KARL LANDSTEINER
PRIVATUNIVERSITÄT FÜR GESUNDHEITSWISSENSCHAFTEN

Theme Guide

ENERGY SECURITY AND HEALTH

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Austria Model WHO

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OUR STORY

Model World Health Organisation (WHO) is a **simulation of the World Health Assembly** conducted at the World Health Organisation every year in Geneva, Switzerland. Participants act as Delegates of countries and get **hands-on experience in diplomacy and health policy making**. Model WHO is inspired from the Model United Nations, which is popular across the world. Having participated in and having organised such conferences in the United Kingdom, we want to introduce this prestigious conference model to Austria. We want to conduct this event in **Karl Landsteiner University of Health Sciences**, Krems, and put Lower Austria on the map of International Global Health community.

ENERGY SECURITY AND HEALTH

Health is one of the primary dimensions in which human security is threatened. This is particularly evident at the individual level, where the health of the individual is the primary axis on which healthcare and human well-being is centered. However, this also manifests at the population level in the form of interactions between health and health-determinants such as socio-economic status, education, and living conditions. The Social Pact of the United Nations contains the right to "highest attainable state of physical and mental health" as one of the economic, social and cultural rights, underlining the importance of health security as a way of promoting human security.

ENERGY SECURITY

One aspect of human security is energy security - the supply of low-cost, reliable, secure and sustainable energy sources to both the nation state and the individual. Energy vulnerability and energy insecurity are increasingly becoming a major threat to human security, owing to political conflicts, economic instabilities and climate change. The various social determinants of health - housing, education, air quality, cleanliness, nutrition, socio-economic status - depend on the energy sector to ensure a high quality of life. Health and energy are linked to each other, and the policies and behaviors of actors in one affect the other. Energy policy discussions are increasingly considering public health implications as a priority.

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INDIVIDUAL HEALTH

At the household level, energy insecurity (also called energy poverty) is "an inability to adequately meet basic household energy needs" like cooking, lighting and thermal comfort (Hernández 2016). A handful of studies in the USA have linked energy insecurity to food insecurity, increased hospitalizations and developmental effects in children (Cook 2008), and a "heat or eat" trade-off (Frank 2006) in low-income households where thermal needs take a backseat compared to other necessities such as food.

The main drivers of energy poverty are high energy prices, low-income households and energy inefficient housing. These drivers are also linked with structural determinants such as governmental policies in the energy, housing, labor, economic sectors. Energy poverty is a major social problem in the EURO region and will only continue to rise due to the rising energy prices, increasing inequality and climate change. It is estimated that energy poverty affects 15-125 M people in the EU. Several studies have documented the negative effects of energy poverty on people's health and wellbeing, often increasing morbidity and mortality rates.

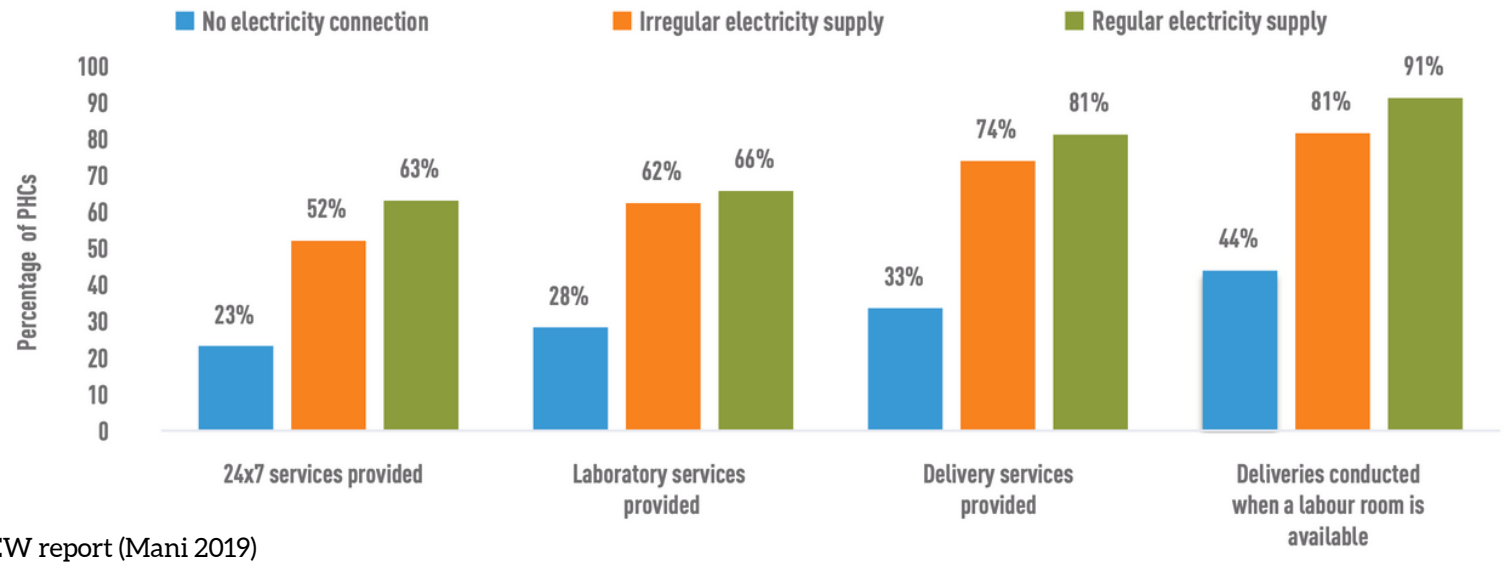
Other studies in Europe have identified "fuel poverty", the inability to pay for thermal comfort (Thomson and Snell 2013), association of a cold, damp home with mental health issues (Harrington 2005), and insufficient heating related excess winter deaths in the EU (Healy 2003) as some important concerns on the energy-health axis. As of 2020, more than 3 million households experienced fuel poverty in the UK. According to a recent report by York University more than half of the households in the UK (15 million people) will be pushed into fuel poverty by January 2023. The report predicts that even with the £400 fuel rebate being offered by the government, 58.5% of households in Yorkshire and the Humber, 47.5% in London and 71.7% in Northern Ireland, will be plunged into fuel poverty. People living in the coldest and the poorest parts of the UK, a vast fraction of large families, lone parents and pensioner couples will be the worst-affected. Between December and March, on average, the UK experiences around 32,000 excess deaths, with over 11,000 winter deaths due to cold homes, a number that is more than those due to alcohol or Parkinson's disease. Fuel poverty puts households at risk of cardiovascular, respiratory and circulatory diseases and has also been linked with poor mental health. Damp and mold are associated with 30-50% of increased respiratory problems. Fuel poverty accounts for 3.6 million pounds per day of the cost borne by the healthcare system, making fuel poverty reduction a priority in protecting the NHS and other healthcare services.

HEALTHCARE SECTOR

Interactions between the energy sector and the health sector operate at many levels and in multiple manners. The health sector itself is an important energy consumer, accounting for about 5-8 % of the global consumption. An initiative from the health sector can go a long way in accelerating the shift towards sustainable and renewable energy sources, thereby reducing the negative externalities of fossil fuels. On the other hand, a secure energy supply is critical to operate healthcare infrastructure from hospitals to cold chain systems for vaccines and medicines. One striking illustration of these interactions is that almost 50% of all vaccines worldwide are wasted because 60% of refrigerators in clinics lack a reliable electricity supply.

In India and other SEARO countries, a non-negligible fraction of the population, especially in the rural areas, lack power supply entirely or face significant reliability issues in their power supply. One consequence of this is a heavy reliance on traditional fuels like biomass and firewood, and this creates serious health risks for a huge fraction of the population (Khatod 2022). As of 2013, half of India's PHCs (Primary Health Centers), which are the country's crucial infrastructure for rural healthcare service delivery, were crippled with either non-existent or with unreliable power supply (Mani 2019). This has affected crucial aspects of healthcare services like newborn care, cold chain equipment, labor services and shortage of staff. For example, PHCs with a regular supply of electricity conducted 50 % more deliveries than those PHCs without, despite the latter having a labor room and trained staff to handle child deliveries. Similarly, PHCs with a regular electricity supply immunize 50 % more children than the ones without, despite having trained staff and the cold chain equipment to store vaccines.

Figure 8: Service provision improves with improvement in electrification status of the PHCs



CEEW report (Mani 2019)

CURRENT ENERGY INSECURITIES

The current energy crisis in Europe, owing largely to the political crisis in Ukraine due to the ongoing Russia-Ukraine conflict, is vastly affecting human security in many European countries. Energy insecurity leads to economic insecurity due to rising energy costs, and results in trade-offs between health and other resources, either directly or indirectly. The upcoming winter is expected to bring a thermal crisis, with the rising energy costs not being affordable to all sections of the population (Heshmati 2017).

Another current crisis is the political and energy crisis in Sri Lanka. These crises have led to fuel insecurity and food insecurity, both of which, apart from energy insecurity, also have an adverse impact on the health of the people and the healthcare system. Massive power shortages, lack of medicines and medical equipment due to disruption of power systems and fuel supply have put many patients at risk (ReliefWeb: Sri Lanka: Food Security Crisis, Modern Diplomacy: Sri Lanka's economic crisis pushes health system to brink of collapse).

From these, it is clear that existing energy insecurity concerns in the EURO and SEARO regions affect crucial aspects of healthcare. While the Russia-Ukraine conflict is expected to lead to a heating crisis in the upcoming winter in Europe due to rising costs that cannot be met by households, the SEARO region has been affected by a non-existent or unreliable power supply to rural parts, crippling the already weak healthcare infrastructure.

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CLIMATE CHANGE

The energy sector is a major cause of climate change. It contributes two thirds of global greenhouse gas emissions, and hence directly contributes to worldwide health risks. This is, in part, because opportunities to shift towards renewable energy sources are plagued by inequalities at multiple levels from households to nation states (Moreno-Munoz Nature 2021).

The effects of climate change on health are multi-faceted - an increased propensity for natural disasters like heat waves, hurricanes and floods causes many injuries and deaths. Floods and storms also lead to unhygienic living conditions and decreased drinking water quality, resulting in quicker spread of infectious diseases, diarrhea, malaria and malnutrition (SEARO Climate Change Review, WHO). Dust storms contribute to health problems like skin and eye irritations, and asthma. Droughts are linked to wildfires and smoke exposure, and also disrupt food security. Higher temperatures and heavy rainfall is linked to diarrhoeal diseases, and increasing vector populations that lead to greater levels of disease transmission. Therefore, the negative externalities of fossil fuel consumption, which is linked to energy insecurity, extend to a diverse array of health consequences via climate change.

SEARO Climate Change Review, WHO

OUTLOOK: RESOLUTIONS & SDGS

Our health and the health of our planet are closely intertwined. Almost ¼ of deaths and diseases globally are caused by environmental factors (Energy and Health, WHO website), which include air pollution, climate change, radiation, unsafe infrastructure, lack of clean water and sanitation. To eliminate or at least substantially reduce this disease burden and to address challenges in health, environment and climate change rapid action at national, regional, local and sector-specific level is required. The WHO and other UN organizations have compiled a Compendium on Health and Environment, it is a systematic compilation that addresses all major areas of health and the environment into one resource. In response to addressing the effects of air pollution on the health sector, in 2015, the 68th World Health Assembly adopted resolution WHA68.8 and noted that indoor and outdoor pollution are both among the leading and avoidable cause of death globally, and that it is the world's largest single environmental health risk. The Paris agreement also highlights the need to reverse drastically the current trend in the generation of climate change gasses.

Energy is linked with most of the global challenges we are facing right now and in future. Access to clean, sustainable and affordable energy is a major challenge and is outlined in SDG 7, it has a huge role in improving health (SDG 3). Energy is also linked with other sustainable development goals such as access to clean water (SDG 6), jobs security and economic growth (SDG 8) and combat of climate change (SDG 13). The absence of clean energy adversely affects the health and livelihoods of the people, more specifically the people in low and middle income countries.

THE GLOBAL GOALS

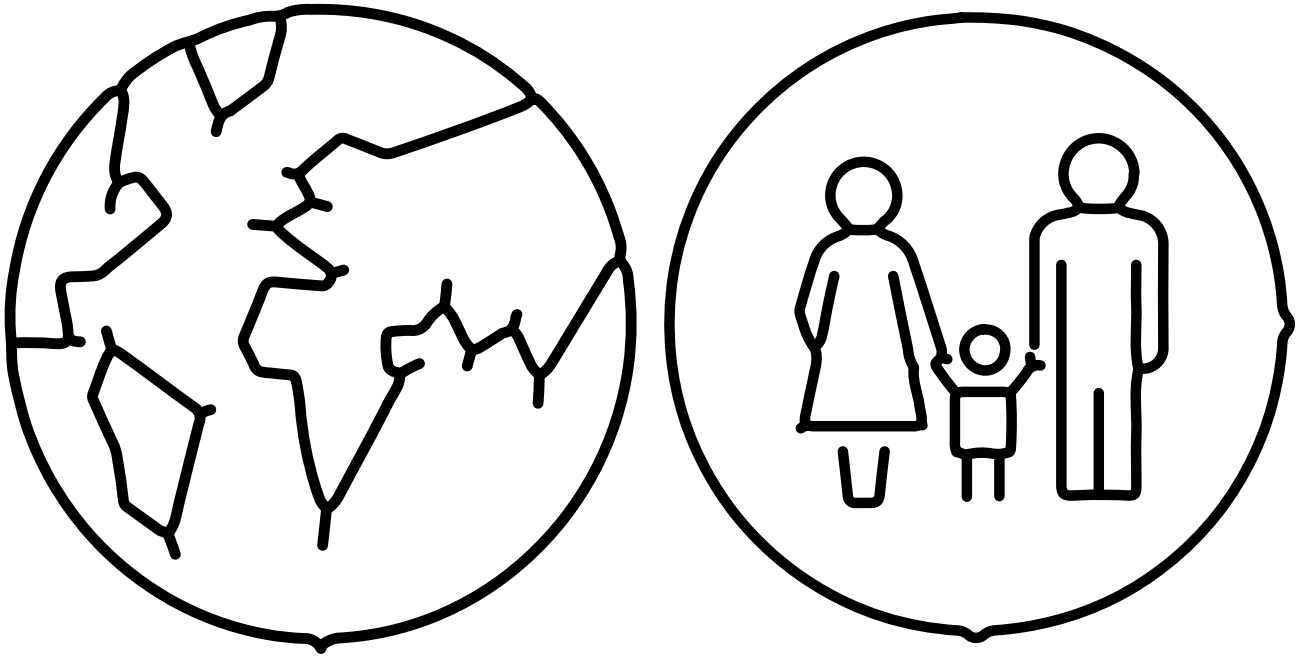
PARTNERSHIPS

A major energy insecurity issue in the SEARO region in the context of its healthcare implications is the lack of reliable and sustainable energy supply to the rural parts of the member countries - both to households directly and to crucial healthcare facilities serving these parts. There have been plenty of positive signs in this aspect, thanks to an increased awareness and action on the part of governments and other non-profit actors. The shift towards sustainable energy sources like wind and solar energy is accelerating, and one example of such action is the collaboration between United Nations Children's Fund (UNICEF) and the Japanese government to set up solar units aiming to reduce vaccine wastage in Rajasthan, a state in north-western India (DW article, 4th Sept 2022: Solar power helps an Indian state vaccinate). Another example is Project Last Mile, a partnership between The Coca-Cola Company and other bodies like The Global Fund to Fight AIDS, Tuberculosis and Malaria, USAID and the Bill and Melinda Gates Foundation, that utilizes Coca-Cola company's supply chain expertise to deliver life-saving medicines and vaccines to parts of Africa that otherwise are inaccessible (Project Last Mile). On the other hand, many pharma companies like Novartis and Roche have committed to shift to net-zero carbon emissions in two or three decades. Such initiatives can accelerate a decrease in the contribution of the pharma and the healthcare industry on climate change.

NATIONAL POLICY

In the EURO region, various governments have been trying to address the drivers of energy and fuel poverty by focusing on reducing prices, increasing income and improving energy efficiency. For example, in the UK, certain discounts such as the Winter Fuel Payment, Warm House Discount and Cold Weather Payment are available to vulnerable households. The government also introduced an energy cap to protect the customer from variable tariffs and price hikes for a 6 month duration. In other countries like Germany, Austria and France, energy rebates have been offered to individuals and households to tackle the rising energy prices.

However, in general, only a minor fraction of national public health policy frameworks consider climate change as a contributing factor. This lack of recognition prevents coordination and planning between the health sector and other ministries and sectors like water, energy, food and disaster risk management. An increased partnership within and between countries can play a crucial role in combating this under-recognized connection between energy insecurity, climate change and health.



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