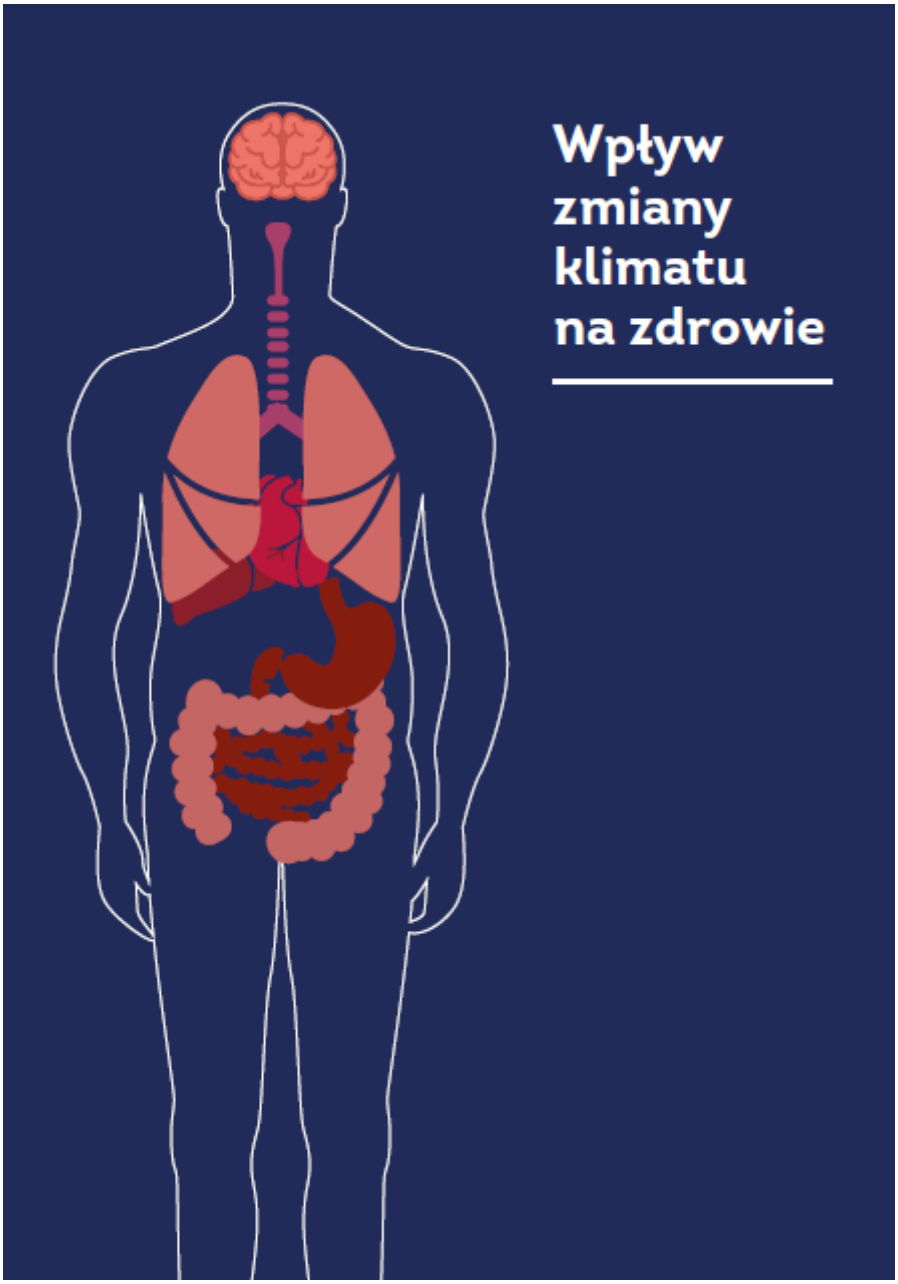

Report:

The impact of climate change on health

Executive Summary – English version –

A report by the Health and Environment Alliance (HEAL) and the Polish Climate Coalition

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The phenomenon of climate change, observed for years and constantly intensifying, has had a negative impact on health, significantly deteriorating the quality of life of people in many regions of the world, including Poland. Already now we are dealing with increasingly frequent extreme weather phenomena. Hurricanes, storms and increasingly longer heat waves no longer surprise us. Unfortunately, this is merely the beginning of the negative effects of climate change. Others will come before long.

In the coming years, many other new threats will be observed, such as flooding of ocean islands, desertification of areas exposed to water scarcity or serious loss of biodiversity, which will translate into food security. However, it does not end there.

Climate change leads to a number of negative health effects. The World Health Organization estimates that currently climate change is directly responsible for more than 140,000 deaths per year, particularly in Africa and South-East Asia[i] . By 2030, this number will increase by 250,000 deaths per year due to malaria, heat stress, diarrhea and malnutrition[ii] . On a global scale, the direct economic costs of climate change in terms of health deterioration may amount to USD 2–4 billion per year[iii] .

According to the Global Risks Report 2018 published by the World Economic Forum, extreme weather phenomena are the greatest threat to world order and stability over the next decade[iv v] .

And no wonder. With each passing year, not only does the frequency of their occurrence increase perilously, but also the severity of their devastation.

Negative health impacts are caused by:

- heat waves – one of the most significant cases of deaths caused by heat waves was recorded in August 2003 in Europe, when more than 70,000 people died in 12 countries[vi] . In hot weather, in the absence of wind and rainfall, the concentration of allergens and pollen in the air increases. This results in the malaise and poor health condition of allergy sufferers and asthmatics, whose number is estimated to be over 300 million [vii].
- hurricanes – in 2005 hurricane Katrina caused the death of 1,836 people in the USA[viii] . A further 705 people were declared missing. Hurricanes are also a problem in Europe. Hurricane Ophelia, which hit Ireland in October 2017, caused three deaths.
- floods – they constitute nearly 40–50% of all natural disasters. In 2000–2014 they caused over 2,000 deaths in Europe, with approximately 8.7 million people exposed to their effects [ix]. The greatest threat to health and life from floods occurs in Asia, especially in developing countries. In recent years, ca. 400 million inhabitants of the continent have been exposed to the adverse effects of floods every year. Between 1987–1997, 228,000 people died in floods on the Asian continent.

Climate change is also associated with the spread of infectious diseases transmitted by living organisms (vectors) such as flies, mosquitoes, ticks, lice and rodents. The changing climate conditions contribute to the growth of their population and the area of their occurrence. Vector-borne diseases already account for more than 17% of all infectious diseases, causing more than 700,000 deaths per year[x] .

The health effects of climate change are also present in Poland. The heat wave in 1994 contributed to the increase in mortality by 66 deaths in Warsaw alone (30 people died due to cardiovascular diseases). An increased risk of death occurred in many Polish cities: in Szczecin the risk increased by 23%, Wrocław – 43%, Poznań – 49%, Łódź – up to 63%. According to research carried out in Poland, air temperature has an impact on the increase in mortality due to circulatory failure. The number of deaths in the years 1960–1990 increased from 100 to over 550 per 100,000 inhabitants. The rise of air temperature in Poland is also related to the increase in the incidence of allergic diseases. The number of patients with allergic rhinitis and bronchial asthma has doubled in the last decade [xi].

The risk of violent weather events is growing year on year. Between 1997–2012 there were 9 floods in Poland, affecting nearly 370,000 people and causing deaths of 113 people[xii] . In 2010, more than 20 people died as a result of floods, with damage estimated at more than PLN 10 million. The one in 1997 was even more severe, contributing to 55 deaths and damage at the level of PLN 12.8 billion[xiii] . In 2001–2011, the costs caused by the effects of climate change in Poland, including violent weather events, amounted to as much as PLN 56 billion. Meanwhile, damage caused by atmospheric phenomena at that time reached PLN 90 billion[xiv] .

The spread of infectious vector-borne diseases is a major threat to health in Poland. One of the biggest threats is posed by the castor bean tick, which causes Lyme disease. Between 2005–2014, the number of cases more than tripled from 4,406 to 13,868 per year[xv] .

This report contains two scenarios presenting the health impacts of climate change.

The first assumes that by 2100 the increase in global average temperature will exceed 3°C, i.e. measures to protect the environment will be insufficient to halt climate warming. In the second one, the increase in global average temperature will be limited to well below 2°C, thus achieving the 2100 objective set in the Paris agreement.

The analysis showed, both globally as well as with regard to Poland, that the implementation of the second scenario means a significant reduction in the negative health effects of climate change, but does not eliminate them altogether. The number of premature deaths from fossil fuel combustion in the EU, the US and China would decrease by nearly 1.2 million. This scenario would create savings of around USD 490 billion in these three regions by 2030 by reducing coal transport costs alone! These funds could be used, for instance, to improve the quality of the health care system. The fact that an average of 27% of the EU population negatively assesses the overall quality of health care (in Poland this number is several times higher and equals 62%) proves how much this is needed.

The health care system will have to prepare for a number of new challenges which lie ahead. These include the need to identify and monitor the growing public health risks associated with the direct effects of climate change (e.g. droughts, floods, extreme weather events). Of extreme importance is also the ability to cope with the indirect effects of warming, such as the deepening social inequalities or threats to the groups most at risk. Further challenges include preparing physicians and medical staff for the treatment of diseases which may occur in Poland, as well as developing strategies to combat the spread of vector-borne diseases. Educating patients about the risks of climate change is also immensely important.

Achieving the above objectives will require an increase in financial outlays on the health care system. In 2016, the value of public subsidies for mining and coal-fired power generation in Poland amounted to PLN 9.2 billion. This is more than 11% of the state's health care spending. If these resources were to support the health care system, it would facilitate the preparation for the challenges linked to the current and projected effects of climate change. It would also increase the safety and quality of life of Polish women and men.

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[v] *The Global Risks Report 2018* presents, among other things, the results of a survey conducted among nearly a thousand opinion leaders and experts from all over the world, who identify the greatest risks in a given year.
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The Health and Environment Alliance (HEAL) is the leading not-for profit organisation addressing how the environment affects human health in the European Union (EU) and beyond. HEAL works to shape laws and policies that promote planetary and human health and protect those most affected by pollution, and raise awareness on the benefits of environmental action for health.

HEAL's over 70 member organisations include international, European, national and local groups of health professionals, not-for-profit health insurers, patients, citizens, women, youth, and environmental experts representing over 200 million people across the 53 countries of the WHO European Region.

As an alliance, HEAL brings independent and expert evidence from the health community to EU and global decision-making processes to inspire disease prevention and to promote a toxic-free, low-carbon, fair and healthy future. HEAL's EU Transparency Register Number: 00723343929-96

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