

RELATIONSHIP BETWEEN HUMAN HEALTH AND PLANETARY HEALTH

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Abstract: *In addition to sustainability, planetary health and megatrends have now become some of the most important aspects of global society. Human health is closely linked to the health of our planet and is influenced by the changes caused by different trends. Particularly important are the megatrends that bring about sustainable changes for all of humanity. These changes can have serious consequences both on an individual level and for society as a whole. Megatrends are complicated changes that are mapped onto models to represent the changing world. Megatrends serve as a basis for some research or developments. Megatrends put evaluations, aspects, economic aspects, strategic aspects into context. They arise from developments that change society in the long term. These trends are changing the healthcare industry. Thus, there is greater differentiation, digitalisation, diversity (new economic sectors are developing), individualisation and hygiene in the trend. This paper presents the human influence on planetary health and the resulting changes to our planet and our health.*

Keywords: *health, planetary health, trends, megatrends, society, human influence*

INTRODUCTION

Our lives are influenced by many factors. Through so-called megatrends, certain developments also exert influence on our health. The Institute for Future Research and Future Science (Zukunftsinstitut) has been studying these megatrends intensively and has developed for this purpose a “health trend map”. The latter contains trends which represent different stages and areas of human life. The “health trend map” is developed by futurologists and is under constant monitoring. With connection to this some important questions arise.

Some of the questions that researchers examine are:

- What motivates people to live healthily and consciously?
- How is it possible to better connect the healthcare system and the people? (see Megatrend

Documentation 2023, n. p.).

Megatrends are complex changes that are mapped out in models to represent the changes in the world. They serve as the basis for various research and developments and take into account evaluation aspects, economic aspects and strategic aspects. In order for an influencing factor to be called a megatrend, certain requirements must be met. In addition, there are various ways of categorizing megatrends.

The requirements and categorization options are shown in Table 1.

Table 1. Prerequisites and classifications of a megatrend (Source: Own illustration, based on Megatrend Documentation 2023, n. p.)

Prerequisites for a megatrend	Classification options for a megatrend
Duration: at least 50 years All-presence: affects all areas of life Globality: worldwide phenomenon Complexity: affects several dimensions	Natural trends Sociocultural trends Megatrends Technological trends Time trends and fashion Microtrends

Megatrends arise from developments that change society in the long term. In the healthcare sector these include prevention, health management, self-management, psychosocial health and digitalization.

The origins of megatrends include progress, economic change, and innovation. Table 2 lists influencing factors, trends and health trends, which appear to be related (see Megatrend Documentation 2023, n. p.).

Table 2. Relationship between influencing factors, trends and health trends (Source: Own illustration, based on Megatrend Documentation 2023, n. p.)

Influencing factors	Trends	Health Trends
Urbanization Climate changes Scarcity of resources Changes in economic power relations Demographic changes	Globalization Mobility Connectivity Neo-ecology (sustainability) Health Knowledge culture (the world is getting smarter) Individualization Gender shift (change in traditional gender roles) Security Silver society (older people stay fit)	Individuality Knowledge as a Personal responsibility Disease prevention Health as a value Holistic approach Social responsibility Quality of life Self-optimization Nutrition-Fitness Eternal youth Mental strength

Megatrends also serve as an orientation and classification tool to enable a better understanding of our world. Our world is changing. Through megatrends, humanity is experiencing a life-restructuring process. These processes influence health and the quality of life (see Megatrend Documentation 2023, n. p.).

**THE IMPORTANCE OF TRENDS ON PLANETARY HEALTH
HUMAN IMPACT ON PLANETARY HEALTH**

Trends affect our entire lives, as well as our planet. Humans have changed 77% of the land areas and 87% of the oceans, with rivers undergoing artificial straightening to create illustrated areas. In the process, animal species become eradicated, forests are cut down, land is tilled and the air is polluted by the use of fossil fuels. These processes have rendered a large part the earth’s surface uninhabitable and have recently led to flood disasters, heat waves and cold waves (cf. Krautwig et al. 2022, n. p.).

The shifting of natural boundaries endangers people’s well-being. Hunger and poverty prevail in dozens of regions. Globalization increases the danger of overexploiting the earth’s natural resources. Such

factors have a negative impact on the development of the world's population, on health, the environment, the ecosystems and the biodiversity. An estimate of 150 species become extinct every day. This number serves only as an orientation since new species are also discovered on a daily basis. Yet, large areas of the earth with high biodiversity have research gaps, which is where most species become extinct (cf. Rahmstorf et al. 2019, n. p.).

Planetary health means a healthy relationship between man and nature. If people treat nature with respect, instead of changing it entirely, our planet will become stronger. Man should accept nature as it is and live in harmony with it. Nature is self-sufficient. Man wants to exert influence over it through power and his own rules, yet, nature has its own power, its cycles and its own rules, which we should try to adapt to, not change. Society, politics, education and science play an important role in this process (see Megatrend Documentation 2023, n. p.).

CHANGES FOR THE MANKIND

The destruction of biodiversity, the greenhouse effect, the pollution of fertile soils and the use of antibiotics pose a high risk to healthy food production. Chemical substances and fertilizers are used profusely to make arable land fertile. Some economically advanced countries are using these effects to create a food surplus, in other world regions, however, where drought or flooding are the order of the day, there is less and less food. This means that around 800 million people suffer from starvation and 2 billion are malnourished. On the other hand, 2 billion people are overweight, which also leads to significant health problems (lack of important nutrients and diseases of affluence, such as type 2 diabetes, high blood pressure, coronary heart disease, etc.). These changes lead to changes in social developments with the number of people living in poverty continuing to rise. Such people have little opportunity to protect themselves against diseases, becoming not only poor, but also sick (see Megatrend Documentation 2023, n. p.).

Humanity is facing major challenges due to the changes in living space. Most people live in cities, where the dense population causes infrastructure and health problems to arise (e.g. air pollution, asthma, allergies, infectious diseases, lack of exercise, etc.). Infrastructure problems often include housing and rental problems. It is not possible to offer enough housing in a restricted space in state-owned areas. In contrast, rural and village areas are in danger of dying out. Residential areas where perhaps two hundred people live, despite the fact that there is room for several thousand, are not supported and have poor infrastructure, resulting in the loss of residential appeal to people. Lack of jobs and cultural programmes forces people to move to the cities. Mobility and education are also important environmental factors. A sparsely populated area usually has no opportunity to develop a transport system, which is an essential part of daily life. This can cause isolation or the necessity to use combustion vehicles harmful to the environment. Schools are usually a great distance away from rural residential areas, which means that children and young people need to spend a lot of time commuting every day. All these problems make rural and village residential areas unattractive and people move to the cities (see Hurrelmann 2006, p. 99).

The pandemic intensified our awareness of and our attitude to health. Many planned operations or general healthcare aspects were reduced because healthcare services were overburdened by the acute emergency situation. People were sometimes compelled to assess their health situation on their own and make do with limited care infrastructure. But the acute state of things during the pandemic also had a positive effect because people were encouraged in the future to focus more closely on their health and to try to stay fit. Each individual needs to take responsibility for themselves, which leads to a more determined, mindful and prevention-oriented behavior (see Lauterbach 2018, n. p.).

As a result of demographic changes, the population stays fit and healthy longer, which increases life expectancy. Starting with the baby boomer generation, people have become more agile and fitter than previously. However, medical and nursing care are facing a challenge because of the shortage of skilled workers. Nursing staff are often recruited from abroad to ensure basic care. Immediate reform is required in health professions such as nursing and medicine. These professional groups should receive more respect in social terms and better framework conditions in the future. An important aspect is that the population consciously understands the difference between basic needs and luxury. It is important

that people invest more money in their health care and thereby stimulate financially professional groups in such fields of service. A reform of nursing care insurance is long overdue, as is the issue of hospital restructuring (see Lauterbach 2018, n. p.).

Many aspects are also related to the flow of information and knowledge. The Internet makes information, fashions and trends easily accessible. The “full insurance mentality” is changing. People are beginning to realize that health is an expensive and complex process. Some sections of society understand that a healthy lifestyle can help maintain health and thus reduce costs. Investing time and energy in your own health pays off, while an awareness of prevention and care should be the rule, rather than the exception. Many diseases can be handled easily and with success in the early stages, which in the long term can reduce health costs. Expensive treatment, surgery or lifelong drug therapy can sometimes be avoided just by applying preventive measures early enough (cf. Altgeld et al. 2012, pp. 187–197).

Recently, a lot of insecurity, exacerbated by wars, social inequalities and political extremes, becomes noticeable in society. Similar facts are presented in the media at all times. The Bertelsmann Foundation (2024, n. p.) has found out in its latest study that loneliness is the “new pandemic”. Loneliness also affects young people and cannot be limited to the elderly. Due to mass migration and the endless possibilities of digital and virtual contacts, this aspect reveals itself as a contradiction.

THE IMPACT OF HUMAN’S ACTIONS

Our planet’s ecological capacity is currently stretched to the limit. If the earth is not healthy, people cannot be healthy either. Planetary health depends on various factors, including nutrition, consumer behavior, mobility, and more. By consuming less meat, we can save CO₂ and thus have a positive impact on climate change, while environmentally friendly mobility solutions contribute to better air quality. Extensive environmental pollution has led to an increase in cancer illnesses and an increase in psychological stress. The number of allergic and respiratory diseases has also increased many times over. The production of food involves the use of complex technology, as well as chemicals and additives, leading to an increased health risk. Because of global trade possibilities, local and domestic food is driven out of the market by exotic fruits, vegetables or other types of food. Today it is not unusual to buy all kinds of fruits all year long. It is possible to buy cherries or strawberries in December, for example. These varieties are transported to Europe by ship or plane while still unripe and are left to ripen on site with the addition of chemicals. During transportation, CO₂ is emitted, which has a negative impact on the greenhouse effect. Furthermore, the chemicals involved in these processes cause great damage to the human body (see Lauterbach 2018, n. p.).

At demographic level, health is influenced by megatrends, which include security, mobility, digitalization, education, environment, nutrition, exercise, etc.

Individual health can be affected by environmental factors, unhealthy diet, poor hygiene or inadequate medical care. This is evident in countries such as Afghanistan, Libya or in numerous other African or South American countries. Millions of people have no access to clean water or basic food supplies. Hygienic conditions and health care in such places are of great concern. In rich industrial countries, on the other hand, where everything is in abundance, people tend to damage their health through the development of harmful habits, such as alcohol, tobacco and drug consumption.

In our modern society, health is an important factor which provides people with a sense of security, comfort and self-esteem. One of the most essential skills regarding our personal health is to maintain it, boost it and avoid disease. These skills should be nurtured and brought into harmony with nature (cf. Hurrelmann 2006, p. 99).

These above findings lead to a greater awareness and more holistic actions in relation to environmental conditions and influences. In this sense, it is also important to develop a greater understanding of our relationship with planetary health. Altgeld and Kickbusch (2012, pp. 187–197) emphasize the reinforcement of personal and social health competence, as well as the promotion of a systematic, growing connection between people and nature. To this end, strategies, concepts of salutogenesis, empowerment, self-determination and intersectoral connections should be reinforced.

MEGATRENDS IN HEALTH

Megatrends in health emphasize individuality and thereby change the healthcare industry. These trends include greater differentiation and digitalization, as well as the promotion of diversity and hygiene. It is crucial to ensure a good work-life balance, to strengthen the flexibility and self-determination of the individual, to create a solid infrastructure, to promote social interaction and to support leisure activities.

The most important health literacy skills include the ability to maintain and promote one's own health and to prevent disease (cf. Hurrelmann 2006, p. 99).

The European Health Literacy Study (HLS GER2) has shown that 54% of the German population have limited health literacy. Therefore, a national action plan is needed to improve health literacy. What presents a challenge is the fact that people are often unable to make health-related decisions. Thus, it is important to cover the costs of such concepts and to ensure a coordinated approach.

Health literacy can lead to a better competence when dealing with nature and the use of resources, which necessarily give nature and planetary health a higher priority in a possible action plan.

Health literacy is measurable. In 2011, the health literacy of 8,000 people across Europe was examined with the data being evaluated and partly published by the University of Bielefeld.

The study found that health literacy in Germany is strongly influenced by educational level, migration background, age and chronic diseases. 9.7% of the German population show inadequate competence, 44.6% problematic competence, 38.4% sufficient competence and only 7.3% excellent competence (see Lauterbach 2018, n. p.).

These figures make it clear that the responsibility for promoting health literacy lies with society, the economy of a country and its politics. It is a skill that should be built up and maintained from early childhood to old age. Competence development and maintenance is a lifelong learning process and the health and competence aspect must be present in the curriculum of all educational institutions.

A healthy relationship between people and nature and the promotion of planetary health can be achieved through the following measures:

- Promoting health literacy in all areas of life
- High priority of nature and planetary health through general education
- User-friendly design of the health system
- Systematic research into health literacy
- Systematic research into the connections between planetary health and human health
- Sustainability
- Resource-oriented production
- Shorter transport routes
- Wider distribution of local agricultural products on the market
- Barter system of trading
- Mindful handling of nature
- Mindful handling of raw materials
- Abolition of plastic (global and radical)
- Waste disposal (new innovative processes and their research)
- Climate competence
- Fair distribution of resources
- Promoting third countries locally with innovative projects
- Effective use of globalization and information structure (example: online conferences instead of air travel to conference location)
- Higher tax on luxury goods
- Higher tax on consumer products that are harmful to health
- Cautious handling and control of migration and mass migration

These aspects and tasks can help to achieve a functioning ecosystem and a balanced climate, promoting in this way the health of our planet and that of the people.

Further developments in this field make younger generations more aware of the fact that personal health, nature and planetary health, along with the skills and an ethical attitude, which includes justice,

respect and reason, play an essential role in modern world. The above components should be in line with everyday life, whereby the priority of health, nature conservation and a healthy planet should be self-evident on a global level. Health, nature conservation and the health of our planet should be actively incorporated in our lives and not just spoken about. Every day that spent in passive indifference, changes dramatically our security and future. The current generation bears an immense responsibility for the future, it serves as a role model in the establishment of the right attitude and approach that are to be adopted by coming generations. In this way, next generations can have a chance for a better life and a better world.

RESULT/CONCLUSION

In many people, who consciously follow the processes described above, a sense of greater uncertainty and fear arises. Such negatively charged impressions can generate respect for nature and our planet.

These aspects can also create incentives to take care of our own health and the health of our planet. Everything we do today has consequences for the future. We are constructing nature, the world and our planet for future generations. It is possible that our children receive a future that need not undergo any changes.

Numerous aspects can still be reconsidered and developed, and this should happen without delay. The sooner we start conserving resources and preserving nature, the healthier our life and planet will be.

Such aspects include environmentally friendly mobility, sustainability in medicine and care, a minimalist and nature-oriented lifestyle, innovation, individuality and the reduction of consumer behavior, as well as the promotion of robotization and corporate health management.

As an author of the above article, I find that the reflections and the number of problems presented here may have a deeper impact and evoke a need for a change in one's own life.

The article is intended to give all readers the opportunity to deal more intensively with the discussed topics, to provoke them to take action and to encourage them to initiate change.

It is never too late to consciously shape our future.

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ВРЪЗКАТА МЕЖДУ ЧОВЕШКОТО ЗДРАВЕ И ЗДРАВЕТО НА ПЛАНЕТАТА

Резюме: В допълнение към устойчивото развитие здравето на планетата и мегатенденциите се превърнаха в едни от най-важните аспекти на глобалното общество. Човешкото здраве е тясно свързано със здравето на нашата планета и се влияе от промените, причинени от различни тенденции. Особено важни са мегатенденциите, които водят до устойчиви промени за цялото човечество. Тези промени могат да имат сериозни последици както на индивидуално ниво, така и за обществото като цяло. Мегатенденциите са сложни промени, които се нанасят върху модели, за да представят променящия се свят. Мегатенденциите служат като основа за някои изследвания или разработки. Мегатенденциите поставят оценките, аспектите, икономическите аспекти, стратегическите аспекти в контекст. Те възникват в резултат на развития, които променят обществото в дългосрочен план. Тези тенденции променят сектора на здравеопазването. Така в тенденциите се наблюдава по-голяма диференциация, цифровизация, разнообразие (развиват се нови икономически сектори), индивидуализация и хигиена. В настоящия документ е представено влиянието на човека върху здравето на планетата и произтичащите от това промени на нашата планета и нашето здраве.

Ключови думи: здраве, планетарно здраве, тенденции, мегатенденции, общество, човешко влияние

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