

**SCIENTIFIC RESEARCH IN HUMAN
MEDICINE AND HEALTH ECONOMICS –
TWO INSEPARABLE AND VITAL KEY
ELEMENTS TO THE FUTURE OF
HUMANITY**

Abstract

Human health is certainly a fundamental necessity for the progress of civilization. On the other hand, medical care for the population is a legal obligation on national, European and global levels. Hence there is an obviously big interest in this activity and in the great financial efforts for the development of scientific research. Although progress over time led to a high level of performance in medicine, which resulted in a steady increase in average life expectancy of the population - there is still a huge gap between the general technological development of human civilization and medicine. Especially in the context of multiple inherent dysfunctions in the socio-economic and psycho-social life of the XXI century, medicine involves a new, more logical and more complex approach..

Keywords: human medicine, health economics, scientific strategy; psychological barrier; bioethical criteria, the progress of civilization

JEL CODES:A00

**CERCETARE ȘTIINȚIFICĂ
ECONOMICĂ ÎN MEDICINA
UMANĂ ȘI SĂNĂTATE - DOUĂ
ELEMENTE CHEIE
INSEPARABILE ȘI VITALE ÎN
VIITORUL UMANITĂȚII**

Margareta Stela FLORESCU

Professor Ph.D., Faculty of Management and Public Administration, Bucharest University of Economic Studies
E-mail: icefaceus@yahoo.com

Alina Ștefania CHENIC (CREȚU)

Associate Professor Ph.D., Faculty of Economics, Bucharest University of Economic Studies
E-mail: chenicalina@yahoo.com

Ioan CRISTESCU

Associate Professor Ph.D., Carol Davila University of Medicine and Pharmacy in Bucharest
E-mail: ioancristescu@yahoo.com

Rezumat

Sănătatea umană este cu siguranță o necesitate fundamentală pentru progresul civilizației. Pe de altă parte, îngrijirea medicală pentru populație este o obligație legală la nivel național, european și global.

Prin urmare, există un interes evident mare în această activitate și în marile eforturi financiare pentru dezvoltarea cercetării științifice în această știință.

Deși progresul în timp a dus la un nivel înalt de performanță în medicină, care a dus la o creștere constantă a speranței medii de viață a populației - există încă un decalaj mare între dezvoltarea tehnologică generală a civilizației umane și medicină. Mai ales în contextul mai multor disfuncții inerente în viața socio-economică și psiho-socială a secolului XXI, medicina presupune o abordare nouă, mai logică și mai complexă.

Cuvinte cheie: medicină umană, sănătate, economie, strategii științifice, limite psihologice, criterii bio-etice, progres, civilizație



Proceedings of the 10th Administration and Public Management International Conference
"Economic Sociology, Human Resource Management and Organizational Dynamics"

1. INTRODUCTION

When faced with the huge biomedical and psychosocial challenges of the XXI century, the systems of human health are in a completely unequal struggle with the realities of life due to the lack of implementation and development of an intelligent health economy as an emerging branch of the economy (Aday, 2005). This article is formed in a complex and relevant vision on the grim realities on national, European and global levels, targeting the most precious treasure of personal life but also, the most important driving resource of modern economic development: physiological, neuropsychological and psychological health of human resources (Baum, 2008). Its main objectives and courses of action in establishing health economics in the near future are briefly presented below:

2. STRATEGIC COURSES OF ACTION IN SCIENTIFIC RESEARCH

1. Identifying, synthesizing and analysing major medical problems of the XXI century on national, European and global levels - problems with relevant and important implications (Alcazar, 2008). The implications target both the deterioration of the general health of the population and implicitly the quality of human life, and especially a profound direct and indirect negative effect on the functionality and sustainability of an economy which is already heavily shaken by the serious and prolonged economic recession we are experiencing.

2. Identifying, synthesizing and analysing major risk factors of the XXI century, factors that seriously endanger the health of the population at national, European and global levels. Classifying and organizing based on the socio-economic life in which these risk factors operate. Detailed knowledge, permanent and well organized prevention, early diagnosis of serious illnesses caused by these major risk factors - these elements become the fundamental-constitutional law of health economics.

3. Identifying, synthesizing and analysing key generators for major risk factors in human health in the XXI century. Among the most relevant key risk factors for human health should be highlighted:

- General pollution of the ambient environment: terrestrial, underground, atmospheric and aquatic environment - as a direct and indirect result of the development of highly polluting industrial technologies and the ecological imbalance on a planetary scale, as the price of economic development. Analysing international trends and strategies in order to stop increasing pollution. Political-economic and logical-psychological barriers, which strongly hinder relevant courses of action in this regard (Breslow, 1999).

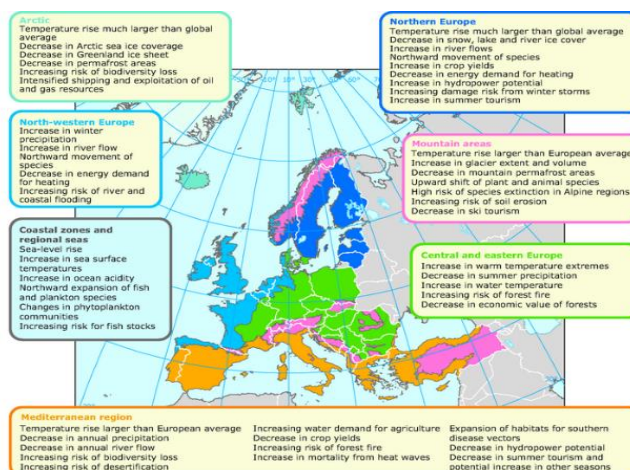


FIGURE 1.REGIONAL EFFECTS OF POLLUTION IN EUROPE-SOURCE: WWW.EEA.EUROPA.EU 2011

- Completely irrational behavior of individuals and groups regarding their own health and the health of those around them - one of the paradoxes of human life that was always present but has amplified and became exaggerated since the twentieth century. Is it rational to have an irrational behavior? What neuropsychiatric system generates this behavior? What are the psychological barriers that lead us to act to the detriment of our own health and the health of those around us? How could these psychological barriers be eliminated or at least how could be mitigated in the future by a complex, intelligent, coordinated and financially strong scientific strategy which is worthy of the XXI century modern civilization that astonishes in all areas by the high level of performance and technological innovation it reached?
- Emotional stress and psychological discomfort produced by the system of modern psychosocial frustration - in the current socio-economic conditions of the XXI century, at global and national levels. It is enough to know, to detail and contemplate this deep and painful truth that is harmful to human civilization? What barriers are stopping us in our intense desire to control and master, at a social level, this destructive element? Why can not we create truly effective and powerful institutions in order to keep under control and eliminate or greatly reduce the personal, familial and social stress in which we immerse? Obviously, we are not referring to the negative, incurable emotional stress generated by painful events in human life but about the extremely powerful stress generated by perfectly solvable cases in the psychosocial life of an individual and of human societies (Buse et al., 2009).Take for example, this scenario, which shows the relative stress levels of the four different areas over a time span that has a lot of the usual stresses we experience on a daily basis: trouble with the boss, re-org at work, worries, health problems, marriage troubles, promotions, raises, recovery, family problems.

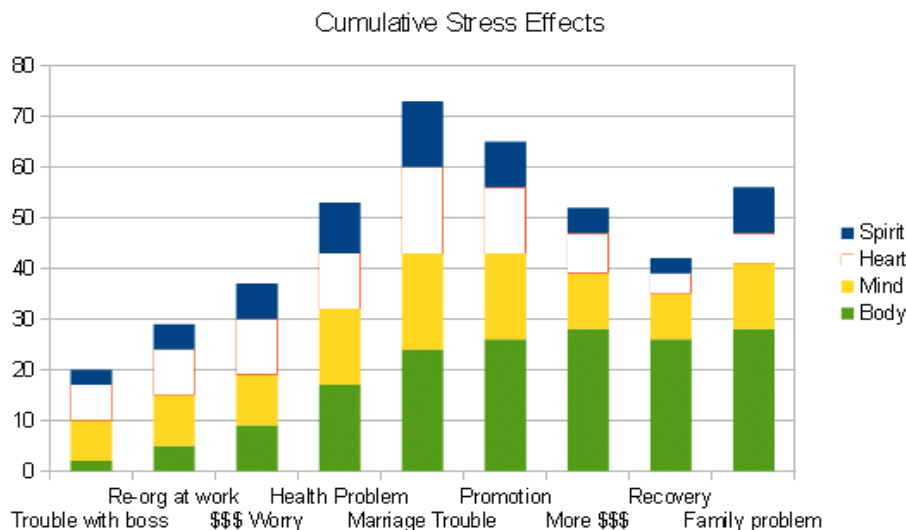


FIGURE 2. CUMULATIVE STRESS EFFECTS

Source: <http://brokenbrilliant.wordpress.com-2012>

- Introduction and massive implementation of primary genetic modification technologies of animal and vegetable raw materials as a response of the modern society to the impending large scale food crisis. Is it an intelligent, relevant, or at least acceptable solution? Or is it the only one available to humanity? Is human civilization in a dramatic and inevitable crossroads: accepting the idea of becoming, slowly but surely, true genetic mutants with unsuspected serious repercussions in the near future or fighting on all fronts to avoid this situation? Are we aware what this struggle involves? : An extreme rationalization of the use - in conditions of maximum efficiency - of natural food resources currently available, especially potential agribusiness lands, vineyards, fruit crops; rational, intelligent, discerning, extended and globally enforced family planning; severe management control and reduction of food losses starting from harvest, storage silos, specialized processing industry, transport, trade to the final consumer (Clive, 2010). And perhaps the most important (and most realistic at the same time): a sharp and intelligent review of ethical principles deeply rooted in the human consciousness of society: the freedom of each individual to decide whether he/she wants to be alive or not, careful and rigorous control of life and normal/healthy development of potential newborns and many other principles of high sensitivity and maximum fragility. However, an uncontrolled population explosion - even if only partial, in certain geographic areas - coupled with a massive and normal increase of life expectancy, will sooner or later lead to the collapse of planetary life.

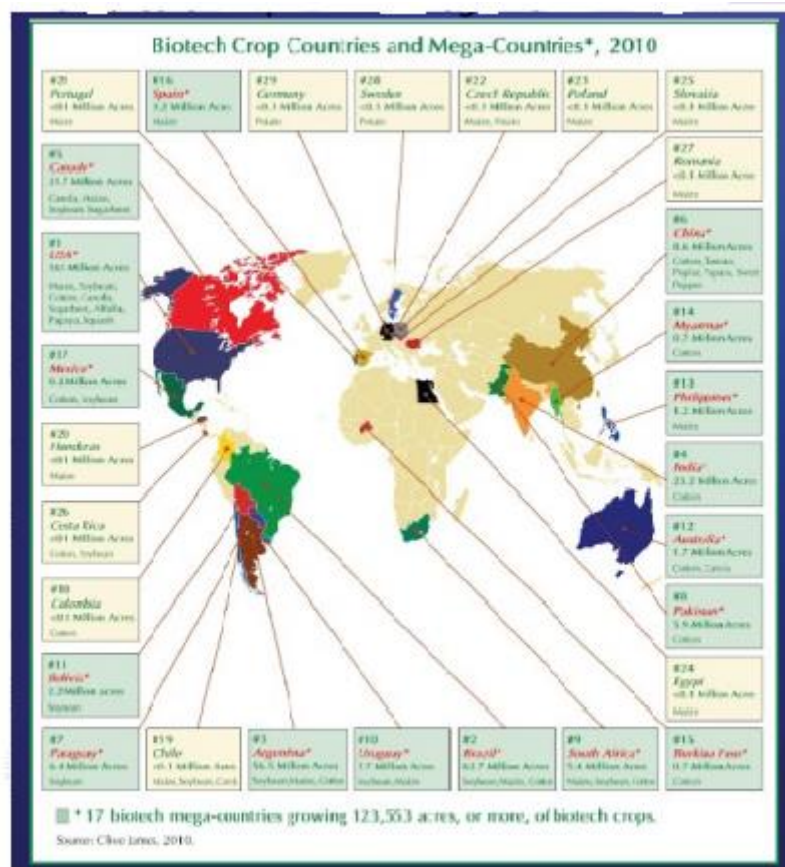


FIGURE 3. BIOTECH CROP COUNTRIES AND MEGA-COUNTRIES 2010- COUNTRIES IN WHICH TRANSGENIC PLANTS WERE CULTIVATED IN 2010

Source: Clive James, 2010 .Founder and Chair, ISAAA Board of Directors-Global Status of Commercialized Biotech/GM Crops: 2010

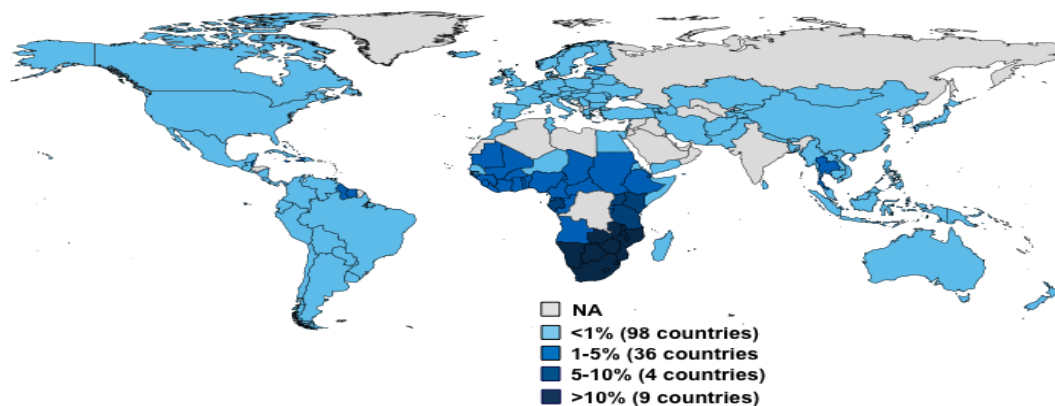
- The global policy of minimizing and underestimating the importance of uniformity in the funding and development of preventive medicine, early diagnosis, palliative care and especially medical intervention through effective treatment, medical procedures and surgery - at a global/planetary level. A profoundly uneven development of preventive and interventionist medicine on a global scale - between strong or medium developed countries, on one hand, and poorly developed countries or countries that are severely underdeveloped economically, on the other hand - led and will continue to lead to the worsening of the general health of the population in all geographic areas (Collier, 2008).The idea especially true today, as a series of economic and demographic factors will act in a complementary way, especially with regard to contagious diseases.

A stronger emphasis should be made for the special case of HIV-AIDS, an extremely serious disease, which is frightening because of the ease with which it is transmitted from one individual to another, because of the way it installs within the body, the way it has maximum prevalence in adolescents, youths and active adults with full working capacity, or potentially active in the near future, because of the complete absence of preventive vaccines or of effective medical procedures to cure such a disease and because of the costly antiretroviral treatment for transforming an incurable disease into a chronic, long term illness.

A picture special relevance to the incidence in 2011 HIV AIDS prevalence in the world in 2011 was as follows:

Adult HIV Prevalence Rate, 2011

Global HIV Prevalence Rate = 0.8%



NOTES: Data are estimates. Prevalence rates include adults ages 15-49. The estimate for Sudan represents data for South Sudan. An estimate was provided for Sudan and is <1%.
SOURCE: Kaiser Family Foundation, www.GlobalHealthFacts.org, based on UNAIDS, Report on the Global AIDS Epidemic, 2012.



FIGURE 4. ADULT HIV PREVALENCE RATE, 2011

Source:Kaiser Family Foundation, 2012

But perhaps the most daunting image produced by this serious and intense degrading human condition is that even detection of HIV infection in the early stages can not be achieved, it is possible only after a period of incubation in the body (Dahrendorf, 2012). Moreover, even detected on the first day of installation, further development and severity of the disease can not be greatly changed but only the survival time increased.

Of course, in these circumstances, it is obvious that the existence and perpetuation of regional outbreaks of HIV-AIDS infection endanger human health on a global scale, as even the U.N. states.

4. Identifying potential, pragmatical, legislative and educational solutions at national and European level - regarding the reduction of major risk factors in the human society of the XXI century, factors which jeopardize the health of the population and hence the socio-economic life of society. Effective implementation of these solutions in both the educational culture, at all levels, as well as in preventive health packages and early diagnosis in private and/or public medical institutions in Romania.

5. Identifying potential and pragmatic legislative and economic solutions at national, European and global level - targeting to diminish the essential generators of major risk factors for human health - highlighted earlier. Wide dissemination of these solutions (or rather proposed solutions) in order to check viability and efficiency expected in both civil society and government and nongovernmental organizations, which can then promote on the agenda of the European and/or worldwide resort institutions, that are capable of making decisions regarding effective introduction in the international strategic health policies or, where it is appropriate, on the agenda of national healthcare institutions.

6. Identifying, synthesizing and analysing the current moral and medical bioethics principles that govern modern medicine. Major incompatibilities between the medical and moral side, the religious side, the legislative side, the socio-economic side and the side of individual freedom of decision and how people decide to live their life or not. Legislative propositions for optimizing the socioeconomic and moral dilemmas of modern medicine.

A very long time ago, blood donation was considered blasphemous, but it became a commonplace reality, extremely useful and widely accepted. Later donation of human organs for transplants was inconceivable and inadmissible and yet here it is, present in our lives. Abortion has long been, and still is in many parts of the world, a crime or at least a major sin but this moral-religious barrier was abolished without appeal. In vitro fertilization went beyond any technical, genetical and bioethical imagination and it became an almost trivial reality. Severe family planning in China, introduced around 1980, was considered, before that date, a SF film taboo of great emotional impact. Genetical reproduction of beings - clones - was also some time ago a terrifying science-fiction scenario, which begins to take shape today (Fidler and Gostin, 2007). What will the future bring, given the technological and scientific progress and especially, given the pressing needs of humanity? Will there be no bioethical and moral-religious barriers or will the harsh realities of life "break" them completely in order to allow the survival of the human species? Perhaps, in the absence of a natural or artificial apocalypse generated by humanity itself, all these barriers will be abolished. Perhaps only the colonization of other planets could allow future preservation of bioethical, moral and religious barriers in medicine and in life (Kickbusch et al., 2007). We still need to devise a smart strategy that does not dehumanize us!

7. Solving a system of equations with many variables: improving prevention and treatment in order to improve human health and increase life expectancy of the population; food, energy, mineral and especially limited socio-economic resources of the planet, uncontrolled population explosion in countries with emerging economies or less developed countries, the trend of demographic aging of the population in developed states or communities, criteria and principles of moral ethics and bioethics in modern medicine; criteria of democratic freedom of living options for the population. If all these elements are combined with the real economic and commercial interests of big pharmaceutical and medical companies, which tend to overtake all other modern industries, we have a very complex array to discern the correct courses of action of human civilization in order to improve the quality of life and economic development. Is a compatible system an incompatible or undetermined system? At first glance, the question seems rhetorical, it is easy to spot incompatibility between an increase in life expectancy linked to an increase in the birth rate, on one hand, and the need for rational exploitation of natural resources and limited, artificial resources of the planet we live on, on the other hand (Labonte et al.,2007).But in this case, we would have to take into account the sad and demoralizing conclusion that we are sinking into a swamp of maximum hypocrisy, supporting the idea of a continuous improvement of the preventive and interventionist system for human healthcare.

The real and serious problem is how and at what material, spiritual and moral cost we can turn it into a compatible system in order to bring some sense to our work, research and investigations which involve outstanding work and financial resources?

8. Identifying major administrative, organizational and logistical gaps in the national healthcare system. Causes and global effects of these shortcomings in the overall performance of the medical system for prevention and healthcare. Comparisons with advanced systems of developed countries in Europe and in the world. Why do Romanian doctors (and also Romanian pupils and students who are above the national average) usually have exceptional performance after leaving the country for states with modern and efficient logistic bases? Perhaps because, just as valuable craftsmen, they learn the ability and intuition to diagnose and cure patients under precarious logistical conditions in which a physician from a highly developed country would crack without appeal or maybe even easily give up on initiating the medical act. This idea should give us serious food for thought when it comes to our physician reference value, particularly general surgeons or specialized surgeons (neurosurgery, cardiovascular surgery, transplant surgery, ophthalmology surgery, ENT, neuroendocrine surgery) (Ruger,2008).

9. Concrete proposals regarding the general reform of the national healthcare system, with emphasis on the financial reform of the medical system.

Correct financing of the healthcare system, directly correlated with the proposed performance and goals, indicating potential real sources of funding in the current economic recession and the weakening of the state budget simultaneous with the impoverishment of the population (Sparke, 2009).

A new and realistic approach designed to reduce the huge financial gap caused by the difference in costs in the medical act performed in the private healthcare system and the cost in the public system, which is why the private sector is much less frequented, even if treatment conditions, convenience, medical logistics and civilized behavior are of greater quality than in the public system. It should be noted that even though patients are aware of the qualitative difference in favor of the private sector, they will choose the public sector (Princeton Project on National Security, 2006).

This important gap between costs represents the explanation for which in private healthcare facilities, the complexity of the medical act is generally lower than that of public healthcare facilities. In the private system, patients usually come for consultations, laboratory tests, short-term treatment and various medical procedures deemed acceptable in quality/price/time programming and consultation. The same reason makes the vast majority of doctors in private institutions to be simultaneously employed in the public system or otherwise have an inferior professional quality to those in the public hospital system.

3. MODERN MANAGEMENT STRATEGIES IN MEDICINE IN THE XXI CENTURY

1. Implementing and developing, in the national healthcare system, computerized medical diagnostic, monitoring, clinical investigation and treatment scheme, aided by specialized software with extensive clinical database that is continuously updated. Considering the immense difficulties in establishing a huge national and international database, this course of action primarily involves knowledge of the medical history of each patient, which involves creating an integrated electronic system at a national level, possibly using the national identification number.

Implementation can be done by taking medicine software methods from developed countries, with great tradition in this sense, and adapting them to the national experience, logistics and competence of specialists in computerized medicine, as a single or additional alternative to classical medicine.

2. Massive and fast implementation of the concept of diagnosis and multi/inter/trans-disciplinary treatment in emergency medicine and urgent surgery for severe and very severe polytrauma requiring decisive, accurate and very fast intervention in order to save the lives and health of patients who are on the verge of dying, as a result of accidents or incidents with complex repercussions on the human body in areas such as the somatic nervous system, neuropsychiatry, cardiology, orthopedics etc.

3. Massive implementation and use of consultation, diagnosis, monitoring and treatment of multi/inter/disciplinary specialties in general surgery and specialized surgery - preoperative, intraoperatively and postoperative regime for patients undergoing surgical intervention with multiple complications/problems/failures of physiological/psychological health.

4. Proposed modern, concrete and innovative solutions/strategies regarding the significant reduction, in surgical medicine, of medical errors which can cause death or serious illness in patients; solutions consisting of: backing up the coordinator of the operation with an assistant "copilot" with relatively comparable professional experience to that of the head surgeon as well as continuous monitoring of audio-visual evidence of the surgery both in the intraoperative and postoperative level as well as in the initial phase of anesthesia and preoperative preparation of the patient - the process is similar to the continuous monitoring of air and sea transport. This includes timely and transparent dissemination of experiences gained in an academic, clinical and professional environment.

Of course, implementing this strategy entails inherent logistical costs accordingly. These costs, although significant, are negligible compared to the expected benefits in perspective. In any field - especially in a field of utmost importance and sensitivity such as surgery - improving techniques, procedures, equipment, utensils and of course human resources, primarily involves actual knowledge of the realities, of the "strengths" and especially of the "weaknesses", of errors caused by imperfect technologies, procedures and logistical, material and human resources involved in surgery.

5. General presentation of the state of knowledge in the revolutionary field of human integrative biological systems. This area of research is also a major challenge in biology and it involves a better understanding of the complex interactions between humans and their biological and psychosocial environment. The basic principle of this modern discipline of study and research is the need for relevant analogies between human biological systems and various other complex systems from areas that are more tangible and less abstract, such as: engineering, physics, chemistry, socio-economic sciences. This allows both a deep understanding of human integrative biological systems as well as a way to facilitate conclusions and findings that are useful for the development of medicine and pharmaceuticals. The truly revolutionary element in Human Integrative Biology is that it gives up the classical reductionist idea by studying the human body as an ultracomplex whole in which any change in a particular microzone of the ensemble, makes sensible changes throughout the whole body. Human behavior is the core of this interaction, as it affects and is also affected by the deployment of integrative systems, physiology, the dynamics of environmental changes, the evolution of the environment. Relationships among organisms and their environment are often studied by integrative biology.

Specific research may involve genetic or environmental studies in order to solve complex biological problems. While always focusing on living organisms, the focus may vary from the smallest molecular studies to larger studies of the biosphere. The vital need of knowing these systems in medical practice and in the socio-economic life of human society will be highlighted; various examples and useful results of research conducted up to this point in the world; potential and significant improvements in medicine and human psychology expected in the near future by increasing research in this area.

6. General presentation of the state of knowledge regarding the mechanisms of human adaptation to the dynamics of the biological and psychosocial environment. The utility of knowing these systems in medical practice and the socio-economic life of human society. Methods of preservation, growth and improvement of human adaptation mechanisms to the dynamics of relevant biological and psychosocial environment factors in direct correlation with the study of human integrative biological systems.

Biological and psychosocial adaptation of the human body is a complex property including a number of phenotypic characteristics in relation to the actual requirements of environmental selection. Adaptive characteristics are those properties of form and function that allow the body to successfully maintain synergy between a biological or psychosocial role of this characteristic and a declared force of selection. Good adaptability can be measured by the amount of energy required to maintain synergy with that force of selection. A less amount of energy shows better adjustment. This selection refers to the demands on the human body made by the biological or psychosocial environment with which it interacts; demands with which the human body must cope in order to ensure the survival of the individual.

7. Courses of action of great priority in scientific research regarding the understanding, development and use of the knowledge gained in the field of human integrative biological systems with the aim of increasing the general level of national health. Acquisition of relevant experiences and studies in and outside the community with nationwide applicability. Including this relevant discipline - Human Integrative Biology - in the curriculum of higher biological and psychological education, with impact on the proper training of students in medicine, biology, pharmaceuticals, psychology and others.

A primary and deeply pragmatic goal of scientific research in Human Integrative Biology concerns the pharmaceutical industry and medical therapy, suggesting massive allocation of financial funds from the private area covering these activities. It is becoming increasingly obvious that the pharmaceutical industry cannot keep up with the development of human degenerative diseases.

Even in areas where the pharmaceutical industry (related to conventional medicine) can fight at an acceptable pace with the evolution of serious human diseases (many of which are incurable, the only

strategy in this regard aims to transform these diseases into chronic diseases), there is a profoundly dramatic evolution in the sense that more pharmaceutical products lose the manufacturing patent or are simply withdrawn from the market due to unacceptable side effects on human health or the potential of being used as illegal drugs. But what is more serious is the fact that such medication does not have alternatives with which it can be replaced, many allopathic therapeutic directions remain extremely poor or in some circumstances "empty".

8. Acquisition and improvement of new, modern, innovative, fast and effective prevention methods in human medicine. Acquisition and improvement of new, modern, innovative intervention methods in urgent medicine or high risk surgery in or outside the community. Analysing the implementation of a model for rapid consultation and supervision for surgery or reconstructive surgery, for critical cases, with interactive online participation or teleconference with highly qualified medical centers set up specifically with medical and academic personalities in the multidisciplinary structure. These conditions help to avoid - when the necessary equipment is locally available - moving critically ill patients for long distances or in difficult and traumatic conditions when they require treatment/surgery at urban, highly qualified medical centers. At the same time it can relieve the emergency medical system which is already so undersized and overcrowded in relation to actual surgical demands. Stress relieving and, simultaneously, reducing overcrowding in these classic institutions specializing in emergency interventionist medicine - emergency rooms of major municipal hospitals - will lead to a double advantage for the national healthcare system: 1. Increasing the quality of medical care in geographical areas that are held back in terms of interventionist specialization in emergency medicine, 2. Improving the quality and efficiency of medical care in urban medical centers specializing in high quality emergency medicine.

4. CONCLUSIONS

Certainly, nationwide medicine in the XXI century will mean massive growth for the private healthcare system at the expense of the public healthcare system. Perhaps the only effective way of dealing with human health in private systems, in the near future, is a pertinent analysis of atypical management alternatives targeting hospitalization and treatment offers on different quality levels that have the common goal of solving the medical problem of the patient as completely and quickly as possible.

Certainly the strongest managerial barrier in the private healthcare system - particularly regarding hospitalization, treatment and decisive surgery with varying degrees of difficulty and complexity - is represented by the price of medical services related to the effective financial possibilities of the

population. An immediate proposal would be to provide hospitalization and treatment offers on different quality levels that have the common goal of solving the medical problem of the patient as completely and quickly as possible. The underlying principle of this idea is based on a comparison with the extremely varied and diverse offers in the automotive industry. Just as in this industry superperformant concerns can provide car deals distributed on a wide range of types/ ubtypes and optional equipment, ranging from relatively modest to exorbitant prices, from various and decent engines to strong and luxurious ones - so should private hospitals set an essential objective in their management, namely solving the patient's medical problem in efficient and decent conditions. Many important additional issues may be taken into account, issues that concern: the general level of comfort and luxury of the building in which the respective wards are placed; special medical training for those who provide medical assistance; drastic conditions of cleanliness and hygiene; comfort conditions in the room and its ancillary spaces; special conditions for ensuring biological and microclimate utilities; luxurious ergonomic conditions; very friendly or even exclusive psychoaffective climate conditions; terms of care and attention to a particular patient and many other varied conditions. If all hospitals will be designed, engineered and constructed by this model, all the procedural conditions and the physical and psychoaffective comfort will be standard, all conditions of human resource training will be overly demanding, then the prices will be much simpler to calculate, however availability and, hence, the turnover will be much weaker than in the case of very diverse offers.

Obviously it is neither simple nor easy to realise a flexible, multifunctional and intelligent "architecture" for such a complex private hospital which would be able to generate diversified offers in interventionist medicine as well as in investigation, hospitalization and monitoring. However, it is easy to note that, currently, an immense importance has been constantly given to the "artistic impression" of these hospitals regarding architecture and utilities as well as the psychoaffective and behavioral environment. This constantly and inevitably leads to unbearable prices by potential patients. Perhaps the salary of the medical and auxiliary staff as well as the algorithm with which it is calculated can be reviewed in order to optimize prices. This must be understood long before the invasion of private hospitals becomes the biggest threat to this business segment which is focused on a social segment that gets increasingly narrower. Regarding applicability, the most difficult aspect seems to be achieving an ensemble which is more flexible and adaptable to the dynamics of human health development, the progress of medicine and, especially, the unpredictable changes in the socio-political plan. Either way, we should take into account the idea that the most important thing is, by far, the effectiveness of medical or interventional therapy. In the absence or the lack thereof, the others will lose their novelty and interest in time.

REFERENCES

- Aday, L.A. (2005). *Reinventing public health*, San Francisco, CA: Jossey-Bass.
- Alcazar, S. (2008). "The Copernican revolution in health and foreign policy", Graduate Institute Geneva, Working Paper, 2, pp. 35-44.
- Baum, F. (2008). *The new public health*, Oxford: Oxford University Press.
- Breslow, L. (1999). "From disease prevention to health promotion", *Journal of the American Medical Association*, 281, 11, pp. 1030-1033.
- Buse, K., Hein, W., Drager, N. (2009). *Making sense of global health governance: the policy perspective*, Basingstoke: Palgrave Macmillan.
- Clive, J. (2010). *Global Status of Commercialized Biotech/GM Crops*. Retrieved April 21, 2014 from: <http://isaaa.org/resources/publications/briefs/42/executivesummary/default.asp>.
- Collier, P. (2008). *The bottom billion: why the poorest countries are failing and what can be done about it*, Oxford: Oxford University Press.
- Dahrendorf, R. (2012). *Die krisen der demokratie*, Munich: Beck Verlag.
- Fidler, D.P., Gostin, L.O. (2007). *Biosecurity in the global age biological weapons, public health, and the rule of law*, Stanford, CA: Stanford University Press.
- Kickbusch, I., Silberschmidt, G., Buss, P. (2007). "Global health diplomacy: the need for new perspectives, strategic approaches and skills in global health", *Bulletin of the World Health Organization*, 85, 3, pp. 230-232.
- Labonte, R. (coord.) (2007). *Towards health-equitable globalisation: rights, regulation and redistribution: final report to the Commission on Social Determinants of Health*, Geneva: WHO.
- Princeton Project on National Security (2006). "Forging a world of liberty under law: U.S. national security in the 21st century: final report of the Princeton Project on National Security. Princeton", NJ: Princeton Project on National Security.
- Ruger, J. P. (2008). "Normative foundations of global health law", *Georgetown Law Journal*, 96, 2, pp. 423-443.
- Sparke, M. (2009). "Unpacking economism and remapping the space of global health", in Williams, O., Kay, A. (eds.) *Global health governance: transformations, challenges and opportunities amidst globalization*, pp. 165-171, London: Palgrave.