Health Care Market Reforms & Academic Hospitals in international perspective

Achtergrondstudie

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Inhoudsopgave

Samenvatting

Dit onderzoeksrapport, in opdracht van de Raad voor de Volksgezondheid en Zorg, onderzoekt de impact van prikkels tot efficiëntieverbetering, bijvoorbeeld via marktwerking, op de academische ziekenhuizen in internationaal verband.

In een inleidend hoofdstuk worden de diverse hervormingen in de organisatie, financiering en regelgeving van de gezondheidszorg geschetst als noodzakelijke prikkels tot efficiëntieverbetering, omwille van de schaarste aan middelen. Het tweede hoofdstuk beschrijft de impact van marktwerking op (academische) ziekenhuizen aan de hand van een aantal gevalsstudies in diverse landen. Voor de USA gaat de aandacht vooral naar de impact van marktwerking, en meer specifiek van managed care, op de academische ziekenhuizen. Voor België wordt beschreven hoe één academisch ziekenhuis omgaat met de recente trends tot hervormingen in de gezondheidszorg. Voor Duitsland tenslotte, wordt beschreven hoe private for-profit ziekenhuizen zich strategisch positioneren in de markt. Het derde hoofdstuk omvat concrete aanbevelingen voor (academische) ziekenhuizen en voor beleidsmakers met betrekking tot de vele uitdagingen in de gezondheidszorg.

Ziekenhuizen zullen zich, in de toekomst meer nog dan vroeger, toespitsen op de acute fasen van het zorgproces, zowel voor gehospitaliseerde als ambulante patiënten en zetten hiervoor samenwerkingsakkoorden op met andere zorgverstrekkers en zorgvoorzieningen (bijvoorbeeld transmurale zorg, geïntegreerde zorg). Ziekenhuizen ervaren een groeiende nood aan meer gespecialiseerde medewerkers (met hoge technische expertise, maar ook communicatieve en managementvaardigheden) en een flexibele infrastructuur, om vlot in te spelen op de groeiende verwachtingen van de burgers en het wijzigend profiel van de patiënten (veroudering, hogere morbiditeit, afhankelijkheid en complexiteit). Vermits de publieke financiering de groei in wetenschappelijke en technologische opportuniteiten in de zorg niet kan volgen, zal aanvullende private financiering meer en meer noodzakelijk worden. Ook de academische ziekenhuizen moeten deze pistes volgen in hun patiëntenzorgactiviteiten. Ze moeten zich toespitsen op de hooggespecialiseerde zorg en onderling taakafspraken maken. Daarbovenop moeten ook de opleidingsactiviteiten bijgestuurd worden (meer probleemgebaseerd, 'evidence based', multidisciplinair) en meer

klantgericht georganiseerd worden. De onderzoeks- en ontwikkelingsopdrachten moeten efficiënter georganiseerd worden, bijvoorbeeld via strategische onderzoeksplanning, via management en coördinatie van de onderzoeksvoorstellen en van de core onderzoeksfaciliteiten. Het multi- en interdisciplinair onderzoek moet gestimuleerd worden en academische ziekenhuizen moeten, binnen grenzen en afspraken die toelaten om belangenvermenging te vermijden, meer private fondsen voor onderzoek en ontwikkeling aantrekken.

Om in de toekomst de specifieke opdrachten performant te blijven uitvoeren, moeten academische ziekenhuizen de loopbaanperspectieven voor de artsen bijschaven en de relaties tussen het academisch ziekenhuis en de universiteit/faculteit geneeskunde optimaliseren. Afhankelijk van de omstandigheden kan een volledige integratie tot een academisch medisch centrum (i.e. ziekenhuis én faculteit worden gefusioneerd en beheerd door één instantie) dan wel een verregaande autonomie, weliswaar met wederzijdse erkenning van de specifieke opdrachten en met expliciete, faire en transparante taakafspraken tussen ziekenhuis en faculteit, de voorkeursoptie zijn. Academische ziekenhuizen moeten zich ook meer richten naar de normen en regels van deugdelijk bestuur (corporate governance) en moeten zelf het initiatief nemen om maatschappelijke verantwoording af te leggen en zowel intern als extern te communiceren over de huidige aanwending van hun middelen en de toekomstperspectieven.

In de toekomst zullen de academische ziekenhuizen zich meer op internationale markten begeven, waar ze in sommige gevallen samenwerken en onder andere omstandigheden concurreren met hun buitenlandse collega-ziekenhuizen. De beleidsmakers, tenslotte, dragen ook verantwoordelijkheid om de toekomst van de academische ziekenhuizen veilig te stellen. Beleidsmakers dienen te zorgen voor een expliciete omschrijving van de academische opdrachten en een specifieke financiering, die aangepast is aan de aard en omvang van de toebedeelde opdrachten. De opdrachten moeten toegewezen worden aan een beperkt aantal academische ziekenhuizen.

De specifieke financiering mag niet verweven zijn met de financiering van de reguliere patiëntenzorg. Een afzonderlijke financiering, gebonden aan proces- en performantiecriteria (bijvoorbeeld aantal geneesheren in opleiding, wetenschappelijke publicaties), garandeert een grotere transparantie. De academische ziekenhuizen dienen deze middelen efficiënt aan

te wenden, en dienen ook verantwoording af te leggen over de ingezette middelen. Mits in de toekomst ook in Europa de weerstand tegen private for-profit ziekenhuizen zal verminderen, en marktwerking zal toenemen, wordt ook hier, net zoals in het verleden in de USA, de toekomst van een deel van de academische geneeskunde bedreigd. Een aantal opdrachten van de academische ziekenhuizen vertoont nu eenmaal een publiek goed karakter, en deze producten en diensten kunnen via een marktsysteem nooit in een efficiënte hoeveelheid geproduceerd worden. Het aanbod van deze functies (bijvoorbeeld de onderzoeks- en ontwikkelingsfunctie, maar ook de continuïteitsfunctie op spoedgevallen, in operatiezalen, op intensieve verpleegeenheden) door de academische ziekenhuizen kan in de toekomst slechts verzekerd worden indien, voorafgaandelijk aan de intrede van private for-profit ziekenhuizen, de overheid de spelregels ten aanzien van de academische geneeskunde duidelijk vastlegt. Indien dit niet gebeurt mag, zoals in de USA, verwacht worden dat binnen afzienbare tijd de academische opdrachten niet meer performant kunnen worden uitgevoerd.

1 Background: Reforms in health-care systems

1.1 Introduction: background of the project

This report is prepared for the Council for Public Health & Care. The council is working on on a background study on the future of market forces in specialized medical care. For this project, the council wanted to have more information on how market forces, and other reforms in health care systems, aimed at (macro and/or micro) efficiency improvements, are developing in specialized medical care in other countries. The current report aims to answer this question.

The first chapter of this report describes the major reforms in health care systems. All in all, these reforms, which are broader than market-based reforms as such, can be interpreted as mechanisms to improve efficiency in health care delivery.

The second chapter describes how (academic) hospital markets have been affected by those health care reforms in Belgium, Germany and the United States and illustrates these findings with material from different (academic) hospitals. Since the available material for the UK did not yield substantial additional insights into the future of academic hospitals, it was decided to drop this country from the analysis (although the market reforms in the UK are interesting as such) – and to focus more extensively on the case studies from the other countries.

The third chapter summarizes the main findings and incorporates recommendations on how (academic) hospitals should deal with the challenges they are facing, or are about to face.

In this report, the concept of 'academic hospital' or 'university hospitals' is taken for granted, as are the specific missions of academic hospitals, being patient care, education and clinical research and development. No attempt is made to refine the concept, nor to discuss the fundamental missions of academic hospitals.

Furthermore, no explicit reference is made to the more specific concepts that are commonly used in the Netherlands, such as top-clinical care, last resort function, etc since these concepts are not standard terminology in the other countries. In preparing this report, the author benefited from the fruitful discussions with Patrick Jeurissen and Jac Drewes from the Council for Public Health & Care, from the literature and website searches, performed by Willem Gilles (on health care systems) and by David Puttevils (on academic hospitals) and from the excellent secretarial support of Pascale Asselberghs. Their efforts are greatly appreciated.

1.2 Health care reforms: in pursuit of more efficiency

Health care systems are permanently being reformed. A broad overview of the typical reforms that were implemented in many European countries and in the USA over the past twenty years shows that most of them were intended to improve (micro and/or macro) efficiency in health care systems. Efficiency refers to the resources utilized to achieve a certain aim (e.g. health outcomes, quality of care). Through improving efficiency, stakeholders, be it health policy makers, or managers, or providers, or payers, aim to achieve better results, with the same amount of resources, or to realize the same results, with less resources.

The scarcity problem in healthcare
The basic problem all health care system face, is scarcity. That is the lack of sufficient resources to make all effective health care interventions available to all citizens who could potentially benefit. All countries in the world struggle with the fact that their health care expenses are growing more rapidly than their GDP (gross national product). Hence, a growing amount of (mainly public) resources is no longer available for other, potentially beneficial purposes, such as education, culture, new roads, etc. Since health care is financed for a substantial part from public resources in most countries, the 'normal' market mechanism of supply and demand does not regulate the allocation of these resources.

This scarcity problem can be solved in different ways (Kesteloot, 2001). The '*needs*' can be reduced – a society can decide that certain potentially beneficial health care interventions will not be made available to its citizens.

Although it may be fairly easy to decide that no public resources will be spent on certain interventions, it is almost impossible to prevent citizens from spending their private resources on these interventions. And once the interventions are available either in the own country, or across country borders, public pressure will grow to make them available to all citizens who could benefit, based on equity arguments (all citizens are entitled to good health and therefore to the best possible health care).The scarcity problem can also be softened by making (even) more *resources* available for healthcare.

As far as the public resources are concerned, most OECD-countries feel they cannot substantially increase the amount of resources invested in health care. This would require increasing taxes (in 'national health service' type of systems) or social security contributions (in social security system) – and there does not seem to be political willingness to increase these rates – or to reduce spending on other publicly financed goods, such as education, culture, infrastructure, social care. Concerning the private resources, many citizens seem to have the expectation that health care should be available to all citizens, almost free of charge. Hence, also among citizens, there is little willingness to pay for health care, although it is expected that needs will be met and all demands satisfied. The third type of strategy to reduce the scarcity problem is *efficiency* improvements: trying to allocate the available resources to their best possible use, i.e. such that the total benefits are maximized.

Improving efficiency in healthcare
The different types of reforms towards improved efficiency can be classified along different lines, for instance, through (a) the stakeholder that is the primary target (e.g. providers, patients, payers) and (b) the distinction between organization (delivery) and financing of care (see e.g. Mossialos & Legrand, 1999, Kesteloot, 2001 and OECD, 2002 for much more deailed descriptions of these health care reforms). Below is a brief summary of different types of health care reforms. In chapter II, many of these elements come up again, when discussing health care reforms in different countries and their impact on (academic) hospitals.

Healthcare financing
As far as the financing of health care is concerned, different mechanisms have been developed to increase the financial responsibility – and therefore the price sensitivity – among providers, payers (e.g. sickness funds) and patients.

For instance, several forms of co-payments and deductibles for *patients* have been installed, for different types of health care interventions (e.g. physician consultations, but also drugs). The hope is, by increasing prices, that demand for health care would fall. It is however debatable whether and to what extent the consumer can actually influence health care consumption, once he has made the decision to consult a health care provider. Also reimbursement systems towards *providers* have been changed dramatically.

Cost-based, retrospective reimbursement systems were replaced by prospective systems and variable reimbursement is replaced by fixed (lump-sum) reimbursement. Where as e.g. hospitals used to be reimbursed on the basis of historic, justified costs, they nowadays receive DRG-based payments per admission. Furthermore soft or hard-cap, budget ceilings are imposed at different levels in the health care system (e.g. central government, local governments, groups of providers, such as e.g. the group of radiologists, the group of hospitals, single hospitals) – and traditional open-ended funding was abandoned. *Payers*, also in social security systems (e.g. sickness funds) have been imposed more financial responsibility. This strategy has been developed in the context of managed competition, whereby the (restricted) resources received by the payers depend on the number and risk profile of their clients. All in all, all these payment reforms typically shift part of the bud-getary responsibility away from the central payer, towards more decentralized layers of the health care system.

Before those reforms, only the central government had a serious financial responsibility for the health care system: regulation was installed, payment rates were set and in the end, it was the central government who had to find the necessary financial resources to cover all costs. Nowadays, the responsibility is shifted, to a substantial degree, towards lower layers of the health care system. The central government sets itself a strict budgetary target for health care expenses (i.e. engages not to spend beyond a certain limit) and introduces all kinds of regulations and payment mechanisms into the system, to make sure that providers do not spend more that the globally set budget (e.g. budget per hospitals, linear fee reductions in case there is a threat of overspending).

Healthcare organization and delivery
As far as the organization and delivery of health care is concerned, many initiatives are taken, also with the aim to utilize

resources more efficiently. For instance, there are many initiatives for horizontal collaboration, through hospital mergers, collaboration between similar health care institutions. It is hoped that a larger scale will give the organization more bargaining power towards suppliers and payers and will allow the organization to operate at lower unit costs (duplication of infrastructure can be avoided and hence fixed costs can be spread over larger numbers of patients). Also initiatives for vertical integration are realized, with the same aims.

Vertical integration involves collaboration between health care institutions that have a supplier-customer relationship, e.g. a primary care practice and a hospital, a community hospital and a tertiary care hospital, a home health agency and a hospital. Such collaboration can take place under loose ties between the different partners, e.g. as in disease management programs (e.g. Kesteloot, 1999), or under tighter arrangements, such as a unified authority, as e.g. in integrated delivery systems (Shortell et al., 1996). A specific form of vertical integration involves the collaboration between health insurers and health care providers, under the form of health maintenance organizations.

Health care system overall

Finally, some reforms affect the financing as well as the organization of care. These include the introduction of market mechanisms, or competition, such as managed care (mainly in the US), the separation between the purchaser and the provider role in national health service models (as in the UK and Sweden), the privatization of hospital activities (sometimes only outsourcing of support activities, sometimes also of care services, such as in Germany). In Europe, health care has been subject to fewer external market forces than in USA, since health care is more strongly based on the concept of solidarity and private health care organizations are largely not-for-profit (McKee & Healy, 2002). Although there is not much research that fully investigates the impact of market forces on health care systems, the available evidence for European countries and the USA allows to conclude that in Europe, countries that reduced hospital (bed) capacity through market mechanisms (e.g. Switzerland and Norway) were less successful than those who used regulation (e.g. France and Belgium). Possible explanations for this finding are the fact that markets do not identify substitutes and markets allow to resist closure or to react differently than by closure (Mc Kee & Healy, 2002).

Markets do not identify substitutes, in the sense that they pay less attention to the health needs of the population than to managerial and professional interests. Markets give relatively more autonomy to hospital managers and this may empower them to resist closure, e.g. by constructing alliances with local politicians or health professionals. On the contrary, in a regulated approach, hospitals can be forced by policymakers to close down, while in a market environment, they can e.g. decide to under invest in infrastructure, to stay in the market. Alternatively, a 'market' approach may be politically more attractive for policymakers – since the policymakers do not have to make the though choices, but can leave them to the – more impersonal – markets.

2 Strategic solutions of (academic) hospitals in different countries – case studies

2.1 Introduction

This chapter illustrates the problems and challenges academic hospitals face in a number of countries and the strategic solutions under development, or implementation, to cope with these problems. The question was to focus on the experience in two neighboring countries of the Netherlands, being Belgium and Germany, (on the UK) and on the USA. Although the latter country is fairly distinct in terms of its health care system (or lack of unified system), the USA experience is an interesting case study, of what may happen in European countries, if the mission and problems of the academic hospitals are not tackled in a serious way. Since the UK experience did not seem to add any new information to the case studies of the other countries, it was decided to drop this country from the sample – and to focus more extensively on the other three countries. This chapter starts with an overview of the problems and potential solutions of academic hospitals in the *USA*. Since a lot of literature is available on academic hospitals in the USA, for this part, the focus is not on a single hospital – illustrations from different hospitals are included. Next comes *Belgium*. This paragraph start with a brief overview of the Belgian health care system and subsequently focuses on a case study in one hospital, the University Hospitals of Leuven. The third paragraph focuses on the *German* situation. After of brief overview of the German health care system and reforms, the focus is on the evolution towards privatization of hospitals in Germany. This is illustrated with a case study on one hospital concern, Röhn Klinikum AG.

2.2 Academic Hospitals in the USA

Introduction: managed care

Academic hospitals experienced little problems in the USA until the late 80s. There was sufficient funding for patient care. Private insurers did not strongly oppose the annual increases in charges, since these cost increases could be passed on to the employers (Reinhardt, 2000).

For education, Medicare, the federal health insurance for the elderly population, foresaw extra funding for the direct and indirect costs of medical education (DME and IME). There was generous research support for the academic hospitals through the grants from the National Institutes of Health. Moreover, the USA Congress agreed with vast support for the academic hospitals, since they provide hospital care for the indigent and uninsured USA citizens – thereby disguising the lack of equitable access to health care for all USA citizens (Reinhardt, 2000).

Academic hospitals experienced growing opposition since the late 80s, with the introduction of managed care in the USA. *Employers* were increasingly reluctant to pay the increasing bills for health care insurance and became strong demanders of health care organizations that were better able to control their expenses. Managed care companies claimed to be able to achieve this aim. Typically, in a managed care company, contracts are signed between payers for health care services and providers, about the nature, quality, volume and price of care to be provided. Payers select their providers and can sign different types of contracts with different providers. Such managed care initiatives imply drastic changes in the way providers deliver care:Providers must now compete, also on price, for patients. It is no longer only quality and expertise that matter (Fein, 2000);

- Provides may have to justify the use of resources to external monitors – and even ask for permission to supply certain services, if they want them to be reimbursable for their patients (Fein, 2000);
- Payers can make their reimbursement conditional on providers following certain 'guidelines' (e.g. use of specific diagnostic pathways or follow up for patients, limit use of certain interventions to certain indications);
- Providers may obtain financial bonuses when following the rules of the managed care company. Resistance grew also among *policy makers*, since they wanted to avoid a USA budget deficit. The Balanced Budget Act, established in 1997, to save substantially on (Medicare) hospital expenses, was the major illustration of this tendency (Pardes, 2000).

Problems for USA Academic Hospitals

With the emergence of managed care companies, academic hospitals experienced major problems, in all three of their missions.

Patient care

Managed care companies negotiate with health care providers, also about the price of the service. They are willing to pay a premium for high-level specialized care, which the general hospitals cannot provide, but they are not willing to pay extra for the costs associated with the specific academic missions, such as:

- Inefficiencies in patient care, due to educational tasks (e.g. longer procedure times);
- Costs of continuity of care in e.g. operating theatres, accident & emergency departments;
- Costs of clinical research and teaching.

Their major argument was that these extra-costs do not yield an extra-benefit for their patients. Basically, for services available in both academic and community hospitals, managed care companies are very reluctant to provide higher reimbursement for the academic hospitals. Managed care companies are reluctant to pay for services from which only in the long run, social benefits are expected – they only pay for the short run, private, benefits for their patients.In these negotiations, whereby managed care companies demand a thorough justification of the requested resources, academic hospitals were in a fairly weak position to claim 'appropriate' reimbursement for their patient care, due to the tradition of cross-subsidization among different missions and the lack of transparency in their accounting systems (to disentangle the costs of patient care, from the costs of research and education (Fein, 2000, Reinhardt, 2000). Although in practice it may be very difficult to disentangle the costs of patient care from the costs of research and education, their inability to do so in an acceptable way has put USA academic hospitals at a competitive disadvantage. Hence, academic hospitals got squeezed into a position, whereby the reimbursement they could negotiate was no longer sufficient to cover the costs and they run into deficits. By the middle to the end of the nineties, many eminent academic hospitals were in financial distress simultaneously (Blumenthal, 2001). In 1999, an unprecedented number of USA academic hospitals experienced financial difficulties. For the first time a (not-for-profit) USA academic hospital – annex integrated delivery system (Allegheny Health System) went bankrupt and was liquidated (Commonwealth Fund Task Force on Academic Health Centers, 2000). After the bankruptcy of the group, many of the sites (8 hospitals, the medical school, 300 community physicians) were taken over by Tenet Healthcare

Corp. a for-profit hospital chain. In terms of impact, it is assessed that the bankruptcy has decreased the Philadelphia region's resistance to for-profit hospital chains (George, 2000). A negative side effect from this bankruptcy, at least from the viewpoint of the academic hospitals, was the fact that bond rating agencies re-assessed academic medical centers. By early 1999, bond rating agencies had downgraded or projected a negative outlook for many academic hospitals in the USA and some hospitals found it impossible to buy bond insurance (Aaron, 2000).

Furthermore, due to the evolutions in information technology and the easy internet access, academic hospitals were losing their status and reputation as the local supplier of authoritative health information for patients and providers. If they want to restore this position in future, they will have to develop tools to manage all the data available on the internet and other public sources, in a superior way – such that more relevant information can be supplied to patients and providers (e.g. by linking publicly available data sources with – internal and private patient data).

Clinical research and education

With tighter managed care payments for patient care, physicians are under growing pressure to see patients (which generates income for the hospital), rather than to devote time to research and teaching (DeAngelis, 2000). It has been demonstrated that academic health centers in highly penetrated managed care markets (i.e. geographic areas where penetration of managed care companies is large) have fewer resources to do 'unsponsored' research (i.e. research for which there is no external funding) – only 2,5% of their total funds – than their counterparts in markets not dominated by managed care (6,1% of funds) (Weissman, et al., 1999). An update of this study (Campbell et al., 2001) provides additional evidence of the negative relationship of high levels of market competition on the research activities of academic hospitals. More specifically, patient-oriented research (i.e. research that involves the use of living human beings as research subjects) and non-clinical research seem to suffer from market competition. Research leaders (i.e. a survey of 712 department chairs and senior research administrators at 122 USA medical school) report that clinical research faces serious challenges. The most important are: pressure on clinical faculty to see patients (93% see this as a problem), insufficient clinical revenues (89%), inability to

recruit trained clinical researchers (75%) and lack of external support for clinical research (72%) (Campbell et al., 2001). Hence, there is a substantial risk that academic hospitals can no longer perform their academic missions appropriately. If this threat persists, the development of new technologies in health care might seriously be retarded. With these pressures from managed care, for the individual physician, it becomes more difficult, if not possible, to excel in all three missions of patient care, teaching and research (Jones & Gold, 2001). Although USA academic hospitals perceive their research activities as being threatened by managed care, it should be recognized that many of the internationally well known academic hospitals in the USA might still able to attract substantially more research funds than their European counterparts.

Academic institutions furthermore experience growing competition from the private industry (Fein, 2000), under different formats. There is competition for trained researchers, who are bought away from academic hospitals, by private biotechnology firms. Academic institutions also experience growing competition from contract research organizations (CROs) (DeAngelis, 2000). They (partly) take over clinical trials, one of the functions traditionally dominated by academic hospitals. CROs have responded, more adequately than the academic hospitals have, to industry's demands for faster, more, cheaper and more reliable clinical data. They have marketed their services intensively to the pharmaceutical companies. To support the CROs, also site-management organizations (SMOs) have been set up. They enlist and manage the physician practice sites that recruit and follow up patients enrolled in trials. (Commonwealth Fund Task Force on Academic Health Centers, 2000). Since academic hospitals rely more on private funding for their teaching and research, the 'public nature' of clinical research may decline substantially – the free flow of information may be inhibited. Research results might not be made directly available to the public, through publications, but when the funding agencies decide that time is right for publication. In case of negative findings, results may hence never be published – and in case of promising new findings, publication may come too early (too little cross-verification of results). Blumenthal et al. (1997), in a survey of 2167 science faculty members, report that 19,8% of respondents had delayed publication of at least one study for more than 6 months due to proprietary needs (Friedberg et al., 1999) report that pharmaceutical company sponsorship for cost-effectiveness studies in oncology drugs is associated with a reduction in the

likelihood to report unfavorable results. This growing share of private funding may create potential conflicts of interest (e.g. publish or not publish, which direction to pursue for further research). And if such conflicts of interest are played in the public arena, the public trust in academic hospitals may be reduced.

Solutions for Academic Hospitals in the USA

USA academic hospitals face two kinds of challenges, financial and managerial. They need sufficient resources to implement their missions. Although, also in USA, academic hospitals receive public resources, the current amount of funding is not sufficient to sustain the current level of their specific 'academic' activities. Academic hospitals have to look for additional sources of revenues. Furthermore, their management must be adjusted, in order to cope with the threats of managed care, to deal with new opportunities in education (e.g. different physician skills) and research (e.g. interdisciplinary research, dealing with industrial sponsors) and to take advantage of the information revolution (Commonwealth Fund Task Force on Academic Health Centers, 2000). Different strategies have been proposed. Some of them deal with the core activities and the organization and management of the academic hospitals. Most of these suggestions are under development or under implementation at least in some hospitals. Other strategies deal with the (health) policy perspective. Unfortunately, these strategies are propositions, which are not (yet) under implementation in the USA.

Core Activities of USA academic Hospitals

Academic hospitals have started to *delineate* their distinct '*product lines'* of patient care, research and education more clearly. They started developing sophisticated cost-accounting systems, to be able to link money flows to the distinct product lines (Reinhardt, 2000). As far as the different product lines are concerned, the following trends are observed.

Patient care

In response to managed competition, many USA (academic) hospitals *merged*, to increase their market power vis à vis managed care companies and to reduce costs. Major examples include the merger between Massachusetts General Hospital and Brigham & Women's Hospital in 1994 (Partners Health Care System), between New York Hospital and Presbyterian. Hospitals (New York – Presbyterian Hospital), between Stanford and UCSF hospitals (Cohen, 2002) and between North Shore

Long Island and Jewish Health System (Cohen et al., 2001). Many of these mergers, also among academic hospitals, have not yielded the expected benefits. Costs have not been reduced substantially, there was little clinical integration and it was difficult to increase market power in a situation with excess overall capacity of hospitals and beds. In fact, some hospitals even de-merged (e.g. Stanford University Hospital and the University of California at San Francisco Medical Center; Geisinger Health System and Milton Hershey Medical Center (from Penn State University) (Cohen et al, 2001). Decisions to de-merge were often based on accumulating financial losses and on the strong and growing resistance to collaboration with the new partner among the clinical and academic staff (see e.g. Pellegrini, 2001).

Managed care companies, through their selective contracts with providers, including primary care gate keeping, determine to a large extent access to academic hospitals. To assure their necessary downstream referrals, academic hospitals are responding by focusing more extensively on *primary care*. This can be pursued through different strategies (Retchin, 2000):

- *Assembly strategy*: generalist physicians are recruited into the clinical departments of hospitals, to start up primary care practices in the academic hospital. This strategy, which was adopted by e.g. the University of Washington, has the advantage that the academic hospital owns the practice from the beginning. It can therefore 'shape' the practice, to the needs of the academic hospitals (e.g. location of primary care practices, to increase market share, or to protect geographical markets from other competitors. Major disadvantage is the high start-up cost (facilities, marketing, etc).
- *Acquisition*: established primary care practices are purchased by the academic hospitals, who becomes the new owner of the primary care network. This strategy, which was pursued e.g. by the University of Pennsylvania, has the advantage that it targets mature primary care practices with well-established patient populations. Major disadvantage is also the high start-up cost. Furthermore, this strategy has not (always) yielded the expected additional patient referrals to the academic hospital. This strategy can be pursued through a purchase-and-lease-back of the practice assets, or through a purchase and full integration of the practice and the providers. This strategy cannot only be pursued with respect to primary care settings, but also with respect to all

other types of care, by setting up integrated delivery systems (IDS) – cf. infra.
- *Affiliation*: academic hospitals collaborate, form networks with existing primary care practices in the community (without the primary care practices changing ownership). This strategy, which was pursued e.g. by Virginia Commonwealth University, has the major advantage of avoiding large capital investments. Major disadvantage was the fact that the expected growth in patient referrals often did not materialize.

Many academic hospitals used combination or hybrid strategies. The assembly and acquisition strategies were more capable of generating downstream referrals, although at a higher cost, than the affiliation strategy (Retchin, 2000). All in all, it remains uncertain which is the preferred approach (Commonwealth Task Force on Academic Health Centers, 2000).

In order to be able to reduce in-hospital costs (e.g. through shorter length of stay), despite the increasing intensity of illness and complexity of patients, US academic hospitals have also developed major *ambulatory care* programs. These ambulatory centers include outpatient surgical and interventional suites, implying that care for patients residing in the hospital can be restricted to the most complex patients, requiring the most intensive care. Also the development of a hospital-hotel on campus, to be used by patients and families helps to utilize the hospital resources more efficiently (Karpf et al., 2000).

Mergers, together with the development of primary care programs and ambulatory care centers moves academic hospitals closer towards *integrated delivery systems*, which provide a complete continuum of care to their patients, from basis primary care services to tertiary care, rehabilitation, nursing homes and home care services, and from 'cradle to grave' (Shortell et al., 1996). For example, after the merger of two academic hospitals (Massachusetts General Hospital and Brigham & Women's Hospital in 1994, Partners Health Care System (PHCS) started developing an integrated delivery system. During the first years, the integrated delivery system did not really seem to take off. PHCS made a substantial loss on its first capitated contract with HMO Blue (merger of Blus Cross and Blue Shield of Massachusetts) in 1997. In the same period PHCS was confronted with decreasing Medicare payments, under the Balanced Budget Act (Blumenthal & Edwards, 2000). As of 2002, Partners HealthCare System Inc. includes two academic

hospitals, community hospitals, specialty facilities, community health centers, primary care and specialty physicians and other health-related entities. It has set up a joint venture with the Dana Farber Cancer Institute and is a major teaching affiliate of Harvard Medical School. It presents a modest operating margin of 1,3% in fiscal year 2001 – after a break even situation in 2000 (http://www.partners.org). Although the concept of IDS is intellectually appealing, the practical implementation problems are formidable. For instance, the culture clash among organizations is difficult to overcome – often it can only be tackled at the cost of an extra managerial layer.

Research and education

Academic hospitals take efforts to enlarge the pool of resources they can attract for research and they try to organize their *clinical research* more efficiently. These objectives are pursued in many ways (Commonwealth Fund Task Force on Academic Health Centers, 2000).

- The formal assignment of a clinical research coordinator is a first possibility. For example, at Partners HealthCare System Inc., a vice-president of academic programs was appointed and the research administration was centralized. Furthermore a small grant program was established, exclusively for funding of projects involving collaboration between teams from the two former hospitals (Blumenthal & Edwards, 2000). The research coordinator can also take responsibility for setting up a procedure for previewing all grant applications before submission. The idea is to increase the success rate of grant applications to external funding agencies.
- Strategic planning of biomedical research is developed in many institutions. They choose to plan research, rather than leave the initiative to the creativity - and unpredictability - of individual researchers.
- The formal management of research space is practiced more often. In the past, research space was allocated, implicitly, on the basis of historical criteria (i.e. those groups who had been allocated space in the past, just kept this space). Nowadays, (scarce and expensive) space for research is allocated on the basis of performance criteria (e.g. publications, research grants, research productivity). For instance, at Massachusetts General Hospital, the Executive Committee on Research (consisting of leading faculty scientists and research managers) decides about space allocation, based on how productively space is used

which is measured in terms of merit of the research and density of the research (ability of researchers to fund their space).

- Encouraging multidisciplinary research projects and establishing interdisciplinary research centers are also appropriate strategies to increase research performance. In such interdisciplinary centers (e.g. a cancer research center at Mount Sinai Medical School, a neurobiology and genetics center at Duke University), on the one hand people from different disciplines are encouraged to collaborate and on the other hand, researchers have to opportunity to super-specialize.
- Setting up the internal equivalent of a CRO is also a pursued strategy. The best known example of this strategy is Duke University Clinical Research Institute, which has become a very large non-profit university-based CRO, employing 500 people. Rather than creating an own CRO, academic hospitals may also establish long term collaborative partnerships with commercial CROs, with a fair distribution of the realized profits. Other academic hospitals have created clinical trial units, which identify industrial research opportunities and facilitate negotiations with sponsors. Limited evidence shows that clinical research is accelerating in academic hospitals with such a clinical trial unit (Commonwealth Fund Task Force of Academic Health Centers, 2000).
- Some academic hospitals have attempted to improve their research performance by broadening their research focus, to include ethics of health care and health services research.
- Investment and formal coordination and management of core facilities, which are used by many research groups, such as animal facilities, information systems, DNA sequencing equipment are also new options which quickly gain ground.
- More intensive collaboration with industrial partners and the commercialization of research results, by setting up a technology transfer office to patent staff intellectual property and to market those patent licenses to companies are also emerging strategic responses. In some cases, mergers of hospitals and collaboration with primary care networks have also facilitated research relationships with industry, e.g. for the development of disease management programs.

Academic hospitals pursue transformation in the content and the process of their *education* activities. The content is broadened, to include education in ambulatory care settings and primary care (Karpf et al., 2001). In terms of process, major innovations relate to the development of integrated curricula, working with problem-based learning. Academic hospitals are also planning their educational efforts more strategically. For instance, at UCLA Medical Center, forced by managed care competition, the educational activities were thought through thoroughly. This process forced them to be more precise in planning and deploying training programs for students and residents and about the educational outcomes the Center would like to produce (Karpf et al., 2001).

Organization and management of USA academic hospitals

Academic hospital and university: integration versus autonomy

In terms of governance structure, two different venues are being observed, to balance the needs and the culture of the academic environment (intellectual freedom and autonomy, deliberative decision making, striving for consensus) and of the clinical environment (stronger focus on efficiency, need for quick adjustments to changing market conditions, hierarchical decision making). On the one hand, some academic hospitals aspire closer ties with their medical school/university, in order to align clinical and academic interests, to realize a more *integrated management* of the patient care (primary focus of the hospital) and the research and education missions (primary focus of the medical school). To this end, leadership positions with joint responsibilities for the clinical and the academic tasks are created, such as a position of vice chancellor for health affairs at the university, or a sub-board of the overall university board, with special responsibility for academic hospital matters. This step has been taken by e.g. Duke University, UCLA, University of California at San Diego, the University of Michigan (Commonwealth Fund Task Force on Academic Health Centers, 2000).

For instance, at UCLA Medical Center, a governing structure was developed that ensures effective decision making, based on a broad view of the entire organization, that allows to develop clinical ànd research priorities, that focuses simultaneously on educational goals and that assures fiscal integration, responsibility and accountability. To this end, a position of dean/provost for medical sciences was created, which has administrative oversight of the entire group (medical

school, hospitals and research institutes) (Karpf et al., 2001). At UCD (University of California at Davis) a similar position was created. Before the position was installed, decision making was very fragmented. After the new position was implemented, decision making for the clinical enterprise was vested in a council representing chiefs of service, leaders from the community network, leaders from the faculty and hospital executives. For the first time, the medical school, the hospital and the community network took their planning and budgeting decisions together and reported to the same CFO (chief financial officer) (Commonwealth Fund Task Force on Academic Health Centers, 2000).

A closer integration may culminate in fully-integrated governance of the 'academic medical center'. Such a unified authority, which integrates both the hospital ànd the medical school, is expected to facilitate management of the three missions. An integrated evaluation and feedback for the chiefs of the medical departments, whereby not only the performance of the department in terms of patient care is evaluated, but where simultaneously research performance and education activities are assessed, may ensure that performance in all three missions is assessed in a balanced way. The new governance structure at UCLA Medical Center is reported to permit allocation of resources between and among units, such as to encourage top-notch research programs, appropriate clinical programs, the recruitment of outstanding clinical and research faculty and the development of a primary care network (Karpf et al., 2001). In an integrated approach, the administrative systems may further be re-engineered, thereby creating value added for both sides (e.g. savings on overhead costs, more transparent allocation of overhead costs).

On the other hand, some academic hospitals believe that such tight integration makes the organization almost unmanageable, because too many different perspectives need to be taken into consideration. The fast-changing environment of health care markets requires fast decision making in patient care, faster than typically pursued in academic environments. Those academic medical centers expect to improve their performance by creating a *stricter separation* between the hospital on the one hand and the medical school/university on the other hand. This would give the academic hospital more autonomy. This could be a good strategy for academic hospital associated with state-owned universities, who often have to obtain permission from state authorities for capital investments – and in this pro-

cess often have to make their plans public, and therefore also known to the private competitors in the market. There are many examples of academic hospitals being run quite autonomously from the university – often though with a formal channel for the hospital board to report back to the university board. Examples include the University of Chicago Hospital, the University of North Carolina Health Care System who have a board, separate from the university and the University of Maryland and the Oregon Health Sciences University, who created quasi-public corporations to manage their academic hospitals (Commonwealth Fund Task Force on Academic Health Centers, 2000).

To conclude, whether a strategy of integration, rather than separation (to safeguard autonomy and flexibility of the academic hospital in highly competitive markets) is more desirable seems to depend on the circumstances. For instance, if the parent university is a public institution, full integration may not be a viable option, since the decision making procedures in public institutions may generate a competitive disadvantage for the hospital. Alternatively, even a close link with the university does not in itself reduce flexibility, integration may not work in practice if the top management of both (formerly independent) institutions is not willing to work permanently and rigorously on the success of an integrated institution.

Physician and leadership career paths

Academic hospitals in USA have developed new types of *career paths* for their physicians, to deal with these potential conflicts between the needs of the academic and the clinical environment. For instance, USA academic hospitals have a long-standing experience with clinical professorships. This career perspective of 'clinician-teacher' implies duties in patient care and teaching, but not in clinical research (Jones & Gold, 2001, Lovejoy & Clark, 1995).

Furthermore, the distinction in the career paths of clinicians and researchers is growing. Mainly clinicians are assigned term-contracts, instead of being granted tenure (Jones & Gold, 2001). Tenure career tracks, which were originally designed, mainly to protect academic freedom, are offered more frequently to researchers. This tendency can be considered as an illustration of the fact that USA academic hospitals have come to perceive revenues from patient care as more volatile, less predictable and beyond their span of control than the funding for research. During selection, candidates may be asked to pre-

sent a business plan, for the position they aspire. Upon appointment, their periodical evaluation is based, also, on the business plan.

Renewable contracts instead of traditional tenure for senior faculty and the delineation of specific faculty responsibilities in letters of employment, are becoming more common (Commonwealth Fund Task Force on Academic Health Centers, 2000). Even for tenure tracks, restrictions are being applied, especially for clinical professorships, e.g. reductions in tenure salary guarantee, longer pre-tenure probationary period and post-tenure evaluations (Jones & Gold, 2001). Finally, productivity incentives are introduced.

Academic hospitals easily attract highly talented people, who excel in patient research, research or teaching. Furthermore, academic hospitals often recruit leaders among their own staff, since these individuals have credibility and legitimacy within their organization. Hence, often, leaders are still, implicitly, recruited on the basis of the academic excellence, but these skills need not make them the best profiles for managing complex clinical services. Academic hospitals are therefore encouraged to devote more attention to attracting the right *leadership profiles*, and to start early enough with preparing follow-up after leaders' retirement (Commonwealth Fund Task Force on Academic Health Centers, 2000).

Finally, academic hospitals should jointly address the problem of *excess capacity* of academic hospitals in the USA (Fein, 2000): too many academic hospitals, too many training programs, too many residency slots. It would be a very strong signal to policymakers, that academic hospitals take up their collective responsibility for a more rational use of health care resources, by jointly solving this problem of excess capacity. This signal would be much stronger, when the academic hospitals manage to come up with their own solutions, rather than having those solutions imposed by policymakers.

US (health care) policy towards academic hospitals

In literature, the following suggestions were found, to solve the problems of academic hospitals in USA, from the policy perspective. An *all payer fund* should be established to support academic health centers and medical education (Moynihan, 1998; Pardes, 2000). The underlying idea here is that public resources should cover the costs of public and social goods, for which the market will not pay. An all payer fund implies

that all health care payers, both private and public, contribute (compulsory) to a fund, that allows to cover the extra-costs, related to the specific missions of the academic hospitals. These include the costs of highly specialized patient care, care for the indigent and the uninsured (typical for the USA, since academic hospitals take care of a disproportionate share of those patients), clinical research and education.

Specific funds should be available to cover the extra costs of implementing *information systems* in (academic) hospitals (Pardes, 2000). The underlying idea here is that hospital information systems are crucial instruments to monitor and optimize the quality of hospital care (i.e. easy access to data on patient characteristics, interventions, outcome data, etc) and to measure and monitor research and educational performance. These systems, it is argued, are even more needed in academic hospitals, due to the intensified acuity of illness, typical of patients in academic hospitals and due to the strong interactions between care, teaching and research.US academic hospitals will have to prove their commitment to quality and their quality performance in a quantitative way, by compiling and processing data on outcomes, complications, satisfaction and quality of life. Every program will have to demonstrate its performance with hard data, rather than to rely on its historic reputation (Karpf et al., 2000). Furthermore, also the need for excellent scheduling of care processes and of the patients that need them, and the accompanying data management, require a major upgrade in information systems (Karpf et al., 2001).

More sophisticated information systems are also needed to collect, and analyze data on the core missions of the academic hospitals. They need these data to be able to manage their own business and to follow up performance in each of their core activities. But these data will also be needed to justify the claimed (higher) resources from public sources or from insurers or other payers. The Funds Flow Project is one of the examples of such a system. It involves a common methodology for tracking the way funds flow among different units of academic health centers (hospitals, universities, medical schools, departments, research institutes). The next step will be to identify productivity measures (Burnett & O'Connell, 1999).

There is a strong need for *political leadership* in the matter of academic hospitals (Pardes, 2000). Policymakers should not only be willing to understand the problems of the academic

hospitals. They should also take the right policy measures. These include all types of regulation that support the position of academic hospitals in: providing high quality health care to the nation, for complex conditions developing and implementing progress in diagnosis and treatment of diseases educating the nation's future health care workforce.

2.3 Academic Hospitals in Belgium: the University Hospitals of Leuven

The Belgian health care system and reforms

The Belgian health care system has many strengths: comprehensive health insurance coverage for the entire population, free patient choice regarding sickness fund as well as service provider and high levels of quality and equity (OECD, 1999). Belgium has a Bismarck type of social security system (see European Observatory on Health Care Systems, for an extensive survey of the Belgian health care system). Health and invalidity insurance is funded through social security contributions on labor income (36%), general taxes (38%), patient contributions and private insurance (17%) and other sources (9%). The share of public funding is large (74%, at the end of the 90s), but decreasing. Recent studies reveal a growing share of out-of-pocket expenses for patients. Health care is provided by not-for-profit institutions, a majority of them is private. The public ones are mainly organized by local communities. Health care providers (e.g. physicians, dentists, physical therapists) mainly work in solo-practices. There are very little multidisciplinary primary care centers in Belgium.

Health care expenses are reimbursed by the sickness funds. Hospitals receive a global budget, which is transferred to them on the basis of monthly payments (80%), a rate per admission (10%) and a rate per stay day (10%). Physicians receive fee-for-service payments – the reimbursed amount is regulated among sickness funds and representatives of the physicians. As in many other OECD-countries, it is in the health care sector that public spending has risen most rapidly since the 80s. In the nineties, there was a growing consensus that health care expenses were growing too fast. In order to achieve the Maastricht norms for the European Monetary Union, allowable growth in health care expenses was reduced and many measures were taken to contain health care costs. Although there has not been an overall reform plan and most of the measures taken were introduced step-by-step, the system has

changed considerably since the mid-eighties (OECD, 1999). Reform measures mainly included changes in reimbursement systems for providers.

Since the early 90s, the government was allowed by the parliament to fix a *global budget* (for public health care expenses) as well as to set targets for sub-sectors, with compulsory corrective mechanisms (e.g. linear fee reductions) in case of budget target overruns. These corrective mechanisms are applied mainly in the field of clinical biology and medical imaging, but not in other areas. In the sixties, *hospitals* were still reimbursed on the basis of the allowable historic costs. Gradually, a budgeting system was introduced, first based mainly on input criteria (number and type of beds, availability of certain functions). This was the case until the early nineties. Then, gradually, budgets were adjusted, taking into consideration process criteria, such as the nature of nursing services, medical services and DRG-type information. As of 2002, the budget is based much more substantially on DRG-type information (for each admission, only the national average of stay days per DRG is reimbursed). Over the years, these reforms have gradually shifted the financial risk from the government towards the hospitals. Nowadays, many hospitals complain that the budget is no longer sufficient to guarantee their financial viability. Consequently, wherever it is allowed – or not forbidden by regulation – they start shifting part of their financial risk towards patients, by charging extra.

The government furthermore shifted part of the financial responsibility towards the *sickness funds*. They are no longer reimbursed for àll the expenses they reimburse to providers (as was the case until the mid-nineties). Nowadays (since 1995), they receive a capitated payment for each of their members (depending on sex, age, etc), from which they have to reimburse health care, covered by the health insurance. However, this capitated system only applies to a small share of mutuality's' overall expenses. Also single *providers* (mainly physicians, but also physiotherapists, dentists, speech therapists, etc) have suffered from changing reimbursement systems. For instance, medical specialists, who used to be reimbursed solely on the basis of fees for service, gradually see their fees reduced (or no longer increased), sometimes eliminated (for certain interventions considered ineffective) or replaced by lump sum type of payments. This shift towards more fixed payments is strongest in some of the diagnostic disciplines, namely clinical biology and medical imaging. For example fees for lab tests in hospi-

talized patients have been reduced from 100% to 25% - and the remainder of the payment consists of a lump sum per hospital admission and per hospital stay day. Again, these payment reforms substantially increase the financial risk for health care providers. After cost containment measures for ambulatory drug use (e.g. price reductions, incentives for the use of generics), more recently efforts have started to contain health care expenses for *pharmaceuticals* used in hospitals (until the late '90s most drugs used in hospitals were reimbursed typically on a per-item base, implying little incentives for cost containment). For instance, in 2003 a system of DRG-based payment for 5 pharmaceutical categories, used in surgical patients, will be introduced. It is expected that other pharmaceutical categories will follow.

Finally, the Minister of Social Affairs attempts to contain costs through *planning* of expensive medical equipment and facilities (e.g. radiotherapy equipment, PET, MRI) – strongly against the will of many (large) general hospitals, which have growing ambitions to provide àll types of specialty services.In Belgium, contrary to many other countries, *no explicit market reforms* were introduced to improve efficiency in health care organization and financing. Rather than turning to market mechanisms, policy makers prefer to pursue the current framework of concertation among the major stakeholders (under the final supervision of government), while focusing efforts on making patients more cost-conscious, peer review among providers and extending the use of lump sum payments (OECD, 1999). Belgian policy makers hope that administrative mechanisms, rather than market forces, will be able to ration and allocate health care services while preserving equity, soliarity and the major characteristics of the current model of health care finance and delivery (OECD, 1999).

2.4 Case Study: the University Hospitals Leuven (UHL): Academic Hospitals in Belgium

Academic hospitals versus general hospitals
In 2002, in Belgium, 7 general hospitals have the status of academic hospitals (one for each medical school that offers the entire medical curriculum). The law on hospitals, passed in 1963, already included an identification of the specific missions of the academic hospitals. This law stated that academic hospitals are general hospitals, but with additional specific missions, mainly w.r.t. education and research, but also w.r.t.

patient care. Only 15 years later were those functions described in more detail. The Royal Decree of December 15th 1978 specified the architectural, functional and organizational criteria which the surgical, internal medicine, pediatric services and the maternity of academic hospitals had to satisfy Decoster, 1996).

The largest academic hospital is the University Hospital of the University of Leuven. It is a private, not-for-profit academic hospital. Two of the academic hospitals have a public status. The other ones have a private, not-for-profit, status. At the onset of the system, each medical school was granted a quotum of hospital beds with an 'academic label', which it could distribute over (few or many) general hospitals and with the specification that a certain minimal number of those beds should be allocated to hospitals in those provinces without a Medical School (West-Flanders, Limburg and Hainaut). The University of Leuven allocated the majority of its 'academic beds' to the University Hospitals of Leuven (UHL – 1218 'academic' beds) and a small part to three general hospitals: 50 beds in Virga Jesse Hospital in Hasselt, 75 beds in ZOL (Ziekenhuis Oost Limburg) in Genk and 60 beds in St Jan Hospital in Brugge. One university (Université Catholique de Louvain) concentrated its academic beds on two campuses with only academic beds (St. Luc and Mont Godinne), thereby creating virtually two academic hospitals. The University of Liège and the Université Libre de Bruxelles spread their academic beds over a larger number of general hospitals (Sermeus, 1996).

Although the general hospitals with a (limited) number of academic beds have signed an affiliation contract with their university, in practice, many of these affiliated hospitals have become true competitors of the academic hospitals, which aspirations to provide all the same care programs – and more imortantly (cf. infra) - to obtain the same funding as the academic hospitals.

Many large general hospitals (including, but not only the affiliated hospitals with some academic beds) claim to perform the same types of activities as academic hospitals in Belgium. They claim to provide specialized patient care, to be engaged in research and to give training to residents – and therefore believe to be entitled to (a larger) part of the extra-funding to which nowadays only the 7 academic hospitals (and their affiliated hospitals) have access (cf. infra). It is indeed the case

that many of the specialized care programs are also available in the large general hospitals (e.g. cardiac surgery, cancer care, fertility treatment). General hospitals find it important to offer all of these programs, to be attractive to their customers and to protect their market share. If they would not offer àll programs, they fear to lose patients when these have to be referred to another general hospital or to an academic hospital for part of the diagnosis or treatment. There are only a few care programs which the large general hospitals do not provide (e.g. transplantation, burn care – with the Holy Mary hospital of Aalst being the exception for transplantation). But, even in these care programs, the care provided by academic hospitals is different, so the latter claim. Typically, they receive also the more complex, most complicated and the most severe patients. And they have the responsibility to take care of those patients who can not be taken care of under optimal conditions in general hospitals (last resort function) – all of this typically at a much higher cost than in the general hospitals. Besides the last resort function, academic hospitals engage much more extensively in providing second opinions, for which no specific funding through the health insurance is available.

Furthermore, although the larger general hospitals have a number of residents in training, their magnitude is much smaller than in academic hospitals and so are the extra costs they generate in the hospital. Typically the general hospitals take up part of the hands-on training, but not the scientific and the more theoretical part of the residents' training. Furthermore, specialists in general hospitals do not have residencies for a number of highly specialized (and less profitable) sub-disciplines such as general internal medicine, pain therapy and infectiology. A similar argument is made for research and development. Some general hospitals are engaged in a (limited) number of clinical trials, but at a much smaller scale and with much less links to fundamental research and to clinical development than in academic hospitals. Hence, the academic hospitals claim that in their setting, scarce research resources can be utilized much more efficiently and argue against a further dilution of the (already very limited) research grants.

Finally, the academic hospitals argue that granting more general hospitals a status of academic hospital would mainly imply a waste of scarce health care resources. Specialized expertise and expensive equipment and infrastructure for specialized patient care, for research and for education would only be duplicated – thereby creating excess capacity in a country where an

academic hospital is already never more than about a 100 km away from the patient's home (and for many patients even closer than 50 km). Hence, it is argued, further dilution of academic medicine would only generate higher costs and lower quality (due to smaller critical mass of patients and experts per academic center).

Funding for academic hospitals
Belgian hospitals are funded through several financing channels. The two most important ones are the hospital budget (to cover all costs – except of the medical activities – for the hospitalized patients) and the honoraria (which cover the costs of the medical activities, not only in hospitalized, but also in ambulatory patients). Belgian academic hospitals receive basically the same payment rates as general hospitals for their patient care activities. Additionally, academic hospitals receive extra-funding in the hospital budget, for their academic missions. The extra-funding (which is now isolated as a separate part of the hospital budget, the so-called part B7) is intended to cover (part of) the costs of:the higher staffing norms for academic hospitals (18 nurses per 30 beds, compared to 12 nurses per 30 beds in general hospitals), the longer operating times, due to the training of residents developing new medical technologieseducationthe employee status of the physicians – with higher social security contributions compared to physicians in general hospitals.

These resources are covered by the health insurance budget. n comparison with academic hospitals in other countries, this extra-funding is very limited. Until 2000, compared to general hospitals, they received about 4% of their turnover as extra-funding – compared to 15 to 20%, or even higher, in other countries. In recent years, their specific funding has improved until about 6% of their turnover. Part of the salaries of the physician-professors in the academic hospitals is funded from the budget of education. Academic hospitals can further attract funding for research, e.g. from the Fund for Scientific Research (which mainly funds fundamental research, but also some clinical research) and from industry. Opponents of the current funding system argue that the extra-funding for academic hospitals should be entirely covered from other sources than the health care budget.

Contrary to most general hospitals, where physicians have an independent status, medical specialists in academic hospitals are engaged as employees. Many of the medical specialists, in

academic hospitals also have an appointment at the Medical School of the university, to which the academic hospital is affiliated. Hence, the employment situation of medical specialists is different in academic hospitals – and the same holds for the associated costs of social security: in Belgium social security contributions are much higher for employees than for independent workers. However, the health insurance reimbursement system (and rates) for physician services is the same in àll hospitals (cf. supra). For a given medical service, the same fee applies, independent of the employment status of the physician, or the complexity of the patient, or the type of hospital where the service is performed (there are only some exceptions in e.g. clinical biology, where the lump sum parts of the payment are typically higher for academic hospitals – but also in clinical biology the fee-for-service part of the payment is identical in all hospitals).

UH: key figures

The University Hospitals Leuven (UHL) consist of 1850 beds, spread across 3 sites.The main campus, Gasthuisberg, houses about 1400 beds, the downtown campus (St. Pieter – St. Rafaël) houses about 200 beds and campus Pellenberg has about 250 beds.Each year there are about 80 000 hospital admissions, 55 000 emergency visits, 450 000 consultations.Care is provided by about 7000 employees (about 5000 full time equivalents). Of this group almost 1000 are medical doctors (500 residents and 500 staff members). Following major financial problems in 1997, a consulting company was hired in 1998 to analyze the problems and provide recommendations about the future organizational structure, care programs and overall management of the hospital. In 1999 a new management team was installed, to implement those recommendations.

Major problems

Besides the tight financial situation, imposed by capped health care budgets, the UHL face several serious problems. These problems are not unique to UHL but are illustrative of the problems of all academic hospitals in Belgium.

Financial viability

It becomes more difficult for hospital managers to keep their organizations financially viable. For a number of years, annual costs have been growing more rapidly than annual revenues in many hospitals. On the one hand, this can be explained by the fact that costs of personnel, which amount to almost 60% of

total costs, rise year after year, even with a fixed number of FTE, because of aging of the staff (growing seniority payments). Furthermore, it is very difficult to contain costs of pharmaceuticals and materials. On the other hand, even with growing activities, revenues no longer grow proportionally, due to the gradual shift to more lump-sum types of payments and to fee reductions (due to cost containment measures in the national health insurance). Many stakeholders (not only hospitals and physicians, but also sickness funds and some politicians, e.g. from the socialist and the Christian democrat party) argue that the current annual budget increases are not large enough to accommodate all growing demands by citizens and promises by politicians. But others (e.g. unions and employers, but also liberal politicians) argue that health care budgets must be tightened.

Many of the reforms in the reimbursement system for hospitals are intended to encourage efficient use of resources (e.g. shift to one-day hospitalization, reduction in length of stay). Since academic hospitals treat more complex patients and also have a last resort function, there is a risk that these mechanisms – which are equivalent for academic and general hospitals - either (when they would be fully implemented) reduce the quality of care or access to highly specialized care in academic hospitals, or (when they would not be implemented) do not yield cost savings in academic hospitals. Hence, under cost containment measures, the quality of care is relatively more at risk in hospitals with the most complex patients. The government has recognized this problem and since July 2002, a – partial – correction mechanism is introduced, by incorporating severity of illness in calculating justified (and funded) length of stay per DRG.

The most important consequences for the hospital are that accumulated profits are melting away rapidly and opportunities for cross subsidization of under-funded care (e.g. new care programs under development) are diminishing rapidly. Hence hospitals will be forced to ration under-funded care. Furthermore these financial restrictions leave less room for the development of new techniques. All in all, this implies that the more serious and extensively an academic hospital attempts to perform its academic missions (e.g. highly specialized care in complex patients, developing new techniques, last-resort function) the more difficult it becomes to stay financially viable. Counter-intuitively, the academic hospital would be financially better of if it would not focus too substantially on its academic

mission, but rather behave as a general hospital (including the referral of the most complex – highest costs – patients to other hospitals)!

Shortages in manpower: nurses and physicians
There is a growing shortage of *nurses*. This shortage forces the hospital to close beds, to close operating theatres, and reduce the number of ICU beds that can be staffed (due to the much higher staffing requirements than regular wards).It is expected that this shortage cannot be altered drastically in the short run; since the number of newly entering students is still low and since it is very difficult – almost impossible – to attract nurses from other countries.

Recently a national 'numerous clauses' for *physician*-residents in training has been established. This restricts the number of medical doctors that will be granted a license to practice medicine – the Flemish government is anticipating this numerous clauses, by restricting entry to medical school. The most important consequences for the hospital are the lower number of residents in training, who will have to be replaced by staff members (more costly) and the threat of a shortage of medical specialists, at least in certain disciplines, within the years to come. Academic hospitals furthermore experience growing difficulties to retain some of their best medical staff members. For a number of disciplines (e.g. cardiac surgery, anesthesiology, radiology, nephrology) the income gap for medical specialists between academic (salaried physicians, with mainly fixed payment) and general (independent physicians, with mainly fee-for-service income) hospitals is large and growing. Academic hospitals face the risk to lose a number of highly talented medical specialists.For many of the physicians, appointed in the hospital, there are two lines of authority: the hospital (being responsible, in the first place, for patient care) – versus the university/medical school (with main responsibilities with respect to teaching and research). These two different lines of authority sometimes imply conflicting, or at least ambiguous, incentives for staff members.

Consequently, academic hospitals face tough choices. They will have to decide which care programs will still be supplied and at which scale to the patients. Decisions must be made how the scarce capacity of physicians and nurses will be allocated to operating theatres, ICUs, regular wards, etc.

Strategic solutions

These problems are tackled in different ways. Some of these strategies are already under full implementation, while others are still under development. The most important elements are:networking with primary care, with other hospitals and with elderly care facilities search for opportunities to increase revenues, from other sources than public health insurance improving internal management techniques human resources: retention policy towards strategic choices in terms of care programs *(in preparation)* towards integrated management of patient care, research and education missions *(under investigation)*.

Networking

As far as patient care is concerned, it is the intention to focus more exclusively on highly specialized patient care. For the less specialized parts of the care processes, collaboration is developed with other health care providers (physicians, ambulatory care centers, hospitals). The UHL seek opportunities for collaboration with: local GPs, the GP ambulatory care center and elderly care facilities community hospitals located in Leuven and surrounding towns and a number of larger regional hospitals in other provinces of Flanders some hospitals in other European countries.

Networking in the local community

Setting up networks with elderly care facilities and nursing homes is especially important to cope with the fact that hospital financing is based on average length of stay per DRG. Especially for patients with a potentially very long hospital stay, outflow can be facilitated by collaboration with elderly care facilities and nursing homes. Collaboration with local GPs and the ambulatory care center (the Medical Center of GPs) is intended to e.g. to avoid repeat follow up visits for routine conditions in the university hospital. While this strategy is beneficial for the local GPs and ambulatory care (since they do not run the risk of losing part of their clients to the 'big brother' in town), is provides also crucial advantages for the university hospital. The UHL can use the scarce capacity (mainly due to manpower shortages - cf. supra) for OT, ICU-beds, consultations, diagnostics tests, etc more exclusively for the patients with complex problems, requiring highly-specialized care. This collaboration is furthermore electronically supported by LISA, whereby GPs have electronic access to (part of) the hospital medical records of their patients, referred to

the hospital. This collaboration furthermore allows to improve the planning of elective hospital admissions and to guarantee continuity of care to the patients from the local community.

Collaboration in the broader Flemish region

Collaboration with other hospitals in the local community and with (larger) hospitals elsewhere in Flanders is also pursued. As recently as last March, a formal network was established between UHL and 9 partner hospitals in Flanders, spread across all provinces: the 'Vlaams Ziekenhuisnetwerk U.Z. K.U.Leuven' (Flemish Hospital Network University Hospitals Leuven). Here collaboration is intended to:optimize patient care and patient flows for highly specialized care optimize the allocation of residents in training across the hospitals with training status; the idea is that, anticipating the future shortage in residents, hospitals in the network would have a preferential relationship with UHL as far as the allocation of residents is concerned optimize the use of scarce resources and know how in the field of hospital management. For instance, over the years the UHL have developed know how and expertise in hospital information systems, including electronic patient records, joint purchasing, developing balanced score cards, data warehousing, etc. Joint use of this know how in a group of collaborating hospitals will allow further development of this expertise. Besides this Flemish Hospital Network, collaborative initiatives are set up in the field of education (e.g. the video-conferencing program of continuing medical education Pentalfa) and in the field of research (joint participation in multi-center clinical studies).

International collaboration

Collaboration in the field of patient care is, though infrequently, also set up across the country borders. Some examples are the following. For instance in the field of transplantation, there is collaboration with Euro transplant (donor allocation system across a number of European countries) and sometimes with Dutch hospitals, who sent some of their patients to the Leuven facilities. The UHL are also one of the (very few) hospitals in Europe that performs intestinal transplantation. Also for burn care and for neonatal care, sometimes Dutch patients are sent to Leuven. Opportunities for cross-national collaboration in the field of pediatric cardiac surgery are being investigated. In the field of education, there are long-standing traditions of collaboration with Dutch, German, UK and many USA hospitals to exchange or send out residents in training, or medical staff members, for training in specific techniques. In

the field of research, the UHL are participating in many multi-center international clinical studies. Furthermore, in the area of management research a network is being set up between INSEAD, UHL and a number of other European academic hospitals (e.g. AZ Leiden and the Karolinska Institute in Stockholm).

Increasing revenues (from other than public sources)
It is also investigated where and to what extent revenues can be generated, from other sources though than the public health insurance. One strategy is to charge the patients extra *out-of-pocket expenses* for those services or products which are not covered by the national health insurance and for which the regulation does not forbid to charge a supplement directly to the patient. Out-of-pocket expenses relate mainly to (newly developed) materials and to new pharmaceuticals which are not (yet) covered by the health insurance – or which are used in new indications. (In a number of cases, these extra charges may be covered by patients' supplementary private health insurance, to which an increasing number of patients has access, for instance as a fringe benefit in their employment contract). Since the hospital is concerned about financial access to care, a monitoring system is being set up to keep track of those supplements per care program and per type of patient. It is increasingly argued that the financial burden, due to the lack of coverage of new interventions by public health insurance, cannot be put entirely on the hospitals' shoulders. The hospital takes the responsibility of providing the care to whoever needs it (i.e. no care is denied), but must have the possibility to recover (part of) those costs, either from the patient, or from public sources.

Another field where growing revenues may be generated, lies in the area of '*comfort and lifestyle medicine'*, such as a health check up center (where e.g. companies can send their management executives, or high-end clients, for periodical health check ups) or a sports medical center (where healthy people come for advice and treatment from problems relating to doing sports, either as leisure, or professionally). Possibly, also wealthy patients from other countries could be attracted in some areas of care. These ideas are not yet under implementation, however. Since there is an acute shortage of nurses (and in near future of residents), it is wondered to what extent it is (ethically) acceptable to spend part of scarce resources to those initiatives. Although those initiatives may generate more revenues (and hence improve financial results), less resources

would be available to fulfill UHL's truly academic missions. Hence they imply a risk of creating waiting lists for Belgian patients.

Improving internal management & *organization*
In order to make the UHL better manageable, to at least, prevent in future that radical changes in expenses, revenues, or activities go unnoticed for too long a period, and to improve operational efficiency, substantial ameliorations have been made in internal management techniques. These processes are not discussed in detail here, since a number of them extend beyond the focus of this study. Important aspects include:the major shift in the organizational structure: from a vertical, functional organization (with almost 60 medical departments) towards a divisional structure (with 11 clinical divisions), based on care programs with decentralized budget responsibility development of substantial IT support of care and non-care services (e.g. HIS, electronic patient record, PACS, electronic goods ordering, electronic prescriptions, intranet, Website of the UHL with EBM resource center - http://www.uzleuven.ac.be) development of a full-fledged budgeting cycle and more coherent and transparent decision making procedures development of score cards, to follow up on expenses, revenues and activities, at several levels in the hospital (activity centers, departments, divisions, care programs).

Human resources: retention policy
In terms of human resources management, efforts are concentrated on retention policy. Efforts are focused on convincing as many nurses and physicians as possible to stay within the hospital or return to the UHL. For nurses, efforts relate to trying to convince part time workers to work more hours, people who left the organization to stop working, to re-enter the work force in UHL, take account of the nurses' wishes as much as is compatible with a smooth and efficient functioning of the organization and its financial viability (e.g. choice of wards, choice of work schedule for individuals). Furthermore, the UHL are engaged in nation wide efforts to raise the attractiveness of nursing work in hospitals and nursing education. Other channels to attract more nurses, such as setting up an internal interim office, or attract more nurses from abroad, are under investigation. Towards physicians, opportunities for variable compensation schemes across disciplines and/or individual specialists are under investigation. Since the financial situation of the UHLs is not too optimistic (i.e. total staff

costs cannot raise drastically), making compensation variable would imply that for some specialists payment rates are increased, to the detriment of other specialists. Criteria to which payment rates could be related include market value of the discipline (i.e. compensation in other hospitals), profitability of the department, academic and scientific profile of the department, etc. There is strong opposition against the principle of variable payments, in those medical disciplines who expect to lose and among staff members who claim that allowing incentive payments in academic hospitals would imply the death of academic medicine. It remains unclear how this income gap for medical specialists can be solved, without extra-financial resources to compensate for the additional costs of academic hospitals.

Strategic choices in terms of care programs (in preparation)
The UHL are the largest university hospital in Belgium, providing a comprehensive range of academic hospital care programs. In future, it may no longer be possible to keep all care programs in the hospital, let alone to give them growth opportunities, because of the financial situation of the hospital and the manpower shortages. Obviously, because of the financial risk involved, the unprofitable care programs are more likely to be among the victims. But some of these unprofitable programs may have a high academic profile (e.g. world class research expertise). Furthermore, with the scarcity of human resources (nurses and physicians), not even the profitable care programs can all have unlimited growth opportunities. Choices will have to be made. These choices must, in the first place, be determined by the academic missions of the UHL (I.e. which are the truly academic care programs, contributing most to the three missions of the academic hospital), but also financial aspects will have to play a role. Actually, criteria are being developed to determine which programs contribute most to the academic missions and how exactly profitability will be measured. It is hoped that these discussions will prepare the UHL for the tough choices to be made in the near future.

Integrated management of patient care, research and education missions (under investigation)
The patient care, research and education missions of the university hospital are nowadays managed, partially, from different sources and angles. The UHL's prime responsibility is with patient care. Part of the research and the education missions are managed also by the University of Leuven (e.g. academic appointments and promotions) and by the Medical

School, which is one of the faculties of the University of Leuven (e.g. appointment of research assistants). The situation is even more complicated because the UHL belong to the legal entity of the University of Leuven – and hence is ultimately supervised by the Board of the University. In practice, the university hospital is managed by a separate board of governors, supervised by the university board. Although the collaboration between the management of the hospital, of the medical school and of the university runs very well (e.g. the dean of the medical school sits on the management committee of the hospital, the president of the hospital board of governors is the vice-chancellor of the university), it is recognized that the current organizational structure is not optimal to appropriately manage the three academic missions in future. Actually, opportunities are being investigated for a more integrated management of those three missions.

2.5 Hospital privatization in Germany: Rhön-Klinikum AG

The German health care system

Germany also has a Bismarck type of health insurance system (see European Observatory on Health Care Systems for an extensive overview of Germany's health care system). Health care is funded mainly from social health insurance (67%), from general taxation (11%), from out-of-pocket payments by patients (11%) and from private health insurance (6,5%). Hence about 78% of the funding comes from public sources and 22% of private sources.

In Germany, the federal government and the 16 Länder governments share decision making power in health care matters. The federal government is mainly responsible for the funding, while the Länder governments have relatively more responsibility with respect to regulation and planning. Planning is based on needs and is translated into numbers of beds, sometimes even per specialty for every hospital, also for academic hospitals. Furthermore, certain matters are delegated to non-governmental corporatist self-governed bodies. The institutions (e.g. sickness funds, physician corporatist bodies) have, among others, the right and the obligation to negotiate and sign contracts with other institutions and to finance or deliver services.Health care is provided mainly by hospitals and private physician practices. Of the hospitals, about 50% are private – most of them are not-for-profit. Physician organizations

have the monopoly power to provide medical services. The majority of physicians work in private practice – most often in solo practice. Historically, there was a strict separation between intramural and ambulatory care. Many hospitals focused almost exclusively on inpatient care. This implies that GPs had limited access to hospitals, that there was limited ambulatory care within hospital walls, that GPs as well as ambulatory medical specialists might act as a gatekeeper to hospital care and that there was a multiplication of high tech equipment in the ambulatory sector. Nowadays this separation is being eroded by e.g. the development of one-day hospitalization inside the hospital walls and by limited programs of pre- and post in-patient care.

The Re-unification of Germany, with, for health care, the decision to provide the (former) West-German health care system also to the citizens of (former) Eastern-Germany, increased pressure on the health system. Since the early '90s several measures were taken to speed up health care reforms. Also in Germany, reforms to deal with increasing health care expenses have focused extensively on reimbursement systems for hospitals, physicians and pharmaceuticals. Germany has established a system of legally fixed health care *budgets:* one budget at the level of the federal government and 16 budgets at the level of each of the Länder. Also the sickness funds (more than 400) have all set a budget. Most of these budgets are based on historical expenses, they are not needs-based. Besides these budgets, set at the level of payers, *spending caps* for the major health care sectors (providers) have been introduced. These caps can be legally imposed or be negotiated between stakeholders. Hospitals receive funding from different sources: investment costs are covered by the Länder, while operating costs (personnel and materials) are covered through the sickness funds and private patients. Until the '80s, *hospitals* were reimbursed in a fully retrospective way: all running costs were reimbursed through a uniform price per stay day. Since 1996, there is a trend towards prospective budgets. Per diem charges are still used. Additionally, there are flat rates for non-care costs and department-specific rates for care costs. These per diem charges can be supplemented by procedure fees for selected treatments, or substituted by case fees for certain diagnosis-intervention combinations.

As of 2003, gradually a shift will be realized towards a DRG-based reimbursement system for hospitals. The German 'variety' will be based on the Australian refined DRGs (409

categories, sub-divided in up to 4 subcategories by age and severity). The 'relative weights' of the DRGs will be calculated, using German cost data and certain services not affecting all patients or hospitals will be transferred into surcharges or discounts (e.g. education and training, responsibility for emergency care) (Busse, 2000). As far as the *physicians* are concerned, hospital physicians are salaried and private practice physicians are paid on a fee for service basis. Some hospital physicians (e.g. heads of departments) have the right to charge extra to private patients. In private practice, fee for service payments are determined in the following way. Sickness funds redistribute funds (budgets per member) to physician organizations. Physician organizations redistribute funds to their member-physicians, depending of their activities and the relative value of each activity. Hence, since budgets are closed and the volume of activities varies over the years, the fee per service is variable. Part of the financial risk in the health care system was furthermore transferred to the *sickness funds*, with the introduction of a risk compensation scheme. Fur thermore, legislation was passed to expand private payments in health care. Co-payments by *patients* were viewed as additional funding for the system. Little *market forces* were formally introduced by health care policy makers. However, in Germany (contrary to Belgium for instance), entry of private for-profit organizations in the hospital market is growing. Therefore, after a brief discussion of the role and position of academic hospitals in the German hospital system, the case study will focus on this trend toward privatization (in Germany – and other European countries).

Academic hospitals in Germany

There are 37 academic hospitals in Germany. They represent 8,8 % of acute care beds (17,6% of ICU beds) and about 9% of stay days (Deutsche Krankenhausgesellschaft: Zahlen, Daten, Fakten, 1999). Academic hospitals have a specific status in the German health care system, since a Law on Medicine & Higher Education was passed at the end of 1999 (Gesetz zur Neuordnung der Hochschulmedizin von 14/12.1999). They are regulated not only by the laws applying to health care (e.g. regulation, by the Länder), but also by the High School Law (which regulates education), since they are considered as business units within Medical School (Meizinische Hochschule). They have responsibilities in the field of education, research and patient care. Academic hospitals are managed by a board (Fachbereichsrat) and a Medical Board (Klinischer Vorstand), consisting of the Medical Director

(President), the Dean of the Medical School, the Administrative Director and the Nursing Director. All of those members are elected and hence have, by definition, a temporary assignment.

In Germany, all academic hospitals have a public status and they have, or are moving towards, a status as autonomous public institutions. This autonomy is being pursued in different ways. For instance in the board of governors of the academic hospitals, both the public authorities and the university are represented. In terms of the management of academic hospitals, besides the medical director and financial managers, increasingly, also the dean of the medical school is getting a more prominent position, with responsibilities for education and research.

As far as their patient care activities are concerned, academic hospitals are financed in a similar same way as general hospitals, through the health insurance. Sickness funds accept that academic hospitals have higher costs per patient than general hospitals. Typically, overall funding for patient care is higher for academic hospitals since they provide relatively more of the high cost care programs, such as burn care, neurosur gery, etc. The costs of research and education activities are covered, by the Medical School, b.m.o. research chairs and through the budget for education. This funding covers the costs of research and education but also the costs, related to patient care which the sickness funds are not allowed to cover (e.g. air conditioning and fire fighters). Furthermore the costs of infrastructure (buildings and equipment) are covered by the Länder (for the hospital infrastructure and equipment incorporated in their hospital plans) and from the budget of education – through the Law on High School Building (http://www.dfg.de) (50% funded by the Länder, who are also responsible for undergraduate medical education, 50% by the federal government).

The extra-funding academic hospitals receive for their research, education and extra costs in patient care can amount to more than 25% of their turnover (case study for one German academic hospital). It is recognized that the actual hospital reimbursement system (per diems, procedure fees, case fees) insufficiently takes into consideration the extra-costs of tertiary care hospitals (Strehl, 1995). Also, for the planned DRG-payment systems, academic hospitals claim that the costs of

pharmaceuticals, implants and other materials are insufficiently covered (http://www.uniklinika.de).

2.6 Case study: privatization in German Hospitals: Rhön-Klinikum AG

Introduction: key figures

Rhön-Klinikum AG is a concern of privatized German hospitals. It consists of small and large scale hospitals, general as well as specialized hospitals – *no academic hospitals are incorporated* (http://www.rhoen-klinikum-ag.com). At the end of 2001, the concern consisted of 7595 beds, had 9432 employees and € 697 mio of revenues. With these resources, 343 000 patients were treated, of which 177 000 were inpatient cases.

The capital group, necessary to set up Rhön-Klinikum AG, was set up in the early seventies, with the assets of the family Guttenberg. The group was set up by Baron Guttenberg, Graf Rittberg and Eugen Münch, who joined four years later and is nowadays still the chairman of the Board of Management. At that time, the company had about 100 employees. In the early eighties it was decided to focus on the hospital market. In 1989, Rhön-Klinikum AG was the first German hospital concern to go to the stock exchange. Until early of 2002 the 3 pioneers still remained the majority shareholders. After an 18 year period of uninterrupted growth in revenues and earnings, early 2002 the group was experiencing a more difficult period, due to overheated stock markets (their share price went down substantially) and since one of the pioneering families (the Guttenberg family) decided to sell its shares. In the first quarter of 2002, results went down 11%, despite 22% increase in revenues.However, the management claims it is not expecting fundamental problems. As a strong signal towards the stock market, at the annual meeting in July 2002 (where the results of the year 2001 and the first quarter of 2002 were presented) it was announced that top-management pay levels would be reduced by 10% (starting the third quarter of 2002). If profits at the end of 2002 will be lower than the previous year, top management payment levels would be further reduced by an additional 20%.

Although Rhön-Klinikum AG does not incorporate any academic hospital, it is included in the case studies, as an illustration of the trend towards privatization – which may pose threats, but perhaps also opportunities German academic hos-

pitals. Rhön-Klinikum AG claims to be at the forefront of a number of new developments, both in hospital management and clinical medicine.Rhön-Klinikum AG was furthermore the pioneer in the privatization of German hospitals and in the meantime its concept has been copied by other groups, such as Helios Kliniken GmbH, Sana-Klinikum, Asklepios and Fresenius.

Core strategy

Towards the shareholders (source: reports of the annual shareholders meeting in 2001 and 2002), Rhön-Klinikum AG claims to have a bright future, since:

- the hospital market is a growing business, due to the aging of the population;
- the group is very effective and efficient at running hospitals – and even more effective than public hospital owners. Key elements in the strategy and success are the growth strategy, the patient-focused model of hospital management and the development of new models of hospital care (e.g. the teleportal hospital).

Growth through acquisitions

Growth of the company, through acquisitions, is perceived as the only way towards more profits. It is argued that profits can not/no longer increase through improving margins per patient. Health care insurers and sickness funds are not willing/capable of raising prices for good hospital care, for many reasons (regulated health care prices, competition among sickness funds, cost containment at the government level). This is illustrated by the fact that over the years, growth in the number of patients outpaced growth in revenues. Opportunities for further cutting costs are no longer abundant in the patient-focused model of hospital management (cf. infra). Moreover most of the Rhön Klinikum AG hospital sites work close to capacity. Furthermore, as bed planning is the responsibility of the Länder, there is no possibility to open up new facilities (www.helios-kliniken.de). Therefore, profit growth must be realized through acquisitions of other hospitals, for which much capital is needed.

Rhön-Klinikum AG claims to have better abilities to find *capital* and to invest it in a profitable way in the hospital business than public hospitals. Key elements here are e.g. their presence on the stock exchange, their reputation in the banking sector and their good profit track record (at least until 2001). Since 2002, the company has been affected by the stock

market crash, and shares value has decreased substantially. Nevertheless, the concern wants to keep on growing through acquisitions. Furthermore, the concern claims to have a competitive advantage, since public hospitals are constantly in need for capital to renew their infrastructure (buildings and equipment) and do not find the necessary public resources. Hence, many public hospitals are potential candidates for acquisitions by private hospital concerns. Many public hospitals still express strong resistance towards privatization. But some of the public hospitals seem to be willing to 'go private'. Rhön-Klinikum AG claims that many more should follow since loss transfers from publicly-run hospitals, a practice still quite common in public German hospitals (i.e. the local governments – and hence ultimately the taxpayer – take responsibility for covering the losses of the public hospitals), are not permissible under EU law.

Patient-focused model of hospital management

Rhön-Klinikum AG has an explicit client orientation. The concern implements a patient-focused model of hospital management, rather than the traditional doctor/employee orientation. This means that the entire management of the hospital and the focus of each employee must be exclusively on what the patient needs and wants – rather than on the most practical or most efficient way of working, from the physician and employee viewpoint. Processes in the hospital are organized according the needs of the patients. The patient-oriented flow principle implies process-optimized services for patients and service quality supported by investments. The patient oriented organization is based on standardized care services, lead by medical specialists, with high technological standards in diagnostics and with several medical specialists working in an integrated way (I;e. integrated consultant system). This system, which was developed at the Friedrichroda site, shows to improve quality without increasing the costs per case. Clinical structures and work processes are performance driven. As far as the employees are concerned, the company has practiced performance-based profit sharing for many years. An average employee has about 12% of income from profit sharing. Since the business is local in nature, the organization is decentralized. Advanced information technology is used throughout the organization. This model is implemented in every hospital acquired in the group. It is implemented in a stringent way, since experience has shown that compromises on the concept, during take-over negotiations (e.g. on layoffs, on job restructuring, on protection against adjustments in employment

contracts), jeopardize success from the beginning. During take-over negotiations, the concern never promises to be soft and never pretends that change will not hurt. There is open communication with trade unions and (medical) staff councils, and aggressive public relation campaigns are used towards the population in the regions where take-overs are negotiated. Rhön-Klinikum AG claims to be stronger than ever to implement their patient-focused concept in to-be-acquired hospitals, since there are many more candidates for acquisition than before. The most important bottleneck and threat to this growth strategy is the (potential) lack of ability to attract and retain sufficient top management expertise by Rhön-Klinikum AG to manage the extremely complex hospital business. Therefore, the concern has set up in-house training programs for managers.

The teleportal hospital

Background behinds this innovation is the finding that, also in Germany, specific human resources are not always available where needed (e g nursing shortage). In hospital markets, this implies that technological possibilities must be used optimally, focusing on allocating the scarce human resources where needed most. Hence, technological opportunities should be used for rationalization and automation, to improve performance. In other words, all steps in the care and support processes that do not service the overall goal should be eliminated.

The 'teleportal hospital' is the new clinic concept that is being developed in the Rhön-Klinikum AG group. It takes the patient-oriented hospital model one step further towards a combination of (a) concentration of highly specialized equipment and expertise in a few sites and (b) routine care available close to the patients' home. For instance, in the field of imaging, expensive diagnostics are being concentrated in a limited number of sites and telemedical links are established between the smaller and larger centers. It is hoped that this concentration of diagnostics will allow to bundle the data from different imaging techniques in huge databases, creating virtual 'data patients'. These data will be combined with an electronic case history and in near future, it will be combined with genetic codes for the majority of patients. This will create a new holistic medicine, which will be much more comprehensive than traditional medicine. Software programs are being developed, that will screen diagnostics, based on manual input, data from the electronic case history and the anamnesis, together

with data on the patient's genetic status. These techniques will be concentrated in a small number of locations (where experts are needed with sufficient experience to interpret all the data), but will be available to process the data of any patient anywhere in the system, through telemedical links. It is hoped that these new diagnostic processes, by combining already available knowledge and by concentrating the expensive equipment, will allow to save substantially on diagnostic procedures throughout the system. Teleportal systems, based on similar ideas are set up, e.g. in the field of stroke care.

Privatization of hospitals throughout Europe

This trend towards privatization of hospitals was illustrated with one case study. This example is illustrative for a much broader trend towards privatization, not only in Germany, but in many European countries. Most of the private players operate mainly within one hospital market, but nowadays also players are emerging with significant activities across countries. For instance the health care concern Capio, which was started up in Sweden in 1996, is growing through a mergers and acquisitions strategy of hospitals and elderly care institutions in Scandinavian countries (17 hospitals in Sweden, 12 in Norway in the period 1997-2001, Finland), the UK, Switzerland, Denmark and Poland (see http://www.capio.se). It is listed on the Swedish Stock Exchange since October 2000 and it has been growing rapidly: from 4480 employees in 2000 to 11800 in 2002. It intends to become the leading health and medical care company in Europe.

Capio believes this aim can be reached, since demand for health care keeps on growing and since public purchasers increase their collaboration with private partners in many European countries. Capio tries to be local and global at the same time: it extracts skill and scale synergies across Europe (i.e. identify 'best practice' for each service and apply it in every hospital of the group) and tries to be locally present with a human touch (i.e. apply 'best practices', but with sufficient attention for the local needs). The group is divided into three business sectors: health care services (hospitals, outpatient health care and psychiatry), diagnostic services (laboratories and radiology) and elderly care. Instead of competing, Capio has chosen to collaborate with public health care. Its customers are public health care payers (e.g. county councils and municipalities in Scandinavian countries, the NHS in the UK) and private payers (e.g. private insurance companies, business companies) that buy health care services. It has a strong cus-

tomer orientation, like Röhn Klinikum AG. It focuses on the hospitals' core business (patient care). Improving operational efficiency in patient care services is pursued by means of systems support, management support, focus on capacity utilization and specialization in service lines. Capio builds partnerships for the support services. The support services are not fully outsourced, since the company wants to keep control over the nature, cost and quality of support services and wants to stay involved in co-development.

Other large private hospital chains include for instance General de Santé and Clininvest in France. General de Santé has a 10% market share in the private hospital market in France and owns private hospitals in France, Italy, Canada and Portugal. It was founded in 1987, as the Health branch of the Compagnie Generale des Eaux and was introduced on the Euro next market in 2001. Clininvest is the second largest private hospital provider in France (2% market share with 16 hospitals). As recently as September 25, 2002, Capio entered into an agreement to acquire Clininvest. These private for-profit hospital chains, at first sight, show little interest in academic medicine. For instance, Capio has set up a Research Foundation that subsidizes research projects for about SEK 5 mio per year. Also Helios Kliniken, one of the other big private player on the German market, has set up a research program. They have a strong focus on improving operational efficiency, on cost cutting – since they want to compete with the local (public or private) not-for-profit providers.

3 Recommendations & conclusions

Also in future, societies will be confronted with growing needs and expectations towards health care, despite too limited (public) resources to provide all technologically feasible care to all those citizens who could benefit (McKee & Healy, 2002). Demand for hospital care will be affected in future by:

- demographic evolutions (aging of the population, lower fertility rates, reducing demand for obstetric and pediatric services, migration);
- changing disease patterns (e.g. changing diet patterns, which may reduce ischemic heart disease in some groups, but increase the risk in others, smoking related diseases such as lung cancer, new or re-emerging infectious diseases such as TBC, Lyme disease, HIV);
- growing public expectations (due to greater health knowledge among users and higher expectations for improved quality of services).

Supply of hospital care will be influenced by new knowledge, science and technology and by changes in the workforce (e.g. shortage of nurses, feminization of the workforce). Furthermore, broader factors, such as constraints in public finance and the globalization (of health care systems and of R&D markets) will also affect the hospital sector.Hence, debates about how to tackle this scarcity problem and which are appropriate reforms to work more efficiently in health care are here to stay. This chapter summarizes how academic hospitals can deal with these challenges in health care. The first paragraph discusses some strategic solutions applying to all types of hospitals. Secondly, strategic options, specific for academic hospitals are sketched out. Finally, recommendations for (health care) policy makers are summarized.

3.1 Challenges for hospitals

Following the (anticipated) changes in supply and demand for health care, hospitals are changing their activities and management fundamentally (see McKee & Healy, 2002, for a detailed overview). All of these changes boil down to strategies to use the scarce hospital resources more efficiently. The evolutions, observed in hospitals all over Europe, evidently also prevail in academic hospitals.

- In order to utilize scarce health care resources as efficiently as possible, hospitals focus stricter on the *acute*

phase of the *health care* process.The less acute phases of health care (e.g. follow up) and the more social-oriented elements of care (e.g. psychological support, ADL-support) are pushed outside the hospital walls.

- Hospitals target not only *hospitalized* patients (I.e. patients that stay overnight, inpatients), but invest, more than in the past, in large well-equipped *outpatient* departments, located physically either on the same campus, or deliberately established in other locations (e.g. to protect market share).
- The shift of the less intensive, less acute, etc care out of the hospital walls, is associated with the development of intense collaborative *partnerships* with other health care organizations. This strategy creates the opportunity to focus on the whole disease process – to treat the patient 'from cradle to grave', while simultaneously utilizing hospital resources as efficiently as possible. Some organizations fully acquire all participating institutions into an integrated delivery system. Other establish looser ties with partners.
- The *profile* of hospitalized *patients* is changing dramatically. Patients staying within hospital walls overnight, are typically sicker, older, more dependent and suffering from more complex conditions than ever before. They need more intensive care, provided by multidisciplinary teams of high-skilled professionals.
- The shifts in care patterns and in patient profiles have drastically changed the *infrastructure* requirements (buildings and equipment) of hospitals.Hospitals of the future devote relatively more space to diagnostic facilities (e.g. imaging, endoscopy), operating theatres and ICU beds, and less space to regular wards.Hospitals of the future must further be built and organized in a way that allows much more flexibility, to accommodate evolutions in technological equipment, that affect the care process.
- Hospital care has become much more complex: care must be organized and delivered much more efficiently (patients are 'processed' through the system much quicker) while simultaneously, hospitalizes patients are sicker and require more intensive care. All of these evolutions imply that *staffing* requirements are changing drastically. Health care professionals, working in hospitals need to have:
  - a high technical level of expertise, to deal with complex care processes;
  - good communication skills, to be able to work in a multidisciplinary team;

  - good managerial skills, to guide patients efficiently through the system;
  - more service orientation, to be attentive to patients' needs and expectations.
- Citizens' expectations towards health care are high. Patients expect hospital care to be delivered in a professional way. In hospitals, as well as in other health care settings, patients are increasingly perceived as clients, whose needs and desires must be satisfied instantaneously (Karpf et al., 2001). A *consumer orientation* is developing. However, hospitals do not have sufficient resources to meet all patients' expectations and, clients do not expect to have to pay the full bill of the services provided.
- Given the scarcity of public resources in health care, hospitals will have to look for *additional, private funding,* to be able to operate in a financially sound way. Although this venue has the substantial disadvantage of creating a two-tier health care medicine – it is probably an unavoidable evolution. A two-tier system implies that wealthier people have easier access to 'better' health care services than the less well-to-do. Rather than, naively, trying to avoid this two-tier evolution, health care policy makers should focus on minimizing the disadvantages of a two-tier system. For instance, measures could be taken to assure that the care received by the wealthier citizens differs only in comfort elements (e.g. private rooms, facilities for visitors) that affect patient satisfaction, but not in the care services. Furthermore, measures could be taken to assure that care elements provided to the needs of the wealthier, are developed within the publicly regulated, financed and controlled system, rather than in a separate, fully private system – i.e. that a 'topping-up' approach rather than 'opting out' approach is pursued for the wealthier (Besley & Gouveia, 1994).
- Society expects hospitals to become more open, more *accountable*, at least about the use of the resources they claim from the public sector (Reinhardt, 2000). Society is no longer satisfied with the simple statement that 'next year more resources are needed than last year, to accommodate growth in new know how and technologies' – no matter whether this argument is made by academic hospitals or other reputable institutions. Each institution is expected to defend its budgetary needs, year-by-year and to justify the growth in needed resources, by linking the expected expenses to the expected activities.

3.2 Challenges for academic hospitals

Academic hospitals have to work out solutions, for their specific problems and challenges. Potential solutions are presented, first, for the different missions of academic hospitals, patient care, education and clinical research and development. Secondly, recommendations at the level of the management and organization of academic hospitals are sketched out.
These include:
- Physician career perspectives;
- The relationship between the academic hospital and the medical school/university;
- Corporate governance/accountable management;
- International collaboration and competition.

Patient care
- The core of patient care in academic hospitals will lie in *highly specialized patient care*, also in future. Obviously, also routine care is provided in academic hospitals, to serve the local population and for educational purposes.
- Academic hospitals should take up their role and responsibility in the trend towards 'integrated' health care systems, whereby all facets/elements of care are seamlessly coordinated, such as in disease management programs and in trans-mural care initiatives. Ideally, these initiatives are supported by the appropriate information technology (e.g. unique electronic patient record throughout the system, electronic access of this record and of diagnostic test results from different locations). Since health care requires less hospitalization, academic hospitals should set up or extend their own *ambulatory care centers* and/or develop close links with other ambulatory care centers, where specialized care is provided. The development of networks with primary care practices is also a necessary step to optimize patient care patterns. Since primary care is not the core business of academic hospitals, networks with existing primary care practice should be set up (i.e. affiliation), rather than own primary care practices being established (i.e. assembly or acquisition). An ideal type of collaboration can however not be put forward. How tight (e.g. merger versus loose contract) and how extensive (e.g. only hospitals, or also primary care centers and preventive services) collaboration should be, depends very much on local circumstances. For in-

stance, sometimes merging is necessary to realize efficiency improvements, sometimes formal collaboration with primary care providers is not necessary, since informal collaboration is very good. In all of this, specifically the academic hospital, should keep sufficient focus on its core missions.

- Academic hospitals can no longer expect that superior technical expertise, their scientific capabilities and their academic reputation will suffice to attract patients for specialized hospital care. Also patient satisfaction, comfort and expectations (e.g. demand for efficient service, no waiting times, quick response and communication of diagnosis and treatment plan, adequate and well-organized follow up) need to be taken into consideration. Furthermore, through worldwide internet access, academic hospitals might lose their status as the sole provider of high-quality information to patients (and professionals). The academic hospital of the future needs to re-focus, towards a *patient-oriented organization*, taking the patients seriously by responding to each of their needs and questions in a professional and state-of-the-art way. Obviously, a stronger patient orientation can most easily be realized in a highly competitive environment, but specifically for academic hospitals, it should be realized that severe competition also has serious drawbacks (cf. infra).
- Given that scarcity of health care resources will prevail in future, academic hospitals cannot expect that each of them can provide àll types of highly specialized patient care. On the contrary, specialization should be pursued, also among academic hospitals. This strategy will allow to utilize resources more efficiently (less duplication of expensive facilities and expertise), and to optimize the quality of care (critical mass). However, in each country the benefits of specialization should be weighed against the disadvantages of less facilities (e.g. more limited geographical access).

Education

- Academic hospitals should re-orient their educational efforts towards more *problem-oriented, evidence-based* medicine learning. Residents must learn new skills, such as quality improvement, clinical process redesign, strategies to reduce costs (Commonwealth Fund Task Force on Academic Health Centers, 2000).
- Since health care is increasingly delivered to outpatients, teaching efforts should be re-focused towards *ambulatory*

care settings. Academic hospitals, in collaboration with the medical schools, should therefore set up teaching networks with ambulatory care centers and/or incorporate their own ambulatory centers more closely in their educational activities.

- Since health care delivery, especially within a hospital setting, is becoming more multidisciplinary, also teaching efforts should be organized in *a multidisciplinary* way. Hospitals that manage to teach effectively in a multidisciplinary way will give their students a head start for their further professional career.
- Also educational efforts should become more client- and *service oriented*. Academic hospitals, and their partner universities, should be aware of the fact that, although their academic expertise is a necessary condition to attract clients for their educational initiatives (e.g. continuing education programs), it is no longer sufficient. Clients expect not only high quality in terms of content, but also in the process of education. Academic hospitals should increase their service-orientation, by catering to clients' needs and expectations, also in the 'process' of education. These expectations may include 'close-to-home' delivery, which can be satisfied by means of long-distance learning, supported by e.g. video-conferencing or tele-medicine and high quality (self) study materials In sum, academic hospitals should exploit their competitive advantages in education much better than before.

Clinical research and development

- The resources for clinical research and development can be managed more efficiently. Many measures can be taken to achieve this objective:
  - strategic planning of biomedical research;
  - appointing a research coordinator;
  - formal internal screening of all grant applications;
  - formal allocation process for research space;
  - management and formal coordination of the core research facilities, such as DNA sequencing equipmentand animal facilities developing research productivity measures more (inter)national collaboration, etc.
- The future of clinical research lies in further exploiting inter- and multidisciplinary approaches to health problems. This can be stimulated by setting up interdisciplinary research centers.

- Academic hospitals should develop strategies to cope with the competition from private companies that coordinate clinical research, the CROs. These companies 'soak away' part of the resources that pharmaceutical and other companies are willing to devote to clinical research in academic hospitals. Academic hospitals should exploit their competitive advantages for clinical research (large pool of patients, close monitoring of patients, multiple national and international contacts, to coordinate multicenter and multicountry trials) to gain back this coordinating role. A competitive advantage can be realized by setting up internal CROs or develop close, long term collaboration with external CROS, to conduct and coordinate clinical trials (Commonwealth Fund Task Force on Academic Health Centers, 2000).
- Academic hospitals, also in Europe, should search more intensive collaboration with commercial partners, to augment their (private) research funding. The growing reliance on private research funding may involve threats to the realization of the academic missions and give rise to conflicts of interest. Since academic hospitals need the resources from commercial sponsors, they have tended to become more flexible and tolerant over time with respect to the demands of the commercial partners. In order to protect the public nature of clinical research, and the patients involved in the trials, academic hospitals should implement formal mechanisms to prevent and identify these conflicts. Possible mechanisms include (Commonwealth Fund Task Force on Academic Health Centers, 2000):
  - rigorous disclosure requirements (not only in case of publications but also for instance when submitting a clinical trial proposal to the institutional review board or ethical committee within the academic hospital);
  - policies governing potential financial conflicts for the investigators (e.g. setting reasonable limits to the nature of acceptable interests of faculty in projects and companies conducting research on human subjects).
- Academic hospitals should be pro-active in this area, in order to avoid negative publicity. This problem can only be tackled in a serious way if all academic hospitals collaborate, and stick to their self-imposed rules - or rules imposed by policy makers - to avoid free riding.

Physician career perspectives

- Academic hospitals, and their staff, experience growing pressures to 'perform', not only in patient care (state of the art care, shorter length of stay, efficient use of resources), but simultaneously in their educational and clinical research missions. With these growing pressures, it will be more and more difficult to combine all required skills and capabilities, i.e. the 'triple headed' academic hospital mission, into a single person. In each department/team, the different missions should be pursued, but fewer individuals will be able to meet the objectives in all areas. In future, the triple threat mission should be assigned to departments or teams, rather than to individuals.
- At the level of individuals, more focused career paths should be pursued. Both the hospital and the academic perspective should be taken into consideration. Possible career paths include the physician-teacher (i.e. activities in patient care and education, without research obligations) and the physician-researcher (i.e. patient care and clinical research, without teaching obligations). An 'integrated' performance evaluation (whereby the 'hospital' and the 'academic' perspectives are taken into account) should be pursued – cf. also infra.
- Physicians used to obtain a lifelong appointment in an academic hospital, sometimes after a short trial period. And the same was true for hospital managers. This habit of lifelong appointment, without systematic periodical evaluation and feedback, is no longer in line with professional management of organizations. The organization should be explicit about its goals, and a timely and periodical evaluation of management and staff is required. Within the organization, it should be clearly communicated what is expected from each group/department. Clear directives on expectations and goals, and periodical feedback on performance are prerequisites to evaluate whether the organization is on the right track. Finally, evaluation and feedback should not be left with the general management and the chiefs of (medical) departments only. Formal evaluation procedures should also be put in place for all medical staff members and non-medical managers.

Relationship between academic hospital and medical school/university

- A closer alignment in the management of the academic hospital and the medical school/university should be pursued to facilitate the realization of the three missions. Such alignment can be achieved through either a fully integrated governance (unified authority) of the 'academic medical center', or by giving the hospital relatively more autonomy, but with explicit and transparent service level agreements being made between the hospital and the medical school/university.
- In order to be able to manage all three missions simultaneously in an appropriate way, models of mission management can be implemented. *Mission management* recognizes that academic hospitals have three different missions, which are interdependent and cannot be fully separated in theory, but at times they can be separated in practiced. In any case, each of the missions should be managed effectively. One way to manage these different missions simultaneously in an effective way is through a *matrix organization*. This involves appointing individuals at multiple levels of the organization with primary responsibility for each missions and with dual accountabilities for the overall performance of their organizational unit. For example, a department chair may have separate assistants for teaching, research and clinical affairs. While such a system ensures that the different missions get sufficient attention, the creation of increased bureaucracy through an additional layer of middle management, is a drawback (Commonwealth Fund Task Force of Academic Health Centers, 2000).

Corporate governance/accountable management

- Academic hospitals should become more *transparent* in their organization and management (Fein, 2000). They should be explicit about how their mission will be pursued, through which activities and about the costs of each of these activities.
- Transparency about the use of resources will facilitate a more *accountable* use of public health care resources (Reinhardt, 2000, Fein, 2000). Academic hospitals should communicate about how they spend their resources and why. Normative standards on the costs of patient care in an academic environment, of education and of clinical research (assuming efficient use of resources) should be developed and published (Reinhardt, 2000). Since aca-

demic hospitals rely to a very large extent on public resources, situations that can create a public (mis-) perception of waste of resources should be avoided (Fein, 2000). Also the development of mechanism to avoid or solve conflicts of interest (cf. supra) facilitate accountability issues.

- Academic hospitals need *leaders* with a clear vision (Fein, 2000), leaders who have a strong commitment to efficient use of resources – who do not tolerate waste (to prove to the community that the resources are well-spent (Muller, 2001), leaders who stand up and communicate with the internal and external community about the problems and the challenges of their institutions (Muller, 2001). Academic hospitals should be aware of the fact that 'having the scientifically right arguments' is not a sufficient condition (anymore) for having these arguments accepted as important in the media and the public arena (Reinhardt, 2000). An 'ivory tower' attitude is to be avoided. Academic hospitals should start to *communicate* and discuss their problems and viewpoints much more extensive in the media, to gradually build more public awareness of the problems and public support for the right solutions. Communication should not only be directed internally, towards the people working in the organization, but also externally, to potential clients, to referring physicians, to insurance companies, health authorities and to the broader community (e.g. insurance companies, banks, policy makers, members of parliament).

International collaboration and competition

Academic hospitals increasingly operate in an international environment. For certain rare or complex conditions, patients may search for the best experts, in different countries. Health insurance companies may look for cheaper/better care across country borders. Also for research projects, international collaboration is growing. Operations in an international environment will sometimes be *competitive* towards (academic) hospitals in other countries and sometimes they will involve *coordination* and collaboration. Whether cooperation rather than competition is the preferred mode of operation, depends upon each academic hospital's mission, their competitive and financial position, the specific activities involved in the international operations and the environment in which hospitals work (e.g. shortage of capacity). For instance, in order to be able to compete with CROs, academic hospitals should collaborate with partner academic hospitals in other countries.

3.3 Challenges for policymakers

Health care, public health and other policy makers also face specific tasks, to safeguard the future of academic hospitals. Academic hospitals play a crucial role in translating the progress in (fundamental) research into results that can be applied into routine clinical medicine. Policymakers, who take the missions and role of academic hospitals in the health care system seriously, should develop rational and feasible policy measures to safeguard the future of academic hospitals.

- The *specific role* of the academic hospitals, in providing highly specialized patient care, education and clinical research should be recognized. Policy makers should explicitly recognize these roles and missions, and should identify the – limited number of - institutions that are entitled to perform which of these missions. Allowing other health care institutions to take up the same missions may have the advantage of introducing more competition (and encourage academic hospitals to perform better), but might induce a waste of resources (due to duplication of infrastructure and expertise). Perhaps competition can be encouraged while simultaneously avoiding waste of resources, by introducing competition among academic hospitals for care programs. The idea would be that not every academic hospital is entitled to operate all programs. Periodically, they have to bid for the right to operate a program for a number of years.
- Academic hospitals should obtain *specific funding* for their specific missions. Inter-twinned funding for patient care with the funding for education and research should be avoided. Such cross subsidization lacks transparency about which budgets are intended for which missions, and puts academic hospitals in a weak position at times of budgetary restrictions.
- Funding *mechanisms*, also for academic hospitals, should be designed in such a way to ensure *efficient* use of public resources. For instance, funding should no longer be based on historical criteria or input criteria (e.g. number of beds), but on prospective criteria, relating to e.g. parameters that objectively and rigorously measure the activities, performance and output in the fields of research and education (number and type of residents, number and kind of training programs, scientific publications in international peer-reviewed journals, impact factor, citation index, matched-funds for external research funding, number and type of clinical trial, patents,etc). The former cri-

teria, relating to the education mission of academic hospitals will only work well, as a distributive mechanism, when there is a (national) ceiling – i.e. if the hospitals cannot simply 'inflate' their number of residents and training programs. Also the extra-costs of patient care in academic hospitals could be funded, on the basis of a number of quantifiable parameters (e.g. last-resort function, patient referrals from general hospitals, supraregional referrals, severity of patients, second opinions, continuity of services such as ICU, ER, OT) and a proxy measure for the – inevitable – inefficiencies in (routine) patient care. Policy makers should be able to sanction academic hospitals that do not utilize their resources efficiently, whereby the use of resources should be assessed in a transparent way. Furthermore, funding should be *sufficient,* to cover the unavoidable specific extra-costs in academic hospitals. Especially under prospective financing, whereby global budgets are distributed among the entitled academic hospitals, care should be taken that the funding remains sufficient (e.g. by periodical comparison between costs and revenues).

- Some of the services provided by academic hospitals have public good characteristics (e.g. clinical research, continuity in emergency department). These services cannot be made available, through *private* initiatives only. *Public* funding is necessary – or private, but regulated, funding. Alternatively, for the services with private good characteristics, private funding should be allowed as a complement to public funding. In all of this, policy makers should ensure that public and private resources can be used as complementary resources, to realize the missions of the academic hospitals. For instance, in a health care system, relying increasingly on private funding, the necessary resources to realize the missions of academic hospitals could be generated by a compulsory all payers' contribution, specifically for academic medicine.If anything, policy makers should *encourage collaboration* among health care providers, e.g. through mergers, transmural care initiatives, etc. Most often, providers can assess much better which form of collaboration will best suit their objectives. Furthermore, expected benefits do not always materialize. Rigorous research on European public hospitals concludes that hospital merges only produce benefits where excess capacity can be eliminated or when there is clinical ground for enlarging scale or scope (McKee & Healy, 2002). Therefore, if any, regulators

should take up a supportive, rather than a directive, role (e.g. facilitate mergers, rather than impose mergers, or forbid mergers).

- All European countries struggle with the problem of escalating health care costs, and everywhere, policymakers are looking for mechanisms to solve this problem. Therefore, it is quite likely that, sooner or later, European health care policy makers and payers drop their resistance towards those *private for-profit provider groups,* and allow them compete with the local not-for-profit providers. Once this happens, these private hospital groups may pose a serious threat to academic medicine, as has happened in the USA with the managed care companies. When hospital markets are opened up to (international) private for-profit hospital concerns, policy measures should be taken to safeguard the future of academic medicine. On the one hand this trend towards private for profit hospitals may be a good strategy to cope with the problem of escalating health care costs (for profit hospitals will have a stronger focus on operational efficiency and on cost cutting) while simultaneously increasing the customer focus in European health care systems. On the other hand, the experience from the USA learns that it is very difficult, if not impossible, for academic hospitals to survive in a market that would be only profit oriented. Many of the products and services provided by academic hospitals cannot survive in a pure for-profit market orientation, due to their public good characteristics. Health care policy makers should be aware of these problems and should take the necessary measures that allow academic hospitals to survive, *before* hospital markets are opened up widely for for-profit hospitals. Such regulation may include:
  - an all payer fund, to cover the extra-costs of patient care in academic hospitals;
  - sufficient public funding for the services of academic hospitals with public good characteristics, such as education and research – but also part of the patient care (e.g. costs of continuity of care in operating theatres, emergency departments, etc);
  - the allocation of the truly 'academic' patient care programs (e.g. programs requiring highly specialized expertise, programs for very complex conditions or rare diseases) exclusively to academic hospitals, with funding coming entirely from public sources (i.e. keep these programs out of competitive markets).

- Furthermore, private for-profit hospitals will never be interested in providing a number of highly specialized care programs requiring very specialized expertise or equipment, or for infrequent diseases or for very complex conditions. The resources invested in such programs can only be used efficiently if the number of programs stays low (i.e. no unnecessary duplication of infrastructure and expertise; critical mass of patients in each center to safeguard experience and quality). These programs should be allocated exclusively to the academic hospitals and funding should come entirely from public sources.

Bijlagen

Bijlage 1

Lijst van afkortingen

ADL	Algemene Dagelijkse Levensverrichtingen
AG	Adviserend Geneeskundige
AZL	Academisch Ziekenhuis Leiden
CFO	Chief Financial Officer
CRO	Contract Research Organization
DME	Direct Medical Education
DNA	Deoxyribonucleic Acid
DRG	Diagnose Related Groups
ER	Emergency Room
EU	Europese Unie
FTE	Fulltime equivalent
GDP	Gross National Product
GmbH	Gesellschaft mitbeschrankter Haftun
GP	General Practicinor
HIS	Huisartsen Informatie Systeem
HIV	Human Immunodificiency Virus
HMO	Health Maintance Organization
ICU	Interne Care Unit
IDS	Integrated Delivery Systems
IME	Indirect Medical Education
IT	Information Technology
INSEAD	Institut Europeen d'Administration des Affaires
MRI	Magnetic Resonance Imaging
NHS	National Health Service
OECD	Organization for Economic Cooperation and Development
PET	Position-emissie Tomografie
PHCS	Partners Health Care System
SMO	Site-management Organization
TBC	Tuberculosis
UCD	University of California at Davis
UCLA	University of California at San Diego
UCSF	University of California at San Francisco
UHL	University Hospitals of Leuven
USA	United States of America
ZOL	Ziekenhuis Oost Limburg

Bijlage 2

Literatuur

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Bijlage 3

Tabel

Kerngegevens over ziekenhuizen 1998 – 2001
(laatst bekend)
België, Duitsland, Nederland en de Verenigde Staten

	België	Duitsland	Nederland	Verenigde Staten
Inwoners in miljoenen	10	82	16	286
Algemene acute ziekenhuizen, waarvan	195	2030	100	5151
Academische ziekenhuizen	10	35	8	135.
Bedden per 1000 inwoners	5,2	7,0	3,4	3,1
Trend in bedden per inwoner	+	-	-	-
Opnames per 100 inwoners	18	19,5	10,5	12,5
Trend in opnames per inwoner	+	+	=	n.a
Bezettingsgraad in procenten	81	80	72	60
Trend in bezettingsgraad	=	-	-	-

Bijlage 4

Overzicht publicaties RVZ

De publicaties t/m 02/08 zijn te bestellen door overmaking van het verschuldigde bedrag op bankrekeningnummer 19.23.24.322 t.n.v. VWS te Den Haag, o.v.v. RVZ en het desbetreffende publicatienummer. M.i.v. publicatienummer 02/09 zijn de publicaties te bestellen via de website van de RVZ (www.rvz.net) of telefonisch via de RVZ (079 3 68 73 11).

Adviezen en achtergrondstudies

02/19	Consumentenopvattingen over taakherschikking in de gezondheidszorg (achtergrondstudie bij het advies Taakherschikking in de gezondheidszorg)	EUR	15,00
02/18	Juridische aspecten van taakherschikking (achtergrondstudie bij het advies Taakherschikking in de gezondheidszorg)	EUR	15,00
02/17	Taakherschikking in de gezondheidszorg	EUR	15,00
02/16	Gezondheidszorg en Europa: een kwestie van kiezen	EUR	15,00
02/15	Gezondheid en gedrag: debatten en achtergrondstudies (achtergrondstudies en debatverslagen bij het advies Gezondheid en gedrag)	EUR	15,00
02/14	Gezondheid en gedrag	EUR	15,00
02/13	De biofarmaceutische industrie ontwikkelingen en gevolgen voor de gezondheidszorg (achtergrondstudie bij Biowetenschap en beleid)	EUR	15,00
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02/11	Biowetenschap en beleid	EUR	15,00
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