EUROPEAN INSTITUTE OF MEDICINE

HEALTH IS WEALTH

STRATEGIC VISIONS FOR EUROPEAN HEALTHCARE AT THE BEGINNING OF THE 21st CENTURY

Report to the European Parliament

Submitted on December 4th, 2003

Version March 2004

of the EUROPEAN ACADEMY OF SCIENCES AND ARTS
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EUROPEAN INSTITUTE OF MEDICINE

- EOM -

Strategic Visions
for
European Healthcare
at the
Beginning of the 21st Century

Report to the European Parliament

This report is the result of a comprehensive effort by the EOM. It is headed by medical doctors and supported by relevant professional organisations.

The EOM has additionally invited input and comments by experts in finance, administration, the pharmaceutical and biomedical industries, as well as from the European Commission, WHO, OECD and the World Bank.

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The EOM gratefully acknowledges the input given by the various supporters, interlocutors and observers, who have made this Strategic Visions a reality. The EOM wishes to thank its sponsors, without whom it would not have been possible to launch this report as a basis for intensive European-level debate.

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The European Academy of Sciences and Arts is sponsored by

the Federal Republic of Austria and the European Union.

Introduction by the Chairman

This report has been prepared at the request of the European Parliament. Its purpose is to form the basis for Parliamentary hearings and intensive debates on Health and Healthcare related issues throughout Europe. It was presented to the European Parliament in Brussels on December 4th, 2003.

Our report is unique in that it aims to put people, patients and their dignity at the centre of focus. We feel that human dignity is one of the distinct characteristics of European Society.

There are currently severe differences in the various national Healthcare provisions in Europe. Moreover, no rational long-term strategy for public Healthcare currently exists in Europe – neither at Member State- nor at EU-level. This is particularly regrettable in view of the political objectives laid out by the EU leaders at the Lisbon Summit (March 2000): ***"to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion****" by 2010.*

At EU Member State level, it is the national political leaders' responsibility to provide the conditions for adequate Healthcare for its citizens. The EU should then complement these initiatives in the area of public health and ensure they comply with the principle of subsidiarity. We feel that the initiatives must be strategic and have a long-term perspective in order to be useful.

Our Strategic Vision aims to address this need for an overall strategy that can be adapted and implemented locally.

We have identified some key issues that need particular attention at European level.

The following certainties must be addressed at a European level:

- *Healthcare is an indispensable factor for wealth creation.*
- *Healthcare is by necessity a European endeavour.*
- *There can be no national and local solutions without a European endeavour.*

We expect that the average yearly Healthcare costs per capita will increase from approx. € 2.000 today to € 2.500 in the year 2020 allowing for a annual rate of increase of 2 %.

The following four pillars underpin our Strategic Vision for Healthcare in Europe:

- *Respecting the patient as a dignified individual.*
- *Optimising the Medical Arts to meet patients' needs.*
- *Promoting synergies of access and quality to ensure that patients receive their Healthcare requirements.*
- *Ensuring patient oriented, affordable Healthcare regardless of where in Europe it is delivered.*

The Strategic Vision puts specific emphasis upon cost containment. New mechanisms have to be established to control the spiralling cost of Healthcare. Clear rules for Healthcare delivery are needed to prevent the introduction of multi-class Healthcare in Europe. It requires a new underlying paradigm.

Salzburg, December 2003.

Prof. Dr. Dr. hc. Felix Unger

CRITICAL ISSUES

DESCRIBED IN THE REPORT THAT NEED PARTICULAR ATTENTION AT EUROPEAN LEVEL

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PRINCIPLES

Definition of Healthcare:

Healthcare is a duty, imbedded in European culture, to help people in sickness, to promote a healthy society through education and the prevention of diseases.

Human Life is our highest value; the concept of Health is fundamental to Life and leads to the creation of Wealth.

Health is a common European cultural endeavour.

The provision of Healthcare in Europe is highly diverse and must be understood in the light of different geographical and cultural development perspectives. In the 21st century Health is becoming a matter of general European interest and will be an increasingly important priority within the enlarged European Union. Healthcare Systems must enshrine the principal of Health **for All** as their ultimate goal.

Healthcare, essential to life, is enormously complex and dependent on

- the needs of the population and its demographic structures;
- progress in all aspects of medical practice;
- financing models.

Healthcare provision is developing from a National to a European endeavour as a **European Healthcare Market (EHCM) serving its people,** legitimised by the European Convention, which sets out the principals of a socio-market economy, competition and self-responsibility.

The component parts of the EHCM are the Patient, Medical Arts and Sciences, Medical Providers, Medical Organisation and all stakeholders. The Medical Arts and Sciences together with the Medical Organization are to be entirely reshaped as strategic European tasks, while the stakeholder, financing, monitoring and controlling are subsidiary tasks for the national authorities. The Convention provides a unique opportunity to create an European Market for Health. Greater European co-operation enables effective use of resources, access and quality of care (2512th Council meeting, EU, June 2003). The EHCM serves the patients and creates the conditions for continuing wealth creation. To achieve sustainable effects, the main component in structuring medicine is the clinical leadership.

Demographics and Healthcare financing issues are the most sensible areas to tackle as a priority. This requires reconciling national health policies with European obligations.

In the spirit of the Lisbon Council conclusions and the European Convention the EHCM provides:

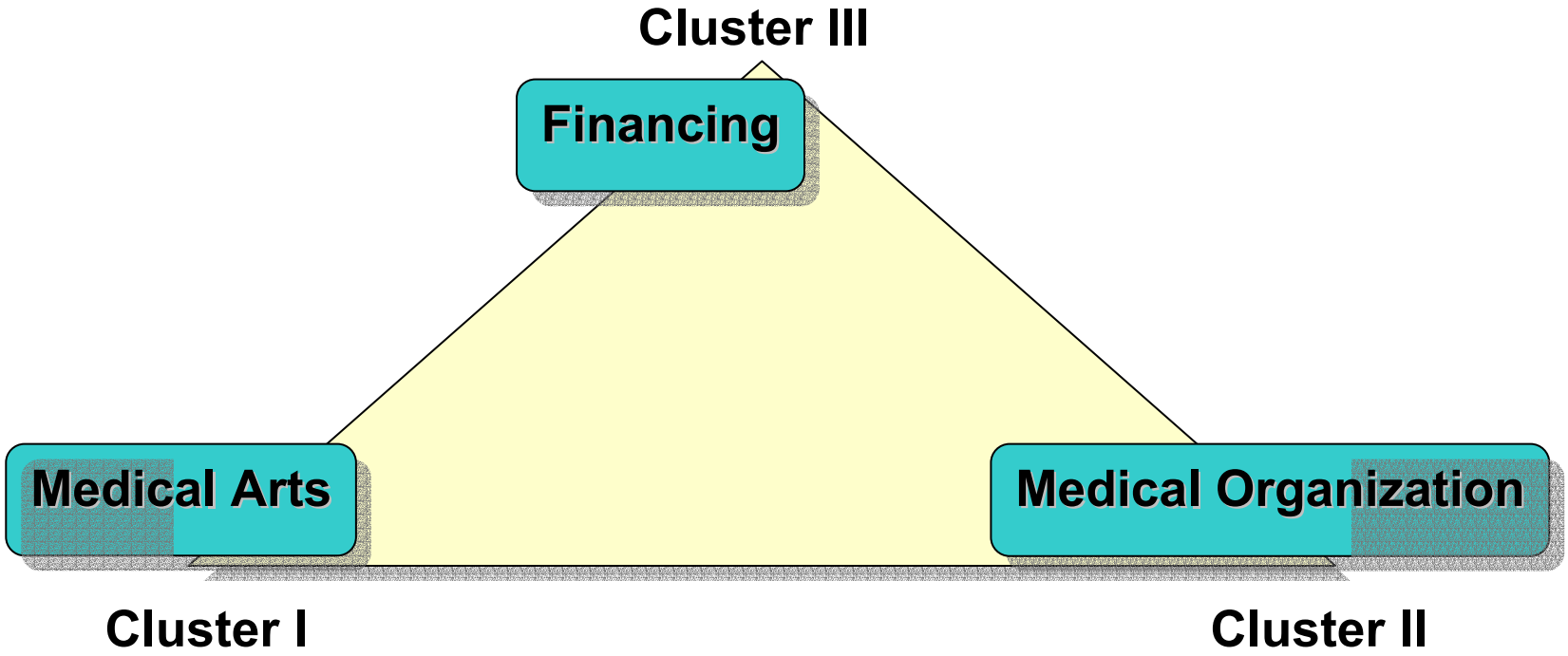
- Health for all
- Provision based on evidence and effectiveness
- Control of costs

Fig. 1

Vision: European Healthcare Market

Goals:

- **Healthcare for all**
- **Health resource allocation based on evidence and efficacy**
- **Control of Costs**
- **Transform Healthcare from national monopolies to a European market**



The European Institute of Medicine sees this as a great opportunity to consolidate the different National models and inherited systems in an EHCM and consequently to stimulate clinical leadership to achieve sustainable reforms. The common concern is the increasing cost of provision. Stabilizing costs in an environment of a decreasing working population is very challenging. By modernizing systems there is potential for controlling costs, the processes for which have to be identified. Most national reforms have failed due to massive political influence especially where Healthcare together with Welfare is operated as a state-monopoly.

This Strategic Vision has four mutually dependent parts: the patient is in the centre, and surrounded by clusters representing the Medical Arts, the Medical Organization and Financing.

This Strategic Vision is structured in 4 segments, which are the corner stones for establishing systems for the EHCM:

A. The Patient

There is a change in today's paradigm: The patient becomes the focal point. The patient of today is increasingly well informed and motivated. The patient is at the centre of all efforts, and all healthcare provisions are constructed around the patient. The patient is both a consumer and a contributor to the EHCM.

B. Cluster I: Medical Arts.

The optimisation of Medical Arts and Sciences is an essential prerequisite of the Strategic Visions. This cluster focuses on the basics of diagnosis, therapy and prevention. Conservative, invasive and prophylactic principles cover the whole range of possibilities including the prediction and prevention of diseases. To use Outcome Related Medicine (ORM) as a measure of effectiveness, medical conditions have to be classified. The capacity for purchasing has a direct effect on the access of patients and clinicians to all therapies and diagnostics. It is necessary to monitor the effectiveness of healthcare provisions, to perform quality control checks and to measure that of therapy by means of health technology assessment and outcome indicators. Assessment can be done by patients, clinicians, Healthcare organisations and providers of finance. Research, development and industry play indispensable parts in developing the medical arts. Europe has to encourage and promote innovation in new therapies and diagnostics.

C: Cluster II: Organization in Medicine

Greater effectiveness in the organisation of healthcare can be achieved by the alignment of best practices and in boosting synergies in access and quality. The main nucleus of the EHCM is that Healthcare is delivered by doctors for in- and out-patients in acute, chronic and long –term conditions. New educational concepts on healthcare provision will have to be introduced at universities and schools for nurses and paramedics. It will be essential in the future to create and to foster sustainable clinical leadership. There will be no sustainable reform in the future without a solid core of medical professionals. E-Health will play a major role in medicine for information, transfer of findings and avoiding duplication of effort. A patient's "Health literacy" will gain in importance. It is foreseen that 80% of patients will perform “self-care” actions without the involvement of Healthcare professionals.

D: Cluster III: Financing of Healthcare

Healthcare financing must be patient oriented and make use of several instruments: insurance premiums, co-payment systems, capitation, taxes, voluntary payments, out-of-pocket expenses etc. Covering Healthcare costs will need a combination of national Healthcare allocations and individual contributions to provide all citizens with equal access, responsiveness and to demonstrate fairness in financing.

Surveying Europe, a variety of systems are in operation; including the Anglo-Saxon (Beveridge) universal state centred tax-based social security system, and the continental "Bismarck" model financed by social insurance and corporate elements (Chassard and Quintin 1992). The private sector will gain increasingly in importance. In the future co-payment systems will be unavoidable, and the methods of financing by solidarity contributions will need to be redefined.

The Three Clusters are the sides of a triangle (Fig. 2, p. 17) consisting of medical arts – organization – financing, with the patient at the centre, creating a special market with special rules guided by human considerations. After each section this mutual relationship is discussed demonstrating how inter-related are the components the whole Healthcare system. Reforms of the present system can be tackled only by a comprehensive approach, gradually adapting all the clusters to the new Strategic Vision and transferred to the European Healthcare market (EHCM).

The Goals of this Strategic Vision are:

- **To provide Healthcare for all European citizens;**
- **To transform Healthcare from national state-monopolies to an open European market allowing mobility and better use of resources**
- **To identify potential for cost control**

CRITICAL ISSUE 1

HEALTH

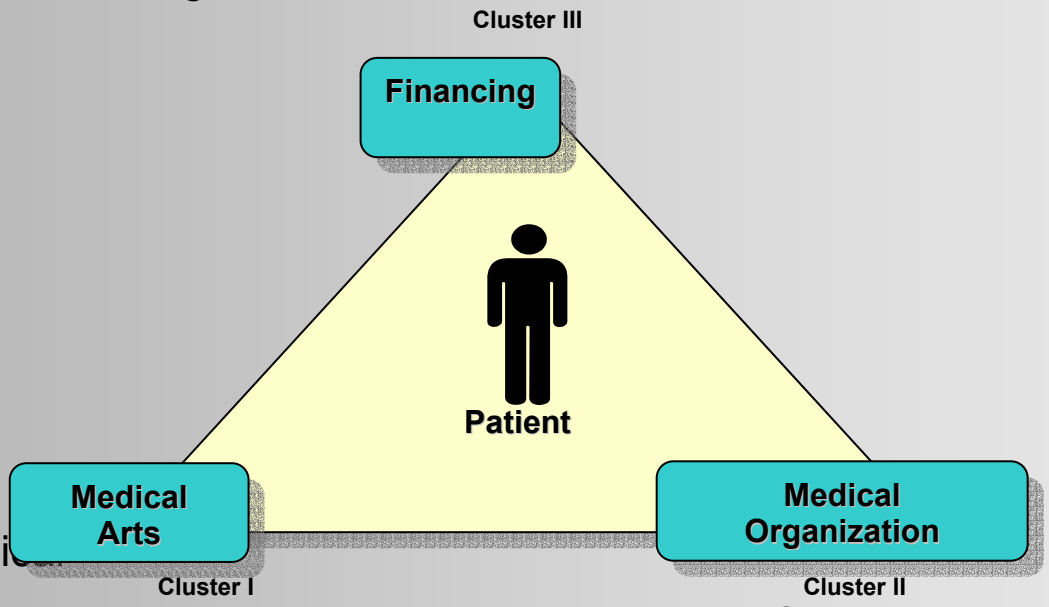
- Health is the state in which people can actively participate in life without physical and mental constraint.
- Healthcare is the means of restoring the unwell citizen to active participation in life by medical interventions and to maintain personal health by active prevention measures.
- Healthcare is not social welfare.

Fig. 2

Overview of the European Healthcare Market

National Tasks

- Funding the European Healthcare Market
- Providing equal access, broad population coverage and high quality
- Setting reimbursement standards



European Tasks

- State-of-the-Art in Medical Sciences
  - Prediction, prevention, diagnosis, therapy
- Development of medical standards
- Efficacy and volume monitoring
- Quality control
- Research and development

- Organization of medical service providers
- In- and outpatient services
- For acute, chronic and long-term conditions
- Medical and paramedical education
- E-Health

INTRODUCTION

The practice of the Medical Arts is a perpetual endeavour of man. Its mission and purpose is to cure, and prevent diseases and heal trauma, to control pain and to prolong human life as long as possible in an optimal healthy condition. Medicine has been in the past based on charity. Its delivery was provided locally via private initiatives. In modern times the provision of medical care has extended to cover whole populations; its delivery organised nationally by public Healthcare systems to provide Health for All.

At the beginning of the 21st century the patient has become more independent and self-motivated. The trend is towards the provision of **Medical Services based on the patients' own responsibility in a free market. Medicine, as a European endeavour, develops into an open market known as European Healthcare Market.** (Fig. 3 p. 17)

The delivery of Healthcare in Europe is now a matter for serious public discussion. The old national structures are seen to have failed. This has resulted in growing public frustration while the costs are exploding. People react angrily if they are denied access to care or services. In many countries Healthcare is considered as a part of social welfare and has a very high political priority, which creates a national state-monopoly with a few private exceptions. This is a source of mismanagement and discomfort to patients. Europe is now ready to form a European market for Healthcare with the essential prerequisite "Health for All" as a part of our culture. This market depends on clinical leadership. Key challenges are progress in therapy and diagnostics, which make Healthcare more and more specialized and expensive in an environment of an aging population compounded by declining birth rates. (Cluster III), (Tab. I, II, Fig. 5)

In Europe, Medicine represents up to 14 % of GNP (D: Cluster III). When all other health markets as wellness, para-medicine and all related structures in health and care are included, this is estimated to increase to 20 – 25% of GNP. Public contributions to the costs via insurance premiums and taxes cannot grow unlimited while the working population is shrinking. The potentials for costs reduction have to be quickly realised by redefining the Healthcare packages that can be provided from public funds as the level of commitment and solidarity to be given by our society. Patients will be informed of these levels. The private sector will cover any additional costs not covered by public funds and therefore will gain more importance. Both sectors will not be mutually exclusive. Young people have to be advised today about providing for their Health coverage of tomorrow.

This report is prepared for the European Parliament to initiate intensive debates on structural reforms of Healthcare in Europe by balancing issues of responsibility, solidarity, subsidiary, equity and effectiveness, competition and benchmarking. Europe demands a new comprehensive European Healthcare System to overcome national barriers and to foster greater mobility in an open market.

MEDICINE IS AT THE SERVICE OF MANKIND IN ITS UNIQUENESS

Fig. 3

Structural Reform for European Healthcare

Current: National monopolies

Cost explosion
Rigid public structures
Unequal access to Healthcare coverage
Resource mismanagement
Patient dissatisfaction
Unsatisfactory outcomes

- No holistic view of the patients and their role in HC
- Diverging funding systems (public/private)
- Each country has specific, regulated HC organization
- Different principles of HC regulation
  - State-run
  - Self-administration with national regulation
  - Mixed forms
- Unclear distinction between Healthcare and social welfare
- Diverging medical usages

Future: European HC Market

National cost control and solidarity
Health for all in open EU market
Market arbitration of resources
Responsible patient = decider
Evidence-based standards

- The responsible and informed patient is at the centre and drives the European HC market
- Funding systems aligned but maintained as national task
- HC organized as a European open market
- European HC regulation standards
  - Standards for state participation
  - Standards for self-administration
- Clear separation of HC and social welfare tasks
- Common European medical classification based on efficacy and evidence

CRITICAL ISSUE 2:

HEALTHCARE

Healthcare must be provided for “All Europeans”.

Healthcare provision must be adapted to patients' needs.

European level coordination of local Healthcare activities

Creation of a European Healthcare Market.

Healthcare as a European endeavour will be mirrored globally.

Future Healthcare Systems must stimulate mobility.

Future Healthcare systems must foster centres of excellence.

CRITICAL ISSUE 3:

EUROPEAN HEALTHCARE

European Healthcare reform should concentrate on:

- re-evaluating the present organisational structures for the provision of Healthcare, including education in its widest sense,

- aligning therapeutic approaches and access on a European level,

- building enduring future systems with an adequate financial basis oriented towards a European Healthcare Market.

A. THE PATIENT

REFLECTIONS ON THE STRATEGIC VISION.

The patient is the nucleus of all medical endeavours. As an individual, the Patient is the consumer of Healthcare in differing amounts throughout his or her life.

Over the centuries the approach to the patient has changed entirely. For many centuries a patient had recourse only to religious orders or charities, but during the last century this changed to a more community based or social approach during a period of great progress in all the sciences. The patient became an object, and was patronised, its dignity only maintained via legislation and guidelines on patients' rights. At the beginning of this 21st century a patient lives in an environment with increasing personal responsibility. Exercising a right of choice, the citizen now plays a more active role in the whole Healthcare system.

Today we focus on the patient as the centre of Healthcare provision. Systems must be patient orientated and related to his or her needs.

Today's patient requires continuous information to:

(i) maintain health:

Today most people are motivated to look after their health and to play a role in its long-term maintenance by being well informed. This information is gained via the media, the internet as well as from individual experiences. **Access to Information is the starting point for this motivation and to overcome medical illiteracy.**

In this context, annual check-ups are to be recommended in order to prevent illness, to change of life style or for active medical therapy such as lowering cholesterol levels.

Paramedical services are increasing. Wellness programs, and various options such as diets, fitness, self-diagnostics and self-therapy, are booming. Information is now easily accessible on the Internet and from the patient's own social environment.

Health literacy is now highly demanded and generally provided by physicians who act as "gatekeepers" to sources of information.

Remember:

- The patient is the focal point of medicine.
- The patient makes a free choice regarding access to medical technologies.
- All medical care should be designed to assist the patient throughout life.
- The patient must retain dignity throughout his or her life.
- Patients' rights are concerned with the preservation of the patient's dignity.
- Patients must contribute to their Healthcare both actively and passively.

(ii) participate actively in medical therapy:

Health is an irretrievable value when lost. In the case of illness the patient usually consults his doctor, who normally will provide information concerning the diagnosis and planned therapy. Based on this information the patient makes informed decisions as to where and how he or she wants to be treated. It is very important to motivate patients in his or her choices of therapy, especially in chronic diseases. A patient is free to refuse therapy, and has also the right not to submit to investigation - the right of not knowing.

With children or in special cases where informed consent is not possible, the family or relatives normally assumes the responsibility for caring.

The patient-doctor nucleus is based on trust. Patients must also be in agreement to undertake the prescribed therapy and to provide truthful and honest information.

(iii) communicate:

In certain circumstances, for instance, prior to travelling, a patient needs to communicate on medical matters with health centres, health institutions, insurance companies etc. Within the last decade many self-help organizations have arisen to assist individuals with certain conditions (e.g. Heart, Diabetes, AA etc.) They are highly appreciated and welcomed, since they contribute to the whole system in a complementary way, especially by changing life styles, or with help with therapy. Besides direct contact with their members, self-help organisations are capable of influencing political decision makers on the merits of special therapies. These organisations should be concentrated in Healthcare Centres, where the mutual exchange of professional information is fostered. This is the nucleus of Health Literacy.

Special emphasis is given to respecting the last will of a patient.

Remember:

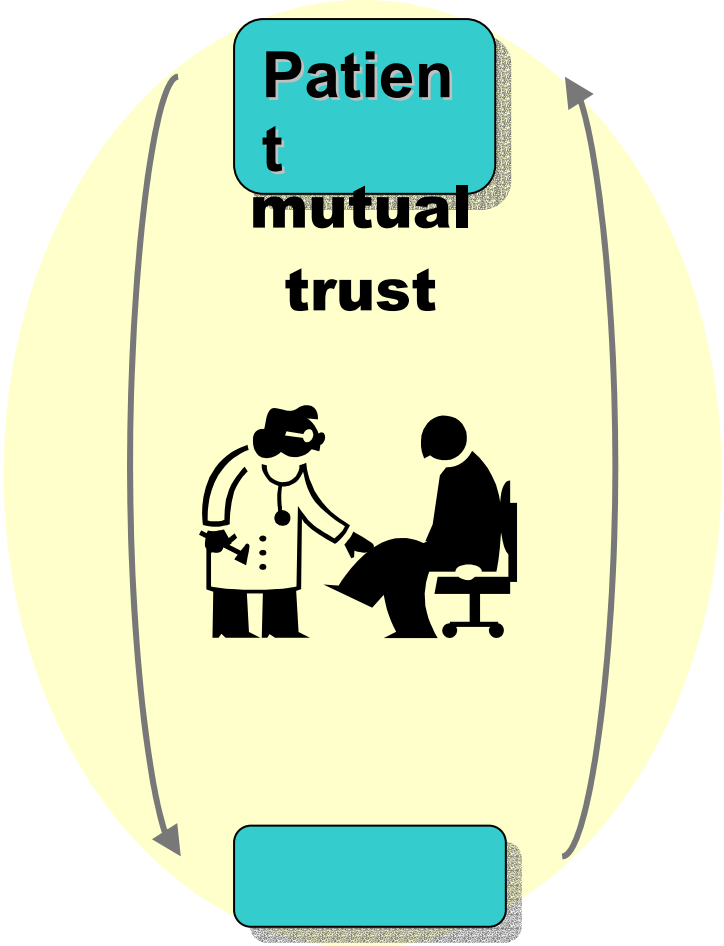
Throughout Healthcare Systems, all therapies respect the essential dignity of patients.

Health Literacy enhances patient expectations and leads to the informed choice of access and services provided by Healthcare.

Fig. 4

Patient-Doctor Nucleus

- Responsible for own lifestyle and habits
- Consults to assess medical needs
- Decides on therapy
- Gives informed consent
- Complies with medical recommendations
- Provides feedback
- Contributes financially



- Provides information

  Medical condition, treatment options and outcomes, cost of therapy, funding, patients‘ rights, patients‘ contribution to well-being and therapy, prevention, etc.

- Guides therapy choices

  Gatekeeper for access to medical services, specialist referral, guide to cost and funding, etc.

- Provides medical services

  Examination, diagnosis, therapeutic prescriptions, psychological help, health monitoring, health education, prevention, etc.

CRITICAL ISSUE 4:

THE PATIENT

The central point of all endeavors in Medicine is the Patient-Doctor nucleus.

Remember:

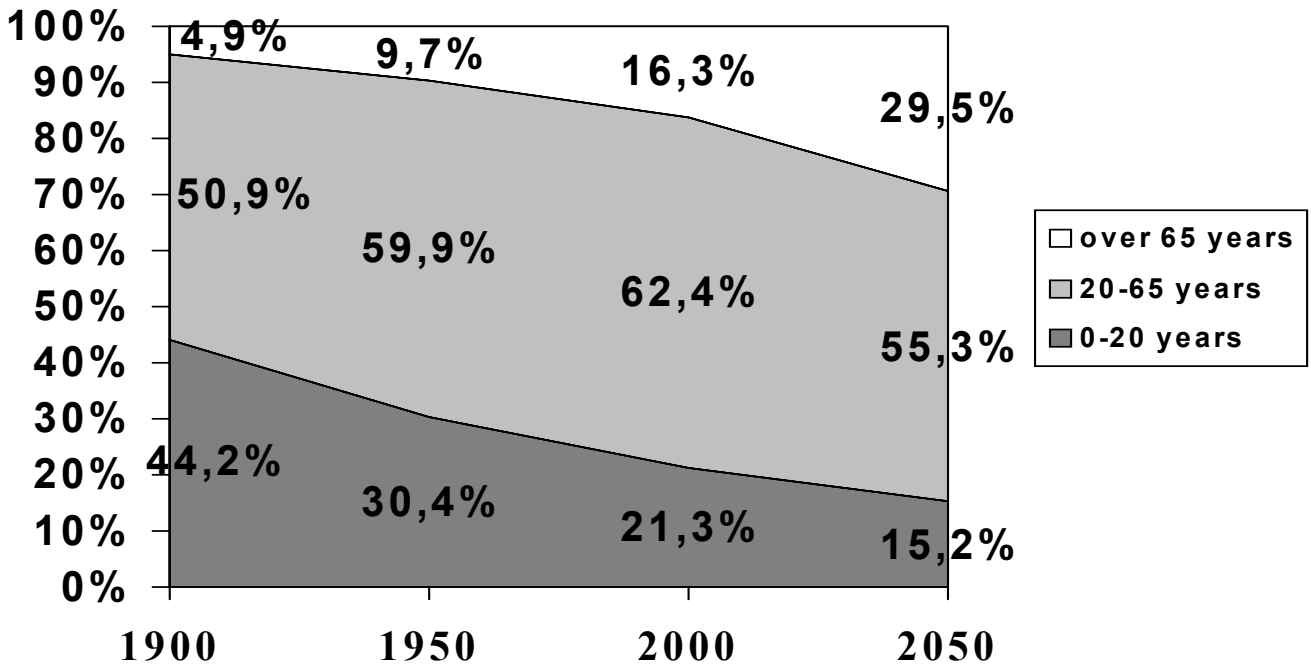
The patient expects help and further recommendations for care during consultations with a doctor. The patient is motivated by his or her expectations for professional diagnosis, therapeutic regimens and prognosis. Based on this information the patient can make appropriate choices.

CRITICAL ISSUE 5:

PATIENT INFORMATION

- The patient receives information from doctors, the media and other medical providers.
- Information is sought prior to and after therapy.
- Informed concepts of prevention and prediction can be obtained by the patient

Fig. 5 **Demography: Germany 1900 - 2050**



Source. BIBF, 2002

Table 1 Life expectancy at birth in years (1998)

EU Member States

	female	Male
DK	78,6	73,7
PT	78,8	71,7
IE	79,1	73,5
GR	79,4	74,6
UK	79,7	74,8
LU	80,5	73,7
DE	80,5	74,5
NL	80,8	75,2
FI	80,8	73,5
AT	80,9	74,7
BE	81,1	74,8
IT	81,6	76,3
SE	81,9	76,9
ES	82,2	74,8
FR	82,2	74,6

EU Candidates

	female	male
HU	75,2	66,1
SI	76,7	68,6
PL	77,3	68,9
CZ	78,1	71,1

Non EU-Members

	female	male
NO	81,3	75,5
CH	82,5	76,5
US	79,4	73,9
IS	81,5	77
JP	84	77,2

Source: OECD 2001; Health at a Glance

Table 2

Life expectancy at age 65 in years (1998)

EU-Member States

	female	male
IE	17,4	13,7
PT	17,9	14,4
DK	17,9	14,7
UK	18,5	15
GR	18,7	16,2
NL	18,8	14,7
DE	19	15,3
LU	19,2	14,7
FI	19,1	14,9
AT	19,3	15,6
BE	19,8	15,6
SE	20	16,3
IT	20,2	15,8
ES	20,3	16,3
FR	20,8	16,3

EU-Candidates

	female	male
HU	15,9	12,1
CZ	16,9	13,4
PL	17	13,4

Non EU-Members

	female	male
NO	19,6	15,7
CH	20,6	16,7
US	19	16
IS	19,8	16,4
JP	22	17,1

Source: OECD 2001; Health at a Glance

REFLECTIONS ON THE STRATEGIC VISION

The patient receives optimal professional care when needed. The patient has rights in his and her dignity and also obligations. The patient participates in the exchange of information and in prevention programs. The patient is the consumer of services provided by Healthcare Systems in case of need. The patient contributes to the cost of providing these services by taxes, insurance premiums and other co-payment and he drives the whole European Healthcare Market.

Medical Arts: Cluster I

Society ensures that the Medical Arts are in a state of continuous improvement to maintain state-of-the-art services. E-Health will allow a better transfer of information to overcome medical illiteracy. The patient can select the therapy of his or her choice and his or her decision will be final. The patient will undertake the therapy and will provide proper information to his doctors.

Medical Provisions: Cluster II

The patient will select the time and place of treatment. The patient will select both the doctor and Hospital available on the market according to needs and confidence.

Financing: Cluster III

The patient contributes to the system by insurance premiums and taxes when healthy and will be treated when ill. Co-payment contributions will be un-avoidable both to protect the patient from misuse and the system from overuse. The patient must be informed on the cost of insurance premiums and Healthcare Packages. Today's younger generation must be advised to make adequate future Healthcare provisions.

B: CLUSTER I

MEDICAL ARTS:

WHAT CAN BE DONE IN MEDICINE AND WHAT DOES THE PATIENT NEED?

1. **Introduction**
2. **Prediction**
3. **Prevention**

   Nutrition

   Social Prevention

   Vaccination
4. **Medical Arts**
   - **4.1. Classification**
   - **4.2. Diagnosis**
   - **4.3. Therapy**
     - **a) Non invasive**
       - **Nursing**
       - **Drug-therapy**
       - **Self-therapy**
       - **Homeopathic therapy**
       - **Psychotherapy**
       - **Gene therapy**
       - **Cell therapy**
       - **Radiation**
       - **Physical therapy**
       - **Stem cell therapy**
       - **Natural Medicine**
     - **b) Invasive**
       - **Disposables**
       - **Implants**
       - **Devices**
       - **Artificial organs**
       - **Ventilation**
       - **Transplantation**
   - **4.4. Medical outcome studies**
   - **4.5. Research**
5. **Reflections on the Strategic Vision**

Fig. 6

Cluster I: Medical Arts

- All procedures and therapies are classified according to their effectiveness and evidence
- All interventions are tailored to the individual patient's needs
- Standardized indications, procedures and therapies are the basis for an informed choice of the patients
- Optimal use of resources avoids redundancy (key role of GP, E-Health)

Prediction	Prevention	Diagnosis	Therapy

• Individual
• Genomic
• Environmental
• Social
	• Individual attempts for healthy life style
	• Nutrition
	• Social prevention
	  • Vaccination
	  • Health education
	• Identification of environmental and natural hazards
		• Physical exam. & verbal exploration
		• Non-invasive tools
		• Invasive techniques
		• Genetic testing
			• **Prefer non- or minimal invasive techniques**
			• **Non-invasive:** Nursing, medication, self-therapy, psychotherapy, physical therapy, radiation/ionisation, etc.
			• **Invasive:** Surgery, implants, devices, artificial organs, ventilation, transplantation, etc.
			• **Gene-Therapy**
			• **Alternative medicine** Homeopathy, , natural medicine,

Medical Outcome Studies — Measure effectiveness and quality of medical procedures

Research

- Understand diseases and find new cures
- Process-oriented, outcomes oriented research to improve results and reduce costs

1. Introduction

The main goal of this cluster is the optimization of the Medical Arts and Science.

In a graphical representation of human life, the lifespan or time can be shown on a horizontal axis, and the incidences of disease or health can be shown on a vertical axis. Throughout, patient exists in his personal environment, in his individual private sphere.

In the late 20th century medical arts and sciences have achieved enormous progress resulting in highly effective diagnosis and therapy.

Today in Europe a main concern of our society centres around non-communicable diseases, because communicable diseases have been dramatically reduced by past intensive socio-hygienic programmes. Nevertheless, medicine in Europe must be always alert to fight communicable diseases such as TB, AIDS, SARS etc.

Medicine has been very successful in the past in fighting communicable and non-communicable diseases. This has resulted in an increase of our lifespan, and an ageing population. Table 1 (pg. 33) shows life expectancy in Europe in 2001. This varies in EU-member states from 78,6 up to 82,2 years in females, from 73,7 to 74,6 years in males. In the candidate countries life expectancy varies in females from 75,2 to 78,1 years and from 66,1 to 71,1 years in males. Table 2 (pg. 33) shows the remaining lifespan at age 65, which is much higher in the EU-member states than in the candidate countries.

This increasing life expectancy dramatically alters the structure of our society. In 2000, in Germany 21.3% of the population was aged less than 20 years, 62.4% between 20 and 65, the group of working age and the taxpayers, and only 16.3% over 65 years (Fig. 5, pg. 31).

This will change significantly. In 2050 there will be 15.2% under 20 years, 55.3% working and 29.5% retired, and will cause problems in financing Health and Retirement Pension programs. Therefore, personal provision schemes have to be started by the young today.

Special efforts have to be made to protect older people. Whether not to treat or to limit treatment of patients over 75 has been the subject of discussion in several countries. This is seen as a challenge to doctors not to overdo therapy. Sometimes doctors are driven by legal and ethical considerations to avoid personal liability or professional misconduct. Other discussions have suggested creating special insurances for older people. It is evident, that at the end of life, costs are high. But 80% of the people over 65 years do not need medical care. Older people argue that they have paid into the system in the past without over-consuming its services, and have lived to old age despite this.

In ranking diseases leading to death, non-communicable diseases top the list in Europe. These are: Atherosclerosis, Diabetes, Cancer, Alzheimer and Psychiatric diseases. In addition, road accidents and suicide feature. (Table 3, pg. 84). Atherosclerosis can be taken as a typical example how a disease develops longitudinally over a lifetime, especially when atherosclerosis leads to diabetes, myocardial and cerebral infarctions and vascular diseases, etc. There are many other important non-communicable diseases, which need proper medical care. Their incidence will increase in the future. If untreated, they will lead to chronic diseases.

Great achievements of the past, such as vaccination, sanitation, improvements in standards of living have led to a decrease of communicable diseases. Beside AIDS, measles, TB etc. that are still occurring, now we fight SARS. Due to their rarity they are often identified too late to prevent an epidemic. When communicable diseases are imported by travellers, e.g. Malaria or recently SARS, they pose a specific problem. A continuous survey of communicable diseases is necessary for setting early warnings, for example the new outbreak of varicella (chicken pox).

All diseases can occur as acute or chronic conditions. Some are silent and become symptomatic only in late stages e.g. cancer. Chronic as well acute diseases can lead to chronic conditions leading in disability. Atherosclerosis, Cancer, Alzheimer, AIDS, Diabetes, COPD and mental diseases are examples of chronic diseases leading to chronic conditions. However, since human life must eventually come to an end, for this too we have to be prepared. Medical Care must be prepared to handle those at the end of their lives in a very human way, at home, in nursing homes, in the hospitals or hospices.

Services should be available at all times for emergencies, acute and chronic conditions. The scope of possible therapies is extremely wide. Sometimes a kind word is sufficient and in others an organ replacement is indicated. Patients will expect help in all situations.

Many diseases are the result of individual lifestyles. Smoking, obesity, occupation, leisure and environmental factors are hazards to health. It is evident that everybody can contribute to his or her health by reducing the hazards. General health education should lead to an increased awareness of the noxious influences that might have a negative impact to health.

It is now recognised that professional medical treatment is often given too late. Investigation into the prevention of diseases is performed instead of repairing evident defects, even in cases where the disease is inherited.

The first step towards prevention is Prediction. Based on an enormous knowledge base many causes of illness can be identified as predictors. However, information from each individual is necessary to explain the risks.

The next step is active prevention. People can be motivated to contribute to their health by applying personal prevention measures based on their individual information and data. Such preventative measures start with life style change and reducing hazards in their environment. Taking chronic medication is a form of prevention too. Social prevention comes from educating people in the necessity for personal hygiene, vaccination etc. Nutrition is an additional important factor.

Despite all predictions and preventative measures people will always become ill and need professional medical help. It is the task of medical providers to offer diagnostic, therapeutic and prognostic strategies of high quality, effectiveness and reliability.

Rehabilitation is necessary after major events as operations, accidents and infarctions. The return to work or to home life in a fit condition is of great significance to our society that will be the result of by quality healthcare services.

Medicine enters a new field in understanding the aging process. Prevention of aging has become a specific field of medical care known as "active aging". Prevention has to start by fitness in youth. Special emphasis is to be placed on providing older people with adequate Healthcare, Most patients aged around 60 face multi-morbidity symptoms and require special targeting.

The goal of ongoing medical research is the overall understanding of diseases, their diagnosis and the approaches to treatment. Quantification, epidemiology, outcome studies should be commissioned or convened by European Professional Societies showing morbidity and mortality. E-Health is an important tool for exchanging information in all areas of Healthcare to foster education, and the mutual exchange of findings.

Formal standards and concepts in medicine are necessary to control the efficacy of medical care. Audits and Monitoring are additional tools to maintaining the professionalism and reliability of healthcare systems.

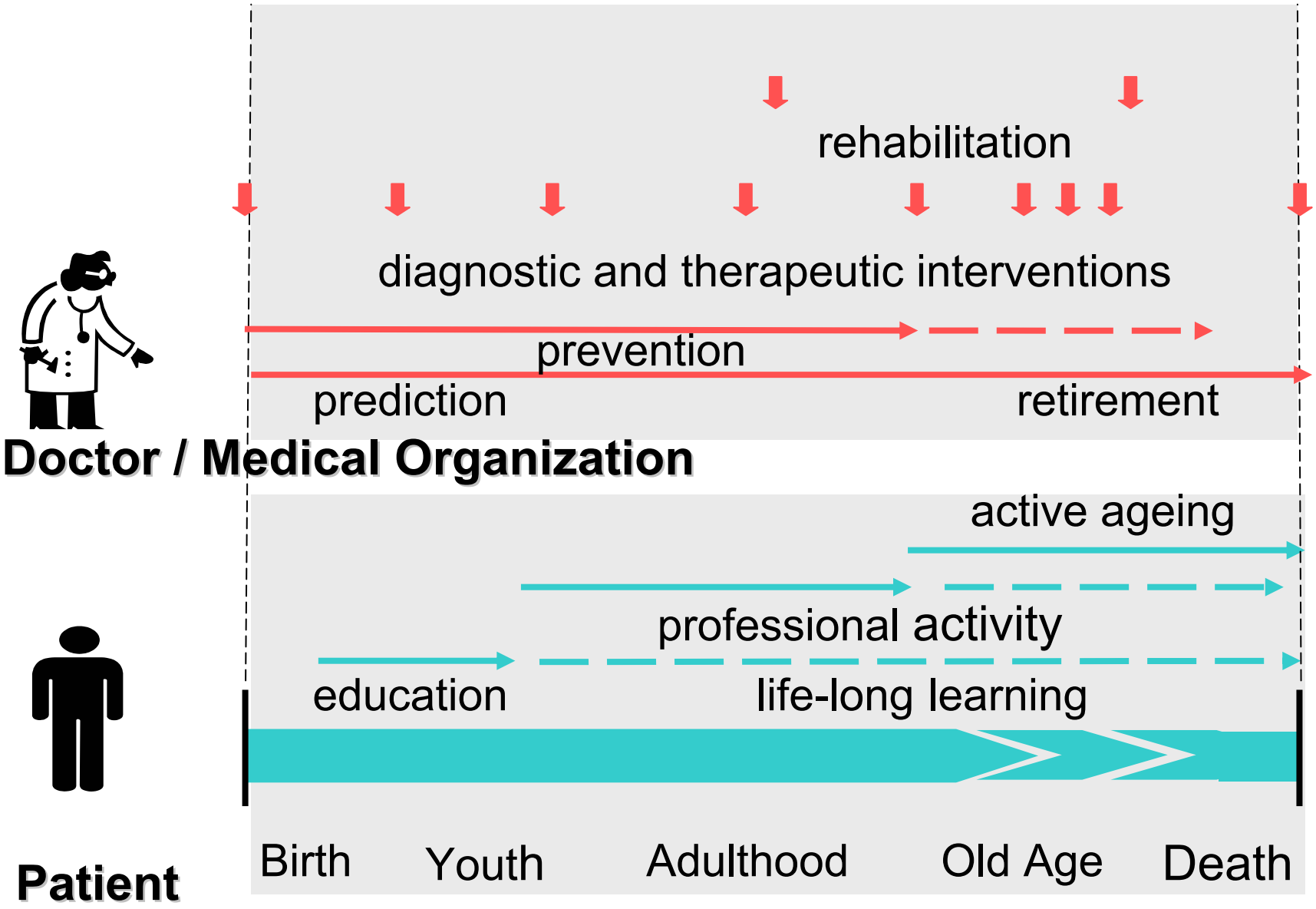
The medical capability for combating diseases increases day by day. Diagnostic procedures have become more exact, and therapy has become more effective. Medicine in general has become more individually effective, especially with increased application of gene technology and psycho-socio therapy. Considering the specific psycho-social context and

living conditions of people today, coping with conflict, trauma, stress, socio-economic issues, both genetic and psycho-social strategies can be considered as the ultimate framework within which patient complaints can be managed effectively with appropriate diagnostic and therapeutic interventions.

All medical processes, from diagnosis to therapy delivered according to individual indications. The main task of the professional medical community is to define all medical management systems, to classify them according to evidence and effectiveness, and to promote research into less invasive prevention and cures.

A Lifespan in Healthcare

Fig. 7



2. Prediction

Prediction is based on the accumulation of all medical observations, experience gained scientifically or empirically of the causes of disease. Predictors are categorized into four areas:

The individual area

Smoking and alcohol abuse are examples of risk factors that lead to diseases. Poor nutrition is also a factor.

The genomic area

There is increasing evidence for identifying genomic-constellations that carry specific risks to the individual, such as for diabetes, Huntington's chorea, etc.

The environmental area

Soil, water and air pollution both in traffic and at the workplace can stimulate specific diseases.

The social area

Social status, life events, conflicting situations and trauma as well as a person's socio-economic situation have a significant impact on a person's vulnerability to disease, its severity and duration.

Predictors are indicators based on past experience and provide the basis for consequent prevention.

3. Prevention

The wisdom of preventing disease lies in our desire to continue enjoying a high quality of life in old age and in good health. Prevention is the active application of prediction.

Prevention by individuals includes all measures to correct lifestyle habits.

Smoking, alcohol, stress, overweight, inactivity are lifestyle issues that can be addressed and corrected by everyone.

CRITICAL ISSUE 6:

PREVENTION

Prevention is the major contribution and individual can make to a healthy society. Efforts to promote the concept of prevention must be intensified:

- People must be stimulated by education and information to adopt healthy lifestyles.
- Society must identify specific environmental hazards.
- Active prevention is a global duty.
- The introduction and control of genomics must be carefully managed.

  Incentives via insurance premiums can increase the acceptance of the concept of Prevention.

Nutrition

Nutrition, or the type and quality of the food we eat, has an important influence on our personal lives. Unhealthy eating leads to diseases, which can easily be prevented. In cases of high cholesterol, gout, and hypertension, nutritional changes are essential, first with diet, later with drugs. Awareness of the dangers of over eating is increasing. The list of chronic disorders, in which nutrition is the cause is long, ranging from obesity, diabetes and cardiovascular diseases to various forms of cancer and osteoporosis. All these diseases have a great social as well as economic impact. Therefore the inclusion of nutrition in all forms of preventive programs is essential.

CRITICAL ISSUE 7:

NUTRITION

Proper nutrition is an important part of prevention. The nutritional quality of foods should be measured and evaluated.
The nutritional status of society is reflected by BMI.

Action:

Education plays a major role:

Nutrition and lifestyle.

Hospitals should consider nutritional standards.

Overweight can be reflected in higher insurance premiums

Information about nutrition should be given at schools

Promotion of nutrition as part of a healthy lifestyle by professional workers at various levels (politics, industry, education, international and local agencies)

Early identification of subjects at risk (screening).

Social Prevention

Public health is a multicultural enterprise. In terms of medicine the purpose of social prevention is to control diseases, especially communicable diseases, to manage vaccination plans and to promote public health.

- The control of environmental factors is not a specific task of Healthcare services, but there is a clear link to traffic, ambient microwave radiation, and air, noise, soil and food pollution.
- Increase in general levels of health education focused on specific areas can reduce the clinical manifestation of diseases.

Exposure to radiation, ionisation (natural and artificial) are important risk factors to be identified. Public health services must define the overall levels of medical hazards observed in the environment.

CRITICAL ISSUE 8:

SOCIAL PREVENTION

In addition to the direct sources of diseases, medical services must also observe the patient's environment.

- Public health services must enforce Social prevention e.g. prevention from communicable diseases
- Provide information on non-communicable diseases
- Warn and inform on general environment hazards

Vaccination

Vaccination is probably one of the most successful and cost-effective medical interventions. Prophylactic vaccination programs have become an integrated part of the Healthcare of both developed and developing countries. As a result, certain pandemic infectious diseases and their underpinning pathogens have been eradicated or at least have become manageable. However, undefeated infectious diseases, bio-terrorism and newly appearing pathogens and diseases, such as Anthrax, SARS, Vancomycin-resistant Staphylococcus aureus and West Nile virus are posing a threat calling urgently for the development of novel vaccines. Until the mid 1980s, vaccines mostly consisted of attenuated or inactivated whole microbes often grown on biological resources, such as chicken eggs or mouse brains, adjuvanated with Aluminium hydroxide, the only adjuvant on the market until the mid 1990s. Today most vaccines on the market still belong to this traditional category.

The dilemma remains that the development of desperately needed vaccines against Malaria, Tuberculosis and AIDS, endemic in developing countries, is only very rarely the focus of commercial vaccine developers. However, the concerted actions of international organisations supported by the Melinda and Bill Gates and Clinton foundations, have opened the door for the development of urgently required vaccines specifically targeted at restricted markets in the developed countries.

CRITICAL ISSUE 9:

VACCINATION

- Vaccination is a permanent area of endeavor. General screening of the population is necessary. New communicable diseases are arising.
- Epidemiological monitoring is performed by the WHO.

4. Medical Arts

Medical Arts and Sciences form the classical core of medical endeavours. Improvements are the result of the constant accomplishment of the medical profession to improve diagnosis, therapy, rehabilitation and prognosis. Medicine is a European cultural heritage to which all branches of science have contributed, in the expectation of prolonging healthy life.

4.1. Classification of all Medical Procedures

The delivery of Medical care should always be outcome based. Evidence and experience should be derived from medical outcome studies performed by experts in different fields, set up and organized by specific European Medical Associations and Societies.

All medical procedures can be classified according to their evidence-based outcome, as follows:

Class I:all medical procedures that are highly effective and evident

Class II a: all medical procedures that are effective, but less evident

Class II b: all medical procedures are effective with no evidence

Class III: all medical procedures, which are not effective and have no evidence.

The work of classification is already performed by and is the domain of all European Medical Professional Societies. For example, the European Society for Cardiology has an extensive catalogue of standardized procedures. These standards are based on medical outcome studies carried out on a European level showing morbidity, mortality and the long-term effects. Standards must be constantly redefined and updated. New procedures characterized as concepts can become standards as evidence of their efficacy is accumulated. Permanently fixed standards would be an impediment to medical progress.

Standards are compiled by the European Institute of Health (EIH, Cluster III), which provides the National Institutes with the latest developments and current status.

Standards and Concepts are very important for planning, quality control, monitoring, for audits and finally for reimbursing the delivery of medicine. They are the basis of the LKS-System in Austria or as DRG-System in Germany.

CRITICAL ISSUE 10:

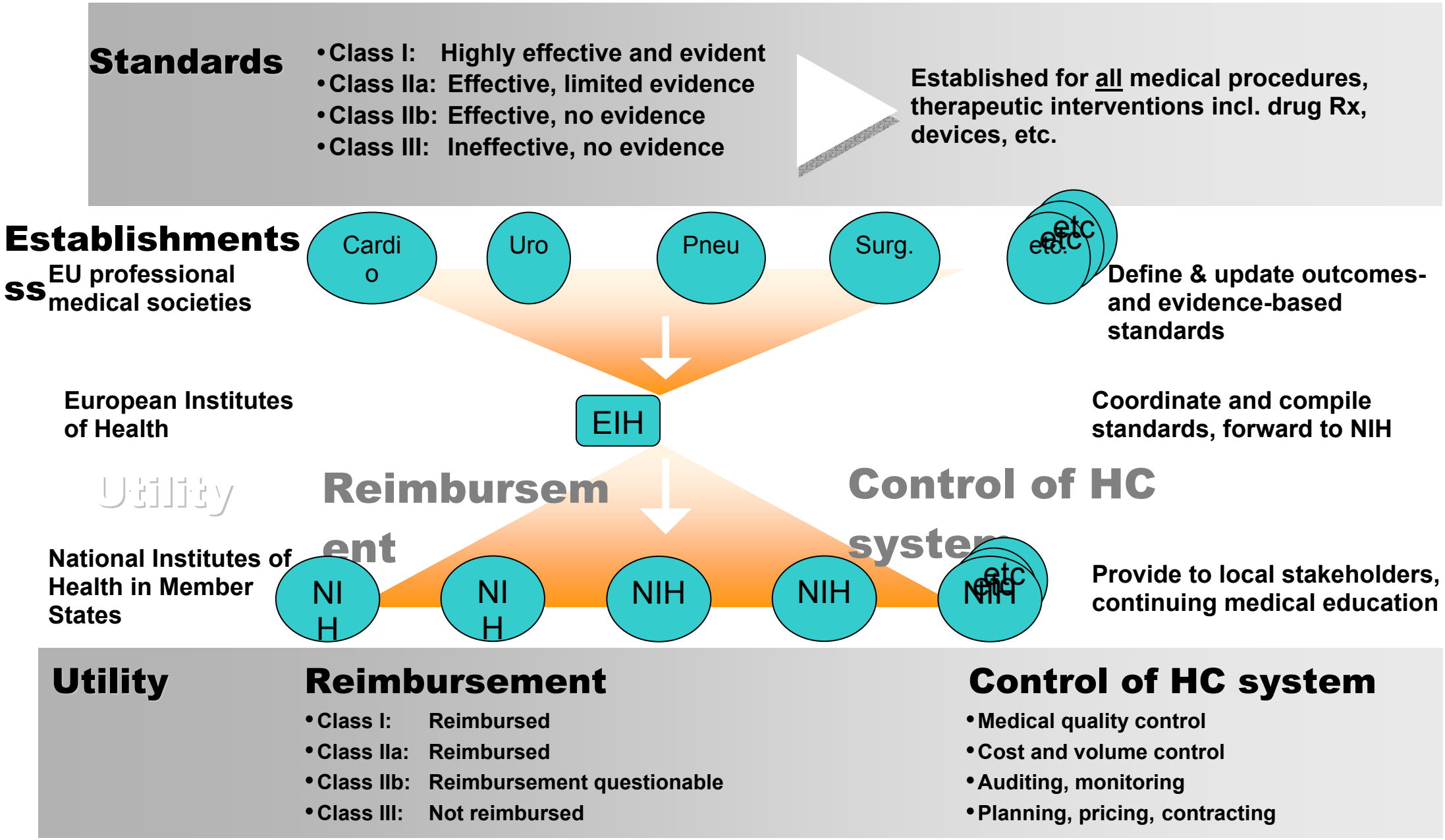
CLASSIFICATION OF MEDICAL PROCEDURES

Class I	evidence based
Class IIa	high evidence
Class IIb	low evidence
Class III	no evidence

The management of all diagnosis, therapy, prognosis and prevention should be classified in I – III. This classification is an effort by European professional societies, compiled by the EIH and provided to national authorities as the basis for quality control and reimbursement.

Fig. 8

Classification of Medical Procedures



4.2. Diagnosis

The first step towards any therapy is an exact diagnosis. Medicine without exact diagnostics is ineffective and impossible. Enormously effective tools are in use and under development.

An exact diagnosis, essential for every therapy, starts with a simple physical examination and a verbal exploration of the patient by the doctor. Later, more intensive procedures are required. Non-invasive diagnostic procedures are without pain and harmless to the patient, whereas invasive diagnostic procedures carry certain risks and hazards, as well as causing discomfort to the patient. All procedures are carried out according to standardised indications.

Potential for cost savings arise by avoiding redundant, similar or duplicate procedures, or not accepting external findings. E-Health can facilitate the exchange and circulation of findings and establishing E-case report forms. Over diagnosis can be avoided by monitoring.

Non-Invasive Diagnostic Tools

Examples: *Blood-chemistry, X-Ray, CT, MR, Spectrum-Imaging, Radionuclides, Echo, EMG, ECG, EEG etc. Gene-diagnostics, Immunodiagnostics, etc.*

Psycho-diagnostic procedures should happen early in the diagnostic process, to avoid "doctor-shopping", to reduce costs and to detect the psycho social impact on multiple diseases. In the majority of patient complaints a single causal therapy is not possible, only a symptomatic one. Stress- factors play an increasingly important role.

Invasive Techniques

Examples: *Endoscopy, Angiography, IVUS, Biopsies for Histology, Terminal pressure and Kinetic studies, etc.*

Genetic Testing

Genetic testing offers important opportunities for effective diagnosis. Further developments in the assessment of genetic risks are in progress. At present, genetic tests to determine the risks of common diseases are available. Genetic testing in prognosis is limited, but offers possibilities for reducing risks.

CRITICAL ISSUE 11:

GENETIC TESTING

Genetic testing and screening will become a major tool in individually customising medicine. At present further research is needed to asses its significance, analyse ethical considerations, license practitioners to avoid misuse.

4.3. Therapy

In therapy there are two domains: invasive and non-invasive therapeutic procedures, including psychotherapeutic interventions. Nursing is complementary to all therapies to provide relief. In specific circumstances natural therapy, homeopathic therapy and herbal therapy can also be applied, but only when based on exact diagnoses. Cell therapy, Gene-therapy, Organ replacement are special forms of therapy and are applicable only on special indications. An increase is envisaged in self-medication and for homecare, as people assume greater self-responsibility for their healthcare.

Following an exact diagnosis, therapy can be tailored to the needs of individual patients. A wide range of therapy is available, from a kindly word extending to intensive and invasive procedures. They range from simple techniques (as pads which give relief) to complicated devices and drugs. Most therapies are not mutually exclusive.

The obligatory classification of any therapy is unavoidable and forms the basis for financing. Standards and concepts, indispensable for the doctors, will be set and controlled by the European Professional Societies and subject to constant monitoring and audits. Standards avoid overuse and extension of therapy.

Therapeutic treatments can be invasive and non-invasive. The preferable general trend is towards non-invasive treatment whenever possible. When invasive therapy is indicated, it is preferable to employ minor surgery to minimize pain, discomfort and length of hospital stay.

a) Non-invasive Therapy

Nursing

Many techniques such as pads, baths etc. have been developed over the centuries to provide relief to patients. These are classical tools and are complementary to modern medicine and are not mutually exclusive. They have become somewhat displaced in our modern medicine, even though most provide the necessary relief of discomfort and are inexpensive. They can be used in home care too.

CRITICAL ISSUE 12:

NURSING

Simple nursing practices are complementary to sophisticated therapies or provide relief in simple conditions. They are cheaper than unnecessarily keeping a patient in hospital and can also be used at home. The effectiveness of nursing must again be more recognised.

Drug-Therapy

The pharmaceutical industry is making continuous efforts to develop new drugs having only minor side effects. The first generations of new development drugs are being patented. After patent expiry, competition to produce generic substitutes is now taking place in a free open market.

The development and innovation of new drugs takes place in tandem with the medical sciences. The introduction of new drugs must also satisfy all the associated ethical issues.

To be considered a generic substitute, a drug must have the same qualitative and quantitative composition in active substance(s) (e.g.: same chemical compounds) as its proprietary equivalent.

Quality and efficacy of drugs are the guiding parameters. Drugs prescribed by medical prescription are classified in Classes I – III. 17% of total Healthcare costs in Europe are for drugs (Fig1.Cluster III). Therefore, monitoring and control of overuse and patients compliance is necessary.

CRITICAL ISSUE 13:

DRUGS

Individual medicine is tailored individually to the efficacy of drug treatment. It is desirable to develop more efficient and focused drugs with less disturbing side effects. Their efficacy is to be tested and standardized in large trials.

Further intensive research developments in Europe is now mandatory. After expiry of patents, a free market for generic substitutes will reduce costs as well as foster competition.

Self-Therapy

Drugs are usually sold in pharmacies. There is a trend towards self-medication, by using over-the-counter (OTC) medicines purchased by the patient without advice from a physician. Patients are mostly motivated by a desire for prevention or for relief of symptoms in minor ailments. The most OTC products are phyto-therapeutics and homeopathic medicines as well as vitamins and mineral substances. Many pharmacists provide advice in their use.

Examples of conditions that can be treated by self medication are: colds, coughs, sore throats and pharyngitis, allergic rhinitis, stomatitis, heart burn, vomiting, haemorrhoids, sunburn, warts, headaches, muscular pain and vitamin deficiency.

CRITICAL ISSUE 14:

SELF MEDICATION

Goal:

Self-medication and self-therapy is feasible by the informed patient and covers a large field of care. Possibilities for self-medication provide motivation for prevention too.

Action:

Provide information to the public.

Assistance by pharmacists in providing competent advice and warnings.

There is no reimbursement in self-medication.

No distribution of special drugs to avoid uncontrolled misuse.

Lists of drugs that can be bought without prescription.

Homeopathic and Alternative Drug Therapy

Homeopathic drugs as well as herbal remedies are sold in pharmacies. They should undergo the same scientific evaluation as classical drugs. Reimbursement will be according to the same criteria as used for conventional drugs.

CRITICAL ISSUE 15:

HOMOEOPATHIC THERAPY

There is an important trend towards homoeopathic therapy (HT). To demonstrate the efficacy of HT, further scientific investigation must be performed.

Homoeopathic drugs based on herbs must undergo the same scientific evaluation of possible side effects as all other drugs and medicines.

Medical outcome studies should ensure the quality of HT.
Homoeopathic drugs are not normally reimbursed.

Psychotherapy

According to the WHO, stress is suggested as one of the most serious challenges to health in the 21st century. More people are sick and off work due to psychic and psychosomatic disorders than to organic diseases. There is a wide range of psychotherapeutic tools and interventions available to treat psychological disorders and the effects of stress on patients suffering from organic diseases. Psychotherapy and psycho-education also play an important role especially in chronic pain disorders, psycho- trauma and the treatment of personality disorders, anxiety disorders or compulsive diseases. In treating he high co-morbidity of organic and psychic disease often requires drugs, plus psychotherapy and psycho-education.

CRITICAL ISSUE 16:

INTEGRATIVE PSYCHOTHERAPY / PSYCHOEDUCATION

The substantial impact of psychotherapy and psycho-education (PT/PE) is recognised. To demonstrate their specific efficacy, further research must be done.

PT/PE can play a key role in preventing further stress, improving the quality of life, supporting patients suffering from organic diseases and treating specific diseases.

Medical outcome studies should ensure the quality of PT/PE.

Gene therapy

In the last century, progress in chemistry, pharmacology, microbiology and biochemistry have dramatically influenced the course of drug discovery, resulting in better quality of life and increased life expectancy. **Pharmacogenetics** is the study of DNA sequence variation as it relates to differential drug response. **Pharmacogenomics** can be defined as the study of the genome and its products (including RNA and protein) as they relate to drug discovery and development. As a result of development in the areas of pharmacogenetics and pharmacogenomics, changes are likely to occur in the way drug development is conducted.

CRITICAL ISSUE 17:

GENETHERAPY

Pharmacogenomics are the basis of an individual therapy and therefore more effective medicine is to be expected as a result. There is a direct access to therapy.

Practical, scientific, ethical and legal issues in the design of clinical trials using pharmacogenomics have to be reflected in international law and regulatory directives. Pharmacogenetic data will be of importance for drug labelling. The fragmentation of common complex diseases may produce high cost per case figures for national healthcare systems. The introduction of new drugs is likely to be prevented or delayed unless reimbursement issues are resolved.

- Defining clinical needs
- Scientific studies
- Safety aspects

Cell Therapy

Somatic cell therapy is the administration to humans of autologous, allogenic, or xenogenic living cells, which have been manipulated or processed *ex vivo*. Manufacture of products for somatic cell therapy involves the *ex vivo* propagation, expansion, selection, or pharmacological treatment of cells, or alteration of their biological characteristics.

CRITICAL ISSUE 18:

CELL THERAPY

- Introduction and report on the role of genomics in Healthcare provision
- International debates
- Cell Therapy as a tool for individual prevention.

CRITICAL ISSUE 19:

ETHICAL CONSIDERATIONS:

Genetic research is a new field in medicine and as in any new area has unknown risks and hazards. Genetic screening is not a desirable tool at present as there is too large a potential of misuse. Genetic testing is possible in given indications. In all these issues ethical considerations play a major role. These issues can be resolved by better education at all levels, access to information and discussions within our society, improving awareness and better understanding of genetics. Apart from diagnosis and therapy, there is a potential for prevention, which is expected to be very effective, because it is individually tailored.

Action:

Broad interdisciplinary discussion.

Radiation and Ionisation

These techniques are indicated mostly in oncology.

Physical Therapy

Physical Therapy is a very important area that provides comfort and relief with physical aids. Physical Therapy embraces treatments from massage up to cryo-therapy. Physiotherapy can be delivered everywhere.

Stem Cell Therapy

In an early stage of scientific research stem cell therapy has potential for therapy by producing organ timers by stem cells or to mobilize stem cells by stem cell stimulation.

The outlook for this form of therapy is very promising and might have a significant impact in fighting diseases, locally by direct application.

Natural Medicine

One of the key roles of natural medicine in the management of illness and sickness is the provision of human comfort by use of plant products. Natural medicine is characterised by holistic caring and the individualisation of problems. As the origin of orthodox medicine, huge implications of this trend can be predicted as new ways of individualising its data and interventions are sought. However, there are also major implications for natural medicine.

CRITICAL ISSUE 20:

NATURAL MEDICINE

Natural medicine comprises traditional treatments mostly outside the sphere of classical medicine of the 20th century. A role exists for complementary therapies and natural health products, but proponents must be prepared to meet real scientific and regulatory tests of safety and effectiveness.

Lit.: Koop,C.E.,Science, 295, 233 (2002)

Balneology (Spa, Kneipp etc)

Additional methods to wellness

Magnetic Fields are part of natural medicine

Chinese Medicine, Acupuncture, Ayurveda, Holistics, Native American

TM, Tao Chi, Shiatsu, Homeopathy, Transcendental medidation.

Cenit upkeep

b) Invasive Therapies

Invasive therapy is always indicated, when a cure is not possible with drugs. This includes minor, minimal invasive or major surgery. Most indications are due to tumours, occlusions, stenotic vessels or ducts. There is a trend toward minimal invasive surgery (gall bladder, hernias, etc.) which may result in a reduced length of stay in hospital.

The length of hospital stay has continuously reduced, but is more intensive and tends to take place in special care units.

Besides open surgery, there are possibilities to operate percutaneously, as in the field of cardiology where inserting stents or dilating stenotic vessels is common.

All invasive therapies should be standardized and classified based on their outcomes. Standards are set by European Professional Societies-

CRITICAL ISSUE 21:

INVASIVE THERAPY

- There is the demand to minimize the invasiveness in all fields.
- Advancing non-invasive therapy can reduce the role of surgery.
- More research
- Additional MOS
- Quantification by incidence and costs.

For all invasive treatments aids are indispensable such as:

Disposables

Many disposables are in use, as syringes, dressings, bandages, needles, tubes, catheters, etc., mostly in acute use and rarely implanted. Disposables are used in all fields of medicine.

There is a need to stringently redefine "single use" devices. Current definitions are greatly influenced by the profit motives of manufacturers but cloaked in so-called "scientific data". Disparity between claims and actual data from central & south Americas, Africa and Asia continues to expose several areas where manufacturers' recommendations are considered unsafe.

CRITICAL ISSUE 22:

DISPOSABLES IN MEDICINE

- Disposables meet international medical standards.
- Warning: no re-use of single-use devices.

Implants

Implants and devices are always therapeutically indicated. Implants are used in Neurosurgery, cardio-thoracic surgery, sutures, plastic surgery, orthopaedic surgery (Joints: Hips, knees, shoulder), vascular surgery, dentistry and orthodontics, ortho-rhino-laryngology, ophthalmology, endocrine surgery, urology, etc.

Devices

Examples: *Electronic pacemakers, ICD, pumps, stimulators, neuro-stimulators defibrillators.*

Use of devices will increase dramatically as shortfalls are made up. Distribution of devices is integral to their use.

All devices are standardized and classified as Class I-III therapies. Any implant product is sold as single use device and should never be reused.

Artificial Organs

Examples: *Kidney, heart, liver, eye, ear, etc.*

Most artificial organs perform excellently. The artificial heart has become a clinical reality.

Ventilation

Portable oxygenators have become of more interest for end-stage COPD.

Transplantation

Transplanting organs gives rise to ethical and availability problems:

The potential availability of donors is shrinking due to more intensive therapies. Also severe resistance by society also reduces the availability. It is considered that artificial organs will be more efficient for chronic implantation.

Xenotransplantation

Xenotransplantation involves the use of live cells, tissues and organs from animal sources, implanted into a human. Xenotransplantation is still very experimental as the science of tissue engineering is developing at a slow pace.

4.4. Medical Outcome Studies (MOS)

Medical outcome studies are very important in measuring the quality and effectiveness of therapy. These studies are the basis for standardizing therapy and fixing the costs of remuneration.

Clinical studies are important to develop new strategies. The design of studies and the protocol must meet ethical standards. It is unethical to perform such studies in countries where ethical considerations are not considered a barrier to the performance of clinical studies.

CRITICAL ISSUE 23:

MEDICAL OUTCOME STUDIES

All therapies will be delivered on the basis of evidence from MOS in a five years time span.

- MOS should be introduced by the medical professionals societies.
- MOS and clinical studies are not mutually exclusive.
- MOS is a European task, the results are compiled and disseminated by the EIH.

4.5. Research

In Europe more essential research in all fields of medicine is necessary to understand and to fight diseases. Specific attention is to be paid to clinical, institutional and industrial research. There is still a severe deficit in industrial research, especially in genomics. Research provides innovative solutions to new access in medicine and secures employment. Continuous research is indispensable to set standards and to redefine paradigms. Medical science will not progress unless all concepts are continuously revised in the light of new and more effective therapy.

CRITICAL ISSUE 24:

DIFFUSION OF PROGRESS AND INCENTIVE OF SCIENCE IN MEDICINE

The rate of progress in medical science is increasing, resulting in a greater supply of information to support the goals of achieving;

- better informed patients
- better educated doctors
- better informed stakeholders

Health Literacy gives us understanding of new developments and provides indications for future directions in prevention, care and financing of Healthcare and to foster further research efforts.

- Information concentrated and direct toward the media;
- Defined therapy and diagnostics according to standards and concepts defined by professional societies and associations;
- Change in culture of Medicine towards process and outcome orientated thinking, the education of which is the future task of universities.

For the Patient:

In the whole complex of Healthcare, the Medical Arts and Sciences offer a wide range of effective tools in diagnosis, therapy, prevention and prediction. It is up to the responsible patient to make choices and to evaluate options, based on the principle that all therapy should be tailored individually.

For the Medical Arts and Sciences: Cluster I

All medical procedures must be classified according their outcome. This creates potential for possible cost reduction. The cost of all that is not medically evident and effective (Class IIb and III) will be paid by the patient.

Classification is the basis for purchasing medical equipment and services and for defining Insurance Premiums and Healthcare Packages.

Specific emphasis must be given to redundant findings and information. There is an additional potential of saving costs and avoiding discomfort to the patient. E- Health can contribute effectively to the exchange of findings.

The monitoring of medical care and co-payment systems can reduce overuse in diagnosis, therapy and the length of therapy. Continuous research is necessary for progress in medical arts and science. The concept of process optimisation in the areas of diagnosis and therapy has a direct bearing on the reduction of costs.

For Organization of Medical Services: Cluster II

The medical Arts have an impact on the organization of medical services in the areas of planning, organizing new structures and recommending new developments.

Optimised management saves cost.

For Financing: Cluster III

Classification of all medical procedures is the basis for purchasing by national Healthcare allocations. Class I and Class IIa procedures are evidence-based and should be covered. Class IIb is questionable; and the patient must cover the costs of Class III treatments.

Table III:

Diseases ranked by incidence and death

30 leading causes of death worldwide in 1990

Rank	Causes of death	Number of death($x10^3$)
	All causes	50 467
1	Ischemic heart disease	6 260
2	Cerebrovascular disease	4 381
3	Lower respiratory infections	4 299
4	Diarrhoeal diseases	2 946
5	Perinatal disorders	2 443
6	Chronic obstructive pulmonary diseases	2 211
7	Tuberculosis (HIV seropositive excluded)	1 960
8	Measles	1 058
9	Road-traffic accidents	999
10	Trachea, bronchus, and lung cancers	945
11	Malaria	856
12	Self-inflicted injuries	786
13	Cirrhosis of the liver	779
14	Stomach cancer	752
15	Congenital anomalies	589
16	Diabetes mellitus	571
17	Violence	563
18	Tetanus	542
19	Nephritis and nephrosis	536
20	Drowning	504
21	War injuries	502
22	Liver cancer	501
23	Inflammatory heart diseases	495
24	Colon and rectum cancers	472
25	Protein energy malnutrition	372
26	Oesophagus cancer	358
27	Pertussis	347
28	Rheumatic heart disease	340
29	Breast cancer	322
30	HIV	312

Table IV

Risks factors: Smoking % to the population, Alcohol consumption in litres(Al.),Body Mass Index (BMI)

EU-Member States

	S%	Al.	BMI
PT	19,6	13,6,	12,6
IT	25,1	9,3	8,8
SE	19,2	5,8	7,8
FR	29	15,6	9,5
FI	23,6	8,6	11
DE	28,6	12,6	
BE	26,5	10,8	10,5
AT	29,6	11,4	9
ES	33,4	11,9	13,5
UK	27	9,7	20,9
LU	33	16,4	
IE	27,5	11,9	9
GR	37	10,2	
DK	30,5	11,6	7
NL	34	9,9	9,1

EU-Candidates

	S%	Al.	BMI
CZ	23,7	11,8	13,5
PL	19,4	8,4	12,4
HU	30,5	12,3	20,3

Non EU-Members

	S%	Al.	BMI
JP	34,2	8,6	
US	19,9	8,3	25,1
CH	32,5	11,2	6,9
NO	31,5	5,4	6
IS	22,9	5,6	19,3

Source: OECD 2001; Health at a Glance

C: CLUSTER II

ORGANIZATION OF MEDICINE
OR
WHERE DOES THE PATIENT FIND HELP AND INFORMATION?

Introduction

I. Medical Services

1. Essential arm

General Practitioner

Specialists

2. Expanded arm

Hospitals

3. Extended arm

Long term Hospitals

Rehabilitation

Long-term institutions

II. Education

1. University

2. Professional Societies

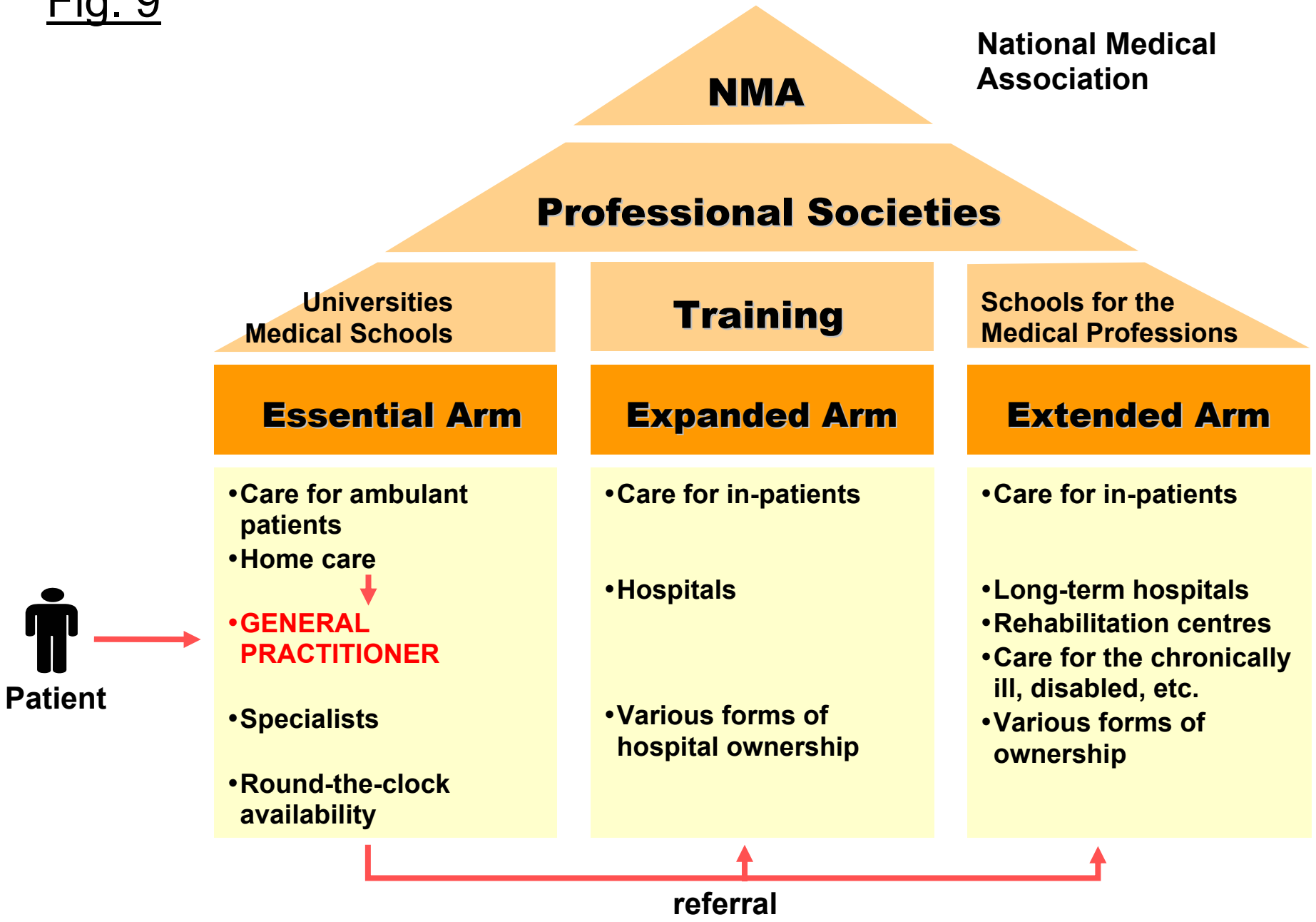
3. National Medical Association

4. Medical professional Schools

III. Reflections on the Strategic Visions

Cluster II: Medical Organization

Fig. 9



Introduction

During a lifetime everyone will consume medical services: in childhood, adolescence, trauma, vaccination or illness.

In 90% of cases, the general practitioner will render essential medical assistance. In the other 10%, care will be demanded in an expanded medical environment, both outside and inside hospitals. The provision of all medical services are to be seen and organized as processes.

Historically Europe has inherited two key medical systems which have been unique and exemplary for most of the world. To maintain delivery of medical care continuous reform and adaptations to emerging needs are essential. Today the key issue in planning all reforms is that of how to finance Healthcare provision in a European Health Market. All Healthcare provisions must be defined and reimbursed adequately wherever they are provided. The state-monopolies, which have extended over all segments of Healthcare in public Healthcare are now seen as a barrier to reform. Public Hospitals are a prime example.

This cluster deals with Healthcare delivery by doctors outside hospitals. The processes for progressing the patient through the system are not yet clearly defined. Significant work on process analysis is necessary to elaborate the real cost situation which is necessary for developing planning and financing models.

Education is a prerequisite of all visions, starting with the universities and postgraduate training by professional associations. A central issue is the education of medical professionals in understanding the whole market and how to define their own role within. They must base their role on clinical leadership.

The main goal is an alignment in reinforcing synergies and access.

I. Medical Services

The principle of a European Health Market is to deliver first quality "Health for All" without discrimination. Provision must be fair and accessible without undue waiting time, at a convenient location and with minimal psycho-social barriers.

There are three arms of Medical Services:

1) Essential arm: Care for ambulant patients and homecare by General Practitioners and Specialists
2) Expanded arm: Treatment of patients in hospitals
3) Extended arm: Rehabilitation, Long term hospital care, Hospitals for the chronically sick or disabled, and hospices.

1. Essential arm: Service for ambulant patients and home care.

All forms of diagnoses, therapy and prevention are either delivered on an outpatient basis in acute and chronic conditions, or at the patient's home. General Practitioners and Specialists deliver the provisions. In medical management established Standards, monitoring and audit procedures play an important role in preventing overuse. Medical Associations and the purchasing institutions perform monitoring and auditing functions.

This arm is the major pillar of the whole system. It is estimated that 90% of all patients are treated outside hospitals. Under an effective administrative mechanism hospital admissions can be reduced drastically. A lack of good organisational and administrative practices has been observed in countries with high admission rates to hospitals.

In Europe the density of Physicians varies from 1.200 doctors in the UK up to 5.900 doctors per million of population in Italy (Tab. 3, p. 115). The number of doctors' consultations in a year ranges from 2.8 in Sweden to 7.9 in Belgium (Tab. VI, p. 116). In Hungary doctors are consulted 19.7 times per year, demonstrating a differing picture within Europe.

CRITICAL ISSUE 25:

HEALTHCARE DELIVERY

A convenient local source of Healthcare Delivery should provide the patient with optimal ambulant care. The availability of doctors must be guaranteed on a continuous basis. In case of absence, a substitute or an on-call service should allow a maximum of care, especially during weekends and vacation periods.

The General Practitioner

The General Practitioner plays the key role in the essential arm. The GP is the first point of contact, cares for the patient over the whole time and is the "Steward". The role is defined partly as "primary care" or "family doctor". This role has important social perspectives as in the care for the patient and his or her family, the community and the integrated delivery system. In reality more duties are demanded:

- In all situations the GP evaluates the status of the patient and manages the provision care at different levels and at most times acts as the key provider.
- Additional tasks are the prevention and early detection of medical conditions observed in annual check ups, the coordination of referrals, medical advice, appropriate attention, advice on prevention, building the bridges between patient, family and the community.
- He provides care at home after hospitalisation and for people for whom hospital stay is not necessary.

In the past, the GP was the family doctor, who attended a family over decades, giving recommendations and delivering Healthcare at the home.

In current conditions, it is cheaper and more effective, when a patient goes first to a GP. Costs rise by 40% when a specialist or a hospital is used as the first contact by the patient.

The GP is subject to many demands and pressures. Having charge of patients at their homes requires the application of a wide range of techniques and services. Therefore, a modern practice should include, for example the services of a trained nurse able to provide significant assistance, such as measuring blood pressure, establishing the patient's general condition and compliance to therapy. Nurses can make home calls and report when serious changes in the general condition are evident, enabling the GP to react properly. These services should be on call on a 24 hour basis, where a group practice is present. Transfer of information could be enhanced by e-Health systems.

This enlarged role of GP services will require an adequate reimbursement per case.

GPs are normally registered at their National Medical Association, who monitor the quality of delivery of Healthcare provided.

CRITICAL ISSUE 26:

THE GENERAL PRACTITIONER

The role of the General Practitioner is central to a Healthcare System, delivering essential medicine at home, making first contact with patients and following up with long-term care.

The GP:

- Provides personal care to patients;
- Takes all first decisions on patients' healthcare needs;
- Manages patient care through medical services and organizations;
- Communicates with the public;
- Advises on public environment issues with appropriate use of health data.

Specialists

The development of medicine has resulted in an enormous amount of detailed information available on each specialised field. Specialists, by definition, provide expert care on specific problems and see patients mostly for a short period after referral by the GP or another specialist. Specialists provide their services often from special consulting rooms possibly linked to hospitals or clinics, when care at home is impossible. They should be part of integrated services in hospitals.

Curricula for training in the specialist fields should be shortened. Within the listed 40 specialities (Annex I, p. 119) there is a marked trend towards further sub-specialization. Despite this development there are generalists in their fields, e.g. in Cardiology or Gynaecology.

Specialists are registered at their National Medical Associations, who monitor the quality of education and training of specialists.

During their absence, specialists should have colleagues on call to ensure a 24 hour service.

The reimbursement of specialists should be decided on a case-by-case basis.

The essential arm of Healthcare Delivery is extremely important and will require further efforts to foster its proper development, and to define its enlarged role. The services offered are cheaper and are more convenient for the patients. By concentrating on an effective model for GPs and Specialists, hospital admission can be reduced drastically. High levels of hospital admission imply a lack of provision outside. This deficit can be overcome by adequately reimbursing GPs and Specialists for their services at home per case.

The costs for all doctors outside hospitals are estimated at 16% of total expenditure on healthcare (Fig,18, p. 174), and for dentists 6%.

CRITICAL ISSUE 27:

SPECIALISTS

Providing mainly specialized services they are part of an integrated care system. They are situated between the GP and hospitals. Referral to specialists should be via the GP.

- Development of a new interaction between GP – Specialist and Hospitals
- Avoidance of duplication of findings
- Continuous Medical Education
- Involvement in core strategies
- Adequate reimbursement

2. Expanded Arm: The Hospitals

The greatest share of healthcare expenditure (~34 %) is on hospitals (Fig. 18, p. 174). There are big efforts underway to reduce this cost. Most hospitals in Europe are public and are under intensive scrutiny by politicians, insurance companies and other institutions. Public hospitals have evolved out of a social commitment of the state to its people but represent a monopoly and do not fit to a European Healthcare Market. Severe action is needed: firstly in defining the services they provide, secondly in optimising overall organisational processes, and thirdly in freeing the hospitals from being providers of welfare.

There are three types of hospitals:

Class I:	Basic hospitals
Class II:	Central hospitals
Class III:	With all medical disciplines, with and without medical schools

Each type provides a specific range of services to the patient. A critically ill patient needs different care from another who is chronically ill. Emergencies require different criteria compared to those for non-life threatening situations.

The hospitals must define the services they can offer. It is unreasonable that all hospitals provide the same services at varying levels of quality. Which services can be offered should depend on the frequency they are needed and the standard at which they can be delivered. This is monitored by National Medical Associations and federal authorities.

Every hospital has more or less the same basic structure. Anaesthesia, Lab, X-Ray and auxiliary services provide the basic structure. Specialized structures, such as Surgery or Neurology define the classifications. A Class I hospital will have surgery, gynaecology and internal medicine, Class II more specialities and Class III exclusively specialities. Auxiliary structures are composed of nurses, technicians, administration, maintenance etc.

A hospital can only provide services that meet quality standards, managed by self-regulation but continuously monitored.

Many small units can be transferred to long-term hospitals, which are mostly located near the homes of patients.

An inherited difficulty is that hospital wards are separated for each speciality. Many beds are unused, especially at weekends. In a modern structure, wards of the classical type

should no longer exist. Specialist beds should be provided on demand, but separated to increase the efficiency of specialized care.

Hospital beds are a constant topic of discussion (Tab. VII, p. 117). In Sweden there are 3.800 beds and in Ireland 101.000 beds per million of population. However, Sweden has 2.600 and Germany 6.500 beds per million people for acute care. There is an enormous mix of social welfare and medicine, which has to be separated.

Public hospitals generally offer admission on a 24 hour basis. The profile of hospital admissions varies in Europe. (Tab. VIII, p. 118): In the Netherlands there are 107,800 annual admissions per million people, in Austria 286.000 admissions, whereby 99.000 are acute in the Netherlands and 264.000 in Austria. This wide variation can be best understood by examining deficiencies in the essential arm of medicine

There are serious considerations that public hospitals act as integrated centres, serving a mix of in- and outpatients under the management of physicians. Critically ill patients, acute or chronic, with intensive and invasive diagnostics and therapy are source of concerted specific actions in hospitals.

There is a significant trend to reduce the length of stay in hospitals. Medicine will be more intensive, allowing the stay to be reduced. A new trend is the increase in day-clinics for minor treatments, as already seen in surgery or oncology. The ambulant sector must be enhanced but has no place in hospitals.

There is an urgent need to reorganize the whole internal management structure of hospitals. Effective organization of a hospital requires a strict identification and assessment of all processes, and a clear organizational concept. There is a great potential for cost savings. Hospitals must define the services they offer based on accepted standards. There is room for a reduction of acute beds in most European countries by transferring excessive acute beds in Class I hospitals for the treatment of the chronically ill.

Public hospitals represent a monopoly. These should be transferred from public ownership to foundations or trusts, which can be managed and operated in the market economy. This has already taken place in some European countries, such as in Germany and Austria.

Private hospitals offer specific services. Military hospitals are another type of private hospitals. A new development is observed as large companies establish their own hospitals.

All optimised structures depend on adequate financing. The hospitals have to be financed according to their expenditure on each patient. This creates an open market and brings free competition. Quality control, monitoring and audits are inevitable and must be done by national authorities, which are a subsidiary arm within the whole European concept.

CRITICAL ISSUE 28:

HOSPITALS

In order to reduce acute beds, Class I hospitals will be transformed to provide for intermediate care and for chronically ill and disabled patients.

Class II and III hospitals will open their services to external patients and doctors in day clinics or for special treatments. Hospitals are the key for integrated medicine. Those hospitals will have a mix of emergency, acute and inpatient treatment facilities. The role of university hospitals have to be divided into care, education and research. Patient care will be financed by the Healthcare System.

- Outsourcing of public hospitals.
- Adequate Reimbursements covering primary – secondary and tertiary costs.
- Reducing acute beds.
- Transformation and reduction of small hospitals to long-term care centres.
- External services as part of integrative medicine.
- Improve day services.
- Foster private investments in extended care.

3. Extended arm – Long-Term Institutions.

Long term hospitals

Specialist centres for the treatment and care of chronically ill patients, who cannot be treated at home, but will eventually be discharged.

Class I Hospitals can be transformed to Long term Hospitals.

CRITICAL ISSUE 29:

INSTITUTIONS FOR CHRONICALLY ILL PATIENTS

Care for chronically ill patients, who cannot be treated at home should be cared for in specialized Long-term Hospitals.

- Transformation of Class I Hospitals to Long Term Hospitals
- Part of welfare

Rehabilitation

After invasive operations or accidents rehabilitation is essential and saves costs in the long term by bringing people back to work. Rehabilitation can be offered to ambulant out-patients by special services.

The maximum benefits of rehabilitation will only be achieved by providing high quality services. Increasing the awareness of the necessity for scientific research is to improve the services offered by rehabilitation providers and other institutions that serve people with

disabilities. Networking among rehabilitation specialists can provide a source of inspiration, learning and contributing to the field through research, innovation and communication. Coordinated and efficient service providers, methods, venues, and practices enhance the outcomes of rehabilitation.

Remember:

Rehabilitation is not welfare and rehabilitation centers are not Health Resorts.

CRITICAL ISSUE 30:

REHABILITATION

Rehabilitation Centers for in- and outpatients are highly equipped centers to offer specialized treatments. They are essential following trauma, operations or severe illness to reintegrate patients into society as soon as possible.

- Definition of actions
- Involvement of Retirement Plans

Long-term institutions

These are institutions providing care for chronically ill, disabled, and psychiatric patients who cannot be treated by out-patient services. Medical services are combined with welfare are provided. The welfare component must be separated from Healthcare costs.

CRITICAL ISSUE 31:

LONG TERM INSTITUTIONS

Special hospitals exist for chronically ill and disabled patients who need intensive care, and those who cannot be treated at home, or are not ready for discharge from hospital. Examples are:

- Geriatric patients
- Mental patients
- Abusers

Responsibility for a share of reimbursement costs must be assumed by social welfare services.

II. Education

The twin goals of education are the understanding of scientific findings and the understanding of patients. "Creative solutions include combined clinician/researcher streams in medical schools and programs".

Lit.: Shalala,D.E., Science, 295:585 (2002)

1. University

Doctors are trained at Medical Schools that are integrated as faculties in most European universities. The basis of the education provided is to supply the student with adequate knowledge of symptoms to reach an adequate therapy. Medical training in the past has concentrated very strongly on singular events. Medicine has developed as organ specific with specialists acquiring detailed related knowledge. However, the whole entity of man has been lost. But since the natural course of life is longitudinal, medicine has to consider it as process-related destiny. In the case of illness the involved organ is impaired.

Curricula should be concentrated over a total time frame of 4 – 5 years and be universally accepted throughout Europe. Medical education must be organised in a European context in order to exchange experience, and also to facilitate the European Credit Transfer System (ECTS) enhancing mobility and accreditation.

Universities must meet the health needs of society and understand medicine as a special market. It is important to address the critical issues of Healthcare and to develop plans for new therapeutic concepts. This implies that the mission and mandate are equally focused on the patient and the role of the future doctor.

Remember:

Medical schools should remain embedded in the overall university system documenting the universe of man and his sciences.

CRITICAL ISSUE 32:

MEDICAL SCHOOLS

- Medical faculties must prepare students for their professional life.
- Follow a mission reflecting the mandate of the faculty.
- Educate and train Medical Doctors.
- Five-Star-Doctors (I/1).
- Coordinate Medical faculties with others (ECTS).
- Faculty teachers can work separately in others hospital having more teachers at different levels.
- Create Hospital-Circles.

Actions:

- Reform of Medical Studies and mutual acceptance in Europe
- Shorter curricula
- Inclusion of stakeholders
- Re-structured faculties

2. Professional Societies

The task of European professional societies is to foster the latest developments in medicine in a specific field, to set standards, and to provide working guidelines for their members to achieve clinical leadership. They should develop scenarios for the future, so that programs for education and future investment may be designed and implemented.

Their task is also to conduct medical outcome studies (MOS) to set standards and concepts in all areas of medicine funded by the EU and registered at the European Institute of Health.

Professional societies are the repository of information on medical management, diagnosis and therapy in their field. Their defined standards and concepts are the basis for evidence-based medicine and consequently basis for purchasing. They have a Europe-wide validity. Continuous updating is necessary.

CRITICAL ISSUE 33:

PROFESSIONAL SOCIETIES

The role of professional societies is:

To develop new strategies in their field based on the scientific results and to develop new strategies for education, incentives and planning. They classify all medical managements as diagnosis, therapy, prevention in class I – III evidence based as basis for reimbursement. They stand in a mutual relationship with national societies.

The must define their missions on a European level to:

- Establish the basis for reimbursement
- Define evidence-based standards and concepts
- Convene long term studies (MOS)
- Recommend education and curricula
- Inform on recent developments
- Foster partnership with national societies in setting standards and concepts for reimbursement and quality control
- Report to the European Institute of Health which provides relevant information to political levels.

3. National Medical Associations (NMA)

Their main task is to register GPs and Specialists and organize their continuous medical education (CME). CME is organized by the specialized medical professional societies by a process of continuous mutual exchange of information.

The NMA takes action on all planning entities on a local or national level.

Their additional task is to monitor quality and development of medical care in the ambulant sector and to advise the National authorities' hospital monitoring services.

Some European countries require obligatory membership of the NMA. This should be redefined to motivate voluntary membership.

CRITICAL ISSUE 34:

NATIONAL MEDICAL ASSOCIATIONS

A NMA is a national service center for all MDs, and is linked to governments. NMAs monitor the quality of Healthcare delivery and provides recommendations for planning and education.

- The NMA should be obligatory only for registration (not violating the Human Rights) of MDs.
- The NMA should act as the National Medical Monitoring agency.
- The NMA should be in continuous correspondence with the National Institute of Health.

4. Paramedical professional schools: (Human Resources)

There is a large area of additional educational resources. The oldest schools are Nursing Colleges at hospitals run by religious orders. Others have been established in recent decades.

Today there is a defined programme training for nurses. In future it could be sensible having within a faculty a chair for the scientific basis of nursing. Students would have to meet the same criteria as medical students.

- Nursing schools
- Schools for Medical Technicians
- MTA
- Lab
- Haemo-dynamics
- Statistics
- Surgical
- Pump
- Physiotherapy

There are some attempts in Europe to elevate specific nursing schools to a university level. Due to the complexity of the multi-disciplinary nature of nursing specific leadership should be trained using a separate curriculum of the university. There is a complete restructuring of the whole adjuvant system necessary, especially for all auxiliary helpers.

CRITICAL ISSUE 35:

MEDICAL PROFESSIONAL SCHOOLS

Medical schools are partners in education of all auxiliaries professions delivering Healthcare at many levels. They should be anchored in medical schools as faculties.

Well-educated leaders can transform knowledge to daily practice by:

- Defining services
- Integrating curricula in Medical Schools
- Registering requirements.

III REFLECTIONS ON THE STRATEGIC VISION:

For the Patient:

For the patient any optimisation of Healthcare delivery is always highly appreciated. In parallel he or she finds information and education to contribute to his or her life style. A patient has to assume responsibility for selecting appropriate healthcare provision.

An optimal outside care basis is preferred at home for as long as possible. A GP is available on a 24 hours basis. All diagnostic and minor procedures can be done by specialists outside the hospitals or in a one-day stay facility.

In hospitals the patient finds optimal service, based on the latest scientific progress and evidence and is protected from over-treatment.

For the Medical Arts: Cluster I

The organization of medicine is oriented to establish effective structures delivering medical care. The organization has to provide the framework for patients, doctors and the market. Monitoring and audits of standards are required to avoid over-provision of services and over allocation of time.

For the Organization of Medicine: Cluster II

GPs enlarge their services by including nurse practitioners offering the patient continuous care on a 24 hour basis. E-Health will assist those efforts. The same is applicable to specialists, who treat their patients for as long as possible outside the hospital system.

Hospitals must change their structures entirely to fit in with the concept of a European Healthcare market. They must redefine their missions, concerning what they can offer in standardized quality, quantity and outcome. Processes for treating patients must be optimised by eliminating redundancies and fostering clear, unambiguous medical strategies optimising cost per patient.

Hospital administrations will also be influenced. These must be slim, effective and innovative, and must operate within the market and be subject to overall competitive pressures.

Hospitals must be freed from expenses of welfare and education. Their task is to optimise safe medical treatment.

Cluster II has the highest potential for optimisation and, therefore, rationalization. Costs are shifted from hospitals to outside services.

For Finance: Cluster III

All the medical activities provided by doctors in and outside hospitals have to be reimbursed per case or per capita, so that the direct and indirect costs and costs for investments and innovation are covered according set standards. The effective purchasing of all medical services will result in a positive balance and be free from state-monopoly. Medical services are a part of the whole medical market. It opens competition and also provides new incentives. The market provides challenges for optimisation and will bring about self-regulation within the existing structures, such as the reduction of beds, provisions etc. Optimisation results in effective medicine.

Outside services will become cheaper. The patient enters the Healthcare system through the GP, which will significantly reduce costs.

Medical services need continuous monitoring and auditing by public health authorities and the insurance providers to control costs and quality. Additionally, common purchasing systems within integrated Healthcare services are necessary.

Table V

Practising physicians/1.000 population, (late 1990´s)

EU-Member states

UK	1,2
IE	2,3
FR	3
AT	3
SE	3,1
LU	3,1
NL	3,1
FI	3,1
PT	3,2
DE	3,4
BE	3,8
GR	4,1
IT	5,9

EU-Candidates

PL	2,3
CZ	3
HU	3,2

Non EU-Members

JP	1,9
US	2,7
NO	2,8
IS	3,3
CH	3,4

Source: OECD 2001; Health at a Glance

Table VI

Doctor consultations per year, (late 1990´s)

EU-Member states

SE	2,8
LU	2,8
PT	3,4
FI	4,2
UK	5,4
NL	5,7
IT	6
DK	6
DE	6,5
FR	6,5
AT	6,5
BE	7,9

EU-Candidates

PL	5,4
CZ	12,4
HU	19,7

Non EU-Members

IS	5,2
US	5,8
JP	16

Source: OECD 2001; Health at a Glance

Table VII

Total in-patient beds per 1.000 population, (late 1990´s)

EU-Member states

	total	acute
SE	3,8	2,6
ES	3,9	3,2
PT	4	3,3
UK	4,2	2,4
DK	4,5	3,3
GR	5	4
IT	5,5	4,9
BE	7,3	4,6
FI	7,8	2,6
LU	8	5,5
FR	8,5	4,3
AT	8,5	6,3
DE	9,3	6,5
IE	10,1	2,9
NL	77,3	3,7

Source: OECD 2001; Health at a Glance

EU-Candidates

	total	acute
PL	5,3	6,7
CZ	8,9	6,5
HU	8,2	

Non EU-Members

	total	acute
US	3,7	3,1
NO	14,5	3,2
JP	16,5	5,6
CH	18,1	

Table VIII

Hospital Admissions for In-patients per 1.000 population (late 1990´s)

EU-Member states

Non EU-Members

	total	acute
NL	107,8	99
ES	113,8	110
PT	120	119
IE	144,7	141
GR	150	
UK	150,9	214
IT	180,4	176
SE	181	159
DK	199,9	190
BE	200	180
DE	205,4	201
FR	230	204
FI	265,0	202
LU		213
AT	286,3	264

EU-Candidates

	Total	acute
PL	147,1	
CZ	202,6	190
HU	237,5	219

Source: OECD 2001; Health at a Glance

	total	acute
JP	101	
US	125,3	119
NO	164,4	156
CH	169,8	164
IS	232,4	181

Annex I

Types of Specialists who deliver care mainly for outpatients and inpatients:

Ophthalmology
Orthopaedics
Plastic and reconstructive Surgery
Clinical Genetics
Gynaecology & Obstetrics
Ortho-rhino-laryngology
Dermatology
Internal Medicine
Cardiology
Nephrology
Pulmonology
Infectology
Immunology
Haematology & Hemostaseology
Oncology/Hepetology
Diabetology
Paediatrics
Neurology
Physical Medicine and Rehabilitation
Psychiatry
Lab Diagnostic Medicine
Radiology – Imaging
Geriatrics
Gastro-enterology
Endocrinology

Inpatient care:

Anaesthesiology & Intensive Care Medicine

Surgery

Cardiac Surgery

Vascular Surgery

Traumatology

Orthopaedics

Paediatric Surgery

Thoracic Surgery

Neurosurgery

Urology

Oncology Surgery

Dental-facial Surgery

Nuclear Medicine

Physical Medicine and Rehabilitation

Hygienic & Microbiology

Pathology

Forensic Medicine

Dentistry

Radiotherapy

Cosmetic Surgery

The comments in this section should focus on the curricula and developments in the future.

D: CLUSTER III

HEALTHCARE FINANCING, OR:
WHAT CAN BE DONE TO MAKE HEALTHCARE AFFORDABLE?

I. Introduction

II. "External" Financing

1. **Financing risks of life: Beveridge versus Bismarck**
2. **Demographic changes and impact on financing Healthcare systems**
3. **Pay-as-you-go systems versus capital funding**
4. **Capitation (Per capita premiums)**
5. **Private Insurance**
6. **Co-payment**
7. **Out-of-pocket**

III. Purchasing ("internal" financing)

IV. Public-Private-Partnership

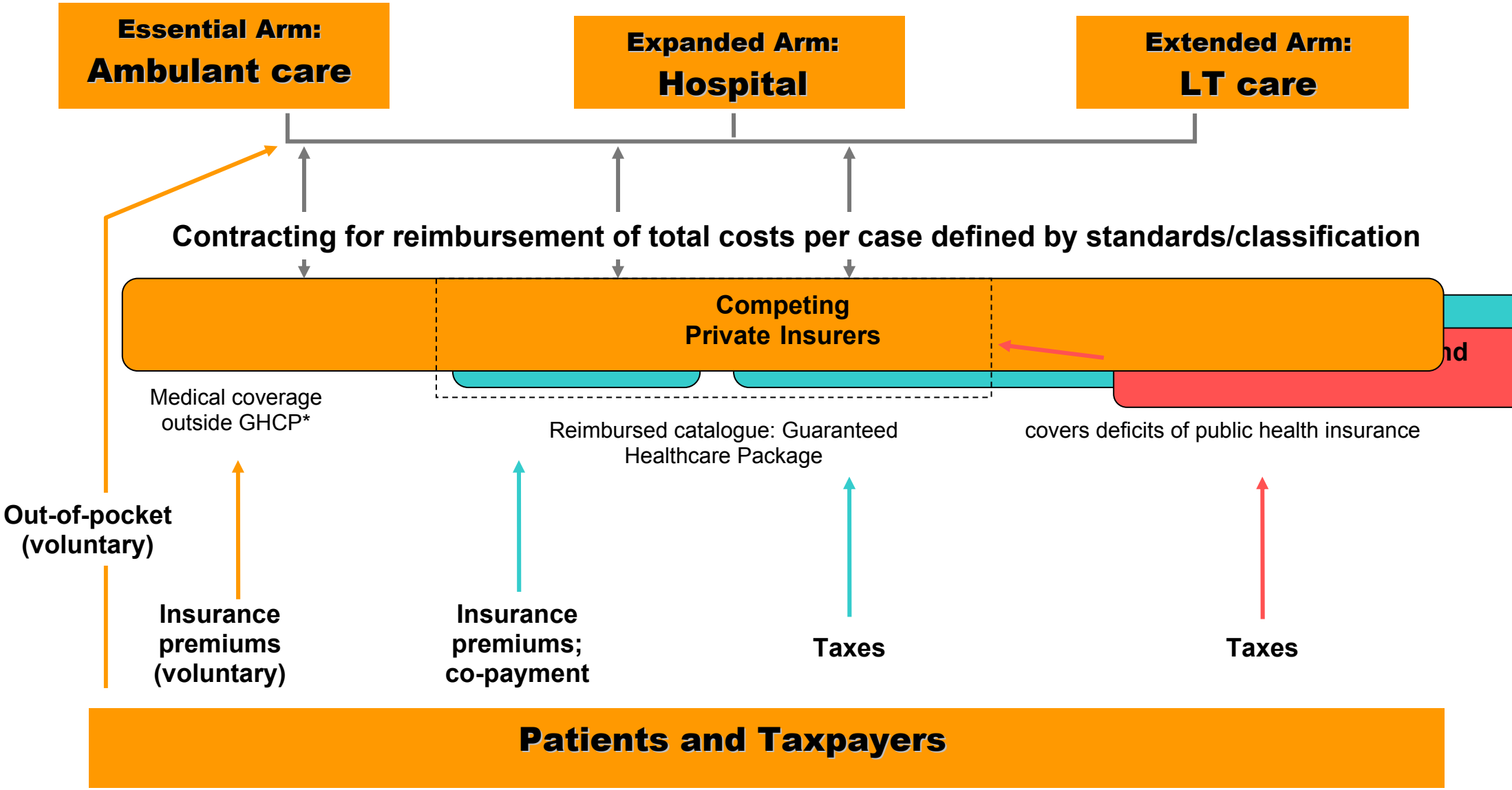
V. Implications for Healthcare reforms and trends in Europe

1. **Models of more capital funding**
2. **European Institute of Health (EIH)**
3. **National Institutes of Health (NIH)**

VI. Reflections on the Strategic Vision

Cluster III: Financing and Reimbursement

Fig. 10



* Ex: Leisure accidents, cosmetic surgery, natural medicine, special dental care, etc. that are not covered by Guaranteed Healthcare Package

I. Introduction

The redesign of most Healthcare systems is debated and is considered to be necessary in all European countries. Such reforms would involve both the organization and financing of the European Healthcare system.

The pressure for reforms stems from several critical areas, however, one of the dominant factors is the dual demographic crisis represented by the aging of the baby-boomer generation, accompanied by a lower birth rate seen throughout Europe. Systems based on a pay-as-you-go by payroll tax contributions for financing Healthcare must provide sustainable solutions, especially in the light of ever increasing Healthcare expenditure and ancillary wage costs. Advances in medical technology lead to longer life, but imply future chronic budget deficits in healthcare systems. In addition, persistent low economic growth in many European countries further puts systems which rely on payroll taxes under further pressure. However, rising public expectations and the development of a wellness and fitness sector brought about by rapid advances in nursing, treatment and medical technology have turned Healthcare into a labour-intensive growth sector.

However, the potential of the Healthcare Sector and its value in preserving human capital as a return on investment is considered essential for society. The Healthcare System employs large numbers of people in its different branches: e.g. hospital physicians, nurses, technical assistants, pharmaceutical wholesalers and pharmacists, administration, maintenance, construction, clinical data, warehousing, research, equipment information technology, food industry, pharmaceutical and technical equipment industries. The supply of technical aids, electro-engineering and research also depend on medical care.

This constellation of factors and trends have led health system researchers and policy makers to focus on innovations as to how the financing of health services, purchasing and delivery systems can be reengineered. More specifically, there has been discussion about alternative systems of financing, e.g. the introduction of capital funded systems. And on the organisational side a partial switch from highly segmented to integrated Healthcare systems, as for example, in Germany, is pursued.

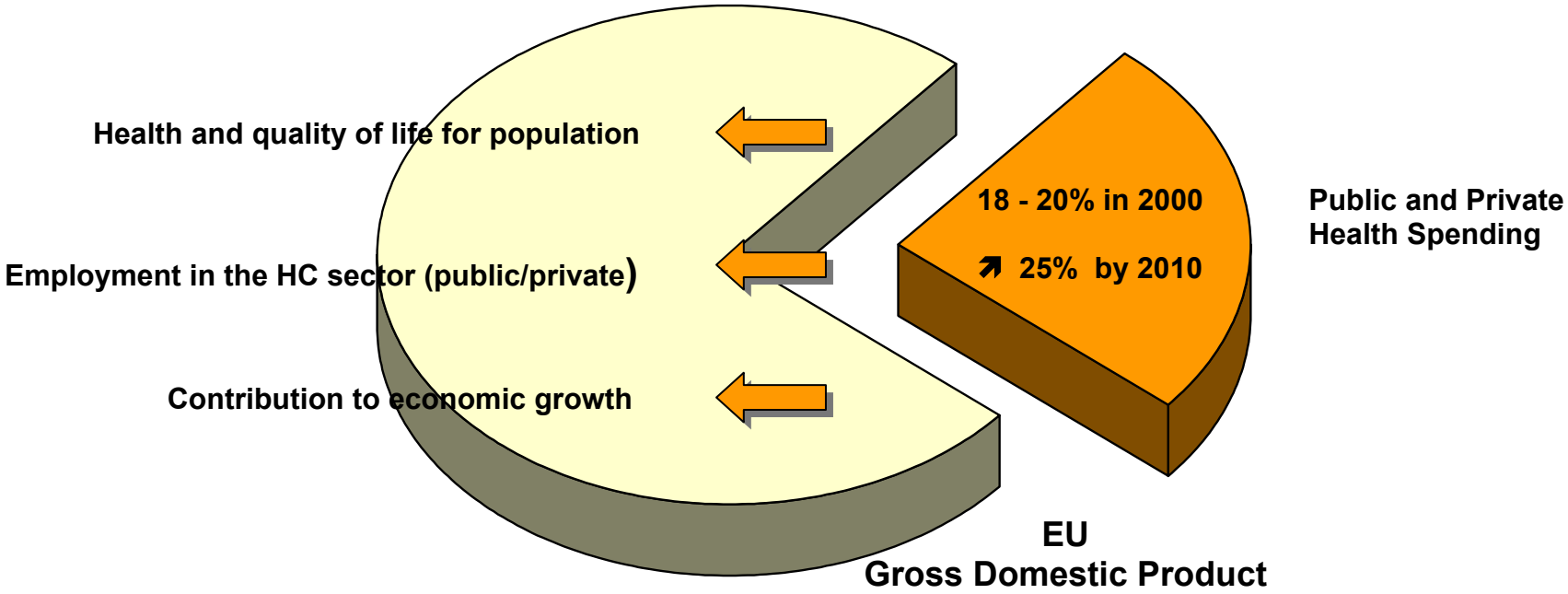
All reforms deal with the question: how can providers, consumers, payers, and policy-makers best balance the dual concerns of cost reduction while maintaining quality? Nevertheless, most European countries (AT, DE, NL, LU, FR, BE) still provide a high level of care and comprehensive social protection ensuring access to appropriate Healthcare services independent of social status, income and place of residence.

Healthcare reform is debated in all European countries. Common denominators are the aging of the European population, rapid medical progress and the question of how Healthcare systems can be sustained in the future. The debate is wide ranging: from queues for certain treatments, and age limitations in Denmark, Italy and in particular the UK, to problems of oversupply in certain sectors as in Germany, France or the Netherlands.

In addition, in countries with a National Health Service such as Italy or the UK, attempts are being made to separate the provider and purchaser functions. In Germany, as a social insurance country, the practices of selective contracting is highly debated.

Fig. 11

HC Cost:
A direct Investment in Society

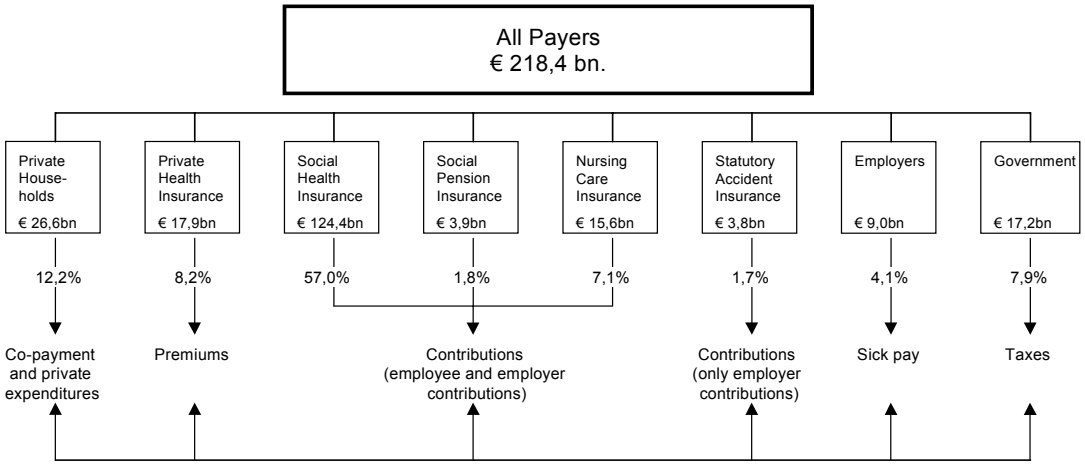


II. ”External” Financing

In light of the current situation, this cluster focuses on financing and purchasing in Healthcare; i.e. on the core elements of any major reform. The objective is to reveal the financial aims, the goals of Healthcare and the provision of Healthcare from a general perspective.

Even though Social Health Insurance (SHI) systems are responsible for most Healthcare spending, it must be recognized that many other payers contribute to caring for the sick and providing Healthcare to the public. Health insurance, long-term care insurance, worker’s compensation and rehabilitation benefits of social security schemes are closely intertwined and are difficult to separate. The continued payment of wages in some countries, which is initially the responsibility of employers, is usually not included in this sum, which also omits out-of-pocket payments by private households and the public funding of capital costs in the hospital sector. To illustrate this an institutional approach as seen in Figure 11 (p. 128), the example of the German Healthcare System, can be used.

Figure 12: Payers and forms of financing in the German Healthcare system, 2002



Source: own diagram on the basis of: Statistisches Bundesamt, Gesundheitsausgaben (Gesundheitsausgabenrechnung der Gesundheitsberichterstattung des Bundes), Wiesbaden 2002.

CRITICAL ISSUE 36:

PRINCIPLES OF EXTERNAL FINANCING

Goal:

- Taxes and not payroll tax oriented contributions, but per capita premiums to avoid increasing labour costs.
- More individual responsibility and health awareness.

Action:

Reform of the external financing of Healthcare.

1. Financing risks of life: Beveridge versus Bismarck

The tasks involved in the financing of Healthcare have different dimensions, from collecting revenues, fund pooling to purchasing Healthcare services. At a global level the sources of "external" financing can be defined as a) general tax revenues, b) compulsory contributions to social insurance funds, c) voluntary contributions to (private) insurance funds, d) direct out-of-pocket payments or e) Medical Savings Accounts. The latter are not common in Europe, but are in Asia and some parts in the USA. Most health insurance systems in Europe show a mixture of the above resource components.

Tax revenues and Social Health Insurance provide a certain degree of equity, depending on the policies of national governing institutions. For example, direct taxes are often set progressively and are more preferable than indirect taxes which are related to expenditure. Nevertheless, taxation is the role of government which includes Healthcare expenditures as a main item of the national budget. Payroll taxes as contributions to Social Health insurance are defined as a proportion of earned income up to certain limits, which poses the question of labour costs. Based on Social Security systems Healthcare funding policy is is not governed by the private sector.

Another topic is the specific payment mode or the "internal" financing/remuneration or allocation of Healthcare services:

- in hospitals,
- in nursing homes,
- in rehabilitation facilities,
- for out-patient treatment in medical and nursing care,
- at surgery based doctor's,
- at dentists,
- in pharmacies (prescription drugs, over-the-counter market),
- for remedies (physiotherapy, speech therapy and occupational therapy),
- for medical appliances (eyeglasses, hearing aids etc.),
- for accident rescue,
- for patient transport and
- for medical products.

Financing risks of life has traditionally been based on the two fundamental principles responding to the basic needs of citizens: a system of voluntary individual insurance or a mandatory social welfare system. Surveying Europe, a variety of systems can be found:

including the Anglo-Saxon (Beveridge) universal state centred tax-based social security system and the Continental "Bismarck" model stressing social insurance and corporate elements (Chassard and Quintin 1992). As goals for Social Security, Hippel (1979) defined the following eight points:

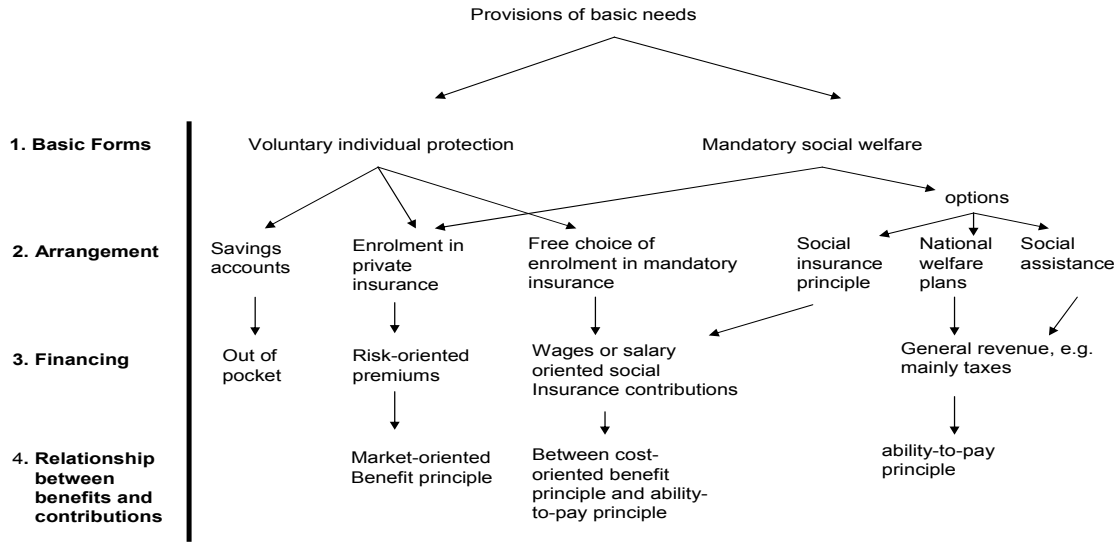
- Adequate coverage of the population against the most important risks to life,
- prohibition of arbitrary discrimination,
- as much transparency as possible,
- optimal prevention and rehabilitation,
- promotion of self-responsibility,
- an equitable distribution of burdens,
- maximum efficiency and
- minimization of administrative costs.

Generally, the foundation for financing the Bismarck Social Insurance model is payroll tax contributions to social insurance funds, while a voluntary individual protection system is mostly based on risk-oriented premiums.

Risks can be either covered through voluntary individual protection or by a mandatory social welfare system (Fig. 13, p. 133). An obligatory enrolment in private insurance schemes could be at the same time part of the mandatory *welfare* systems as well as an obligatory enrolment in the social insurance system. In case of a mandatory (statutory, compulsory) health insurance the benefits included are politically defined. Income-related contributions are often equally divided between employer and employee and are subject to specific income limits.

Risk oriented individual protection scheme are based on a more market-oriented benefit principle. Whilst payroll taxes are based on wages, they often comprise some sort of redistribution. Social insurance contributions therefore are a mix between the principles of cost-oriented benefits and the ability to pay.

Figure 13: Provision of Basic needs



Source: Zimmermann, H./Henke, K.-D. (2002) Finanzwissenschaft. Eine Einführung in die Lehre von der öffentlichen Finanzwirtschaft, 8. Edition, München, p. 154.

2. Demographic changes and impact on financing Healthcare systems

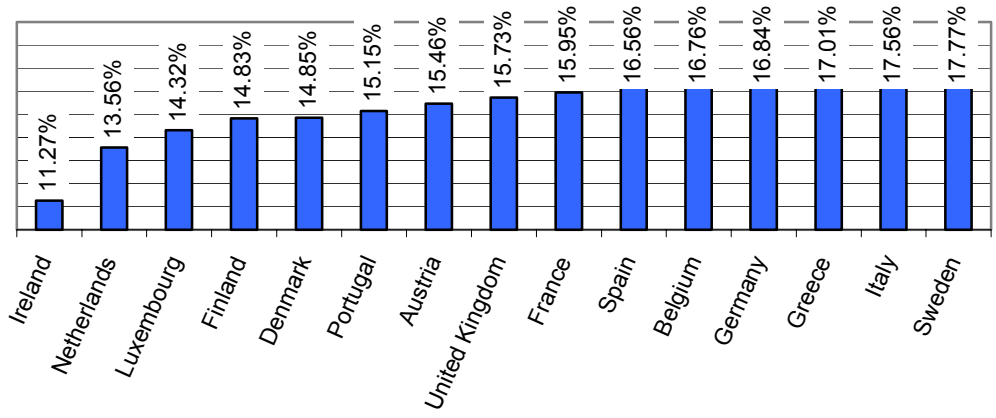
Of high importance is the trend towards an aging population in Europe and the risks this poses to existing systems of financing. Pay-as-you-go social insurance systems are in danger, as the number of benefit recipients increases in proportion to contributors. In these circumstances a predominant factor is considered to be demographic developments. As a result of the medical and technical progress in Healthcare and many other factors the population is getting older. For Europe and Japan, United Nations projections predict a doubling of the ratio of population above 60 to the population of the age group 15-59 by the year 2050. Even more dramatic will be the increase of population above 80. Figure 14 illustrates that in 1999 the number of people above 65 years reached an average of nearly 16 percent in Europe. At the same time, as a second trend, birth rates are declining all over Europe. Considering too, that the development of demographic trends is a creeping process, it can be imagined that society is experiencing a "doubling" in ageing. Consequently the current group of citizens aged between 20 and 60 is not large enough to financially sustain the social insurance system of welfare states.

In addition to demographic changes, there are several other key factors that are worsening the financing gap between revenues and expenditures. For some years unemployment has been rising all over Europe due to structural rigidities and an economic slow down. Social systems, which are financed through payroll taxes, are impacted because although the unemployed no longer pay into the Social insurances, they are still eligible to receive full benefits if they become ill.

Additionally, the active labour force potential of the age groups between 20-60 years is on the decline, which affects the sustainability of the current system. Furthermore, since there is only modest economic growth, wages and salaries are no longer rising.

Consequently, when a person reaches retirement age, the system will almost certainly not have sufficient funds to offer the present level of benefits.

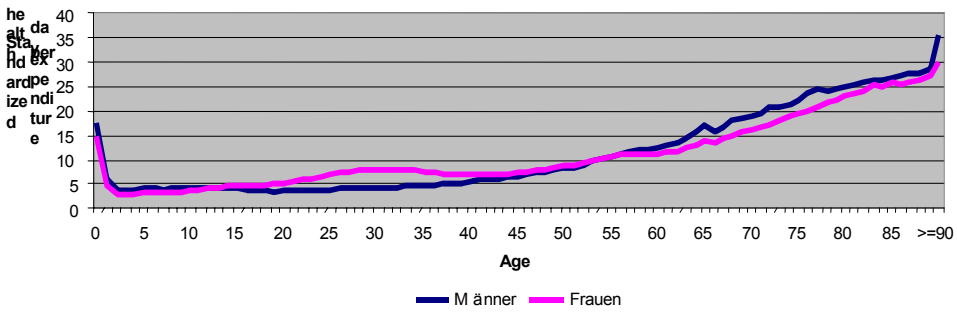
Figure 14: Population above 65 as percentage of total population (1999)



Source: OECD Health Data 2001, CD-ROM version.

Likewise, expenditures for Healthcare of the elderly are rising since a longer lifetime often results in more chronic diseases and the greater need for care. For example, in Germany, the population above 60 is paying half the contributions to the Social Health Insurance compared with the people between twenty and sixty, but are costing on average three times as much (Figure 15, pg. 138).

Figure 15: Standardized Health Expenditure of German Sickness Funds (West-Germany) in 1999



Source: Bundesversicherungsamt 1999.

In order to tackle problems associated with financing Healthcare several solutions are possible:

- generate higher revenues,
- impose single or global budgets on certain Healthcare services,
- create changes in the structure of revenues sources,
- restrict provisions of benefit packages (catalogue),
- transfer funding responsibility to other payers,
- integrate Managed Care mechanisms into the system,
- switch to high deductible policies combined with „Medical Savings Accounts“, or
- create a completely new system of financing Healthcare based on a funded approach.

In Germany, it has often been proposed to shift to a system that relies more on capital funding since the first three mentioned solutions have failed with regard to demographic changes. Capital funding and pay-as-you-go systems represent appropriate solutions to the demographic challenge, but both alternatives have strengths and weaknesses.

3. Pay-as-you-go systems versus capital funding

Pay-as-you-go systems are characterised by the fact that yearly expenditures are paid for with contributions or taxes collected in the same year, without building up savings or reserves for the future. These systems are also characterised by significant levels of redistribution of income between the groups of population. In short, the active working insuree supports the elderly and sick, who require treatment more often and for longer periods. A balance between healthy and sick people is the common characteristic of any insurance system. Most social insurance systems use contributions as an instrument of redistribution beyond that dimension. In Austria family members and children (until the age of 26) are covered without paying extra contributions, and retired people pay much lower absolute contributions compared to the working population. The latter represents an additional supplement by the working population to the non working population. Additionally, a redistribution of income is created by the fact that people up to an income threshold pay a proportional part (average of almost 15 percent of wages or salary 2003). Above a threshold people pay a fixed amount into the mandatory health insurance, which results in regressive effects with rising income.

Furthermore, as payroll taxes are not risk based premiums but are seen as an instrument of redistribution of income, the separation between allocation (insurance) and distribution (redistribution) in health insurance is non-existent, or according to Buchholz et al. (2001), inefficient. In the German statutory health insurance scheme redistribution is estimated by Henke (2002) at 39 Billion Euro annually. For Wille (2000) this degree of redistribution means a lack of the market-oriented benefit principle and therefore there will always be discussions on reform as economists struggle with the dichotomy between the ability-to-pay principle and the benefit principle.

As long as the system is supported by a large, young and working population combined with a strong economy, the re-distributive mechanisms through the pay-roll taxes are sufficient and do not need the accumulation of capital for future expenditures. However, the inter-generational allocation of a pay-as-you-go system provides more advantages for earlier generations because they do not have to pay for another previous generation. It is becoming increasingly the case that the “last generation” lose their benefits when there is no following generation to pay their contributions.

In times of rising unemployment, with a dramatically aging society, and as a consequence - economic stagnation, pay-as-you-go systems reach their limits by becoming no longer self-sustaining. Moreover, if the system is financed through employer and employee

contributions, they will have to be increased (Breyer and Haufler 2000). This increase of the payroll tax rate will create wage issues, as health insurance contributions are part of ancillary wage costs. Labour Unions, during their wage bargaining are focused on the increasing ancillary wage costs and demand pay rises as compensation. Furthermore, payroll tax rates no longer represent an individual's ability to pay. In terms of taxable income, personal revenues from capital investment and rentals have to be included. Taxable income may be seen as a new and broader tax base for social security contributions.

One alternative solution proposed to resolve the problems of pay-as-you-go-systems is a capital funded system. Basically, in a capital funded system reserves or savings are accumulated by the younger age groups for future healthcare provision. To evaluate the two schemes the following table IX provides an overview. The advantages of one method of financing are disadvantages of the other, while some problematic trends, e.g. medical progress, can be resolved – even though differently – with both methods.

Table IX: Characteristics for evaluating funded and non-funded (pay-as-you-go insurance systems

Funded scheme	**Non-funded scheme**
Equivalence of per capita premiums and benefits over the life cycle	Balance of revenues and expenditures of the total collective per period, no funding
Separation of insurance (allocation) and redistribution	Combination of insurance (allocation) and redistribution
Capital stock must first be accumulated	No need to accumulate capital stock
More independence of demographic trends	Intergenerational redistribution due to demographic changes
Capital stock subject to inflation (risk reduced when funds are international)	Not affected by inflation
Capital in hands of insurance companies represents market strength and investment potential	Strong economic position of social insurance carriers
High administrative costs	Low administrative costs

Source: Advisory Council for the Concerted Action in Healthcare (1997), p.63.

However, problems of portability of eligibility in a capital funded system, following a change in health insurer or when moving to another country, remain. The relevance of the latter issue will grow as European integration progresses.

In combination with the existing risk-sharing regulations (lack of risk equivalence), the removal of re-distributive mechanisms based on income, and the number of co-insured dependents would result in a system based on capitation fees. The government would then have to provide support to those private households that lack the personal means to purchase insurance coverage. An alternative that goes even further would be the introduction of a "compulsory health insurance for all" based on risk-equivalent premiums or per capita contributions. This approach rise to issue of the appropriate scope of a state-defined level of minimum insurance coverage.

4. Capitation (Per capita premiums/community rating)

In Switzerland per capita payments are used instead of social security contributions based on earned income. However, per capita payments alone can not ensure that spending will not increase. Switzerland is an example for this effect.

With this approach, social security payments are no longer be related to wages or salaries, but would be collected for every adult without differentiating between the sexes: It would not be affected by the level of employment[1], minors would be insured without having to pay contributions and individuals for whom the per capita payment represents an unreasonable burden– e.g. more than 15 per cent of income - would receive public support. This would correspond roughly to the present treatment of the unemployed and welfare recipients, who pay no social security contributions. If coupled with a capital funded insurance scheme, this reform could serve as a dual response to the demographic challenge. The elderly population would have to bear a greater share of Healthcare costs and – depending on the exact design of the reform – capital would be saved by the younger age groups or by all members of the social and private health insurance funds. Ideally, this type of finance or revenue generation approximates the model of minimum mandatory coverage for all and allows for the individual choice of insurer and open enrolment; a model that has been put forth by different research groups.[2]

Under such a far-sighted strategy, the employers' share in social security payments would be paid directly to employees. This would bring about a new orientation in the system of self-administration in the social security system, in which the present institutions would be replaced by insurance companies and workers' councils. Competitive forces would develop in the provision of Healthcare and at the level of resource utilization. The focus would shift from the global level of revenue generation and finance to the payment of services.

If the transition to a system in which the employers pay their share directly to employees is unfeasible for political reasons, it would be possible to freeze purchasing within network budgets and permit the employers' contribution to float.

D. Henke, K. Borchardt, J. Schreyögg and O. Farhauer: Reformvorschläge zur Finanzierung der Krankenversorgung unter besonderer Berücksichtigung der Kapitaldeckung, Diskussionspapier des Berliner[1] An overview of the other current reform alternatives in the health policy discussion is provided by K.- Zentrums Public Health, Nr. 2002-05, Berlin 2002.

[2] See K.-D. Henke, W. Johannßen, G. Neubauer, U. Rumm, J. Wasem: Zukunftsmodell für ein effizientes Gesundheitswesen in Deutschland – Zukunft braucht Visionen, Vereinte Krankennversicherung der Allianz, München 2002; and M. Grabka, H.H. Andersen, K.-D. Henke, K. Borchardt: Kapitaldeckung in der Gesetzlichen Krankenversicherung, Diskussionspapiere des Deutschen Instituts für Wirtschaftsforschung, Nr. 275, Berlin 2002.

CRITICAL ISSUE 37:

PERSONAL CONTRIBUTIONS

Goal:

Personal contributions represent an individual's commitment to the solidarity of Healthcare.

- Co-payment is obligatory, the level is to be defined.
- Low incomes are excluded.

Action:

Re-adjustment to obligatory insurance schemes and premiums.

5. Private Insurance

A majority of Healthcare systems in Europe allow for private insurance schemes either to supplement social insurance or to provide full medical insurance.

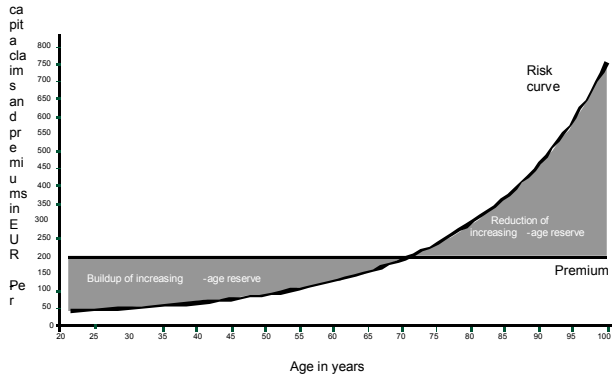
This segment is inevitable in a market economy and gains greater significance as premiums are redefined. Private insurance companies pay the costs directly where care is delivered. Premiums depend on the individual's state of health, age, pre-existent conditions at the inception of insurance. The defined premium reflects the wishes of the patient as regards selecting doctors, services and specific items. By transferring more responsibility to the insured (by means of deductibles and benefit catalogues) efficiency increases. Obligatory insurance and private insurance are not mutually exclusive. However, the advantages derived from private health insurance schemes will increase immensely in significance from now on.

The advantage of private funding is that it is largely immune to demographic developments and thus does not discriminate against specific generations. Every contributor creates their own reserves for old age so that their Healthcare costs as senior citizens need not be shouldered by the next generation. Premiums for private health insurance should actually rise in view of the fact that Healthcare costs rise in old age (Figure 15, p. 138). However, the calculation of private health insurance contributions arrives at a constant premium (Fig. 16, p. 150) over the duration of the contract that covers the anticipated benefits paid. This works because the surplus of premiums paid early on in life for old age is set aside to earn interest (Old-age reserves, Figure 15). Furthermore, members of private health insurance funds today contribute a disproportionately high share towards the funding of the Healthcare system, owing to statutory requirements made at government level (e.g., the Medical Fee Schedule requires patients insured under private health schemes pay doctors more those who are not privately insured).

A disadvantage is that private insurance schemes have higher administrative costs, due to marketing and benefit margins.

By 2002 private health insurance funds in Germany had built up old-age reserves of around 76 billion Euros. Only if the proportion of private funding continues to rise can the burden passed on to younger generations be reduced. These old-age reserves also mean a safeguarding of the future for the insured and for the Healthcare system. Therefore, the demographically resistant and thus generation-neutral funding procedure of private health insurance should also play an important role as far as future financing models are concerned.

Figure 16: Constant premiums for Lifetime



Source: Allianz Vereinte Krankenversicherung 2003.

CRITICAL ISSUE 38:

PRIVATE INSURANCE

Goal:

After redefining premiums in the obligatory services reflecting the individual services offered, private insurance schemes will provide supplementary healthcare benefits paid by additional premiums. This can extend to mandatory private insurance schemes providing a minimum benefit package.

Action:

Definition of the additional benefits and services or mandatory private insurance schemes

6. Co-payment

Co-payments contributing to the whole Healthcare service are unavoidable and accepted in any system. Several arguments support the use of this instrument. Almost everybody pays co-payments, including the retired. Additionally, co-payments enhance individual responsibility by motivating a patient to see a doctor only when necessary, thus reducing misuse (moral hazard) and strengthening the awareness of the utilization of resources. Furthermore, co-payments contribute to strengthen the subsidiarity, meaning that, according to the social insurance principle, only risks should be covered, which exceed the individual capacity. Other important incentives are the promoting of individual interest in personal health and preventive actions and compliance.

Counter arguments are that co-payments effect the distribution of income and can provoke negative health effects, if the doctor is consulted too late. Additionally, co-payments should be calculated at rather high levels to reduce the moral hazard effects. Furthermore, a special solution has to be found for people with severe and chronic diseases.

The co-payment is delivered directly to Insurance Funds in the 6 countries with obligatory Insurances. In the other countries co-payment flows directly to the central funds.

7. Out-of-pocket

Since the wellness Healthcare sector is growing, individuals are spending a large amount of money directly for medical devices or pharmaceuticals. Out-of-pocket payments are used even to buy benefits which are not part of insurance packages, but demanded by the patient. In comparison with taxes or payroll contributions, out-of-pocket payment burdens individuals with lower income disproportionately and may exclude them from demand.

CRITICAL ISSUE 39:

COST PURCHASING

Goal:

Healthcare Delivery purchasing should be designed around the transparent and effective use of public and stakeholder funds and should be provide optimum value for money to both the consumer and the provider.

Actions:

Reform or revision of payment systems

III. Purchasing ("internal" financing)

The detailed internal funding and purchasing arrangements of many Healthcare services is often difficult to explain, even for experts, and provides little indications of which kind of budget is used. The following list contains different options for designing budgets.

Purchasing Healthcare Services:

a) using sectoral budgets?
b) using global budgets?
c) using the selective contracting of individual health insurers?
d) by the selective contracting of all health insurers?
e) using regionally organized standard funds?
f) using regional or municipal budgets?
g) using purchasers' cooperatives?
h) using private organizations?
i) using the framework of the disbursement of remuneration through the associations of office-based doctors?

A general distinction between types of payment is whether they are based on retrospective (*ex post*) or on future (*ex ante*) payment. In many European countries there is a mix of the both options.

The next question would be: who pays for what to whom? Most systems know financial intermediaries as government, insurance companies or other institutions that are responsible for transferring the resources to service providers. Purchasing is in the same time a tool or instrument of cost control as different payment mechanisms create different sets of incentives and disincentives. The question what is paid can be answered as all systems have an agreement on the scope of their services covered by the insurance Healthcare. In the same time limits and the duration of covered treatments can be defined.

To finance out-patient care, sets of alternative payment systems exist, e.g. salaries or wages, fee for service, per day payments, per diagnosis or per case payments and capitation systems. All these payment systems have different influences on the quality, quantity and costs of the Healthcare provided. Salaries as a fixed sum per period, or wages as fixed sum per hour, turns doctors into employees, which is, for example, not accepted in Germany, they are considered as being a liberal profession.

Payments based on a fee for service would define an amount for each unit of service provided, but the total payment of the provider is the number of service units provided. Hence, the provider would be interested to offer a large number of services. An alternative would be a capitation system, which would define a fixed sum for each individual per period. That payment covers all needed services. State cantered Healthcare systems operate with this payment system.

The following table gives a short overview of some payment systems and their effects on Healthcare Services.

Fig. 17

Cost and Quality Control in the EHCM

Today in Europe:

Budget Limits

Reimbursement limits

Volume limits

Price regulation

Service limits

- **Ineffective instruments to curb cost explosion**
- **Access denied to part of the population**

Future: European HC Market

- **Patients‘ choice from competing offers**
- **Cost control via classification of procedures ➔ set up by professional medical societies and implemented by EIH / NIH**
- **Key role of GP to avoid redundancy and abuse ➔ leadership of National Medical Association**
- **Process optimisation and specialization of hospitals**
- **Quality control, monitoring and audits:**
  - **Payers, i.e. public and private health insurers**
  - **National Institutes of Health**
  - **National Medical Association**

Table X

Effects of different Purchasing modes in out-patient care

Objective / Payment	Number of single treatments	Costs of single Treatments	Length of stay	Number of cases	Costs per case
Cost reimbursement	→	→	→	→	→
Fee for services	↑	↓	→	↑	→
Case payment/ Diagnosis related	↓	↓	↓	↑	↓
Capitation	↓	↓	↓	↓	↓

Source: According to the authors. For further details see Andersen et al. (1992), Breyer/Kiffmann/Zweifel (2002) Albring/ Wille (2001), Breyer, F. (1992).

The trend in Europe and elsewhere (e.g. in Belgium, Denmark, Finland, Germany, France, Ireland, Italy, Norway, Austria, New Zealand and UK)for out-patient care is towards payment per episode or diagnosis (case payment), meaning a fix sum is defined for a treatment of a particular disease or case. In Germany, Healthcare reforms are presently hampered by the massive changes occurring in the hospital sector that involve the introduction of flat-rate payments per case, so-called DRG system. However, the system must allow a continuous response to actual medical care. The main prerequisite is that all costs are reimbursed according to a standard classification. The implementation of case-related fees in the hospital sector will have considerable repercussions on the surgery-based sector, including the pharmaceutical sector.

With respect to combining responsibility for both the provision and the finance of Healthcare services, it would certainly be advantageous if insurers had their own hospitals, primary care and rehabilitation facilities, as well as all services needed for comprehensive coverage. This would require the re-establishment of sickness funds that provide a broad coverage and Healthcare services from one source and according to one consistent design. However, such structures can only arise through the introduction of a more competitive framework, and perhaps only at regional instead of at national level. Such an approach corresponds to the concept of managed care and Health Maintenance Organizations.

Financial responsibility or similar incentives can be introduced despite the present separation between the provision and the finance of Healthcare. Health insurers could be paid uniform per capita rates which they pass on to Healthcare providers on the basis of individual contracts. The latter would specify different types of prospective payment that would serve to transfer financial responsibility without specifying the organizational form of the provider.

In conclusion, purchasing modes have to set in a way that the quality of the therapy, innovation and motivation are ensured, in combination with lowest possible costs. Additionally, payment modes should not generate or at least control strategic selection by the providers. In this regard, prospective payment would put the financial risk on the side of the providers as the sum is determined before service delivery, whilst retrospective payment schemes place the risk on the side of the payer as they focus on after service delivery.

CRITICAL ISSUE 40:

PURCHASING OF IN-PATIENT CARE

Goals:

- Adoption of more networks and a network adjusted payment system
- allows competition with neighbouring facilities

Action:

- Reformation of purchasing systems

CRITICAL ISSUE 41:

PURCHASING OF OUT-PATIENT SERVICES

Goal:

A possible way is to reimburse GPs and Specialists on a fee for service basis according a real DRG-System. This seems to be an optimal approach. Patients can select the doctor, European wide. The fee can be contracted with the insurance scheme provider. The healthcare must be performed to a given standard.

Action :

- Total reform of the Insurance-System in Europe.
- Foster interplay between Professional Societies, the Insurance Industry and Politic levels.

CRITICAL ISSUE 42:

PREMIUMS

Goal:

- The premiums or Healthcare Package (HCP) cover sets of benefits according to evidence based standards and concepts.

Action:

- Redefinition of the premium offered by obligatory insurance schemes.

CRITICAL ISSUE 43:

OBLIGATORY INSURANCE SCHEMES

Goal:

- Insurance providers monitor the costs and pay according to the minimum standard benefit package
- Free selection of insurance providers to overcome monopoly issues.

Action:

- Reform of the insurance schemes

IV. Public – Private – Partnerships (PPPs)

By allowing each sector to do what it does best, public services and infrastructure can be provided in the most economically efficient manner. The overall aim of PPPs is therefore to structure the relationship between the parties so that risks are borne by those best able to control them and best value is achieved through the exploitation of private sector skills and competencies.

V. Implications for Healthcare reforms and trends in Europe

1. Models of more capital funding

A great variety of reform options exists to realise a change to a partially capital funded system. The pay-as-you-go system could either be substituted by a capital funded system or displaced by implementing some kind of partially funded system [Börsch-Supan (2000)].

Henke et al. (2002) and Grabka et al. (2003) proposed a new financing health insurance system for Germany based on capital funding. The change-over to the new capital funded Healthcare system would progress as follows: The working population, new insurance entries and those younger than age 55 or 60 would be obliged to choose this new form of a capital funded health insurance. Individuals at the age of 55 or 60 and above would stay in the pay-as-you-go system, including their co-insured dependents. Hence the two systems would run in parallel for an estimated 50 years to build up necessary savings, after which time everybody would be insured in a fully capital funded system. To assure the financing of the system via risk related premiums a tax transfer system need to be established for low-income households. As these transfers are relatively high, a total substitution of the system would not be acceptable. Thus several partially capital funded systems are proposed.

One alternative could be to impose say, a one percent extra charge for all insured to build up capital. The extra charge is oriented towards the standardized health expenditure of German Sickness funds.

Another model would introduce a minimum insurance coverage based on per capita premiums with a capital funded supplementary insurance. The proportion of benefits financed on the basis of pay-as-you-go could be gradually shifted to more capital funded benefits. After thirty years a ratio of one-third capital funding to two-third pay-as-you-go could be reached. The compensation of male and female premiums can either be on a public basis or based on an industry agreement. There could also be a compensation mechanism for very costly cases. If cross-subsidization of health insurance companies is to be avoided, compensation mechanisms could be organized on the basis of reinsurance. The insured would be protected by a limit on the proportion of income spent on Healthcare (e.g. 15% of income). This necessary social element also includes children and minors under working age. Compensation for children should occur on the basis of transfer payments, but could also be organized on the basis of contracts among the private insurers.

It is clear that capital funding provides certain advantages over the current pay-as-you-go system. In all mentioned cases the reform of financing Healthcare has to be combined with the necessary adjustments on the supply side of the system. Eventually, the issue centres on introducing a partially capital funded system maintaining employment and growth potential of the Healthcare sector. For this purpose, to build up savings as a safeguard for future needs, especially for an aging population, makes sense and could take away some pressure from the demographic challenges. Nevertheless, it has to be considered that medical technical progress and increasing life expectancy will implicate both pay-as-you-go and capital funded systems.

A reform that deserves its name must focus on the problems for which the traditional structures and approaches exhausted solutions. This includes the relation between private and social health insurance and the competitive forces between these components of the "multi-payer" system. The artificial and arbitrary distinction between those who must subscribe to social health insurance and those who do so on a voluntary basis is just as much at issue as the difference in the financial basis of each system: risk-oriented premiums in the one system and a percentage social security "tax" on income in the other. One must ask in this context what really is solidarity in health insurance: Is it compensation to the sick by the healthy? Is it solidarity between the generations, between families (children, co-insured dependents)? Is it the redistribution of income? Or does it have to do with the free access to medically necessary care independent of income, residence and social status?

A systematic new approach to health insurance should provide answers to these questions. What is needed are the conditions and the financial incentives for an enduring solution that provides the population with appropriate and affordable Healthcare and counselling. One solution would be to require basic health insurance for the whole population and provided by a variety of health insurance funds.

Capital formation is possible at the level of the individual Healthcare provider or in networks, so that additional benefits are passed on to the insured. Basic care is subject to a new form of control: Healthcare providers who do not abide by the rules of evidence-based medicine are not paid under the conditions of basic health insurance coverage. The conflict between basic and optional services would not be so acute, since the level of care would be based on the status quo in a manner similar to the Swiss model. Then it is not necessary to discuss the benefits catalogue. Such catalogues would no longer exist in the German Social Code and would be left to the regulatory authorities and guideline-based medicine. The authorities can decide which procedures are obsolete and which should be included in the Healthcare package.

The gradual transition to a health insurance system based on the capital funding principle would mean that social security legislation would gradually be replaced by private law. The realization of this model would provide an answer to the demographic challenge and the need for medical progress in a labour-intensive service sector.

As general principles the German Advisory Council for the Concerted Action in Healthcare in 1997 proposed the following points for an evaluation of an efficient Healthcare reform:

- fiscal effectiveness (effects on revenues),
- employment effects and effects on labour costs,
- risk sharing and compatibility with social policy principles,
- increasing individual responsibility (subsidiarity) health awareness,
- production based on preferences and at minimum costs,
- release of growth potential,
- administrative costs,
- feasibility and
- consistency.

2. European Institute of Health - EIH

The task of an European Institute of Health is to compile and to concentrate information from all medical professional societies, and their recommendations for standards (Class I – III). In 1988 the WHO initiated the International Classification of Procedures in Medicine, which is a good basis to develop a European Standard, is set by the societies and compiled by the EIH. Its further task is to adjust the information of the WHO, OECD and to act as the advisor for medical policy making. The EIH acts as medical coordinator throughout Europe and acts as general European monitor for quality and accessibility of therapy. The EIH should work under the European Parliament.

CRITICAL ISSUE 44:

EUROPEAN INSTITUTE OF HEALTH - EIH

Goal:

- The EIH brings Healthcare from a local to a European level.
- The EIH compiles all standards and concepts from the Professional Societies, elaborates them and provides the basis for reimbursement

3. National Institutes of Health (NIH)

This task is covered today by the National Ministries of Health or Social Departments. The specific emphasis is to create a European Health network, in which mutual exchange is guaranteed. During the European Enlargement processes there is a specific value in developing Europe-wide care strategies. The main task is to implement the recommendations of the EIH on the national level.

CRITICAL ISSUE 45:

NATIONAL INSTITUTE OF HEALTH - NIH

Goal:

The NIH gives recommendations for planning healthcare and harmonizes the recommendations of the EIH in a national context. Additionally the NIH acts as auditor of national healthcare. NIHs form a mutual network with the European Institute, and act on a national level to implement measures provided by the European Institute. They implement the recommendations of the EIH and exchange health data.

VI. Reflections on the Strategic Vision

In the context of system comparison one has to be aware of limitations of implementation and various other factors such as social, historical, economic and political circumstances.

The external funding in European countries in most cases is a mixture of different types of taxes and social insurance contributions including co-payments and private insurance. Private health insurance has a more supplementary role Europe wide. It is generally agreed that taxes and social insurance contributions are more progressive, while co-payments and private insurance tend to be more regressive.

In terms of internal financing it has become clear that there are different payment options, all of which have advantages as well as disadvantages. A healthcare delivery system which is more integrated and more network focused seems to better correspond with the capitation model, where a fix sum per capita is paid for all treatments. However, the question of maintaining a high level of quality needs to be assured by a independent council or laws related to evidence based medicine standards.

In general, funding (external and internal) methods have various influences on the level of distribution, access, coverage, cost control, quality, quantity of services provided and on the overall economic situation.

Nevertheless, the European Healthcare systems are facing the same macro-level problems: changes in spectrums of illnesses, demographic changes, medical and technical progress, increasing demands of the population, rising Healthcare costs with wider options in treatments and the use of genetic engineering. Hence, the long-term sustainability of healthcare systems is in danger. One possibility for achieving a more sustainable model of financing Healthcare in the future is the shift to systems based more on capital funding. The mode of funding could be different in each country. To accumulate savings is a good safeguard for the future. The management of these funds should be controlled independently from state influences to secure their efficient use. Otherwise in times of bad economic conditions the temptation would be for governments to divert these funds to other purposes.

European integration affects all national Healthcare systems, even though the responsibility of shaping the systems is still in national hands. The internal market influences all systems through the four freedoms (free movement of goods, persons, services and capital). Nevertheless, although complete harmonization will not take place,

a process of co-ordination will be forthcoming. Systems with social insurance contributions will shift to more co-payments, taxes or supplemental private insurances and the tax financed systems will adjust systems by separating purchasers and providers.

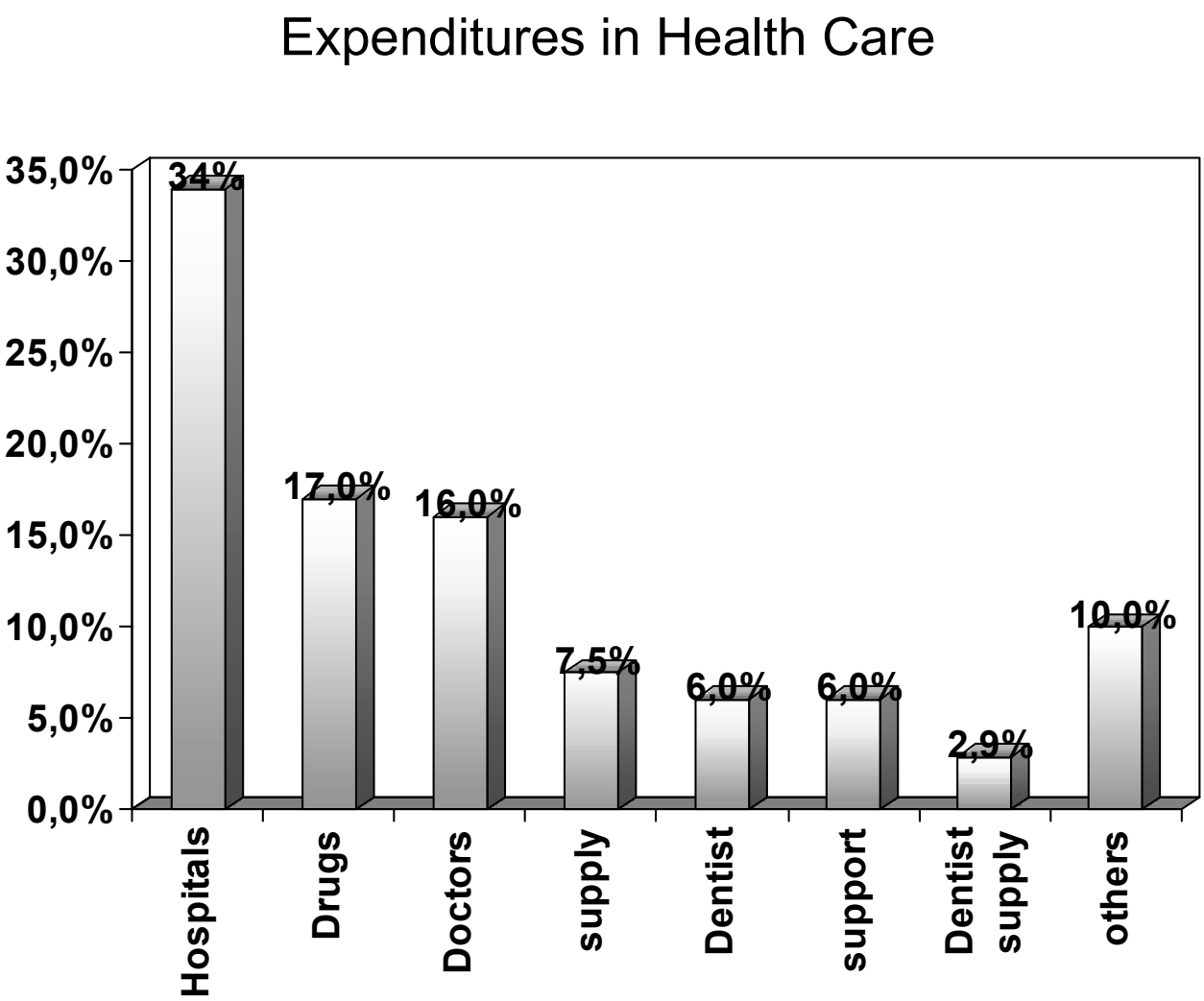


Fig. 18

Source: BMG KI: 1 BOG-Analyse

Table XI

Expenditure on health as a percentage of GNP, 1998

Per capita (USD), growth rate (GR) in % 1980-1998

EU-Memberstates

	%	per. cap.	GR
LU	6	2,246	2,5
UK	6,8	1,510	2,3
IE	6,8	1,543	1,7
FI	6,9	1,510	1,3
ES	7		3,4
PT	7,7	1,203	
AT	8	1,894	2,7
IT	8,2	1,824	3,1
DK	8,3	2,132	0,3
BE	8,6	2,050	3,5
NL	8,7		1,5
FR	9,4	2,043	
DE	10,3	2,361	3,7
GR		1,198	
SE		1,732	

EU-Candidates

	%	per. cap.	GR
PL	6,4		
HU	6,8		
CZ	7,1	937	

Non EU-Members

	%	per.cap.	GR
JP	7,4	1,795	2,8
CH	10,4	2,853	5,0
US	12,9	4,165	6,0
NO			3,6
IS	8,4	2,134	

Source: OECD 2002; Health at a Glance

Table XII

Public Funding as a percentage of total health expenditure 1998

EU-Member States

	%	Change 1970-1998
GR	56,3	7,9
PT	66,9	-19,6
IT	67,3	7,6
NL	68,6	8,8
BE	71,2	3
AT	71,6	2,5
DE	75,8	11
FI	76,3	3
ES	76,4	-1,8
FR	77,7	-3,7
DK	81,9	-2,2
UK	83,3	3,5
SE	83,6	
LU	92,4	

EU-Candidates

	%	Change 1970-1998
PL	65,4	
HU	76,5	
CZ	91,9	

Non EU-Members

	%	Change 1970-1998
US	44,8	8,5
NO		-8,6
JP		8,7
IS	83,9	2,2

Source: OECD 2002; Health at a Glance

Table XIII

Expenditure on pharmaceuticals as percentage of the total healthcare expenditures (1997/1998)

EU-Member States

		total per cap.
DK	9,2	197
IE	9,9	151
NL	10,8	232
LU	12,3	277
DE	12,7	300
SE	12,8	220
FI	14,6	221
UK	16,3	229
IT	17,5	303
FR	21,9	447
PT	25,8	310
ES		239

EU-Candidates

		total per cap.
CZ	25,5	239
HU	26,5	190

Non EU-Members

		total per cap.
CH	7,6	217
NO	9,1	195
US	10,1	422
JP	16,8	
IS	15,5	327

Source: OECD 2002; Health at a Glance

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E. EUROPEAN INSTITUTE OF MEDICINE - EOM

The mission of the EOM is to improve the quality of Healthcare in Europe based on evidence based medicine and state-of-the-art science within a philosophy of life where the sciences serves man in his existence.

European Institute of Medicine (EOM)

The European Institute of Medicine (EOM) as a part of the European Institute of Health (EIH) has been established by the European Academy of Sciences and Arts in 2001 to foster the discussion for an optimal Healthcare System accessible to everybody. Eminent members of the medical professions in medicine and medical industry are concentrating on establishing a visionary Healthcare Plan in the examination of policy matters pertaining the health of the public in Europe. The Institute acts under the responsibility of the European Academy of Sciences and Arts and purports to be an adviser to the Governments in Europe upon its own initiative to identify issues of Healthcare and education.

Specific emphasis will be placed on those regions of Europe where severe deficits in Healthcare delivery are evident. Interdisciplinary and inter-professional actions are necessary to improve the quality of Healthcare. It will be necessary to identify the specific problems of deficits in access to healthcare and in other upcoming issues to address the European Governments, the EU and its institutions, as well as the WHO – Regional Office, the OECD, World Bank and all medical oriented professional associations.

Major differences have been reported in epidemiology, management strategies and outcome of diseases between the different geographic regions of Europe.

The causes of these differences are due to unequal social and political developments. In order to better understand and address these differences, there is a need for an independent investigation of European Healthcare Delivery Systems. It should mirror the needs and address the future requirements of the patient, in relation to the management of therapy with its outcome, prognosis and prophylaxis.

Aims of the European Institute of Medicine

The purpose of the European Institute of Medicine is to establish a systematic concept of "Strategic Visions for European Healthcare".

A: Establishing the concept as a first priority amongst the following communities:

- Medical Arts (all stakeholders in the provision of knowledge, services and research activities as inputs to healthcare systems - e.g. doctors, surgeons, therapists, clinicians, healthcare workers, pharmaceutical and medical equipment industry etc.)

- Medical Organization (all stakeholders in the organisation of delivering healthcare structures to the population e.g. governments, local authorities, private medical services etc.)
- Financing (all stakeholders in the organisation of financing healthcare systems - e.g. governments, local authorities, insurance companies etc.)

to:

- Encourage innovation with respect to all aspects of medical sciences, healthcare, its products and services
- Encourage "competitive" approaches in Healthcare provision to promote integrated and efficient methods of delivery resulting in an effective allocation of scarce public health financial resources;
- Ensure increased competition among health insurance providers to ensure policies are better tailored to patients needs;.
- Avoidance of two tier healthcare systems via schemes which combine increased choice options with the notion of individual responsibility
- Empower patients through improved access to information and greater personal involvement in healthcare decisions.

B: Adapting the concept to each country's system in Europe ("feasibility")

C: Facilitating the implementation of the concept

D: Providing linkage to policies at national and European levels

E: Securing the involvement of all relevant stakeholders

F: Fostering the implementation of evidence based medical procedures

G: Establishing an European Institute of Health (EIH)

To develop this concept for planning future Healthcare Plan the following must be addressed as prerequisites:

- the patient
- the medical organisation
- the European context

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Working Sessions in Salzburg:

- March 13, 2002 1st Session
- October 7, 2002 2nd Session
- March 13, 2003 3rd Session
- October 17, 2003 4th Session

Submission of the report to the European Parliament:

- December 4, 2003

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All European National Governments and Parliaments

All Ministries of Health

All European Medical Professional Societies and Associations

All Pharmaceutical Industries

All Medical Suppliers

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