary responsibility for the quality of their services and requires them to be accountable for their quality and to report on their quality management activities. At the same time patient rights are safeguarded under other legislation such as consumer protection law regulating the contract between doctor and the patient, and other regulations prohibiting involuntary commitment to psychiatric institutions (see Okma, 2001).

196. There is also an independent state institution, the Health Care Inspectorate of Health (IGZ), which is responsible for monitoring the quality of services and health protection measures in hospitals at a national and regional level. According to the law, the inspectorate verifies if the institutions have reliable systems of quality improvement in place, but does not report on the actual quality of care based on a

number of performance criteria. The IGZ rarely effectuate regular site visits to monitor quality, rather it performs inspections based on complaints and incidents.

197. Moreover, every hospital is obliged to have a “complaint or arbitration committee” to which patients can directly apply in case of a disagreement or dissatisfaction with their treating doctor. This committee works like a referee to settle the dispute between two parties. If the problem is not settled with their intervention, the patient can go to the medical board.

198. A Dutch institute for accreditation has been set up in 1999 in order to introduce a standardised evaluation of hospitals. Accreditation is not mandatory and up until now only one hospital has been accredited.

199. Regulation also plays an important role in assuring equal access to health care in the Netherlands given the high prevalence of private provision and financing. Equity being one of the dominant values in the health care system, governments have not hesitated to intervene in the private market to guarantee an equitable health care for all. The health insurance access act (WTZ), introducing mandatory cost-sharing arrangement for privately insured is one of the best examples.

### *Self Regulation*

200. In the Netherlands, health care providers have traditionally born the primary responsibility to control and improve the quality of services they provide. They are directly responsible for developing quality control systems with explicit norms and procedures and for the process of certification. The responsibility for managing health care performance is very decentralised. Each professional group (specialists, general practitioners, nurses, physiotherapists, etc.) is a self-regulatory body developing its own quality control system with separate rules.

201. The State is responsible for the basic initial education of health professionals and controls the number of entrants to medical schools based on estimates of future needs. But the medical profession controls the second stage of medical education, which is necessary before entering the profession. In terms of speciality training, there are separate bodies for formulating training standards, inspecting the quality of teaching programs and controlling the registration of specialists. Since 1967, a formal visitation system exist to ensure the quality of training in teaching hospitals (Klazinga *et al.*, 1998).

202. The earliest programmes to ensure quality of hospital care were initiated in the mid 1970s by the Dutch Specialists Association (LSV) and Hospital Directors with the introduction of periodic “peer review” programmes. The initial objective was to improve care and exchange ideas, within a formal framework of agreements with other parties: the government, the funders and patient organisations. This initiative may have been originally stimulated by government plans to introduce legislation to control the performance of specialists’ care (Klazinga *et al.*, 1998).

203. Peer reviews originally consisted of formalised regular visits, which were co-ordinated by the relevant professional group, with predetermined procedures, questionnaires and standards for reports. This procedure of gathering information through observation, interview and documentation also helped to develop relevant guidelines where no care standards existed. The reports and recommendations resulting from a peer review visit were confidential to the departments visited. Participation was voluntary but peer pressure to participate was considered to be quite high (Van Weert, 2000).

204. In 1979, a national body, the Institute for Health care Improvement (CBO) was established to support the organisation of peer review activities in hospitals. Over time the CBO’s role has expanded to provide support for all type of quality improvement activities in hospitals. The classic peer review



approach has been modified towards a Quality Improvement (QI) approach and projects based on Total Quality Management theory where the evaluation covers the system-wide functioning of the hospital.

205. While the peer-review process has been seen as a useful method for standardising and rationalising medical care, it was too narrowly focused on problems as perceived by specialists. In 1991, the greater emphasis placed on improving self-regulated activities by government legislation has led to the development of external "visitation" programmes in hospitals. In 1995, the Dutch Medical Association developed a structured "visitation" programme with formal questionnaires and interviews. Other health care professionals in the Netherlands have developed their own visitation programme taking this as a model. Today visitation is a widely accepted quality tool among specialists and other allied health professionals, nurses and dentists. The CBO supports actively the development of programmes and offers training, coaching, evaluation and supervision. Otherwise, visitation is a program directed and controlled entirely by physicians. Physicians set the standards, conduct the survey, formulate the recommendations and decide on the corrective actions to be taken.

206. During external visitation, which lasts about a day, the visiting group has formally structured interviews not only with doctors but also with secretaries, nurses, paramedical staff in the same department. No interview is conducted with patients, but patient satisfaction surveys are asked for when available. The CBO supports the visitation project and takes part in the visitation as an observer. The visitation does not focus on the performance of an individual doctor, instead visitors evaluate the conditions under which clinical practice takes place, examining medical record keeping, facility management, interdisciplinary collaboration (especially with GPs), and treatment outcomes. However, despite the growing emphasis on outcomes and the intention to introduce some measures of performance, registration of specific outcome measures is rare.

207. Every visitation results in recommendations for improvement. But there is no sanction mechanism and confidential reports are only provided to the physician surveyed. However most of the physicians present and discuss the visitation reports with their hospital management (Klazinga, 1998). It is understood that, *a priori*, those who are surveyed are responsible for improving their performance following the recommendations of the visitation. Most specialities have a visitation every five-years to ensure that the recommended improvements are carried out in practice. However some scientific groups have introduced visits after one or two years for cases of severe non-compliance with the quality norms. There is an ongoing project initiated by the Ministry of Health (Quality Consultation) providing managerial advice to physicians on how to implement recommendations. In 1999, the Dutch College for the Licensing and Registration of Medical Specialists has introduced participation in visitation as one of the requirements for re-registration of individual doctors.

208. In parallel with the visitation program and clinical guidelines, the CBO promotes two major projects to improve the quality of care in hospitals: Breakthrough and Reach-out. The Breakthrough program aims to improve the quality of care at a departmental level in a number of institutions simultaneously. A quarter of the hospitals (40 out of 120) have been participating in a breakthrough project mainly concerning emergency rooms and intensive care. The project is financed by the Dutch Healthcare Insurance Advisory Board who also sets up a list of topics. The CBO provides hospitals with a quality improvement model (QIM) inspired by the model used in industry, which requires them to locate the problem, establish precise goals, define measures and introduce specific action plans for change based on Statistic Process Control. The CBO also collects examples of best practices and actively supports the hospitals in their process of goal setting. Hospital departments are free, within the framework of the goals set for the project, to decide what will be the problem to be addressed, how to measure it and what will be their action plans. A strong communication and collaboration network between participating hospitals has been created as an important part of the project.

209. The Reach-out project on the other hand aims to introduce total quality management (TQM) systems in individual hospitals. The two important principles of Reach-out are improving health care quality by improving the “care processes”, and continuous improvement through leadership and better management. Introducing a set of performance indicators and balance score cards are also stated as a major objective, but until now no progress has been made. In the last two years, out of the seven participating hospitals, two have established a TQM system. The EFQM model, developed by European Foundation for Quality Management, assessing service performance against standards for specific areas such as clinical results, patient satisfaction, administration and staff management is also supported by the CBO and increasingly used by providers. However, the information reported by hospitals is not standardised, each hospital is free to decide which aspects of the process are to be measured and on which measures to report.

210. While traditionally attention has mostly been on the quality of care provided in hospitals, general practitioners (GPs) have also developed their own tools to ensure the quality of ambulatory care. There is a separate registry for GPs controlled by the College for the Licensing and Registration of General Practitioners. Re-registration is obligatory every 5 years to be able to practice. The conditions for re-registration are practising actively in a medical profession (at least 20% of the time during the 5 years period) and 40 hours of certified training.

211. The College of General Practitioners developed a “check list” for general practitioners in 1994, indicating the principle conditions of good practice. This was to provide a reference for each GP, so that they could judge their own situation. A programme close to the peer review process also exists for GPs since 1997, but these reviews are much less structured compared to those in hospitals.

212. The College of General Practitioners has also developed a visitation programme for GPs. The visitation program is very close to the one developed by the Dutch Medical Association with a questionnaire and a structured visit. However, the visit is made by a non-physician trained by the Royal College of General Practitioners. Visitation started in 1999, and works on a voluntary basis. Until now only 200 physicians (out of around 7000) have been visited.

213. The Federation of General Practitioners (LCV) has tried to introduce a limit to the number of patients a GP can treat in order to control the quality of care provided. They argued that 2750 patients should be the maximum number of patients in a doctors list, and above this number the quality of care provided would suffer. However this intervention was judged contrary to anti-trust legislation by legal court.

214. About 45% of GPs work in a solo practices, but working in group practice is encouraged (see below) and the numbers of GP working in groups has been steadily increasing.

### *Guidelines*

215. The emphasis on evidence-based medicine and developing guidelines for best practice have been very strong in the Netherlands in line with the culture of professional self-regulation. Most of the clinical guidelines are developed by the physicians themselves or by medical associations. It is believed that the control/leadership of medical profession was a necessary condition to ensure the relevance and credibility of any guidelines.

216. The College of General Practitioners has been one of the first groups working not only on developing evidence based clinical guidelines but also establishing the best ways of implementing guidelines. The College has done a great deal of work on standardising the research methods and setting standards. It has also been one of the first institutions to use an evidence-based approach in establishing

guidelines with field tests with GPs. In the past 18 years they have developed more than 70 diagnostic related guidelines.

217. Dutch medical speciality associations, with the collaboration of the CBO, conduct a consensus development program for medical specialists, within the framework of guidelines. The CBO has introduced a multidisciplinary consensus guidelines program in 1982 with the aim of establishing guidelines on controversial medical issues. The consensus program involves all the specialists relevant for a given topic and often considers the comments from nurses and allied health professionals. While the guidelines are primarily developed for and by the specialists, it is not rare to invite the involvement of patients' organisations and insurers. All the guidelines are reviewed about every five years.

218. However, several studies established that considerable variation exists in the methods of developing and approving guidelines between different scientific associations. It appears to be difficult for those outside the speciality to assess the quality and reliability of a given guideline (Klazinga, 1998).

219. In 1994, the CBO started a program to standardise the development of guidelines and harmonise the methods of approval. There is a move towards adopting an evidence-based approach as used by the College of GPs. Moreover the initial focus on effectiveness of care now is broadened to include efficient and appropriate care. CBO looks at the possibility of integrating cost-effectiveness studies in guideline development.

220. In the Netherlands, as elsewhere, most of the attention has been paid to the development of the guidelines, rather than implementation issues. Great regional differences in medical practice, indicating inefficient or unnecessary actions, have been cited as a problem (Loo *et al.*1997). However, the direct involvement of medical profession in developing and implementing appropriate care standards is likely to increase the possibility that the guidelines are more effectively followed in practice.

#### *Measurement and use of information*

221. A consequence of the Dutch type self-regulated performance control system is the lack of comparable data at the national or regional level for policy makers, financing bodies and patients.

222. The information available to insurers consists of utilisation data linked to reimbursement schemes. These can be used to identify variations in practice, but do not provide any information on health outcomes and quality. While a lot of information on outcomes and patient satisfaction is exchanged among professionals in their local debates, no standardised data in outcomes and quality is available. The fact that each institution decides on what to measure and how (which indicators) means that the quality information cannot be used for comparison. Moreover when the data is collected, for example surgeons have a nationally developed data system on complication rates, it is only available to the profession.

223. There are nevertheless two separate institutions gathering system-wide data. The first database, Prismant, was initially established by the Ministry of Health to measure the clinical efficiency in hospitals, pooling together information on procedure rates, numbers and types of operation with cost data. In 1996 this database was privatised with an agreement to provide relevant data to the Ministry. Waiting times being an important preoccupation in recent years Prismant also started to collect data on waiting times for different operations from all hospitals. There is also a project to develop a set of quality indicators for the hospitals. Data on re-admission rates and hospital mortality has already been collected from hospitals, but the participation rates and the comparability of the data are not clear. Also, many government research and advisory bodies complain about the high cost of data.

224. The second database, NIVEL, provides data mainly on outpatient services: medical consultations, and prescriptions in the ambulatory sector. It also provides extensive data on the health status of the population linked to socio-economic and demographic characteristics of the populations. The database is funded by the Ministry of health and research organisations. Increasingly, survey data on medical institutions are also collected.

225. One of the most important efforts to collect comparable data on the quality of hospital care has been initiated by the CBO and the National Institute of Public Health and the Environment (RIVM). In 1996, the PREZIES project was launched with an objective to establish a national surveillance system and collect comparable and nationally representative data on nosocomial infections. By enabling Dutch hospitals to gain insights into their own nosocomial infection rates, and by identifying the risk factors behind, it was aimed to reduce infection rates in hospitals. The project started with the surveillance of surgical-site infections and followed by surveillance of infections in intensive care units and infections related to vascular catheters. The results from the first two years suggest that the mere participation in a surveillance system can reduce infection rates over time (Geubbels, *et al.* 2000; Boer *et al.* 1999).

#### *Target setting*

226. Imposing expenditure targets to control health care spending has not been a particularly successful tool in the Dutch context.

227. In 1989, a Five Parties Agreement (FPA) was negotiated between representative associations of medical specialists, health insurers and the National Hospital Council to set the main rules for determining specialists' fees in hospitals. One of the most distinguished aspects of the FPA was the acceptance of an expenditure target for specialist care. Expenses for specialist care were fixed at the level of expenditure in 1989. If expenditure exceeded this level, fee cuts would be introduced in subsequent years to offset overruns. The fee cuts were to be targeted on those specialties that were responsible for overspending. On the other hand, specialists would not have to refund surplus revenues unlike under the previous regime (Lieverdink and Maarse, 1995).

228. Since 1994, the government also sets yearly ceilings for total health expenditure with specific targets for each sub-sector such as hospital care, mental care or ambulatory care. But these budget ceilings have no legal status, and so cannot be strictly enforced (Loo *et al.* 1997).

229. The government and health insurers consider expenditure targets to be an effective tool to control overall expenditure for specialist care. However, the implementation of targets would appear to have been rather ineffective. Expenditure for specialist care grew by an average of 6.3% (in nominal terms) over the period 1990-1992 compared to an average of 2.6% over the period of 1980-1989, whereas the FPA set a zero growth target (Lieverdink and Maarse, 1995). After long negotiations, excess expenditure in 1990 was compensated by a general fee cut in 1991. No agreement was reached for the years 1991 and 1992. But the government still imposed some general fee cuts.

230. The targets were criticised by their lack of consideration for increasing demand for specialist services. One explanation for the particularly high growth in specialist activities after the introduction of targets concerns specialists' behaviour. Given that individual specialists do not have control over the total level of services produced, each specialist faces a strong incentive to overproduce to counteract a lower income because of future fee cuts.

231. Overall, the implementation of expenditure targets has created much dissatisfaction among specialists. In 1995 the government agreed with medical specialists and hospitals to start experiments with integrated payment systems.

*Financial Incentives*

232. Global budgeting for all parts of health expenditure has long been an efficient cost control tool in the Netherlands. At the same, introducing competition in the insurance market and improving the contractor role of insurance funds to put pressure on hospitals and doctors to work more efficiently have been seen as the main solutions to improve micro-efficiency of the Dutch health system over the past 10 years.

233. Until 1992, public health insurance funds had a regional monopoly but were obliged to contract with every health care provider in their region. They did not have autonomy over services they buy nor on the prices. A number of reforms have been introduced to stimulate competition and improve the role of insurers to negotiate volume, price and quality with providers. In 1992, the sickness funds were given the possibility to contract selectively (and outside their regional borders) with health care professionals and providers. They were also allowed to determine their flat-rate premiums for subscribers. In addition, the possibility to negotiate fees lower than the national fixed level is given to all insurers.

234. Moreover, since 1993, sickness funds are no longer paid by retrospective budgets. They receive a prospective, risk-adjusted per capita payment for each insured person. Initially payments were based on only age and gender, but since 1995 region of residence and disability status is also taken into consideration. However, the financial risk for the sickness funds remains very low as the Government compensates up to 95% of the actual loss (depending on the type of expenditure)<sup>3</sup>. Evaluation pointed out that the impact of these measures has been marginal as funds do not really use the option of selective contracting (lack of choice or tradition) and do not negotiate for lower fees. The most visible impact of these reforms has been a large number of mergers between health insurers and hospitals and an increased co-operation among providers at a regional level.

235. On the other hand, different payment methods have been successively introduced to control cost and improve production efficiency in hospitals. Until 1983, Dutch hospitals received fixed payments for the different services provided. In response to concern about the impact of this payment method on increasing production in hospitals, the government subsequently introduced a prospective budget system for inpatient care. First, budgets were largely based on historical costs, which created an incentive to spend all of the budget allocated, otherwise a hospital would receive less in the following year. Therefore, a budgeting system based on the cost of specific services provided by the hospital has been introduced gradually.

236. Until 1996, specialists' fees were not included in the hospital budget. Specialists would send a separate bill for their services to the insurers, it was an open-ended financing flow. A degressive fee scheme formerly applied only to sickness fund patients. Under this scheme, a physician is paid a lower fee per unit of service if the volume of his/her services exceeds a predetermined level (Loo *et al.*, 1997). This system created incentives to discriminate between public and privately insured patients, as there was an open possibility to increase both the price and volume of services for private patients. With long waiting lists for publicly insured becoming a real problem, this scheme was extended to privately insured patients as well. More importantly, in 1989, the representative organisations of medical specialists, insurers and hospitals agreed upon a pact (FPA) to harmonise the fees and entitlements of both the social sickness funds and private insurers. It was decided that the prices should be the same for all and should be based on resource utilisation. These measures have not only contributed to controlling overall costs of specialist services but also to greater equality of treatment for public and private patients.

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<sup>3</sup> See, Okma K. and Poelert J. (2001) for more detail.

237. To control the costs of specialist expenditure in 1992 the government imposed a budget for expenditure on specialist care at the macro level (see above). If the budget exceeded, the fees for the next year were to be reduced. This policy caused much controversy, and did not give the desired results.

238. In 1995 the government started to experiment with a new system offering medical specialists and hospitals the possibility to decide a global budget for all specialists. By the end of 1996 almost all of the hospitals paid by global budgets for specialist services. The budget is independent of the level of actual production and decided in negotiations between medical specialists, hospitals and insurers at local level. The idea was to get rid of the direct link between the income of specialists and the number of services produced. Attention was shifted to specific projects aiming to improve efficiency or quality of care for which budgets were assigned. Each hospital decides its own arrangements with specialists on how to define production levels and the way the budget is adjusted year to year. It would be interesting to monitor the impact of this new arrangement on the volume and quality of care.

239. Preliminary analysis of the consequences of the new financing system suggests that the new system has increased the process of substitution from admissions to outpatient treatment or back to general practitioners. Admission rates have been declining in the past five years and the waiting times continue to go up under the new system (Folmer and Westerhoud, 2001; Mot 2001). No assessment has been made of the impact of these reforms in terms of quality of care.

240. The introduction of a system of output pricing to pay hospitals is also being considered currently, and a project is underway to determine an appropriate classification of hospital output (DBC Diagnosis-treatment combinations). As done in industry, it is aimed to calculate the total time and cost of a treatment (such as cataract surgery) by identifying each individual step including time and cost of diagnostic. The intention would be to pay hospitals based on DBC (diagnostic treatment combination) prices and doctors by hourly work.

241. Providing incentives to improve productive efficiency of GPs has also been a preoccupation for the Dutch health system. The high work-load of GPs linked with capitation-based payment has possibly created an incentive for GPs to refer some patients to specialist services rather than to treat those patients themselves. One area where direct financial incentives are created for GPs was prevention. While the main payment system from the Social sickness fund is through capitation, fee-for-service payment has been offered for two services: influenza vaccination for the elderly and for cervical screening. The participation rates in these programs are 90% and 60% respectively which is considered as very successful.

242. A recent initiative to control not only the cost but also the quality of GPs activities is "Practice support program". On the one hand, this program aims to improve productive efficiency by providing special nursing aids to GPs and, on the other hand, it aims to improve the quality of care by promoting group practice and visitation. As a reaction to complaints about the high workload of GPs, the government proposed to pay the salary of a specially trained nurse to execute some of the GP's functions. One of the conditions for this aid is to work in a group practice (minimum 3 GPs with 4500 patients). Visitation also will be a requirement. Currently the LHV is working to develop a training program for the "support nurses".

### **3. Learning from the Dutch experience: case studies**

243. This section examines more closely two recent initiatives by the Dutch government to measure and improve performance in two different sectors. The first case study presents a recent programme by the Ministry of Health to measure the efficiency and quality of home care services using a benchmarking approach. Benchmarking can be a useful tool for quality management for funding bodies as well as for

patients, and this pioneering study might contain some useful lessons for other countries. The second case study presents a rather original approach to control the quality and cost of pharmaceutical consumption. While the results of the individual projects are not fully available, it is interesting to examine the role that pharmacists play in the Dutch approach to the pharmaceutical market.

### ***3. 1. Benchmarking for home care: Yes, it is possible***

244. Home care in the Netherlands is part of the basic long-term health insurance scheme (AWBZ), and available to all who are deemed in “need”. Public expenditure for home care services represents about 0.4% of GDP (3.9 billion Dfl). Home care services are provided by some 140 private institutions, 90% of which are not-for-profit. Formerly, there was no reference system to assess the efficiency and/or quality of the services provided. There was also no regular quality control for home care services.

245. An “Indication committee”, consisting of physicians and representatives of the insurers decides how many hours of home care is needed for each patient. Based on the decision of the indication committee, regional “contraction offices” negotiate contracts with individual home care institutions for the hours of care to be provided.

246. In order to improve the efficiency and quality of home care services, the Government (together with National Home care Association and Netherlands Home care Sector Interests) launched a project to develop a benchmarking system for home care services. Benchmarking is seen as a tool for comparison of practices and outcomes across organisations with an aim to identify best practice and improve performance. In 1998, the Ministry of Health contracted a private firm to analyse sector-wide information on cost and quality and to develop a model to evaluate the performance of individual service providers. The Ministry of Health has financed the project, but all the parties including the relevant consumer association and the indication committee took an active part in the program.

247. Participation was voluntary, but 95% of the institutions in the market participated in the program. Data was collected from 105 home care institutions on the number and type of procedures and on costs and quality. While the database is actually managed by the private firm, ownership rests with the Ministry of Health. The private firm has also the obligation to provide detailed sector-wide analysis to the Ministry of Health as well as individual reports for each provider organisation comparing their situation with sector averages.

248. In order to evaluate the performance of home care institutions, a model was developed taking into account efficiency and quality of services. To calculate the efficiency of individual institutions, all the nursing services provided by home care institutions were divided into eight categories based on the technical difficulty involved. The production levels and costs for each task were measured for all institutions. Using data-envelope analysis an “efficiency frontier” was constructed for the provision of home care services. Each home care organisation was subsequently placed (using clustering techniques) on a map showing their relevant position in the market in terms of their distance from the “efficiency curve”.

249. To measure the quality of care provided, a patient satisfaction survey was conducted of 50 000 patients receiving home care. The quality of care was evaluated based on three criteria: the continuity/reliability of services, flexibility of service provision and the speed of the delivery (i.e. time taken to accomplish each task). Based on the results of the survey, three levels of care quality were distinguished, ranging from A to C (A being the highest quality with more than 75% satisfaction and C is the lowest).

250. Bringing together the results from cost and quality surveys, an overall matrix was calculated where all the institutions who had participated being given a note ranging from AA (best

quality/efficiency) to CC (lowest quality/efficiency). Moreover, based on these results, “reference cost” levels have been calculated for eight levels of care (based on the level of specification needed in service provision) and controlling for quality. The corresponding cost levels range from 20Dfl for very low-level care intensity to 120Dfl for very specialised nursing care.

251. A report analysing the overall results for the home care industry, as well as presenting individual results for each institution and the underlying areas for improvement, was produced in 1999. For example, the industry-wide analysis showed that the more specialised an institution is, the higher the efficiency and satisfaction of the patients. Until then, merging of small companies had been encouraged by the government, as it was believed that efficiency improved with size. The sector-wide (generic) report describes the features of anonymous best-practice institutions and contains recommendations for improving efficiency and quality within the sector, it is available to the public *via* Internet. Specific individual reports, comparing the findings for each institution with the best practice institutions and the sector average, were only presented to the institution concerned. Clearly, the companies ranking high on the benchmarking scale used these results to promote their services.

252. A second survey is underway in order to assess the progress that has been made in the sector in terms of efficiency and quality. The quality survey conducted in 2000 includes a more comprehensive set of questions, taking into account reactions from patients’ families, hospitals and nursing homes as well as staff appraisal of the quality of the work. Summary results will be available on the Internet by 2002. It is intended to present some data comparing satisfaction rates and costs between institutions.

253. Overall, this benchmarking exercise helped to improve transparency in the sector and encouraged providers to compete for cost and quality. It helped to identify areas for improvement for both the home care institutions and the government.

### ***3.2. Self-regulation to control the cost and quality of pharmaceutical consumption***

254. Pharmaceuticals represent about 11% of total health care expenditure in the Netherlands. While this is significantly under the OECD average of 15%, the growing volume and cost of pharmaceuticals have been an important policy preoccupation in the Netherlands as in other OECD countries.

255. In 1991, a list of *reference prices* has been introduced for all drugs, which are grouped into certain categories according to their content and therapeutic value. Sickness fund (and most private) patients can obtain drugs at or under the reference price set without co-payment. Adjusting the levels of reference prices has been the main tool of cost control for the government in recent years. In 1996, the Pharmaceutical Prices Act forced the pharmaceutical industry to lower their prices by an average of 20%. The same year the Ministry of Health introduced a positive list of pharmaceuticals that are reimbursed by the public health insurance. There is a special procedure for admitting new drugs to the list, which has proved successful in slowing down the rate of introduction of new drugs in the Netherlands (Okma, 2001).

256. Parallel to the price control policy, policies aiming to influence physicians’ prescription behaviour has been an important part of Dutch pharmaceutical policy. Since the end of 1980s, self-regulatory cycles (FTO groups) bringing together pharmacists and general practitioners have been in place to provide “peer advice” concerning prescriptions. The originally drug-oriented focus (cost-effectiveness of recent drugs, and the possibilities of substituting generic drugs for brand names) in the FTO-groups is losing ground for a more disease-oriented focus in which national guidelines are used. These mixed peer meetings are initiated and organised by the pharmacists who select the topics and prepare the programs based on local/actual problems (such as variations in prescription for diabetics). In this way, pharmacists hope to improve their contact with GPs and their prescription behaviour in order to improve the



information and pharmaceutical control of patients. Re-defining the role of pharmacists in the health care system as care providers with more responsibility for the quality and cost of pharmaceuticals, and for the efficient use of drugs has been one of the major elements of new government policy in this area. Physicians are encouraged to use information and communication technology (ICT) in their daily work. Programs are available to support GPs in their prescription decisions.

257. The prescription practices of Dutch hospitals have also been of concern. In hospitals, there is no budget mechanism controlling overall expenditure for prescribed drugs in outpatient clinics (in-patient drugs are counted in global budgets), which counted for about 15% of the volume of extramural use of pharmaceutical products and represented 30% of the extramural pharmaceutical expenditures in 2000. Prescriptions for new and expensive drugs have been identified as a major cause of the rising cost of pharmaceuticals. Research has shown that specialists play a key-role in the introduction of new (and expensive) medicines.<sup>4</sup>

258. In this context, the Ministry of Health took the initiative in 1999 to encourage a system of regional consultation groups (FTTO) for outpatient clinics. The Ministry offered funding through the regional health insurance funds to outpatient departments in order to experiment with different quality improvement programs for pharmaceutical prescriptions. The aim of these quality improvement programs is to improve the co-operation between GPs, pharmacists, specialists and clinical pharmacists in FTTO-groups and to contribute to more efficient prescription behaviour. The local groups were free to choose their own targets and develop their own methodology. The only condition imposed by the Ministry for financing a program was the presentation of measurable outcomes. From 1999 to 2000, six regional programs have been successfully implemented. Examples of programs that have been implemented ranged from the production of regional guidelines for diabetes to implementation of a program to reduce of overall antibiotic consumption in a region. Different methodologies and recommendations for specific diseases have been presented as a report and are accessible *via* Internet ([www.minvws.nl](http://www.minvws.nl), [www.farmazorg.nl](http://www.farmazorg.nl)).

259. The overall cost of the project for the year 2000 was 9 million Dfl. (4,1 million Euro). The final report assessing the impact of each initiative in terms of measurable outcomes (cost reduction, improvement in prescription behaviour, etc.) will be available at the end of 2001. Preliminary results indicate that most of the initiatives have proven to be successful in reaching their targets. For example, antibiotic consumption in Maastrich has dropped about 9.5% in line with the initial objectives. Moreover, national guidelines for specific diseases could successfully implemented on a regional level through FTTO-groups.

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<sup>4</sup> RIVM (National Institute for Public Health and the Environment), rapport 278620 001, Stijgende geneesmiddelkosten: theoretische en praktische inzichten, oktober 1999, van den Berg, Jeths, Stokx, Vosa, Kommer, Ribbens, van de Ende.

## C. NEW ZEALAND

260. New Zealand consists of two main islands and a number of lesser islands. Its 3.8 million people live mostly in urban areas (80% of the population). New Zealand's ethnic composition -- 15% of New Zealanders identify themselves as Maori and almost 6% as Pacific Islander origin -- is quite unique and an important determinant of health planning and delivery. Total health expenditure accounted for 7.9% of GDP in 1999.

### 1. Overview of the New Zealand's Health System

261. *Health Outcomes.* Average life expectancy at birth in New Zealand is 80.4 years for women and 75.2 years for men, and is above the OECD average. Despite a significant fall in premature mortality over the past 10 years, an estimated 70% of deaths before age 75 were still potentially avoidable.<sup>5</sup> Smoking, eating habits and physical inactivity were identified as major risk factors contributing to premature mortality. As in many other OECD countries, there is a visible gap in health status between different socio-economic groups, in particular between the Maori population and the rest of the population.

262. *Administration.* The Ministry of Health is the government's principal adviser on strategic health policy, health financing, the regulatory framework, and monitoring of health outcomes. Health care is co-ordinated by 21 district health boards, which are accountable to the Ministry of Health and comprised of a majority of locally elected and a few centrally appointed members. These boards are responsible for planning most health and disability services as well as the level, mix and quality of services to meet health goals and targets set by the Ministry of Health. Public hospitals are directly owned and managed by the district health boards. Funding is allocated between district health boards according to a formula based on resident population weighted by relative health needs (taking into account factors such as age, sex and disability).

263. New Zealand's health care system underwent major reforms in 1993, 1996 and 1999. The main feature of the 1993 reforms was the institutional separation of financing, providing and purchasing health care. The Ministry of Health has been responsible for funding health care while purchasing was put in the hands of four ministerially appointed, regional health authorities. Responsibility for the provision of hospital services was given to 23 Crown Health Enterprises (CHEs, previously hospitals). Competition between providers was encouraged and CHEs were required to earn commercial rates of return. In 1996, the number of purchasing bodies was reduced from four to one and the emphasis on competition was replaced by co-operation. In 1999, the new Labour government abolished the purchaser/provider split altogether and district health boards were given the responsibility for co-ordinating health care.

264. The current system restores a form of local governance similar to the area health boards before 1993. However, special emphasis has also been given to develop national strategies, to identify objectives and priorities for improving health levels of the population. An important aspect of the new system has been the strengthening of the input into decision making by local populations, in particular with

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<sup>5</sup> Ministry of Health, *Our health our future. Health of New Zealanders*, 1999.

mechanisms at the district health board level to enable Maori communities to contribute to decision-making.

265. *Financing.* Health care services are mainly publicly funded through general taxation. Public financing accounts for about 77% of total health care cost, with the rest being financed through out-of-pocket payments (17%) and private insurance (6%). Secondary and tertiary hospital services are available free of charge for all New Zealanders, while high co-payment is required for primary care and long-term residential services. Low-income residents and those who need to use medical services frequently (the chronically ill, etc.) can be exempted from co-payments. Since 1996, children under 6 years old are eligible for free health care from GPs. Doctors are free to set their own fees<sup>6</sup> but the level of user charges is monitored by the New Zealand Medical Association.

266. About 33% of families, mainly those in higher income groups, have private complementary insurance for user charges for primary care and for some hospital services such as elective surgery. While the percentage of the population covered by private insurance has declined steadily from 41% in 1991 to an estimated 33% today, the share of private insurance in total health expenditure has doubled during this period<sup>6</sup>.

267. Before the introduction of regional purchasers, GPs worked as independent single providers who did not have any formal contact with the government. The introduction of purchasers with capped budgets for primary care (instead of a demand driven system) in 1993 led general practitioners to find new organisational forms in order to enter into more formal relations with purchasers. Many individual practitioners joined Independent Practitioner Associations (IPA), which are owned and controlled by GPs themselves. IPAs have also started to manage budgets for pharmaceuticals and laboratory services. IPAs are described and analysed more in detail in the 3<sup>rd</sup> section.

268. *Provision of Care.* Direct and free provision of secondary care through public hospitals is coupled with a system of subsidies for private primary care and for pharmaceuticals. Public hospitals are entirely funded by the state on the basis of their estimated size of the population they serve. Doctors work as salaried employees in public hospitals, while they are allowed to work part time in the private sector. There is also an active private sector, which plays a rather complementary role to the public system by specialising in those cases of “non-acute” care where waiting lists have been a problem in the public sector. For the most part, high specialist knowledge and technology intensive procedures continue to be the domain of the public sector.

269. Primary care is organised quite independently around private general practitioners who are paid on a fee-for-service basis. Patients have free access to any general practitioners, with no limit to the number of visits. But, primary care practitioners act as gatekeepers to specialist and hospital services. Public subsidies are provided for low income and high-user groups as well as child and maternity care. The rest of the adult population pays for the full consultation fee, but they receive subsidies for pharmaceuticals and laboratory tests prescribed by their GP.

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<sup>6</sup> Ministry of Health, *Health expenditure trends in New Zealand, 1980-1999*, Wellington.

## **2. Performance measurement and improvement**

### ***2.1 Main values and objectives of New Zealand health system***

270. The New Zealand Health Strategy is a legally binding document issued by the Ministry of Health that identifies fundamental principles and provides an overarching framework within which the health sector should operate. Ensuring good health and wellbeing of all New Zealanders, improving health status of those currently disadvantaged, collaborative health promotion by all sectors, timely and equitable access to health services and building a high performing system in which people have confidence and active involvement of consumers are stated as being the main goals of New Zealand health system.

271. The seven main health goals, which reflect the fundamental principles of the system, are supported by some 60 specific health objectives identifying key points and areas of action for attainment of these goals. An evidence-based approach is adopted to design major priority areas by taking into account the size and distribution of disease burden for different groups. This evidence-based priority and goal-setting approach is quite unique to New Zealand. Much attention is also paid to the non-medical determinants of health and, in particular, to promoting healthier life styles by reducing smoking, improving nutrition and encouraging greater physical activity.

### ***2.2 Perceived problems***

272. Public concern about waiting times and the affordability and availability of health services have been major issues in New Zealand as in many other countries. The New Zealand response to the pressure for increased funding, stemming in part from increasing public expectations, has been to develop evidence-based tools for prioritisation and decision-making about funding levels and initiatives. An underlying principle has been that while not everyone can be satisfied with the difficult trade-offs that need to be made, improving transparency and an evidence-based approach would facilitate finding an acceptable distribution of limited resources.

273. The most pronounced policy preoccupation is the wide gap in health status between different ethnic and social groups. Maori, Pacific people and people in lower socio-economic groups have significantly poorer health status and a higher incidence of disability. Reducing inequalities by providing better access to health care for these groups as well as improving their health *via* non-medical determinants such as improving life-style behaviour is high on the policy agenda.

274. Other priority areas stated in the National Health Strategy are improving primary care and reducing waiting times for elective services.

### ***2.3 Institutions and incentives for performance measurement and improvement***

275. This section identifies the roles of main incentive mechanisms in the New Zealand health system for improving health care performance in terms of quality, efficiency, equity and outcomes. It also presents the main institutions involved in the performance “measurement and improvement cycle” and looks at some recent initiatives to tackle different performance issues.

*Regulation and external scrutiny*

276. The New Zealand Public Health and Disability Act 2000 requires that District Health Boards (DHB) monitor the performance of service providers by ensuring that there is an appropriate focus on audit and measurement. While the primary responsibility for the safety and quality of services rests with the service provider and health professional working for it, funders have responsibility for the audit and monitoring of the service agreements they have with providers. In particular, all agreements for provision of nation-wide services are supposed to contain the same measurable performance standards. Service agreements must set out the data and information that are to be collected as well as the standard against which they are to be measured. The Ministry of Health and the DHBs review and decide together which indicators will be part of a nation-wide service framework. A system for managing and reporting complaints is also a requirement of most provider agreements.

277. Two other important projects that aim to improve health care quality are the “Sentinel Events Project” (SEP) and “Credentialling”. SEP provides a guideline on processes and systems for organisational reporting and investigation of incidents, accidents and hazards in the health sector. Credentialling, originally initiated by HFA and now supported by the Ministry, aims to ensure that people are adequately trained and updated for the jobs they are doing and concerns all senior medical officers in public hospitals. The ultimate aim is to protect patients by carefully defining the clinical responsibilities of health professionals on the basis of their training, qualifications and experience within an organisational context. Credentialling is seen as part of a wider organisational quality and risk management system designed primarily to protect the patient. Until now about half of the DHBs have completed some initial credentialling of at least one specialty group. No one national standard for credentialling has been developed yet. While the principles are generic, the process of credentialling in practice may differ between professions and organisations. It has not been decided which organisation will audit the standard that is set.

278. There is also an independent non-profit organisation, Quality Health New Zealand (QHNZ), working as a national accreditation body for hospitals and other health and disability services. Initially it was set up as the Council on Health Care Standards to provide a voluntary accreditation program for hospitals, funded jointly by the government, area health boards and private hospital association. Since 1995 QHNZ is financially independent. While accreditation is not compulsory in New Zealand, 60% of public hospitals and about 40% of private hospitals are accredited or preparing accreditation through QHNZ. Accreditation is carried out by health professionals and healthcare managers, working mostly on a voluntary basis and applying a formal procedure. QHNZ also provides quality improvement reports for specific services and proposes audit tools and standards to measure particular aspect/areas of service. There is some intention to make accreditation obligatory with the new legislation.

279. Until 1994, there was little external scrutiny of the quality of care and the entire responsibility for this issue was with medical profession. Under the Accident Compensation Scheme, introduced in 1974, only no-fault claims could be made in response to medical adverse events (Dew and Roorda, 2001). Patients could claimed damages arising from personal injury in the form of compensation for loss of work (80% of wages earned) but could not sue their treating doctors for medical malpractice. While this system assured (to a limited degree) financial compensation for patients, there were no repercussions for the doctor concerned in the case of incompetence.

280. As in many other countries, the public revelation of several cases of medical malpractice in the late 1980s, as well as new health reforms in the early 1990s, created pressure for more accountability in the medical profession. Accordingly, the Health and Disability Commissioner Act was introduced in 1994 to provide a stronger advocacy of patient’s rights through a Health Commissioner who would be appointed to act as a negotiator and mediator between patients and the medical profession in case of a complaint. The

Commissioner has the right to participate in disciplinary or other proceedings of the medical profession, and so act as an advocate on behalf of the patients.

### *Self Regulation*

281. Doctors must be registered with the Medical Council in order to practice in New Zealand. The Medical Council is the official body to ensure that doctors are competent to practice medicine. The Medical Practitioner Act of 1995 gives the Medical Council the responsibility of imposing quality assurance programmes on its members and to review the competence of a practitioner at any time.

282. The council carries out reviews of doctors' competence on a random basis or in response to a complaint or concern. Competence reviews aim to ensure that a doctor is practising safely and has an acceptable level of knowledge and skills. Standardised techniques such as reviewing patient management, record-keeping, and a patient satisfaction questionnaire on the doctor's interpersonal skills are used for evaluation. Depending on the results of a review, the Medical Council may require the doctor to attend an educational or training program or to work under supervision, or may, in some rare instances, temporarily or permanently suspend the doctor from practising. The costs of the review process are met by the medical profession.

283. Since July 2001, re-certification through self-audit and peer review has become obligatory for all medical practitioners. While the Medical Council will set the basic requirements for re-certification programmes, different medical groups will have the possibility to develop their own programmes.

284. It has been suggested that the competitive environment that prevailed during the 1990s in New Zealand, following a number of market-based reforms, may have undermined some of the traditional norms and values of medical self-regulation. It has been suggested that collaboration between health professionals, sharing innovations and information to improve clinical performance may have declined somewhat in response to the new objectives and agendas that were set by managers appointed externally (Ashton, 2001; France *et al.* 2001). The threat of losing contracts may have discouraged the sharing of innovations and ideas, with information sometimes being withheld on the ground of commercial sensitivity. Collaboration between health professionals was undermined by the transformation of the medical profession into distinct institutional groupings, each with their own specific objectives and agenda. Shifting away from competitive contracting back towards a more collaborative system in 1996 may have eased some of these problems.

285. In the primary sector on the other hand, one -- largely unplanned -- impact of the reforms appears to have been more "clinical governance" through the operation of Independent Practitioner Associations (IPA), which were created as a response to uncertainty arising from the reforms. The IPAs will be developed further in the next section.

### *Guidelines*

286. In New Zealand, clinical guidelines are developed by a range of professional groups including IPAs, specialist societies, professional colleges and hospitals. There is also an independent national body, New Zealand Guideline Group (NZGG) which has an important role in training both professionals and consumers in guideline development and implementation. The group consists of both the representatives of medical profession and consumers and works for developing and disseminating evidence-based information and effective practice guidelines.

287. Considerable progress has been made in the development and implementation of guidelines for better prescribing, especially in the primary sector. IPAs have been quite active in guideline development, providing personal feedback to GPs on prescribing behaviour and laboratory use, and developing educational programs for better prescription. But there is an ongoing discussion about whether there is really a need for developing specific guidelines for New Zealand, rather than sharing international knowledge and concentrating more on the dissemination of best practice.

#### *Targeting and priority setting*

288. New Zealand has made considerable progress in developing explicit service prioritisation at the national level using an evidence-based approach. The 1993 health reforms had a focus on improving managerial accountability not only in terms of financial results, but also in terms of allocative efficiency (i.e. maximising benefits with available funding). Descriptions of health and disability services to be made available to New Zealanders are promoted through annual policy guidelines to better guide purchasing decisions.

289. A major component of the restructured New Zealand system in 1993 was the creation of a National Advisory Committee on Health and Disability services, since then re-named the National Health Committee. The Committee was charged with providing independent advice to Ministry of Health on the kinds of public health, personal and disability services that would be publicly funded and on the relative priorities of these services. Initially the Committee was asked to define a list of “core services”, i.e. those essential or fundamental services that had proved to be effective, that would be funded under government contracts. The committee never developed such a list as technical difficulties in rating services by value for money and conflict between sectional interests proved “too hard” to resolve.

290. Instead, the Committee focused on promoting increased awareness and information on the effectiveness of particular services using international evidence and professional opinion to develop best practice guidelines. A number of guidelines have since been developed that set out eligibility criteria for various services and the circumstances under which patients are likely to derive significant health benefits. The Committee suggested that these guidelines would provide greater transparency as to which services should be publicly funded, for whom and when. In fact, these guidelines have gradually become an important component of decision making. For example, publicly-funded coronary bypass graft surgery would now only be carried out, if the patient’s clinical circumstances indicated a likelihood of substantial benefit from the operation.

291. This approach has also been used to deal with long waiting lists for elective surgery, a long-standing issue. With the principle goal being to achieve the maximum possible health gain with the limited available funds, the National Health Committee initiated a project to develop national criteria for assessing the priority that should be given to patients for medical and surgical procedures. The new system is designed in a way that people with the biggest need and the greatest potential benefit get surgery first, and the same evidence-based rules apply throughout New Zealand. Until now the reactions from the public and the medical profession to the new system appear to be positive.

#### *Measurement and use of information*

292. Parallel to the demand for increased accountability in the health sector, New Zealand has made significant progress in improving its health information base. About 98% of patients are in a National information system (National Health Index) which allows linking patients’ characteristics with treatment and expenditure data.

293. It is relatively easy to access information on hospital utilisation and outputs. Data on hospital use is captured in the National Minimum Dataset, a nationally consistent database accessible by all District Health Boards. Moreover, publishing regular data on hospital performance has become a routine exercise over the past decade. The Hospital Monitoring Directorate (HMD) of the Ministry of Health monitors and reports on the performance of the hospital sector overall and separately for each Crown owned hospital. Information on hospital activity (cost and volume), patient satisfaction and infection rates are regularly reported. Hospital specific mortality, readmission and complication rates are monitored, but not included in performance reports. The increased focus on benchmarking for comparing performance between providers has led to the development of a standard set of key indicators for all hospitals. Since the beginning of 2001, Balanced Scorecards are used for evaluating the performance of hospitals by pooling together information on four areas: quality and patient satisfaction; organisational health; process and efficiency; and financial performance. Within this framework 12 key performance indicators are identified (4 for each dimension) for which data is collected from all hospitals. There are also a set of more detailed indicators for which data collection is optional for the time being, but reflects areas for future development.

294. For the primary sector, there is a clinical data set that is designed to warn health-care providers about possible risk factors (Medical Warning System, MWS). MWS is only accessible by the medical profession who also has the responsibility for maintaining the content of the system.

295. Moreover, The New Zealand Health Information Service (NZHIS) collects and manages information on mental health, the incidence of cancer and a National Booking Reporting System which holds information on patient waiting times and booking status.

296. While there is no one global national framework of health performance indicators, an important part of policy development in New Zealand has been the development of indicators to capture different aspects of the health care system, such as access to care, ethnic inequalities in health and quality of care.

#### *Financial incentives*

297. Prior to 1993, hospital services in New Zealand were provided and funded by 14 elected area health boards according to a population based funding formula. The pro-market government elected in 1992 was dissatisfied with the performance of these arrangements because of a range of problems including budget deficits, rising waiting lists and falling public confidence. A purchaser-provider split which introduced the mechanisms of the market was the core of the reforms introduced in 1993. Purchasing was put in the hands of four ministerially appointed, regional health authorities (Devlin *et al.* 2001). It was considered that restructuring public hospitals as business would provide the necessary incentive to enhance performance. Public hospitals, renamed as Crown health enterprises, were required to earn commercial rates of return, and were encouraged to compete. Crown health enterprises and Regional health authorities negotiated contracts for services. The contracting process was to be competitive allowing private hospitals and other providers to compete.

298. However, it has been reported that little competition between hospitals took place, purchasers were often dominated by providers, transaction costs were high and many Crown enterprises continued to generate deficits and had to be supported financially. On the other hand, in some areas observable performance improved after the 1993 reforms, for example, activity rates continued to rise and length of stay fell. More importantly, better information systems contributed to greater accountability and better management. However, the claimed 20 to 30% savings from market competition did not materialise (Hornblow, 1997) and hospital waiting times have continued to increase. Concerns were also expressed that quality was being sacrificed at the expense of quantity of care. In primary care, substantial charges for consultations with GP became to be seen as a significant barrier to access for the disadvantaged.



299. In 1996 a new coalition government replaced competition by co-operation and the for-profit status of hospitals was removed. The four regional health authorities were replaced by a single Health Funding Authority (HFA). A more detailed analysis of the initiatives and the performance of HFA is presented in the next section.

300. More recently, in 1999, a new Labour government abolished purchaser/provider separation altogether and re-introduced elected district health boards, 21 in number, to act both as funders and providers of hospital care. In many respects, structural reform of the delivery of hospital services in New Zealand has come full circle in less than a decade.

### **3. Learning from New Zealand's experience: Case studies**

301. This section presents case studies of New Zealand's experience with different types of initiatives for measuring and improving health care performance in New Zealand. The use of targeting and financial instruments is covered in the first case study which examines the role of the Health Funding Authority (HFA). HFA has been the main institution responsible for purchasing health care services in line with the objectives set by the Ministry of Health for the whole health sector. Self-regulation is covered in the second case study which presents Independent Practitioner Associations (IPAs) as a possible successful example of clinical leadership or clinical governance in primary care. The use of external scrutiny is covered in the final case study which examines the experience of the Pharmaceutical Management Agency (PHARMAC). PHARMAC is responsible for managing pharmaceutical subsidy expenditure in New Zealand and the evidence-based approach it has adopted for carrying out its role might be inspirational for other countries.

#### ***3.1. Managing the performance of the Health Funding Authority***

302. The Ministry of Health entered into an annual funding agreement with the Health Funding Authority (HFA) throughout the period during which the HFA was responsible for purchasing health services in New Zealand. The funding agreement was the key accountability document against which the HFA would be monitored. It set out key objectives and the measures and reporting requirements to monitor performance against these objectives, and specified the funds that would be made available to carry them out. The agreement also outlined baseline services that the HFA would be required to ensure are available including access and safety standards.

303. While the objectives were related to priority outcomes, most of the performance measures for the HFA specified processes and outputs that might contribute to these outcomes. For example, in 1999/2000, 12 objectives were set out including: 'Public certainty about access, quality and security of services'; 'timely, equitable and nationally consistent access to elective services' and 'decreased long-standing disparities in health status'. Performance measures relevant to these objectives included "improving service coverage information for public", "provision of information to providers", "credible level of access to surgical services", "purchase of services for Maori health priority areas".

304. A quarterly performance report was published. For example, the HFA performance report in the first quarter of 2000/2001 recorded that 30 performance targets had been achieved, and another 11 had been substantially achieved. Targets stated as "substantially" achieved included a significant reduction in the number of women at risk for cancer of the cervix waiting longer than 6 months for colposcopy, contracting additional mental health services to better address mental health needs and developing a strategy for support services for people with disabilities. Three performance measures were not achieved, including a target to reduce growth in expenditure on community referred laboratory services, and targets to reduce the incidence and impact of diabetes in New Zealand.

305. Most of the performance targets set for the HFA appear to have been related to process rather than outputs. However, data on all major areas such as waiting times for elective surgery, health status of different socio-economic and ethnic groups and service provision have been collected. Moreover, the Performance Management Unit at the Ministry of Health has prepared regular reports on risk-adjusted mortality, readmission and complication rates for hospitals in New Zealand. These are provided to monitor progress, raise questions and engender discussion. Since 2000, balance score cards pooling together information on cost, quality and outcomes, are used to compare hospital performance, and quarterly reports are available to the public.

306. Overall, this process of formalised contracting arrangements between the funder/government and a central purchaser appears to have improved accountability and transparency of care provision and purchasing in New Zealand through better data and measures of performance. Holding purchasers responsible for the delivery of outputs and process with close policy guidelines in terms of health targets or priority areas has permitted the funds to be allocated to areas long ignored such as Maori health, health of the disabled or dental care. However, it is less certain what has been the impact of these arrangements on health outcomes. In particular, no evaluation appear to have been done of the performance of the HFA compared with the preceding period when there were four purchasing authorities and providers competed with each other.

### ***3.2. A model of self-regulated clinical governance: from Independent Practice Associations to Primary Health Care Organisations***

307. Primary care in New Zealand has been traditionally provided by general practitioners (GP) on a fee-for-service basis. Public subsidies are provided for low-income and high-user groups as well as child and maternity care. The rest of the adult population pays for the full consultation fee, but they receive subsidies for pharmaceuticals and tests prescribed by their GP. The reforms introduced in 1993 had a significant but largely unplanned impact on the organisation and delivery of primary care.

308. Before 1993, GPs worked as independent single providers who did not have any formal contact with the government. As a reaction to the perceived threats posed by reforms, and to be in a stronger negotiating position, many GPs joined Independent Practitioner Associations (IPA) owned and controlled by GPs themselves. While participation was voluntary, the majority of practitioners joined (80% by the end of 1997). The size of the organisations ranged from the smallest group practice of 7-8 members to 340 members, with an average of about 75 members. Associations were managed by an elected board of members. Some have extended board membership to community representatives including non-general practitioners.

309. The majority of practice associations claimed to be non-profit professional bodies with goals of “achieving better health outcomes for their patients” and “making better use of public money”(Malcolm *et al.* 2000). IPAs started to contract with Health Funding Authorities to hold budgets for laboratory tests and pharmaceuticals prescribed by GPs. However, they have continued to receive fees for their general medical services.

310. The incentive to budget hold for IPAs has been the opportunity to improve clinical decision-making and achieve savings to develop new services. Budgets were based on historical costs adjusted for projected growth. Associations were able to keep varying proportion of the savings from their budgets. As non-profit organisations, IPAs have used the savings to cover administrative costs, information systems, and the development and provision of new services and educational programs. On the other hand IPAs refused to bear the full financing risk as they did not have the capital base to cover over-expenditure.

311. IPAs have provided leadership in several areas which contributed to improve collective professional accountability in general practice, or what is called “clinical governance” (Bloom, 2000). They increased the awareness of quality of care issues with improved information systems. Nearly all IPA practices have established computerised registers including patient age-sex characteristics. These computerised registers allowed IPAs to provide routine feedback to GPs on variation in per capita expenditure and effects of budget holding strategies. One important contribution of practice registers has been the extension of the unique national patient number, National Health Index (NHI) initiated in the hospital sector, to primary care. NHI is the key identifying data which enables patient data (and their characteristics) to be linked with utilisation (treatments, prescriptions, tests) and expenditure of primary and secondary services.

312. Many IPA practices have been successful in achieving some savings within their budgets. While agreeing budgets with funding authorities was not always easy, budget holding allowed IPAs to develop some new activities to improve the quality of general practice such as guideline development, personal feedback to GPs on prescribing behaviour and laboratory use, and peer group reviews and educational programs for better prescription. Outcome-oriented performance measurement and multidisciplinary practice teams were strongly supported. Some practices used the savings to improve patient services such as improved care for children, health promotion programs, immunisation and education.

313. The improvement in health information system helped to identify wide variations in clinical behaviour between different IPA practices, in terms of volumes of visits per capita and prescribed drugs and tests. Moreover, it appeared that primary care utilisation of poorer populations continued to be much lower than “better-off” populations. The adequacy of IPAs to address issues of equity and sector-wide effectiveness have been questioned.

314. With an emphasis on prevention, the current Labour government has developed a comprehensive primary health care strategy where services are organised around the needs of a defined group of people. Within this approach Primary Health Organisations (PHO) will be the structures to achieve health goals locally. People are encouraged to join PHO by enrolling with a provider of a primary care. PHOs are not-for-profit bodies paid by District Health Boards for the provision of a set of primary health care services for those people enrolled. PHOs are expected to involve their communities and practitioners in the governing process. Membership to the PHO is voluntary for GPs. The implementation of this new model is expected to take several years.

315. General practice in New Zealand has been through a significant evolution with the rise of clinical leadership or clinical governance in the 1990s. The development of collective professional accountability had a strong influence on improving awareness of quality of care and resource management issues in primary care. While the savings from budget holding were seen as modest, delegating budgets to general practitioner organisations did change the resource use, even when the practices do not bear the full financial risks. More importantly, the success in collective actions to improve clinical decision making *via* better information systems, formulation of guidelines and education programs established a base on which further enhancements have been built.

### ***3. 3. Improving value for money and containing cost of pharmaceuticals: The Pharmaceutical Management Agency***

316. The growth of public expenditure on pharmaceuticals has been a major preoccupation in New Zealand, as in many other OECD countries. The Pharmaceutical Management Agency (PHARMAC) was established in 1993, to effectively manage public spending on pharmaceuticals. The mission of PHARMAC is “to optimise the contribution of pharmaceuticals to health care, that is to get the best value

for money -- measured in terms of health care gains -- from the public expenditure on pharmaceuticals. In New Zealand, most of the cost of pharmaceuticals are subsidised for those medicines approved by PHARMAC.

317. The PHARMAC is an “active buyer” in the market in deciding which pharmaceuticals will be in the list subsidised by the national health system. It has an evidence-based approach to set the priorities for the entire system and balance the needs of patients and prescribers (Braae, McNee and Moore, 1999). Well developed information systems in New Zealand helps to assure continuous assessment of drug performance and cost, patient needs and public health priorities.

318. PHARMAC uses cost-utility analysis based on measuring cost per quality-adjusted-life-year (QALY) as one way of comparing the “value” of different drugs. It conducts the cost-utility analyses by considering the costs and benefits within the entire health sector. For example, if a drug reduces the number of visits to doctor, this would be considered as a direct benefit. Cost-utility analysis for different group of patients is also used to determine those patients for whom the public subsidy will provide the best value.

319. Moreover the experience of PHARMAC suggests that a range of regulatory and financial instruments can be effectively employed in containing publicly subsidised pharmaceutical consumption. Some of the most effective tools suggested to be reference pricing (where drugs grouped into therapeutic sub-groups based on clinical evidence), expenditure caps (contractual agreements where if annual public expenditure exceeds an agreed cap, the balance is paid back by the drug company to the government) and tendering to enhance price competition in the generic markets.

320. All of these measures appear to be successful in slowing down the pharmaceutical expenditure growth in New Zealand. From 1993 to 2001 the growth rate averaged 3%, while the overall price index for subsidised medicines dropped about 30%. Both the volume and mix of prescribed products in the market continued to increase over this period indicating improved patient access for subsidised drugs.

321. The PHARMAC experience suggests that evidence-based regulation dressed with proper tools can be an effective way of improving value for money and containing cost in a pharmaceutical market.

## D. SWEDEN

322. Sweden has 9 million people, concentrated mostly in the coastal regions, largely urban and highly industrialised. The Swedish tax system has been characterised with very high rates and a narrow tax base. The high taxes pay for quite extensive health and welfare benefits. The entire population has the right to comprehensive health care, including primary and hospital care, home care, long-term care, all medical equipment and pharmaceuticals, with some limited co-payment.

### 1. Overview of the Swedish health system

323. *Health outcomes.* With 82 years for women and 77 years for men, life expectancy in Sweden is one of the highest in the world. Infant and perinatal mortality rates are among the lowest in the OECD area, while in terms of reducing premature mortality for men Sweden is the best performing country. Although the health gaps between different socio-economic groups is a concern, they appear to be relatively small in Sweden compared with other industrialised countries. Increasing prevalence of mental illness, particularly marked among young people, indicates an important health problem.

324. *Administration.* The Swedish health system is a decentralised public system with three political and administrative levels -- central government, County Councils and local authorities -- involved in provision and evaluation of health care activities. The central government has only a supervisory role, while County Councils and local authorities are responsible for the financing and provision of health services.

325. The Ministry of Health and Welfare lays down the main principals concerning health care services through laws and ordinances. It also has the responsibility for evaluating the results and performance of the services provided by means of a follow-up system. The National Board of Health and Welfare is the government's central advisory and supervisory agency. The main task of the agency is to supervise, monitor, and evaluate the health care services provided to see whether they correspond with the goals and standards set by central government.

326. County Councils are responsible for provision and organisation of health services within their own geographical area. There are 21 County Councils, which are autonomous bodies elected locally for four years. The population of these counties varies between 60 000 to 1.7 million people. About 85% of county council tax revenues are devoted to health care services. The County Councils decide on the allocation of resources to health services and are responsible for overall service planning. They also own and run hospitals, health centres and other institutions, although private institutions -- usually contracted -- supplement these services.

327. The responsibility for providing long-term care for elderly and disabled people has been shifted from County Councils to local authorities in 1992. Also, local authorities have an obligation to pay for elderly patients who were obliged to stay in hospital because they could not offer a suitable place or arrangement, for example, in a nursing home.

328. *Financing.* The Swedish health system is predominantly publicly funded by local taxes collected by counties. Local tax revenues pay for about 70% of total health care expenditure. Grants from the National government account for about 20% of the health care expenditure, and around 4% is covered by patient fees. The rest is financed by County Councils' other revenues.

329. Patient fees and public doctor salaries are set by County Councils. County Councils in a region (there are six medical regions) usually co-operate to control the prices for highly specialised care as well as research and training of doctors. Patients pay fixed fees for each consultation. The fee varies from SEK 50 to SEK 130 (US\$5 to 15) for a family physician consultation, and from SEK 120 to SEK 250 (US\$15 to 25) for specialists. A cap is set of SEK 1800 (US\$150) within a year, after which any health service (except dental care) is free of charge. The co-payment is same for everyone and kept by the county council.

330. Sweden appears to keep control over the proportion of its GDP devoted to health care at about 8% with a small but steady decline in the past 10 years. With Ireland, it is the only country who has managed to reduce health care cost over this period among OECD countries.

331. *Provision.* In Sweden the provision health services is seen as a public responsibility. In 1999 private health care provision accounted for only 3/25 million consultations. Only 8% of physicians and 40% of dentists work as private practitioners.

332. A relatively large part of health care resources has traditionally been allocated to the services provided at hospitals. The number of general practitioners in primary sector makes up only 20% of the total number of doctors. There is no formal referral system at the primary level. Patients can go directly to hospitals and obtain specialist hospital care without going *via* the primary services. The great majority of doctors are salaried, although recently some capitation arrangements have been introduced. Almost all hospitals are public and mostly financed by global budgets.

333. Until recently the National Board of Health and Welfare (NBHW) determined the number and allocation of positions in different specialities throughout the system. This had an effect both on the control of health technology and on ensuring geographic access for the population. Recently the responsibility for determining the number of positions for doctors was transferred to County Councils, but the government still has influence on the total number of physicians and nurses. Nurses represent an important part of hospital personnel in Sweden as they are trained to perform a variety of tasks that are often carried out by physicians in other countries. With more than 3 doctors and 10 nurses per capita, Swedish system is personnel-intensive compared with other OECD countries.

334. Since 1994 family doctor reforms, patients are free to choose the health centre, hospital and/or a family doctor anywhere in the country. If they choose to go to a hospital outside the county in which they live, a referral may be required. Capitation based payment were introduced for family doctors.

335. Pharmaceutical expenditure represents about 10% of the total health care cost in Sweden. Registration and pricing of pharmaceuticals as well as quality control is made by independent government institutions. People pay the full cost of medicines up to a yearly limit (SEK 1800 per adult, 900 for children). For insurance coverage National Pharmaceutical Board must give approval before market introduction and it negotiates the prices. Currently, the main preoccupation for the National Pharmaceutical Board is safety and no evaluation is made on cost-effectiveness. However with increasing preoccupation on the cost of pharmaceuticals in Sweden, recently the Committee on Reimbursement for Medicines has recommended that the Board should carry out a financial evaluation (cost-effectiveness) for all the medicines to be subsidised by the reimbursement scheme.

## **2. Performance measurement and improvement**

### ***2.1 Objectives of the Swedish health care system***

336. In Sweden, health care is a public responsibility, and good health and equal treatment for the entire population are the fundamental goals (Health and Medical Service Act, 1982). The Act states that medical services must be of high quality and designed to meet patient's need for security and treatment, accessible to all and based on respect for capability and integrity of patients. There is a special emphasis on offering designing the treatment and care, as much as possible, in consent with the patient.

337. In the 1990s the important targets of Swedish health system was to assure access and patient focus of health services with a sustainable knowledge base. The commitment to healthy public policy at national and local level is an important characteristic of Swedish system. The National Public Health Committee comprised of members of the parliament as well as experts representing government authorities, scientific institutions and different population groups, sets 'improved health for all and equity in health' as main goals for national policy. The Committee also defined some 18 specific health objectives including 'access to objective and impartial health information for all', 'more health-promoting health care with emphasis on effective interventions and disease prevention', as well as improving social and working environment (reduced poverty, better housing and working conditions).

### ***2.2 Perceived problems***

338. One of the problems of the Swedish health system is considered to be a lack of integration between primary health care and hospitals, with too much orientation on institutionalisation as GPs do not act as gatekeepers. The lack of choice for patients and unsatisfactory access were the most preoccupying problems in the early 1990s, but several reforms introduced since then seem to have had a positive impact on the situation.

339. Lack of incentives for producers to improve efficiency and increasing cost of pharmaceuticals were seen as some of the actual problems. On the other hand, a global cost containment policy in recent years, with decreasing resources devoted to health care make it difficult to meet the pressures for medical advance.

### ***2.3. Institutions and incentives for performance measurement and improvement***

340. This section identifies the roles of main incentive mechanisms in the Swedish health system for improving health care performance in terms of quality, efficiency, equity and outcomes. It also presents the main institutions involved in the performance "measurement and improvement cycle" and looks at some recent initiatives to tackle different performance issues.

#### *Regulation and external scrutiny*

341. Directives from NBWH since 1996 requires that all health care providers should systematically assure the quality of their services and develop systems, which will lead to improvements. Until then the responsibility for health care was placed only on local government. In particular, well established routines for introducing new technologies and identifying and preventing risks and accidents is demanded within a logic of continuous improvement of care. Swedish health care legislation also obliges health personnel to

inform a patient about his/her state of health and the available types of diagnostic procedures and treatments.

342. While County Councils are completely independent bodies that organise the provision of health care, the National Board of Health and Welfare (NBHW) evaluates the allocation of resources and County Council's work with respect to safety, quality and efficiency of care. The NBHW has also a role to seek out and remove geographical variations between populations with respect to quality and access to care. *Via* its regional offices it investigates professional standards of the health care professionals.

343. Patients can direct their complaints to either NBHW or to Medical Responsibility Board. Investigations are made by NBHW, and in case of a "misconduct", Medical Responsibility Board (MRB) deals with the complaint. MRB composed of members of the parliament providing strong consumer representation, a lawyer as well as representatives of doctors, nurses and allied professionals. It can withdraw a licence or confine the right of a physician or a nurse to work in the profession. Since 1975, there is also a no-fault insurance scheme under which consumers can report injuries to Patient Insurance Fund. Compensation can be obtained for certified categories of injuries without finding a doctor guilty of negligence.

344. All adverse events in hospitals should be reported to the NBHW. Around a third of the work of the Board is to investigate these reports. There are currently around 2000 investigations a year of which about 400 are sent to National Medical Responsibility Board who makes the final decision. There are significant variations across hospitals in frequency of reporting. Some hospitals that report adverse events frequently appear to be higher at "in standard" (better reporting) than those that report infrequently but more serious events. The Swedish Medical Association's journal provides yearly summaries of these incidents so that the whole medical community can learn from the findings.

345. When a hospital does not meet required standards the NBHW can investigate (and even close the unit), if there is evidence that patient safety is at stake. Difficulties in using this power include deciding how much information is enough to warrant interference.

346. The Federation of County Councils (FCC) is also involved in supporting regional and local providers for developing methods for attaining a quality system. The FCC developed (in cooperation with Swedish Institute for Quality Improvement) an instrument for quality follow-up called the QUL, which was intended to support health care management. The QUL aims to encourage the health care staff in meeting needs of consumers and focuses on total quality management (TQM) principles. Formal accreditation is not a popular instrument in Sweden, except in the area of laboratory medicine.

### *Self regulation*

347. Despite the existence of a regulatory base, the general emphasis in Sweden is on consensus building and educating health care providers rather than a top-down interventionist approach. There is a long tradition of consultation between the state and the medical profession. There are formal professional licensing and qualification regulations. But health professionals are entitled to work with no formal system of "re-qualification" during their careers.

348. The earliest interest in measuring performance, with an aim to improve health care quality and outcomes, has emerged from medical profession and is organised at the local level through Quality Registers. Disease and/or procedure specific registries were initiated (in mid-1970s) and are still managed by medical practitioners in order to provide the medical profession better information and feedback on medical practice. Participation to a registry is on a voluntary basis, but peer pressure is deemed high. Financial support is provided by the NBHW since 1990 if the registers comply with strict protocols. Today



there are some 50 national health care quality registers, each containing individual-based data on diagnoses, treatments and health care outcomes.

349. The quality registers had an important role in encouraging local activities to improve clinical quality and developing benchmarks allowing performance comparison of an individual clinic with overall specialty averages. Clinical departments in hospitals voluntarily collected the data on specific diseases or procedures and submitted them to the local register. Initially registers covered only the local population and number of indicators collected varied between registries; however, today most of the registries represent the national population reflecting 100% participation among hospital departments for a disease or a procedure. While the registries started to provide some information to hospitals, payers of health services and to patients, it is underlined that they are not intended to serve for supervisory purposes.

350. More generally Swedish Society of Medicine (SSM) is the professional body with responsibility for quality assessment across different medical disciplines. About 70% of the medical profession are members of the SSM, which has a strong position for research, education and development of medicine. There are also 60 specialty associations, which have a relatively independent position and are actively involved in research, education and quality of medical practice. Swedish Medical Association (SMA) has more of a trade union status and represents the profession in government committees dealing with health policy.

351. At the beginning of the 1990s, following the national recommendations (by the NBHW), the Swedish medical society together with the Swedish Medical Association created a joint body for issues of quality in health care: Medical Quality Council (MQC). MQC is regularly consulted by the profession on the issues concerning quality of care, it also provides advice to different government committees. The MQC has also been active in developing quality measures and indicators in different areas

352. Moreover, in 1993 the national physicians' organisations by their own initiative created a joint foundation to evaluate the quality of medical education for specialists.

353. Traditional quality assurance programmes such as medical audit have not been very popular in Sweden.

### *Guidelines*

354. The national agency responsible for the "critical evaluation of scientific basis of methods used in health care and their costs, risks and benefits" is the Swedish Council of Technology assessment in Health Care (SBU). The main role of SBU is to contribute towards the efficient use of resources by identifying effective and ineffective health care practices. It reviews and evaluates information on the medical, economic and ethical impacts of new and existing health care technologies. Reviews of current knowledge in the field and syntheses of scientific material are produced by experts. SBU's findings are disseminated to central and local government officials and medical staff to provide information for decision making.

355. The SBU deliberately avoids translating the evidence from scientific research into clinical guidelines. The reports are focused on describing what the scientific evidence is and the limits. At the same time, a lot of effort is put into disseminating each finding through publications and nationally or locally organised conferences.

356. The first national guidelines for quality assurance in Sweden which were legally binding were developed by National Board of Health and Welfare (NBHW) in 1993. This guideline, which was not very detailed has indicated that all health personnel should be continuously involved in systematic and documented quality efforts (Garpenby and Carlsson, 1995). The importance of comparing health care

units, and thus collecting and analysing uniform data was also underlined. In 1996, new more detailed guidelines for quality systems came into effect. The guidelines required providers to have measurable goals and documented routines for how quality was ensured. County Councils were given the responsibility for introducing quality systems, but individual hospitals were free to choose their methods of quality control.

357. From 1996, the NBHW has started developing “national guidelines for appropriate care” to create a nation-wide knowledge base and to enhance patients’ opportunities for receiving equitable and appropriate care throughout the country. Evidenced-based diagnostic and treatment guidelines are being developed and published for major chronic illnesses such as diabetes, stroke and coronary artery services. Work on national guidelines for cancer services, the care for hip fracture, rheumatoid arthritis, schizophrenia, near-suicide patients and asthma are under development. The national guidelines include three parts, each directed at different target groups; namely health care professionals, patients, and governing bodies. Once a guideline is available for a specific service, the regional and local protocols used to establish individual care agreements between the patients and caregivers shall be based on these guidelines. The individual care agreements are intended to help patients actively monitor and influence their treatment.

358. The NBHW also undertake the production of synthesis documents analysing current clinical knowledge concerning diagnostics, treatments, the causes and prevalence of various diseases, etc. While these “state-of-the-art” documents are targeted mainly at physicians and other health care professionals, many of them include information for patients as well. The information taken from the scientific literature presented in a way that, patients and their families can benefit from it.

#### *Use of measurement and information*

359. In Sweden, information is perhaps the most conventional and effective tool to ensure continuous improvement of health performance. Efforts essentially have been put in producing and disseminating reliable data, trusting that health care system would respond to information if it is available. A lot has been done for creating a sustainable knowledge base and disseminating the relevant information to all parties involved in health care, including medical profession, patients, central and local governments. There was a strong emphasis on the value of comparisons over time and between departments, during the establishment of the national quality registries. For example, for internal medicine specialists themselves decided to collect and publish selected quality data comparing 42 hospital departments across the country, by publishing openly the names of the hospitals.

360. Guidelines put a special emphasis on the information on the measures or indicators to follow to monitor the quality for specific conditions. Some of the examples of indicators regularly published at national/departmental level are re-operation rates for hip/knee replacement, ischemic heart disease mortality, frequency of nosocomial infections.

361. The Federation of County Council and NBHW actively support the creation and development of Quality registers. Financial support is given if the registers comply with strict protocols such as achieving 80% of the area/condition of practice, and explicit patient consent. Many of the registers have been in operation many years and their work has generated many publications and has resulted in documented changes of medical practice (See next section). The registries also function as an “early warning system” for deficiencies in new methods of treatment and new technologies. While the number and range of indicators collected are decided by the participating unit and varies widely, complication rates are always registered. Some also collect information on resource use and patient’s subjective experience of quality of life. Aggregate level data presented for each department and for national averages. More information on the national quality registers will be presented in the next section.

362. There is also a national system for the reporting of medical accidents and data are collected centrally on drug side effects and X-ray use. Moreover, patient satisfaction surveys developed by SPRI (Swedish Institute for Health Services Development) in 1987 are now used in 90% of the acute-care hospitals. Hospitals can compare their results with a large data bank compiled by SPRI.

363. In 1999, a special commission was set up by the NBHW to explore the possibilities to develop overall indicators that describe the performance of health care system and quality of medical care. The commission developed a set of 60 clinical indicators for 14 conditions representing significant disease burden in Sweden using available data through National quality registers. The ultimate objective is to develop a more comprehensive set of indicators describing aspects of responsiveness, access to care and health care cost.

364. Sweden also has an active part in developing a common set of performance indicators for Nordic countries. So far 10 common indicators have been identified across countries taking into account the relevance to policy, validity, measurability, being possible to influence and unambiguous interpretation. Mortality within one month after stroke and/or myocardial infarction, re-operation rates after hip surgery, proportion of patients living at home after hip replacement, percentage of smoking mothers, number of hospital days for diabetes patients and incidence of lung cancer are some of the common indicators. However, it is recognised that these indicators do not cover a number of areas such as patients' perceived quality of care, primary care and rehabilitation.

#### *Financial incentives*

365. Traditionally Swedish health care has been distinguished by the integration of financing and production in a decentralised public organisation. Population was directed to particular providers based on geographical residence. In the early 1990s, a number of reforms were introduced to lay ground for opening the health care market into competition with increasing concerns about the responsiveness and efficiency of the system.

366. The first important initiative was to offer patients a free choice of doctor or clinic. As a first time in 1991, the "Care Guarantee" a voluntary agreement between the central government and the counties stated that patients could go to any hospital in Sweden if they had been waiting for longer than three months at their "home" hospital. If they choose a hospital outside the county in which they live, a referral may be required. The "Care Guarantee" will be discussed more in detail in the next section.

367. Moreover, with the family doctor reform in 1993 County Councils decided to provide patients with the choice of family physicians. The reform did not increase the total number of GPs, but a significant number of doctors privatised their clinics, under contract with counties. This is thought to increase quality with more personalised care from family physicians. Capitation based payment were introduced for family doctors. However, the new socialist government decided to restrict further entry into private practice from 1995 onwards and allowed County Councils to decide their own arrangements. The responsibility for progress in primary health was transferred from the central government to the counties. Most County Councils kept the system as it is but paid family doctors by salaries. The family doctor reforms concerned the accessibility of physicians and the perceived quality of their care.

368. Parallel to these, to improve the efficiency in hospital sector, in the early 1990s most County Councils started to experiment different models separating the roles of providers from those of purchasers. Traditionally, County Councils have direct control on the budget and management of hospitals. In some counties the purchasing function is decentralised to a number of sub-county boards, which act as purchasers of health care for the local population. These boards are composed of elected local politicians

directly accountable to their constituents. In turn, main payment mechanisms for providers have been shifted from fixed annual budgets to a combination of capitation, patient-fees and negotiated contracts. Increasingly, counties started to pay the hospitals and health centres based on the volume health care services provided. Hospitals were given more autonomy although their legal status has not changed (Harrison and Calltorp, 2000).

369. Eleven out of 21 County Councils in Sweden have some model of purchaser-provider split today. They vary in several aspects. But the common features for all was the separation of purchaser from providers with the need for a contract and payment of providers based on patient related specific output measures. Some of them like the Stockholm have more emphasis on market competition than others. The Stockholm model will be treated in more detail in the next section.

370. In the context of hospital efficiency, it is also important to mention the Adel reform, which shifted responsibility for geriatric nursing care from counties to municipalities in 1993. It also gave strong financial incentives to municipalities to find a place for their geriatric patients out of hospitals once their treatment has finished. With this reform the number of elderly “bed-blockers” has rapidly diminished which helped to reduce hospital costs.

371. It is important to note that in the publicly operated Swedish health system, characterised by salaried physicians, patient choice *per se* has not increased the cost for the counties (Axelsson, 2000; Fotaki, 1999). Indeed overall Sweden has reduced the level of resources devoted to health care from 9 to 8% of GDP over the past 10 years, which is a notable exception for the OECD area.

### **3. Learning from Swedish experience**

372. This section looks more closely at three initiatives aimed to improve health care performance in Sweden in the past two decades and assess the elements of success and/or failure for each case. The first one is a successful example of a self-regulatory initiative by medical profession to improve quality of clinical care through better measurement and dissemination of information: the quality registers. The second case study examines a regulatory attempt by the Swedish government to reduce waiting times and improve responsiveness of health care by introducing a minimum waiting-time guarantee. Finally, the Stockholm model will be presented as a specific example of creating a regulated internal market for health care services with an aim to review the impact on the quality and efficiency of care provision.

#### ***3.1 Where information makes a difference: National Quality Registers***

373. The quality registries in Sweden have been started up by the medical profession to support learning and development to improve the quality of clinical work. Participation is voluntary although strong peer pressure exists. The few initial local registries started in 1970s developed to be over fifty national registers today as a response to increasing demand for improvements in monitoring, evaluation and quality of care. The high participation rates in registers suggest that providers and hospital units find the feedback information useful.

374. Registers contain individual-based data on diagnoses, treatments and outcomes. Their purpose is to support learning and development and they are not intended for supervisory purposes. The background to the early registries suggested poor clinical results obtained with knee arthroplasty and total hip replacement (Garpenby, 1999). The first registries were controlled by the respective medical specialties mainly at teaching hospitals and funded by research money. The initial objectives of registries varied between medical departments. Some of the most pronounced objectives were:

- describing variations in the utilisation of different treatment methods,
- identifying variations in the outcomes measured by re-admissions and complications,
- assessing the effectiveness of different methods in the long-term,
- evaluating methods used in terms of patients' quality of life after treatment,
- detecting systematic errors and deficiencies in surgical implants.

375. A register may be either disease-oriented or method-oriented. A method-oriented register can collect data on one or more procedures which are used in one or more disease conditions. All interventions involving these procedures are recorded (Garpenby, Carlsson, 1994). Each unit in hospitals (or providers who perform specific interventions) covered by a register complete a standard set of information for each patient specifying the diagnosis, treatments and outcomes after treatment. In some registers this includes information on patients' quality of life after treatment and resource use. Patient characteristics are also recorded. Most of the registries have very high degree of coverage between 90 and 100%.

376. Until early 1990s, quality registers were controlled entirely within a closed professional network. Data from registries was discussed at medical specialty meetings and through scientific articles. This professional network was deciding how much information on the medical outcomes could be disclosed to non-professionals. Balancing the need for dissemination of the registers' data to public authorities, purchasing units and the public while maintaining the medical profession's degree of control over information has been one of the most difficult issues. In recent years there has been an increasing emphasis on using the registries for external performance assessment with improved and standardised data dissemination. Since 1990 the NBHW plays an active role for improving the coverage and standardising the information by providing funding to registers. Financial support is given if the registers comply with strict protocols such as achieving 80% of the area/condition of practice, and explicit patient consent. In return, registers have to submit an annual report containing basic sets of aggregate data such as average length of stay, data and trends on interventions, operations, technology and outcomes. On the other hand, the medical profession continues to have control over non-aggregated data where the outcome of treatment could be linked to individual doctors or hospitals. However, it is not rare to see that individual registers decide to present comparative data for all participating hospitals.

### **Box A. Swedish Quality Registers**

*The National Hip Replacement registry* was established in 1979 and based on voluntary co-operation by all physicians in the country. The purpose of the registry is to provide information to the participating units. The main issues involved were the choice of prosthesis and the optimal technique for operation.

Reports from the hip replacement register identified that, there is greater operational success with cemented rather than un-cemented prostheses. Cementing technique improvement was implemented in Sweden as a result of this registry effort and this is associated with a reduction in re-operation rates. Today very low rate of un-cemented hip replacement occurs in Sweden compared with other countries. The rate of un-cemented total hip replacement in Sweden is about 4% compared to 14% in Norway, 45% in Finland and 50% in the United States. Data from the hip replacement register indicates a significant decrease in severe complication rates despite an increased number of patients at high risk over the past 15 years. The incidence of aseptic loosening (a major complication after surgery) has dropped about 400%.

*The National Quality Register of Hernia surgery* was established in 1992. Hernia operations at the participating hospitals are registered following a protocol describing process (type and methods of operation), outcomes (postoperative complications, re-operations, etc.) as well as patient characteristics. The percentage of operations for recurrence is a crude quality measure of a previous hernia surgery in a population. The percentage of day-cases is a measure of cost effectiveness of hernia surgery.

The number of participating hospitals has increased from 8 in 1992 to 37 in 1998. Methods of repair has changed drastically from 1992 to 1998, with a drop in conventional open repairs which are associated with increased risk of re-operation. Evaluation of the outcomes (concerning quality and cost) in hospitals participating to the registry from right beginning with others (the ones aligned in 1995) suggests that there has been significant improvement. The percentage of operations for recurrence has decreased from 16.5% in 1992 to 13.5% in 1995 in these pioneering hospitals. This compare with an average of 16% recurrence rate in 1995 at the hospitals just joined to the registry. Between 1992-1994, 43% of all the operations were done as day-cases at the initially participating hospitals. For the period 1995-1998, day-cases went up to 60% of the operations at these hospitals while at the ones joining in 1995 only 48% of all the operations are done as day cases for the same period.

Outcome differences between hospitals might be expected to diminish with increasing knowledge and dissemination of information from the registries.

377. A national quality register is established as a result of a consensus within a medical speciality on quality indicators. Individual departments participating in a national register gets a tool for continuous quality improvement, which enables them to measure and evaluate their own results. Moreover, the quality registers enable comparison with other (anonymous) departments, with national averages and with the best performing departments.

378. In general, data permit analysis of variation in care utilisation and technology dissemination in different regions and institutions. They also function as a unique “early warning system” for deficiencies in new methods of treatment, new preparations and new technologies. Registers that have been active long enough have generated large numbers of scientific publications and changed medical practice yielding documented improvement in care quality and avoided cost (see Box A).

379. Overall, in Sweden the development of national quality registers has been a success in several ways. They have led to an increased interest for, and clarification of, quality-related issues; better dissemination of information (treatment methods, problem areas); increased collaboration among health

workers; improved cost-efficiency; creation of a database for local, regional and national planning; and most importantly better outcomes for patients (lower mortality, fewer complications).

### ***3.2. A regulatory attempt to raise responsiveness: Maximum waiting time guarantee***

380. In Sweden, as in many other countries controlling health care supply, excessive waiting times for certain procedures have been considered as an important quality problem in the 1980s. By 1989, waiting times are reported to be more than 12 months for hip replacements, coronary by pass and cataracts. Different approaches have been taken in the late 80s at the national level to reduce waiting times but had only a marginal impact (see, Hanning, 1996).

381. By the end of 1991, the Ministry of Health and Welfare and the Federation of County Councils had an agreement to offer a guarantee of medical care within three months for 12 procedures for which there were extensive problems of waiting lists, during 1992. The agreement ensured that patients who cannot get the demanded services in three months in their own hospital shall be offered the same care at another public or private hospital at the expense of the county. Services covered by this guarantee include coronary artery disease surgery, hip and knee joint replacement, cataract, gallstone and hernia surgery, treatment for incontinence and hearing aid tests. 500 million SEK (about USD 70 million) were allocated for the guarantee, and counties that accepted the agreement received a per capita subsidy.

382. All County Councils agreed to offer the guarantee, and the guarantee remained in force until the end of 1996 by yearly agreements, but no additional funding was provided.

383. Waiting times have fallen dramatically after the agreement. For example, the average waiting time for coronary artery disease surgery which was more than a year in 1989, has dropped down to 6 weeks by the end of 1992. More generally, 95% of the waiting lists showed a waiting time less than 13 weeks a year after the introduction of the agreement. This reduction seemed to be stabilised the year after with 91% of the lists having a waiting time for a new patient within the guaranteed limit. Although, waiting lists started to increase slightly after the third year, the progress made compared to the year before agreement introduced is still significant. For example, only 25% of cataract patients were operated within 3 months in 1991, compared with 70% in 1992 and 60% in 1995 (Hanning and Lundsrom, 1998). The agreement considered a success as it helped to reduce backlogs and created a general sensibility amongst providers concerning waiting lists. The productivity gains appeared to be retained in most departments.

384. The initial success seems to be due to increased production and improved management of waiting lists. Sending patients to other departments with shorter waiting lists was not used as a solution (Hanning, 1996). Extra work, reorganisation and transition to new technologies -- especially to day surgery -- were the most common strategies adapted by the hospitals. Principals for using extra funding differed (about 50% of the hospitals received extra funding). At some hospitals the departments were compensated for extra procedures by fee-for-service for extra operations, while at others the money was kept to use to buy procedures from other hospitals, if needed. A part of the money was invested in new equipment, which helped to improve efficiency. In general the introduction of the guarantee seem to improve resource use in hospitals as well as administration of waiting lists with a better inventory of surgical needs. It is also suggested that the guarantee has contributed to improvement of care quality and patients' choice in general by monitoring and widely disseminating the information on the departmental waiting times and waiting lists (Hanning and Spangberg, 2000).

385. However, the expectation that care guarantee would lead to transfer patients from hospitals with long waiting lists to those with excess capacity, so efficiency in overall resource use, does not appear to be

realised. Hospital departments appear to prefer expanding their own activities, and patients prefer to wait a bit longer to be operated in their usual hospital.

386. On the other hand, the guarantee does not appear to have any significant side effects such as crowding out other patient groups (Hanning, 1996). The data suggests that the guarantee has been implemented within the resources allocated by the agreement and no extra resources have been transferred from other activities.

387. While this focused intervention to reduce waiting times has been considered as effective in the short term, its success in the long term is less clear. Waiting times started to go up again after 1994. Moreover, giving priority to just 12 specific health conditions raised questions on the fairness and suitability of these areas as “priority” areas in the long term. Gradually, the nature of the agreement has changed and a new regulation has been introduced in 1997. Currently the agreement relates to accessibility of patients both in primary and secondary care. The primary care services should offer help the same day that patients contact them, with a medical consultation within eight days. For specialist care the limit is three months, or one month if the patient’s medical condition has not been clearly diagnosed. The new law provides also general guidelines for which types of conditions should be given priority in health care. It appears that the capacity of waiting time guarantees in providing long-term solutions to deal with problems of excess-demand is limited.

### ***3.3. Internal markets in the working: The Stockholm model***

388. The county of Stockholm, with 1.9 million habitants has the largest population in Sweden. Traditionally, the county council has the responsibility for providing health care services as well as financing them mainly through local taxes. The county council used to determine the level of health expenditure and allocate resources to hospitals and health centres based on a budget formula. Budgets were based on the cost for the preceding year as well as a forecast of the patient workload and new services. The major drawbacks of this system appeared to be lack of incentives to improve productivity and efficiency as well as inadequate compliance with patients’ needs.

389. In January 1992, the Stockholm county council introduced a managed-market system encouraging competition between providers. The main goals of the reforms presented as achieving more efficient use of the County’s resources and improving the position of patients in the system with better choice of services. Emphasising the role of politicians as representatives of the public interest and separating the responsibility for health care production was also an important part of the reforms.

390. The first element of the reforms was to introduce a purchaser-provider split in the delivery of health care. The purchasing function was decentralised to nine sub-county boards composed of elected local politicians, which act as purchasers of health care for the local population. The county council distributed resources to these boards based on a weighted capitation formula taking into account the demographic and social structure of the population. The one private and nine public hospitals were required to compete to get contracts for their services. Funding for research and education was guaranteed (being a government responsibility). Separation of purchasers from providers was not unique to Stockholm County, indeed most other counties have introduced one form or another of a purchaser-provider split. However introducing competition between providers as well as purchaser was unique to Stockholm.

391. Patients were given free choice of providers in 1991 (as part of the waiting time arrangement), and were able to choose freely not only their doctors but also their hospitals. Consequently, the Stockholm County council decided to pay hospitals and health centres based on the volume of patients they attract. Ambulatory services provided by hospitals are paid by a fee-for-service basis. Capitation arrangements



were introduced for primary care. Inpatient services were reimbursed by Diagnostic-Related Group (DRG) points based on a discharge diagnosis. Prices are set prospectively by the county according to a fixed price schedule with an upper limit. Reimbursement rates decrease if activity exceeds target levels. Purchasers contract with hospitals for specific services negotiating the scope of services, price and availability. Quality is supposed to be one of the negotiation points, but providers are not required to provide systematic data concerning the quality of care.

392. At the same time providers were no longer allowed to obtain free facilities from the county, but have to pay these at cost price (for example, rents for the premises). This was to ensure that private providers were not at a disadvantage. Private providers could compete for public contracts. These new arrangements aimed to create competition between hospitals on the basis of accessibility and quality. The fact that there are multiple purchasers also implied that purchasing boards would compete with each other to obtain better value for money. However, there were some restrictions for providers. For example, a county hospital was not allowed to close down a department, which is not profitable without the consent of the county board.

393. By 1993 all in-patient hospital services (except psychiatric services) were reimbursed with DRG prices. In 1994, physicians and physiotherapists were given the possibility to establish a private practice on a fee-for-service basis paid for by the County council, without negotiating with purchasers. This meant that purchasers did not have much control over the private services for which the payments are deducted from the health authorities contracted service budget.

394. The system created strong financial incentives for increasing production as hospitals budgets were based on discharge rates. Consequently, in 1993 and 1994, purchasers became more concerned about controlling the level of activity and spending levels than stimulating activity. Production volumes are hampered by quantity related ceilings and DRG price levels were lowered. However, this devaluation of payments was perceived by providers as a breach of faith and undermined confidence in the sustainability of the new system.

395. The impact of DRG-based payment system on the productivity, cost, quality and equity of health care has been a subject of debate, but no consensus has emerged from this debate. The next section will revise the empirical evidence concerning the impact of the new system.

#### *Impact on the quality of care*

396. The Stockholm county council has produced a report on quality covering 32 medical area for the years 1993 to 1995. The report was based on individual reports from different clinical departments and aimed to demonstrate the state of the quality in hospitals. However, as the County did not specify any requirements on what type of data and indicators should be reported, it was not possible to compare the data between different institutions, or in one institution over time. No information was collected on the primary care apart from number of doctors employed. In 1996, the National Board of Health and Welfare (NBHW) was invited by the County council -- in co-operation with the county -- to assess the then launched "development plan". This plan was a three-year restructuring plan aiming to reduce expenses by 10% while maintaining quality. Some 25 project were initiated but the NBHW concluded that the monitoring of data was not sufficient to evaluate the quality of care<sup>7</sup>.

397. Moreover, a recent investigation from the Audit service (an independent body controlling the proper use of county resources) indicates that the purchasers have insufficient monitoring of the progress

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<sup>7</sup> Utvecklingsplanen, En uppföljning av Stockholms Läns Landsting, Socialstyrelsen och Göteborgs Universitet.

towards the targets as well. Examining the yearly reports of six principal purchaser boards, the auditors concluded that the assessment and analysis of the needs and the monitoring of performance in terms of quality was not adequate.

398. At the same time, data from other sources indicate that the quality of care might be a potential problem in Stockholm at least in some areas. An early survey of doctors in the country shows that physicians working in Stockholm county were more preoccupied about early discharge from hospitals and inadequate care compared with other counties (Fosberg *et al.*, 2000). In 1996, two hospitals with maternity wards were closed down. In addition, data from National registries indicates that, in 1996, re-operation rates for hip replacement in Stockholm was 15% higher than in the rest of the country (Figure 1).

399. It is difficult obtain data on waiting times for comparisons between Stockholm and the rest of the country. However, a number of studies performed in 1996-1998 in emergency wards measured the time between entering the ward and when a consultation with a doctor occurred.<sup>8</sup> Thirty hospitals from different regions, of which eight in Stockholm, were compared. The results suggest that all hospitals outside Stockholm managed to offer 80% of the patients a consultation within one hour whereas the hospitals in Stockholm needed two hours. Nevertheless, in terms of impact on health (mortality rates, re-admission rates), there are no indications of inferior care or treatment.

#### *Impact on the efficiency of health care*

400. One way to assess the efficiency in resource use is to examine and compare the trends in total activity and cost in Stockholm and other counties. It is known that the average length of stay (ALOS) in Stockholm is one day shorter than in the rest of the country, which may indicate relatively greater efficiency. However, it should be noted that the ALOS has always been lower in Stockholm compared to the rest of the country. The available data suggests that activity rates in Stockholm county are not any higher than the rest of the country (Figures 2 to 5). The admission rates are slightly under the average for Sweden, while the number of bed days only caught up with the national average in 1996. Consultations both in hospitals and for primary care follow closely the national average. At the same time, the net cost of health care per person appears to be higher in Stockholm compared with the Swedish average (Figure 6).

401. A deepening recession in Sweden during this period of reform forced policy makers to become more concerned about the growing cost of health care. In 1994, the government decided to freeze county tax rates to encourage them to better manage their available resources. The fact that cost of hospital and primary care were rising, while counties income is falling contributed to the sense of need for financial control.

402. In an environment where cost containment became the number one priority, purchasers found themselves more preoccupied with ensuring that hospitals stayed within their budgets than contracting for changes in the nature and/or quality of care (Harrison and Calltorp, 2000). Therefore, gradually the council decided to exert more direct control over the situation than leaving the market to decide the level of health care to be provided. In 1996, a "hospital board" was set up to oversee the provision of services in all hospitals and to report to a central "political board", which now co-ordinates the purchasing of hospital

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<sup>8</sup> Report : Aktiv Uppföljning, Jourverksamheten i Blekinge, Kalmar och Kronoberg, Socialstyrelsen 1996 ;  
 Report : Aktiv Uppföljning, Jourverksamheten i Östergötland, Sörmland och Jönköping, Socialstyrelsen 1997 ;  
 Report : Aktiv Uppföljning, Jourverksamheten i Jämtland och Västernorrland, Socialstyrelsen 1997 ;  
 Report : Utvecklingsplanen, Akutverksamheten, En uppföljning av Stockholms Läns Landsting, Socialstyrelsen och Göteborgs Universitet 1998.

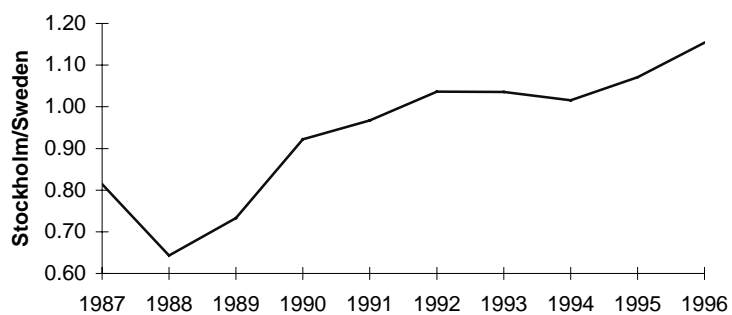
care. The central board now has to consider the long-term service need in the county in purchasing decisions. In 1999, the number of purchasers were reduced to six, with primary care organised in four production units. These changes represent a significant shift from the market roles of purchasers and providers, putting more emphasis on co-operation and priority setting and moving away from competition. The NBHW suggests that purchasers need to monitor more closely the health care process to verify if they meet identified needs by setting targets, proposing indicators and designing strategies to deal with deviations from targets.

403. The fact that many policy changes were happening at the same time created some confusion about the real impact of the reforms. For example, in early 1990s (just around the time reforms introduced), surgical rates went up and waiting times went down significantly. However, a close inspection shows that these trends started before the reforms and occurred in other counties as well (Whitehead and al., 1997), and were probably linked to the introduction of a waiting-time guarantee (see above), as well as endoscopic procedures.

404. In terms of the overall success of the Stockholm model, it is important to examine the coherence between the instruments introduced and the current objectives of the system. The main features of the Stockholm model such as a fee-for-service payment in hospitals and capitation, were designed to improve productivity and efficiency in a situation where waiting lists were the number one priority in the country. However, with changing economic circumstances, cost containment became an important preoccupation in Stockholm as in the rest of the country. Controlling cost while preserving equal access to care and improving quality being the objectives, different tools such as priority setting, planning and budget control appear to be more relevant to the current policy agenda. Without a clear assessment of the short-term and long-term targets of the system, it is difficult to make an appraisal of how successful the specific instruments used to achieve these targets have been.

405. The Federation of County Councils points out that the overall economy of the Stockholm County is running on deficit. Further study is needed to determine to what extent this situation is related to the introduction of competition through purchaser-provider split.

Figure 1. The ratio of hip replacement re-operation, Stockholm/Sweden



Source: National hip register.

Figure 2. Total admissions per 100 000 person, standardized

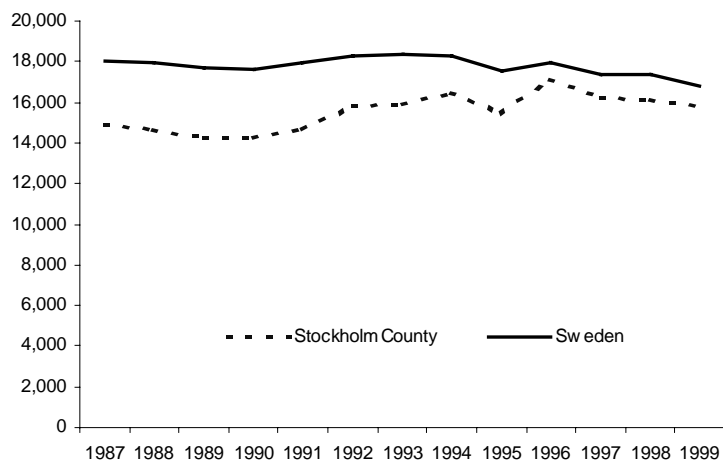


Figure 3. Number of bed days, standardized per 100 000 persons

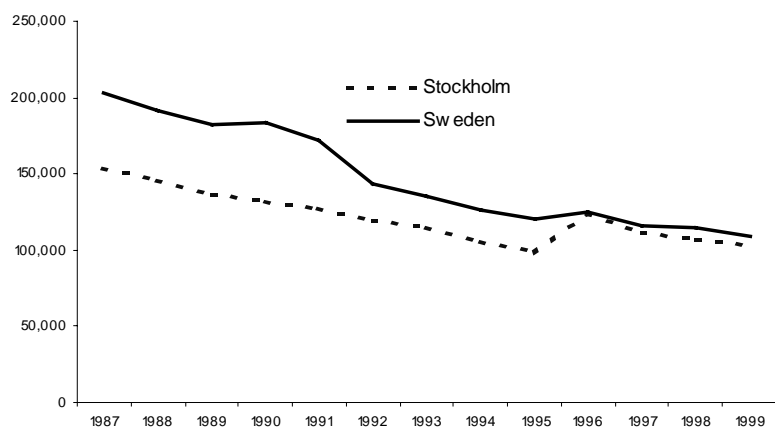


Figure 4. Consultations per 1000 persons -- hospital care

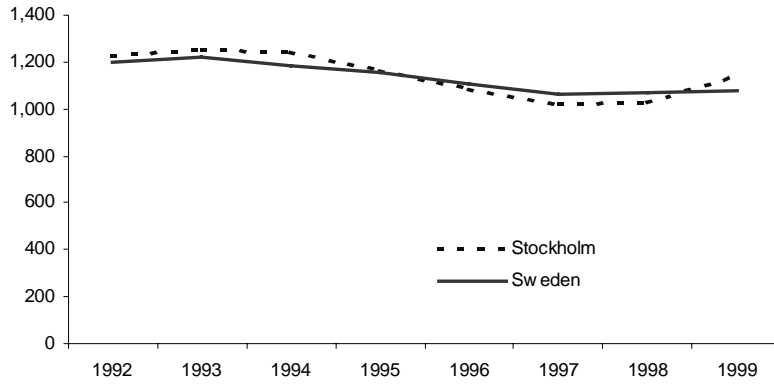


Figure 5. Consultations per 1000 persons -- primary care

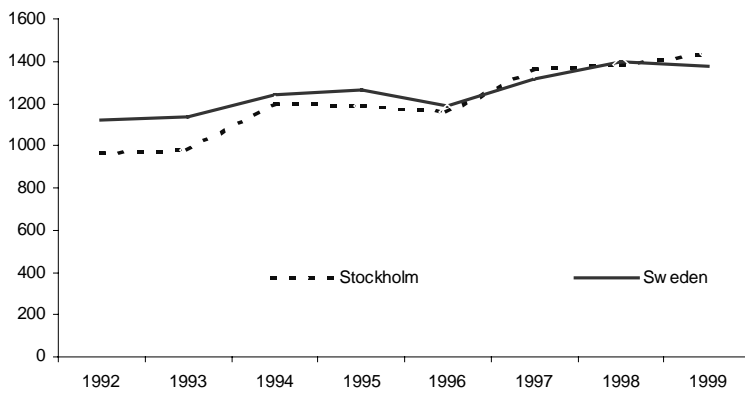
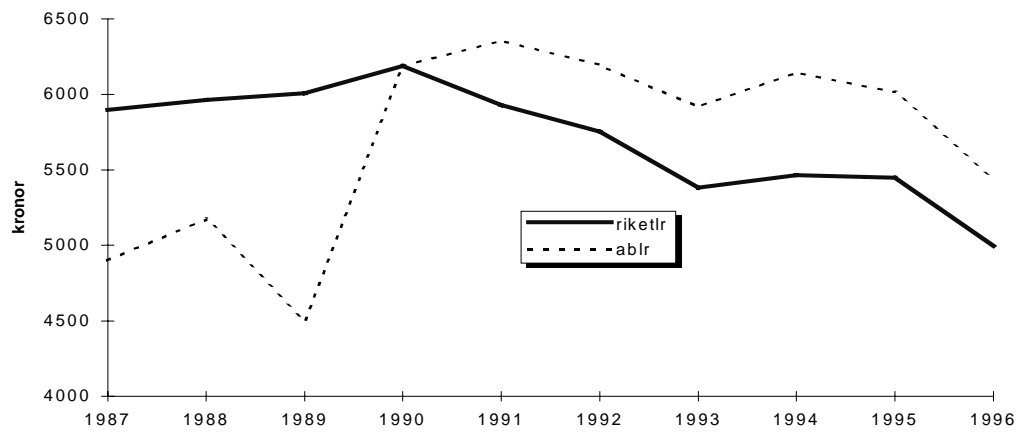


Figure 6a. Net cost of health care per person (SEK)



Figure 6b. Cost per person for hospital services SEK , 1987 prices equivalent  
(.....Stockholm, \_\_\_Sweden)



Source: Figures 2 to 6 are based on data from the Swedish County Council Federation.

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