

think:act CONTENT

Fresh thinking for decision makers

Evolution of medicine |
Our view of the World
Health Summit 2009 |
How diseases, medicine and healthcare
systems are changing
worldwide | And what
we should do

What new diseases do we have to reckon with?

What new treatments can we hope for?

How can we make our healthcare system future-proof?



IMPORTANT STARTING POINTS: PATIENT PARTICIPATION >> EDUCATION >> PREVENTION >> PERSONALIZATION

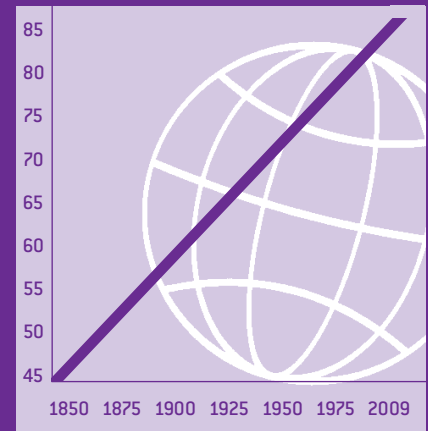
EVOLVING DISEASES:

Distribution of causes of death

CAUSE OF DEATH	2008	2030
CARDIOVASCULAR DISEASES	30,4	34,8
COMMUNICABLE AND CONTAGIOUS RESPIRATORY DISEASES INFANT MORTALITY AND MALNUTRITION	27,2	13,8
NEOPLASMS (CANCER)	14,1	18,0
INJURIES	9,6	10,0
OTHERS	18,7	23,4

Source: Max Planck Institute for Demographic Research

HIGHEST LIFE EXPECTANCY IN THE WORLD [IN YEARS]



Source: Max Planck Institute for Demographic Research

EVOLVING HEALTH SYSTEMS

Private funding by self-payments and private health insurance as a percentage of health spending in selected healthcare systems [%]

GREECE	57
USA	50
SWITZERLAND	39
OECD	25
GERMANY	22
UNITED KINGDOM	14

Source: OECD

24%

EVOLVING MEDICINE:

in the US, 24% of patients are already prescribed one or more drugs with pharmacogenetic information.

Source: World Health Summit

GREETING

DEAR READERS,

Healthcare is causing serious headaches all over the world. The health market has developed into a major growth industry, but is it even possible to make medical progress available to everyone? Research continues into new diagnostic methods and therapies at unprecedented speed, but are we giving the same priority to developing healthcare and financing systems? And who will look after patients' interests with medicine becoming more and more complex? In addition, needs and standards vary hugely in different regions of the world. These are all issues we must address.

The first "World Health Summit" was held recently in Berlin, bringing together physicians, health economists, industry representatives and health policymakers. For four days they discussed these and other issues, gaining a lot of new perspectives in the process. Roland Berger Strategy Consultants presents some of the ideas discussed in this issue of think:act CONTENT. We hope you enjoy reading about them.

Yours,

Prof. Detlev Ganten

Summit Chair

Charité – Universitätsmedizin Berlin

Prof. Max Einhäupl

CEO

Charité – Universitätsmedizin Berlin

A LIVE INFLIGHT LINK with the International Space Station during the opening of the first World Health Summit in Berlin left the delegates in little doubt about the meeting's vision: to see health from a global perspective, incorporating all the regions of the Earth. 700 high-ranking representatives from the fields of research, politics, business, civil society, nongovernmental organizations (NGOs) and international institutions such as the World Health Organization (WHO) had got together to mull over the goal of "health for all". The Summit's initiators – Charité Berlin and Université Descartes Paris – wanted to bring all these players together to talk about coordinating political, civic and business activities more effectively to tackle the world's health challenges. Summit Chair Professor Detlev Ganten said there were huge differences in healthcare standards not only between nations but also within individual countries. With financial resources growing increasingly scarce, making sure all citizens have access to medical innovations was often like trying to square the circle – even in western countries. In view of all the known (let alone the new) infectious diseases and the growing prevalence of chronic diseases in their populations, the nations were facing immense challenges in prevention and therapy. Roland Berger Strategy Consultants supported the premiere of this new forum by providing assistance on content and structural matters – both in the setting up the program and in preparing the working sessions. Here is our – subjective – view of the Summit's main results.



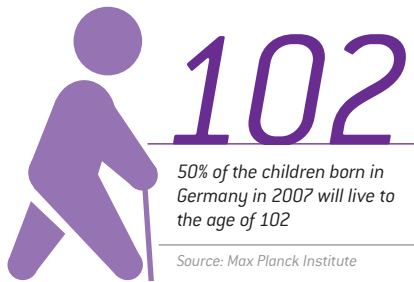
Every year, our average life expectancy increases by three months

Source: Max Planck Institute for Demographic Research



The U.S. Congress predicts that health spending in the US will increase from 16% of GDP today to 37% of GDP by 2050.

Source: Congressional Budget Office



PART 1: EVOLVING DISEASES

Normally, every organism adapts to the prevailing long-term conditions in its environment by genetic selection. But this takes time, and a human lifespan is very short in evolutionary terms. So the human body hasn't had time to adapt to the environment (and diseases) of the modern age. "If we want to understand why the human body is threatened by diseases, we have to investigate the causes of natural selection," said Randolph Nesse of the University of Michigan, who is seen as the founder of evolutionary medicine. This rapidly growing field of research was extremely important for politics, too. "It'll be crucial for stabilizing our healthcare systems," Nesse said: "If we can get a better idea of the weak links in our body, we'll be able to avoid or influence a lot of diseases." He believes incorporating Darwin's 150-year-old theory of evolution into medicine and health policy has never been more topical.

Fig.1

AGING IS A WORLDWIDE PHENOMENON ...

Proportion of over 65-year-olds in the population [%]:

COUNTRY	2000	2050
GERMANY	16	31
EUROPE	15	29
CHINA	7	23

Source: UN

WILL WE LIVE LONGER, BETTER LIVES ... ?

We will live in much better conditions and suffer much less from disease in the 21st century than we did in the 20th. Children born today in countries like Germany, France, the United States or Japan can expect to live for over 100 years; and on top of this, this generation looks set to stay relatively healthy for longer than previous generations – although not everybody agrees. What is certain is that the population is aging, and fast (Fig.1). Today, a tenth of the world's population are 60 or older; by 2050 it will be a fifth. And the proportion of people aged 80 and over will rise from currently 1.3 percent to 4.3 percent by 2050. The development will be especially dramatic in countries like Germany, Italy or Japan. Here, more than 30 percent of the population will be 65 or older by 2050, one reason being that our life expectancy is constantly rising.

Fig.2

... SO IS THE NEED FOR CARE

Number of cases of Alzheimer's disease in millions:

	2006	2050
WORLD	27	115
GERMANY	1.1	2.3

Source: WHO, Robert-Koch-Institut

... OR JUST GET OLD, CHRONICALLY ILL AND IN NEED OF NURSING CARE?

Although some scientists regard our longer lifetimes as a good thing, it's already becoming clear that changes in disease patterns are unstoppable. The longer you live, the more likely a latent health disorder is to break out as a chronic disease. The percentage of people suffering from dementia will rise sharply by 2050, swelling the ranks of people needing nursing care (Fig.2). According to Linda Fried of Columbia University, in future half of the over-65s will suffer from at least one or more chronic disease. Age-related diseases such as Alzheimer's and Parkinson's will be more common than cancer by 2040.

"LIFESTYLE DISEASES" NOT ONLY IN THE WEST

But the aging process won't be the only factor changing disease patterns. The way people live worldwide also has an effect on clinical symptoms. Smoking is spreading dramatically in some emerging nations. The rapid rise in living standards simultaneously generates so-called diseases of civilization. Lack of physical exercise, overeating or faulty diets, stress, environmental toxins and social factors are increasing rates of obesity, diabetes (Fig.3), high blood pressure, heart and lung disease and depression, even among younger people. These "lifestyle diseases" used to be restricted to western industrialized nations, but developing countries have been catching up fast. More than 60 percent of coronary heart diseases

now occur in countries where we would be more likely to expect the diseases associated with poverty. In the wake of transition processes, next year more people will die from cardiovascular disease (CVD) in developing countries than from infectious (or communicable) diseases.

DEADLY DUET: TB AND HIV

Yet, communicable diseases also pose enormous challenges for the world's population, as scientists and health experts emphasized at the World Health Summit. Many initiatives and campaigns have made the world aware of the danger posed by the AIDS virus HIV (human immunodeficiency virus) in the meantime; but there is still not enough public attention being paid to tuberculosis (TB). And this despite the fact that TB is ranked third in the list of dangerous communicable diseases – with nine million new cases and nearly two million deaths every year. The biggest killer is the HIV virus, followed by diarrhea. 14 percent of people killed by tuberculosis worldwide are infected with HIV, making TB the main cause of death among HIV-infected people.

Many don't know that both HIV and TB have been spreading faster in Central and Eastern Europe than in other countries. And that's not all: according to Risards Zaleski, the WHO's regional representative on tuberculosis control in Europe, 15 of the 27 countries with the world's highest incidence of TB are member states of the European Union (EU). Especially devastating is the fact that nearly two million people die every year from an illness that is treatable, partly because only just over 60 percent of all cases are discovered. And even when the virus is diagnosed, the treatment is not easy, because it drags on over several months and requires the cooperation of the patient. Growing resistance to drugs makes treatment even more difficult, and there aren't any new antibiotics available.

TOO MUCH OR NOT ENOUGH WATER: THE CONSEQUENCES OF CLIMATE CHANGE

A quarter of all preventable diseases have some connection with climate change, emphasized Maria Neira of the World Health Organization (WHO). Climate problems are primarily water problems. And it's not only the quantity that's important, but also the quality. According to the United Nations Children Fund UNICEF, almost one billion people have no access to safe drinking water; about 4,500 children die every day as a result. Climate change is likely to make matters worse. The World Bank even goes so far as to say that limited supplies will turn water into the crude oil of the 21st century and could cause similar conflicts.

Extreme weather events will up the pressure on water resources not only in poor countries, but also in the EU – especially in Southern and Central Europe. According to the WHO Regional Office for Europe, about 35 percent of the EU's territory will be affected by water shortages by 2080. The shortage of clean water in Europe is already responsible for five percent of deaths among children under the age of 14 today. The WHO European Region is made up of 53 countries and includes Russia and Central Asian states. In addition to droughts and floods, climate-related health hazards were said to include communicable diseases caused by vectors like mosquitoes and ticks, as well as cold waves, heat waves and air pollution.

"LIFESTYLE DISEASES" ON THE INCREASE

In 2030 there will be 8 million deaths every year due to smoking.

Source: WHO

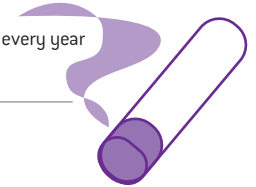
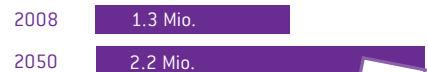


Fig.3

FATALITIES CAUSED BY DIABETES WORLDWIDE:



Diabetes is also on the increase as a percentage of global deaths. The WHO expects a 39% increase in the number of diabetics from 2000 to 2030

Source: WHO



431.518

New cases of tuberculosis in Eastern Europe

63.765

Fatalities

Source: WHO

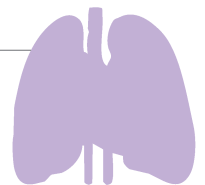
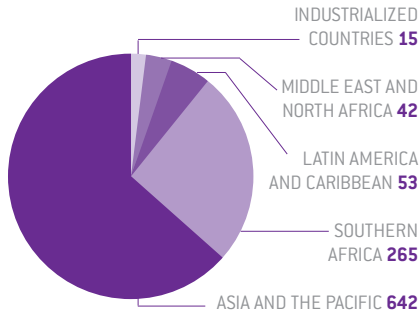


Fig.4

MALNUTRITION BY REGIONS OF THE WORLD 2009 [MILLIONS]

Total = 1.02 billion



400,000 deaths due to malnutrition worldwide

Source: FAO

STILL AROUND: MALNUTRITION AND ITS CONSEQUENCES

Malnutrition remains one of the biggest threats in many parts of the world (Fig.4). Studies from Brazil have shown that the effects of malnutrition in the first two years of a child's life are virtually impossible to offset. The percentage of undernourished children whose physical development is being affected is still very high in many parts of the world.

PART 2: EVOLVING MEDICINE

Medicine needs to evolve on three parallel levels: prevention, diagnostics and therapy. "Medicine must adapt to human evolution and the diseases that affect us; and healthcare systems must adapt to medical possibilities," Ganten explained. In his view, medicine will have to evolve toward a culture of prevention. "This is not something that is taught in universities today. Research will have to change direction, and the textbooks will have to be rewritten." Each of the three areas is constantly focusing more and more on the patient's individual constitution and environment.

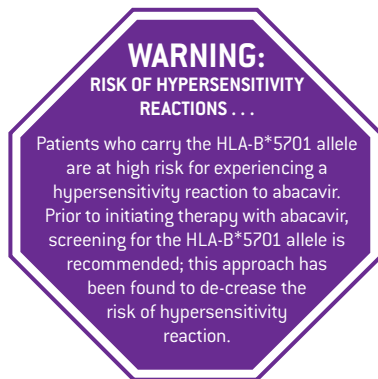
MEDICINE TAKES IT PERSONALLY

While it was generally agreed at the Summit that education needs to be improved in all areas, there was controversial discussion on the importance of progress in personalized medicine. Dr. Elias Zerhouni, former director of the U.S. National Institutes of Health, considered personalized medicine to be "not an option but a necessity." Richard Peto of Oxford University, disagreed. He believes that fighting the main risk factors – smoking, alcohol and obesity – at the population level is more effective and more important than treatments tailored to the individual. He said there was enough information about many diseases; it just needed to be implemented.

"Diseases vary as much as people," said Geoffrey Ginsburg, Director of the IGSP Center for Genomic Medicine at Duke University (USA). He explained that patients with an identical or similar diagnosis could respond differently to the same medication. This meant that therapies were often not fully effective because many patients were given drugs that were not suitable for them. There are two main reasons why response rates differ. First, diseases that seem clinically identical can reveal small genetic differences when examined at the molecular level. Second, drugs are metabolized differently by different individuals. In addition to these genetic and other biological parameters, environmental and lifestyle factors also have to be taken into account. Therapies and forms of care, too, must therefore be more personalized.

NOTHING WORKS WITHOUT IT

"In order to personalize a therapy, we must improve our understanding of the links between the genome and the way diseases are clinically expressed," stressed Ed Horwitz, President of the International Society for Cellular Therapy. This is why medical centers worldwide are building up biobanks where genetic data is linked to clinical, environmental and image



A box of an HIV drug containing the active substance abacavir from Merck illustrates how our medicine will be tailored to our genes in future.

data using powerful IT tools. The clinical data include examination findings, diagnoses and laboratory results. Important environmental data can be exposure to radiation, dust emission, drinking-water quality and dietary habits. An analysis of these data will allow a targeted development of drugs, making it possible in future to design treatments that maximize the therapeutic effect while minimizing side effects.

The idea behind personalized medicine is to collect a wide range of parameters on the patient and to give the physician ways of evaluating them. One example is the computer-aided evaluation of imaging procedures in mammography, which come very close to expert evaluations in the meantime. Hybrid systems combining several imaging techniques (e.g. SPECT, SPECT•CT and PET•CT) give undreamt-of insights into the anatomy and functionality of the human body, making it possible to visualize the biochemical activities of cells and molecules. This improves diagnostic accuracy (the location, size, type and extent of disease) and shortens examination times.

Not only images, however, but also other patient parameters need to be brought into the equation. The aim of the developers is to quantify uncertainty in clinical medicine and to move from evidence-based medicine toward model-based medical evidence. The knowledge must be shown in the form of interrelations on the computer. Personalized medicine will process large amounts of data and therefore need software to support it.

HYPE SURROUNDING "ALL-ROUNDERS"

New therapies include biopharmaceuticals used as highly specific active substances to treat complex medical conditions, RNAi technology for selectively switching off disease-related genes and different types of stem cells for regenerating damaged tissue. Despite all the euphoria, some experts warn against overestimating the potential of stem-cell research. They fear that the hype surrounding the so-called "all-rounders" of medicine is generating exaggerated hopes among researchers, the media, institutions and, not least, the patients. They also warn that the concept behind both gene therapy and stem-cell research – changing a particular morphology by adding a gene or cell – seems simple, but has not been tested: basic research needs to be conducted to examine its sustainability.

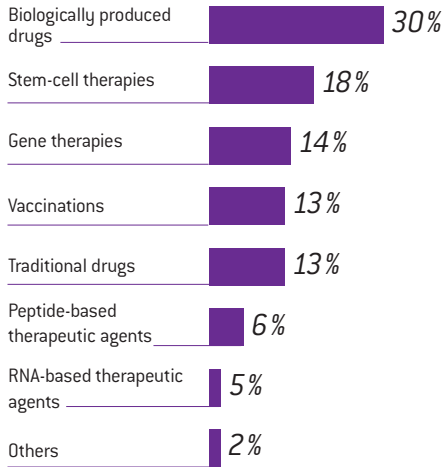
Personalized medicine is still in its infancy in view of its huge potential, but it has been used successfully on patients to treat cancer, AIDS, rheumatism and depression. For example, the number of specific receptors on the surface of breast-cancer cells decide whether the biopharmaceutical trastuzumab is used in treatment at all. Furthermore, a genetic chip is available containing information on a patient's genetic profile for certain drug-metabolizing liver enzymes (cytochrome P 450), which are important for the choice and the individual dosage of many drugs. And personalized medicine is routine in HIV therapy in the meantime: a small percentage of Europeans have two CCR5-delta32 alleles in their genome – so that they are unable to make functioning CCR5 co-receptors on their immune cells (T-lymphocytes). As a result, certain types of HIV virus cannot penetrate into the host cell, because the right "lock" is missing on its surface. An important piece of information for the choice of antiretroviral therapy.

NO PERSONALIZED THERAPY WITHOUT
INFORMATION TECHNOLOGY



POLL AMONG PHARMA MANAGERS:

What will be the most commercially successful therapeutic approaches over the next 15-20 years?



Source: Roland Berger Pharma Survey 2009

THE PARADIGM SHIFT HAS BEEN INITIATED

"We need a life course approach to health promotion and prevention"

Linda Fried, Columbia University

There is agreement that personalized medicine will characterize healthcare in 15 to 20 years time and even lead to a paradigm shift in healthcare. Changes are expected in science, technology development, regulatory procedures, medical care, data protection and health insurance. Most of these areas are not yet ready for this change. This is also partly true of the pharmaceutical industry, for the focus of drug development is shifting from so-called blockbuster drugs to targeted treatment – with a greater variety of products for smaller groups of people. In such a situation, what will be the role of the patient when it becomes possible to predict his or her personal risk of developing certain diseases? Whether people will be willing to have their risk assessed in the first place – and then take preventative and/or medically advisable measures – is questionable.

PART 3: EVOLVING HEALTHCARE SYSTEMS

NEW FORMS OF HEALTHCARE ARE NEEDED

Changes in diseases and disease progressions pose great challenges for the world's health systems. Aging populations alone have enormous effects on the respective economies. Already, people aged 65 and over account for a large proportion of total medical expenses in western countries – and the trend is upward. At the same time, research conducted by Roland Berger shows that people in this age group occupy themselves more intensely with their health and spend more money on it. The older patients become, the more likely they are to have several diseases at the same time (Fig. 5). This requires different treatment approaches from when each disease is treated separately. Medical training and forms of healthcare need to be geared toward these "multimorbid" patients. One conclusion of the World Health Summit is that the responsible healthcare players need to explore new ways – and improve existing ways – to curb costs or to make spending on health more effective. Especially when it comes to dealing with older and old people, health experts like Linda Fried and Uwe Reinhardt (Princeton) appeal for more prevention and integrated healthcare. Models such as the "Guided Care" model tested in a pilot study by the Johns Hopkins Bloomberg School of Public Health, if introduced across the board, could cut costs and simultaneously lead to greater satisfaction among the elderly people, their physicians and relatives. Chad Boulton (Johns Hopkins) explained that the main aim of such models is to take some of the pressure off physicians by deploying nurses in the patients' homes and to integrate the levels of care (inpatient, outpatient) better with each other. In addition to integrated care models, which also incorporate geriatric know-how, personalized models can also be useful. This is in line with initial experience in Germany: individual nursing care and the coordination of healthcare are expected to lead to improvements in the quality and cost of care.

MORE RESEARCH NEEDED

Pierluigi Nicotera, Director of the German Center for Neurodegenerative Diseases (DZNE), believes more research is needed before these new forms of care can be used effectively. The DZNE in Bonn, which was formed in June of this year and is funded by the federal and state governments in Germany, was an important step in the right direction, the toxicologist added.

AT LAST, MORE FOCUS ON PATIENTS ...

"Personalized medicine relies on self-responsible patients, willing to participate and to change their behavior"

Paul J. Wallace, Director of the U.S. insurer Kaiser Permanente

Growing demands on healthcare, coupled with some very complex diseases, have made a form of cooperation necessary that would have been unthinkable 30 years ago in both Western Europe and the USA: cooperation between physician and patient. According to Ysbrand Poortman, Vice-President of the World Alliance of Organizations for the Prevention and Treatment of Genetic and Congenital Conditions (WHO), since the nineteen-seventies people affected by diseases have become transformed from helpless recipients of treatment into emancipated managers of their own illness. The development of the self-help movement in Germany alone underlines the importance of this new authority that has joined the negotiating table in the health sector: an estimated 100,000 local self-help groups, more than 100 national self-help organizations of disabled and chronically ill people and about 250 professionally run advice centers exist in Germany. This means that Germany has more self-help groups than any other country in Europe. In addition, an estimated two to three million people are active in the self-help movement, financial support from public sector and health insurers is improving and patients are meanwhile represented in the Federal Joint Committee, the most important decision-making body in the German health system.

... BUT NOT YET IN DEVELOPING COUNTRIES

Marylou Selo from the Werner Alfred Selo Foundation in Zurich and New York said that patients in western healthcare structures were already playing an important role compared to developing countries, where the word "patient organization" was virtually unknown. There, the doctor-patient relationship was still a very paternalistic, as it had been in Europe 20 or 30 years ago. This could change in the foreseeable future, because more and more NGOs across the world were taking up the cause of patients suffering from specific, often rare or neglected diseases.

NO UNIFORM FINANCING MODEL

"Productivity growth is the medicine that makes adjustments [in healthcare] less painful"

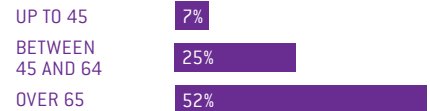
Prof. Reinhardt, Princeton University

The scientists at the Summit were unable to clarify which funding models were best suited to cope with the rising costs generated by medical progress and demographic developments. But they did agree that the heterogeneity of the countries with their different health systems

Fig.5

CHALLENGE OF MULTIMORBIDITY

Proportion of people with 2 or more medical conditions [by age, as %]



Quelle: Prof. Fried

75.000 US\$

Guided Care saves USD 75,000 per patient in the model tests. One nurse looks after 50-60 patients in close consultation with the attending physicians. She develops and administers an individual therapy plan for each patient. The number of days the patients spend in hospital is reduced by 77%.

Source: Prof. Boult

PATIENT PARTICIPATION IS INCREASING

3.5 million people are organized in self-help groups in Germany alone. The number of self-help groups has doubled over the last twenty years.

Source: NAKOS

CHALLENGE FINANCING HEALTH



required differentiated forms of financing. Every society had to decide for itself how to balance the relation between shared and individual funding. The differences between the models is huge these days: even in Europe, the private share of health expenditure ranges from 57% in Greece to 14% in the UK. Both the absolute level of health spending and its share of the gross domestic product are going to grow worldwide. As Uwe Reinhardt pointed out, however, healthcare systems will be much easier to finance if we can further raise the productivity of our national economies.

SOLIDARITY IS STILL UNKNOWN IN TRANSITION COUNTRIES

The experience of countries in Central and Eastern Europe and Central Asia illustrates how difficult it is to transfer a financial model to different countries. After the fall of the Iron Curtain, politicians introduced western-style health insurance systems funded by contributions paid by workers and employers. In some cases, tax revenues also flowed into the healthcare system. One of the conclusions of the Summit was that if the Bismarckian system had been a panacea for the ailing, formerly state-run health systems, most of these countries would not still be facing such huge challenges. The contributions had been set too low – usually as a result of resistance from the population – leading to a chronic backlog of investment projects and a lack of money in the health sector; faltering economies led to high rates of unemployment – almost 32 percent in Macedonia. As Vladimir Lazarevik of the Medical Faculty of the University in Skopje, Macedonia, said, old thinking patterns are preventing further steps toward reform; solidarity – as still practiced (at least for the time being) in healthcare in Western Europe – is unknown in Eastern Europe thus far.

EDUCATION AND PREVENTION AS A KEY TO THE FUTURE

"Education is the best vaccination"

Prof. Ganten, Charité

The key to a "healthy" system lies in early education and shaping a consciousness of living a healthy life and staying healthy. Education is a key factor – in both developing countries and industrialized nations. "Education is one of the best vaccines," stressed Dr. Elias Zerhouni, former director of the U.S. National Institutes of Health. "We can't change people's lifestyles without it." (Fig. 6) In order to establish better and sustainable healthcare in less developed countries, the autonomy of the respective nations must be strengthened. A key demand at the Summit was that existing initiatives and exchange programs for medical students and trained physicians should be intensified and coordinated. The physicians' role should change: they should no longer look after and administer disease, but health. Currently, 99 percent of global health spending was invested in treating diseases, but only one percent in preventing them. Medicine must evolve toward a culture of prevention. Peter Piot, Director of the Institute for Global Health at Imperial College London and founder of UNAIDS, added that existing structures were not strong enough to attain the goal of global health. Piot regards human health as a global concern, while simultaneously seeing the need for a variety of regional, individual advances to keep humanity healthy: health is a global challenge, but whether or not we succeed in meeting this global challenge will be decided at the local level.

CONCLUSION – WHAT TO DO

The changes in our societies mean we must face new challenges, but the developments in medicine and healthcare also offer many opportunities. This is placing new demands on policymakers, financiers, service providers, industry and citizens. We have distilled the following points from the World Health Summit as the main areas for action:

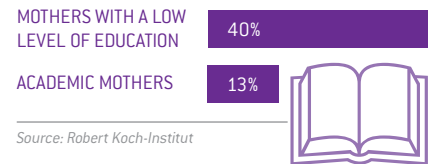
- ➔ Because our societies are aging, we must adjust to caring for a much higher number of multimorbid patients all over the world. Treatments, healthcare concepts and training courses for the medical professions must be more closely aligned to this objective than they have been up to now.
- ➔ Lifelong, preventive measures geared to each age group are the key to countering the increase in lifestyle diseases.
- ➔ Closely related to this is the need for more education as the key determining factor for a healthy life.
- ➔ The personalization of healthcare is making progress – not only drugs, but also concepts of treatment and care need to be personalized.
- ➔ The products of the industry will continue to change. The boundaries between imaging, genetic diagnoses and IT applications are becoming blurred; blockbusters will be increasingly replaced by targeted therapies.
- ➔ The new therapies require policies on safety and data privacy in order to prevent abuse and to be accepted by society.
- ➔ From a global perspective, we must better understand the interrelations between climate and health and continue the long-ongoing fight against communicable and deficiency diseases.
- ➔ The citizens must be involved far more in all areas of medicine and healthcare in their roles as patients, policyholders and ultimately the financiers of healthcare.

Our health systems need to adapt to new diseases and patient groups; training courses and healthcare models must adapt to a personalized form of care for patients who want to – and can – remain active up to a ripe old age despite several chronic diseases. We will live longer and must (or may?) therefore concern ourselves with prevention throughout our lives. We should claim our role as responsible patients and design the overall conditions of the healthcare system in a way that achieves a good balance between shared and individual responsibility.

Fig.6

EDUCATION IS THE BEST PROTECTION AGAINST CHRONIC DISEASES IN ADULTHOOD.

Proportion of children exposed to passive smoking



Source: Robert Koch-Institut



IF YOU HAVE ANY FURTHER QUESTIONS, WE ARE AT YOUR SERVICE ANYTIME:

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