



SUMMARY OF THE WORLD HEALTH ORGANIZATION (WHO) CONFERENCE ON HEALTH AND CLIMATE: 27-29 AUGUST 2014

The World Health Organization (WHO) Conference on Health and Climate took place at WHO Headquarters in Geneva, Switzerland from 27-29 August 2014. It was attended by 360 participants, including health and environment ministers of WHO member states, senior civil servants, technical experts, UN agencies, NGOs, chief executives from health authorities and relevant private sector entities.

The meeting discussed: the state of climate science, particularly as it relates to health; the public health response to climate change; health resilience; health benefits and health promotion while mitigating climate change; and the economics of health and climate change. Throughout the conference, participants discussed linking climate, sustainable development and health policy.

The meeting produced a draft summary that recognizes both the need to strengthen health resilience to climate change and the opportunity to make gains in public health through well-planned mitigation measures. The document also recognizes policy gaps and next steps. A final outcome document, to be produced by the WHO Secretariat, is expected to deliver conclusions that will be used as input to the 2014 Climate Summit taking place in New York in September. The conclusions are also intended to serve as input to the 21st session of the Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC COP 21), the post-2015 development agenda discussions, and the 2nd Hyogo Framework for Action on Disaster Risk Reduction in 2015.

A BRIEF HISTORY OF THE WHO CONFERENCE ON HEALTH AND CLIMATE

It has long been recognized that climate change will have serious impacts on human health. In 1993, the Intergovernmental Panel on Climate Change (IPCC) requested WHO to contribute to its Second Assessment Report on the impacts of climate change on human population health. WHO collaborated with the World Meteorological Organisation (WMO) and the UN Environment Programme (UNEP) to produce a chapter on the potential effects of climate change and stratospheric ozone depletion on human health, which noted that the threat of serious and widespread damage to human health had gained considerable recognition among international agencies. It also suggested focusing the climate change debate more closely on the consequences for human health. The latest IPCC report, the Fifth Assessment Report (AR5), also contains a chapter on “Human Health: Impacts, Adaptation, and Co-benefits,” to which WHO contributed.



The participants of the first-ever WHO Health and Climate Conference

51ST WORLD HEALTH ASSEMBLY: In May 1998, WHO member states adopted resolution WHA51.29 on the protection of human health from threats related to climate change and stratospheric ozone depletion. The resolution, *inter alia*, urged members to take the threats of climate change on human health into account in national sustainable development planning.

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61ST WORLD HEALTH ASSEMBLY: In May 2008, member states unanimously adopted resolution WHA61.19 on health protection from climate change. The resolution noted that climate change could jeopardize achievement of the Millennium Development Goals and undermine global and national efforts to improve public health and reduce health inequalities. This resolution recognized, *inter alia*, that solutions to the health impacts of climate change should be seen as a joint responsibility of all states and that developed countries should assist developing countries in this regard.

The resolution called on WHO to *inter alia*: engage in the UNFCCC negotiations and the Nairobi work programme on impacts, vulnerability and adaptation to climate change (NWP) and develop health measures and integrate them into adaptation plans. Finally, it called for the preparation of a workplan to scale up WHO's technical support to member states on climate and health.

WHO WORKPLAN ON CLIMATE CHANGE AND HEALTH: In January 2009, the WHO Executive Board endorsed a workplan on climate change and health. The workplan emphasizes, *inter alia*: ensuring health protection and promotion are central to climate change adaptation and mitigation policies; and strengthening health systems to cope with the health threats of climate change. It specifies that WHO should work to ensure that the NWP and national adaptation programmes of action include health concerns.

CLIMATE AND HEALTH SUMMITS: One-day climate and health summits organized by an international network of health organizations have been held in parallel to UNFCCC COP negotiations since COP 16 in December 2010. Each summit has concluded with a call to action directed at COP delegates. The 2011 Climate and Health Summit at COP 17 produced the Durban Declaration, which urged delegates to recognize the health benefits of climate mitigation and called for greater health sector representation in national delegations and key bodies of the UNFCCC.

66TH WORLD HEALTH ASSEMBLY: In May 2013, the Assembly reported that support for health in national adaptation planning had expanded to 30 countries. Member states called on WHO to renew the climate and health workplan through the period 2014–2019, and to become a member of the Climate and Clean Air Coalition.

SUMMARY OF THE WHO CONFERENCE ON HEALTH AND CLIMATE

OPENING PLENARY

The World Health Organization (WHO) Conference on Health and Climate opened on Wednesday morning, 27 August. Fiona Godlee, Editor, British Medical Journal, moderated the event. She emphasized that climate change should be a core



Moderator Fiona Godlee, Editor, British Medical Journal

concern of those working on health issues.

Margaret Chan, Director General, WHO, said the climate change discussions have not given sufficient attention to the impact of climate change on health, noting that climate change affects air, food and water. She said the planet is “losing its capacity to sustain human life in good health,”



The children of WHO staff present a petition on health and climate change to Margaret Chan, Director General, WHO

emphasizing that in 2012, air pollution killed seven million people globally, making it the largest single global public health risk.

Christiana Figueres, UNFCCC Executive Secretary, highlighted that climate change threatens to impose severe widespread negative effects that in a worst-case scenario could result in overwhelming the response capacity of the health and building sectors. She said the climate change agreement that is currently being negotiated and expected to be concluded by 2015 may be regarded as “a global public health agreement.” Figueres called on health ministers to support their national cabinets in building a climate agreement that is strong enough to ensure a good quality of life for current and future generations.

Ban Ki-moon, UN Secretary General, via video, highlighted the complex relationship between health and climate change. Appealing to countries to take action to transition to a low-carbon development pathway, he drew attention to the 2014 Climate Summit scheduled for 23 September in New York, US, which, he said, will focus on climate change, health and jobs.

Achim Steiner, UNEP Executive Secretary, via video, underscored examples, such as the work of the Climate and Clean Air Coalition to Reduce Short Lived Climate Pollutant (CCAC), which shows how actions can contribute to enhancing environmental protection, mitigating climate change and addressing health issues. Noting UNEP's work on black carbon and tropospheric ozone issues, he said diminishing these can provide immediate impacts on both the atmosphere and human health.

Accepting the chairmanship of the meeting, John D.E. Boyce, Minister of Health, Barbados, called for participants to discuss ideas for realizing a peaceful, effective transition from fossil fuels to green energy. He highlighted unique challenges faced by small island developing states.

Albert II, Prince of Monaco, via video, said health is an “element, objective and indicator” of sustainable development.

Charles, Prince of Wales, via video, underlined that the themes of this conference are vital for the future of the world, saying that the Earth is “crying out to be treated.”

Jim Yong Kim, President of the World Bank, via video, said climate change, health and international development are inseparable. He called for climate and health investments at appropriate scales and highlighted the World Bank's actions, such as country-scale vulnerability assessments and capacity building on climate and health.

Michel Jarraud, Secretary-General, WMO, presented the science of climate change, saying lack of knowledge is no longer an excuse for inaction. He stressed that: greenhouse gas emissions are 40% above pre-industrial levels and increase every year; global temperature rises every decade; and sea level rise is up to 1.2 cm/year in some areas, increasing the chances of natural disasters impacting coastal populations.

Alistair Woodward, Chief Coordinating Lead Author of the Health Chapter of the IPCC AR5, provided a review of health and climate change impacts. He said actions need to focus on both mitigation and adaptation, and that climate risk reductions can accompany substantial health improvements.

PANEL DISCUSSION: LINKING INTERNATIONAL CLIMATE, SUSTAINABLE DEVELOPMENT AND HEALTH POLICY

Margareta Wahlström, UN Special Representative of the Secretary-General for Disaster Risk Reduction, moderated the panel. She highlighted the debates on health issues in the post-2015 development agenda, underscored the opportunity to foster increased policy coherence and noted the need for trans-sectoral design of policies at both national and international levels.

Mohammed Nasim, Minister of Health, Bangladesh, pointed to national actions and highlighted the need to address links between health and climate change, including enhancing communities' understanding of these links and reviewing country health policies and systems.

Valentia Tapis, Minister of Environment, Moldova, and European Environment and Health Ministerial Board, noted the increase in water-borne diseases in Europe and called for including climate change adaptation in health programmes. She highlighted that environmental policies can benefit health, noting European regional initiatives such as those reducing emissions from aviation.

Oleg Musii, Minister of Health, Ukraine, characterized environmental rights as an integrated category of human rights. He underlined that political factors directly impact environmental viability and therefore human health.

Fidèle Mengue M.E. Engouang, Minister of Health, Gabon, relayed Gabon's experience, including actions under a technical committee on health and the environment, which developed needs assessments, action plans, and assessments of intersectoral health and environmental measures.

In response, Figueres urged the ministers present to work within national cabinets to include health considerations in the intended nationally-determined contributions that are expected to be important components of the 2015 climate agreement.

James Close, World Bank, said making the business case for climate investments should include both economic and health returns. He highlighted findings from the Climate Smart Development Report on multiple co-benefits generated by climate action, such as the prevention of premature deaths.

Elhadj As Sy, Secretary-General of the International Federation of the Red Cross and Red Crescent Societies, said climate change creates and exacerbates challenges for the humanitarian community. He underscored that the burden of action should not fall on communities.

Calling the situation "desperate, but not hopeless," the International Federation of Medical Students urged using health as a "catalyzer" for climate action, highlighting solutions such as renewable energy to reduce respiratory disease and local food to improve nutrition.

In the ensuing discussion, Panama highlighted national actions to address climate-related changes, such as increases in vector-borne diseases, and urged participants to serve as a "mouthpiece" for the importance of climate change.

Switzerland stressed their national commitment to promote emission reductions and adaptation, act on health issues, and strengthen resilience. Grenada acknowledged that health and

climate links have yet to be discussed in Grenada's ministries and underscored her intention to raise the topic at these meetings in the future.

Egypt encouraged delegates at the session to lead an international response to adaptation and asked how international health organizations can better protect populations. Suriname emphasized educating policy makers and noted the evident effects of climate change on health in his country, such as new mosquito-borne diseases.

Mexico highlighted its national policies adopted to address climate change, including a national strategy and law, which allocate objectives and indicators for all ministries and sectors, including health. On health and climate change she mentioned, *inter alia*, actions on diseases transmitted through vectors and work on an inventory of health structures in climate-vulnerable areas.

Uruguay pointed to efforts to ensure that almost 30% of its energy comes from renewable sources, mainly wind and solar, and the need for funding that is specifically targeted at health issues.

Maria Neira, WHO, presented the health impacts of climate change, including increased risk of malaria, diarrheal diseases and under-nutrition, and stressed that sources of greenhouse gas emissions, such as short-lived climate pollutants, also have health impacts. Calling primary prevention the key to addressing climate-related risks, she underlined the need to include climate in public health measures and "green" the health sector to show leadership.

ROUNDTABLE ON HEALTH RESILIENCE

Lyonpo Tandin Wangchuk, Minister of Health, Bhutan, underscored his country's vulnerability to climate change, including changes to water and food systems. He reported their experience with a pilot project on climate adaptation and health, which includes community-level interventions such as waterless sanitation and rainwater harvesting.

Elioda Tumwesigye, Minister of State for Health, Uganda, highlighted experiences with a national task force for public health and environmental interventions, as well as projects such as solar power systems for health facilities and distribution of mosquito nets.

Louise Newport, UK, outlined several projects to help developing countries develop data systems to identify emerging concerns. She also highlighted that climate change is seen only as an environmental issue, and that health is often absent from climate discussions.

Thomas Fitschen, Ambassador of the Federal Republic of Germany to the UN and Other International Organizations in Geneva, presented three "layers" of policy in Germany focused on resilience, and concluded by saying the biggest challenge is community- and local-level operationalization.

Jerry Lengoasa, WMO, emphasized linking the research experts between health and atmospheric communities, particularly the modeling community. He announced the newly formed joint WMO/WHO project office in Geneva focused on addressing climate and health, that also has strong linkages to regional entities.

Pamela Hamamoto, Permanent Representative of the US to the UN and Other International Organizations in Geneva, reported on national work on public health and climate change, citing: research, air quality impacts, reduced carbon pollution from power plants, preparation of the health system for impacts of climate change; and the climate-ready states and cities initiative.

During the discussion, Tajikistan highlighted the importance of increasing political will, engaging the academic community and working with civil society, including youth, to produce research on the links between climate change and health.

Peru observed a tendency to overlook the health sector's leadership role, and called for the development and dissemination of more specialized knowledge on climate change, environmental processes and health risks. Burundi reported on her country's experience with several projects, including developing vulnerability maps for the country and the sub-region, and needs assessments for health and the environment.

Safe Observer International discussed health co-benefits of climate adaptation, water system management and transmission of antibiotic resistant infections. Brazil reported that their national climate policies cover the health sector and that these policies include goals for research, social communication and outreach to indigenous peoples.

Grenada observed that there are different levels of knowledge about sources of funding and best practices. She suggested a coordination mechanism to gather best practices, actors involved and enable action.

Close responded that climate and resilience are increasingly considered in World Bank lending, and characterized the Global Environment Facility (GEF) and Climate Investment Funds as good potential sources of funding for climate and health projects.

Iran suggested that WHO should support health systems to assess and monitor vulnerability and risks, identify actions, and share knowledge and best practices. Indonesia called for consideration of how reductions in biological diversity will decrease the availability of traditional medicine.

Closing the session, Chair Boyce thanked participants for transitioning from the broader discussions in the morning to concrete examples of opportunities to address climate change and health.

ROUNDTABLE ON HEALTH BENEFITS

Marit Pettersen, Co-Chair, CCAC, presented on the Coalition's actions on short-lived climate pollutants, including hydrofluorocarbons, methane and black carbon, noting that the latter is the most harmful for human health.

Nick Watts, Global Climate and Health Alliance, stressed that action requires rethinking the relationship between the environment and health determinants, and called for moving beyond avoiding investments in non-climate friendly initiatives to taking the lead on, *inter alia*, promoting smart health systems and renewable energies.

Benoît Vallet, General-Director of Health, France, called for a paradigm shift that includes, for instance, switching from the use of cars to bicycles. Underscoring the need for multi-sectoral approaches to the issue, he indicated that success factors for policymaking relies on a high level of ownership and public awareness, among others.

Gary Cohen, Health Care Without Harm, highlighted health as the critical sector in the fight against climate change. He described a network of hospitals concerned with fostering low-carbon development and highlighted the need to increase resilience in health facilities by, for example, establishing independent water and electricity systems.

Surabi Menon, Climate Works Foundation, highlighted the Foundation's activities in the highest emitting countries. She stressed the relevance of health co-benefits of climate change strategies in developing countries, particularly in India.

Kalpna Balakrishnan, Sri Ramachandra Medical College, India, reviewed examples of air quality initiatives in India, taking into account the WHO air quality guidelines. She highlighted that climate mitigation strategies should be useful to at least promote a non-regressive policy and that air quality is a 'fertile ground' in India for demonstrating how climate-related actions can contribute to substantive health benefits.

PLENARY: IDENTIFYING SOLUTIONS

On Thursday morning, 28 August, participants convened in a plenary session on "Identifying Solutions." Observing that Wednesday's session demonstrated an extremely high level of interest in health and climate, Maria Neira urged participants to define the specific actions needed to assess knowledge about existing interventions on climate change and health. She observed that there is a need for more understanding of financial mechanisms, and expressed the will to ensure that participants understand opportunities for assistance from the UNFCCC, GEF and relevant partnerships.

Following the plenary session, participants worked in day-long breakout groups on "strengthening health resilience to climate change" and "promoting health while mitigating climate change."

PARALLEL SESSION A: HEALTH RESILIENCE TO CLIMATE CHANGE

The Role of the Health Sector: Clarice Modeste, Minister of Health and Social Security, Grenada, welcomed participants to engage in an "action-oriented" discussion on the health sector's role.

Diarmid Campbell-Lendrum, WHO, underscored that health is already impacted by climate change directly and indirectly. He underlined that adapting to climate change is an



Maria Neira, WHO, with Guto Galvao, Pan American Health Organization (left) and Chair Boyce, Minister of Health, Barbados

iterative, inter-sectoral process and identified building blocks of health governance: human resources, service delivery, information, financing and medicines and technology.

Qi-yong Liu, Center of Disease Control, China, described the impacts of climate change on dengue fever and on the development of an adaptive mechanism for health. He stressed that strengthening health resilience must involve actions that are local and global, and involve all stakeholders. To develop the adaptive mechanism, he highlighted identifying risk factors, modeling, projection and capacity assessment.

John Balbus, US National Institute for Environmental Health Sciences, highlighted the importance of mainstreaming climate and health. He described national efforts to reduce carbon emissions from power plants and frame carbon emission reductions around the benefits to health, and create a metadata access tool for climate and health that aggregates national data from federal organizations.

Jan Semenza, European Center for Disease Prevention and Control, presented a risk analysis tool based on modeling of mosquito, tick and water-borne diseases overlaid with temperature and climate trends. He said the tool indicates whether or not a public health action needs to be taken for a particular climate disease risk and explained that it can help understanding impacts on various sectors, such as tourism.

Jutta Litvinovich, WHO European Working Group on Health in Climate, presented on the implementation of the Parma Commitment to Act on climate change and health. She reported that a survey of EU member states found that 49% of the countries have national adaptation strategies in place and that 81% of them have strengthened their health systems.

Aduagna Woyessa Gameda, Ethiopian Public Health Institute, presented on dengue fever, yellow fever and malaria in Ethiopia. He observed that there is a complicated relationship between climate change and climate-sensitive diseases, particularly given climate variability between regions within Africa over time, and impacts at the community-level.

In the ensuing discussion, participants addressed: the ability to attribute health outcomes to climate change; the need for information and training; and the role of WHO in climate change work. One participant characterized attribution as an “Achilles heel” because it is difficult to prove that climate change has led to observed changes in health outcomes. Another participant observed that although the IPCC refers to climate change as a modest exacerbation of health outcomes, mounting empirical evidence of the effects of climate change on health exist, and it called for a compilation of case studies.

Several participants pointed to the need for the health sector to inform meteorologists of their data needs. On training, many participants called for greater training for local health professionals. One called for assistance working with available data for modeling, while another participant observed the uneven global distribution of health resources.

On WHO’s role, participants suggested: supporting local authorities to implement changes; fostering a network among health practitioners for climate issues; and identifying ways to use available data for modeling. In response, Campbell-Lendrum underlined the need to support national health structures and noted a strong demand for sharing information and tools within and across regions.

Working Across Sectors: Hassan Abdel-Gadir Hilal, Minister of Environment, Forestry and Physical Development, Sudan, chaired the afternoon session focused on inter-sectoral work.

Kristie Ebi, University of Washington, emphasized the need to work across sectors but also to adjust institutions that are “outdated.” She outlined the importance of engagement with the agricultural sector, noting declines in crop yield and recognizing the relationship between water system management and the transmission of infectious disease.

Anna Kaplina, UN Development Programme (UNDP), said it is critical for the health sector to be part of the development of national adaptation plans (NAPs), and referred to the GEF programmes that can be used to support these projects. She referenced the Least Developed Countries Fund and an upcoming global fund for countries that are not least developed countries, to receive support for NAPs. Kaplina highlighted two upcoming programmes in Asia and the Pacific Islands that will focus on providing assistance to integrating health into the NAPs.

Nitish Dogra, TARU Leading Edge, highlighted the benefits of working with experts in different sectors including agriculture, water, public policy, nutrition and climate change, including saving money through information sharing. He highlighted the value of having a climate focal point in the health ministry.

Filipe Lúcio, WMO, presented information on the new WMO/WHO Joint Office for Climate and Health established under the Global Framework for Climate Services.

Virginia Murray, Public Health England, discussed the Hyogo Framework for Action to build resilience of countries and communities to natural disasters. She said health is central to the Framework’s focus areas, including for governance, risk identification, early warning and reducing underlying risk factors. Noting that the Framework is undergoing a renewal, she encouraged the health community to get involved.

On working with the climate sector, some participants noted that it is unclear how to include health in their NAPs. A participant noted that including health in NAPs could facilitate applying for GEF funding. Stating that further clarity is needed on what resources are required, another participant suggested that WHO should help to set a target for health resilience to climate and estimate the necessary costs.

On hygiene, many underlined the need for basic hygiene and sanitation, underlying that many climate-sensitive diseases and nutrition issues are due to hygiene issues. Some observed that the eradication of several of these diseases, such as malaria, in developed countries was achieved through improvements in hygienic practices.



The panel of speakers on strengthening health resilience to climate change meets with the session chair, Clarice Modeste, Minister of Health and Social Security, Grenada



A full room in the parallel session on promoting health while mitigating climate change

PARALLEL SESSION B: PROMOTING HEALTH WHILE MITIGATING CLIMATE CHANGE

Opportunities to Improve Public Health in Cities: Andrei Usatii, Minister of Health, Moldova, presented on health and climate impacts from urban air pollution, noting that while it is estimated that current global investments in health represent around 6% of countries' GDP, the trends in air pollution could lead to an increase to 30% of GDP to cover the costs of health needs.

Carlos Dora, WHO, drew attention to policies that benefit both climate mitigation and health, noting potential in the transport sector, since a significant proportion of non-communicable diseases are attributable to exposure to traffic-related air pollution. He said win-win innovations still lack global support due to the insufficient visibility of links between health and climate change.

Jonathan Patz, University of Wisconsin-Madison, presented on the health co-benefits of reducing emissions in electric power generation by using cleaner technology. He said health benefits in the US can offset 26-1050% of the cost of US carbon policies. He cited a study that found estimated costs of cleaner energy in the US are around US\$30/tCO₂, while its benefits can reach an average of US\$200/tCO₂ due to reduction of mortality.

Paulo Saldiva, University of Sao Paulo, said links between lung cancer and air pollution are robust. He defined technological inefficiency as the amount of air pollution produced to generate energy and noted that African countries' technological inefficiency is 18 times higher than the US, adding that socio-economic factors are also relevant. He concluded that health co-benefits of greenhouse gas emission reductions will be more effective in developing economies because they have a lower level of technological efficiency.

François Reeves, University of Montreal, said cardiovascular disease was rare before the industrial revolution and is still rare in people living outside the industrialized world. He said fast food and air pollution led to a dramatic increase of this type of non-communicable disease due to the "food nano-aggressors," including salt in excess, high fructose corn syrup, trans fat, phosphoric acid and pesticides, and the "airborne nano-aggressors," such as carbon dioxide and ultrafine particles. He concluded that cleaning urban air could lead to a 25-75% reduction of cardiovascular diseases.

Helena Molin Valdés, CCAC, highlighted the Coalition's new initiative on Urban Health and Short-lived Climate Pollutants. Among ongoing initiatives on mitigation with health co-benefits, she mentioned the improvement of waste management in Rio de Janeiro, based on reducing waste generation, establishing recycling programmes, addressing open burning and enhancing landfill operations.

Matthias Rinderknecht, Swiss Federal Office of Transport, presented on the Transport, Health and Environment Pan-European Programme (PEP), saying it integrates environment and health aspects in transport policies. He said a Declaration adopted in Paris in 2014 renewed priority goals including reduction of emissions of transport-related greenhouse gases, air pollution and noise, and integration of transport, health and environmental objectives into urban and spatial planning policies.

Ilona Kickbusch, University of Geneva, highlighted the "obesogenic environmental impact" of unsustainable consumption and production, and improvements in the global food system. She said there are three priority issues involved: meat consumption, local waste management and consumption of sweet soft drinks. She then suggested ways to improve, such as: taxing waste in fast food outlets; water dispensing that does not use water bottles; zoning laws to limit fast food restaurant density; and empowering local communities to engage for healthier food production and consumption.

In the ensuing discussion, participants emphasized, *inter alia*: the relationship between forest access and mental health; addressing the carbon emissions associated with meat consumption; focusing on the large economic gains of small reductions in particulate air pollution; advocating for renewable energy as a transformative health solution; engaging health practitioners and encouraging political leaders to resist pressures of industry by drawing on lessons learned from the framework on tobacco control; and carrying out health impact assessments of energy projects.

Leading by Example in the Health Sector: Christopher Fearn, Parliamentary Secretary for Health, Malta, introduced the session underscoring the need to leverage funding for health priorities that can also contribute to climate change mitigation.

Sonia Roschnik, National Health Service, UK, highlighted her unit's work. Noting that the upfront cost to implement measures to reduce greenhouse gases emissions in the health sector, particularly in hospitals, is significant, she highlighted long-term financial gains. She called for gathering support for these measures by developing an analysis of carbon footprint across hospitals and a carbon abatement curve.

Richenda van Leeuwen, UN Foundation, presented on energy poverty from the healthcare perspective. She described an ongoing analysis on the critical role that reliable energy sources play in clinics in African countries, noting a potential correlation between lack of access to energy and mortality indexes.

Ainash Sharshenova, Kyrgyzstan, presented on two projects implemented in her country to reduce climate change risks and remove health consequences. She described a project to address climate change health impacts, vulnerability and adaptation, and increasing capacities and establishing pilot solar equipment in five hospitals.

Hippolite Amadi, Imperial College, UK, presented his research on hospitals in Nigeria, where he observed an increasing and high rate of mortality in neonates due to climate-related diseases such as hypothermia and tropical evening-fever syndrome in infants, which stems from overheated buildings.

Walter Vernon, Mazzetti, presented the publication "*Health in the Green Economy*," prepared by WHO. He said measures to face the high upfront cost of mitigation measures in the health sector include making use of economic instruments and tools, including the Clean Development Mechanism and public and private partnerships.

Sameer Akbar, World Bank, suggested that the health sector should focus on building co-benefits of projects in the housing and transport sectors to make the case *vis-a-vis* financial institutions that provide climate funding.

Christoph Hamelmann, UNDP, stressed the need to reach out to other sectors and incorporate environmental impacts into the health sector. He mentioned including specific carbon factors for health products and the work by the sustainable energy planning Interagency Task Team on Sustainable Procurement in the Health Sector.

Mark Rhodes, GlaxoSmithKline, presented on his company's long-term goal to become carbon-neutral by 2050. He indicated that the use of a carbon footprint analysis of his company's top 35 products enables more effective reduction in emissions.

Michaela Pfeiffer, WHO, said key supporting actions are: making clear health co-benefit arguments; providing monitoring and evaluation; ensuring climate change mitigation measures are incorporated into national health system policies and plans; and facilitating awareness-raising.

Participants discussed: lack of data on the carbon footprint of the health sector; the need to establish national health sector objectives; the need to provide clarity on financing needs on health; and the possibility of developing standardized methodology for the health sector's carbon footprint.

PLENARY: ECONOMICS OF HEALTH AND CLIMATE

On Thursday afternoon, participants heard presentations on the economics of health and climate. Andy Haines, London School of Hygiene and Tropical Medicine, moderated the session and emphasized decisions that are affordable and finding creative ways to divert subsidies into low-carbon development and a sustainable health system.

Jeremy Oppenheim, New Climate Economy Project, reviewed updates in the economics of climate change. He highlighted that air pollution costs are increasingly included on political agendas, and that coal is no longer a "secure bet" for energy security. He said there is an opportunity stemming from the continued need for countries to recover and grow economically post-financial crisis.

Sameer Akbar highlighted that government leaders generally consider what they can realistically deliver, such as transportation infrastructure. He said the joint assessment prepared with Climate Works Foundation on Climate Smart Development, which looks at the multiple benefits of policies and measures of reducing emissions of several pollutants, tries to see the impacts in terms of GDP at the country level.

Gerardo Sanchez, WHO, presented the WHO European Regional Office for Europe's ongoing work on assessing the health and adaptation costs of climate change. He highlighted a toolkit on climate change, economics and health.

Participants discussed: evidence that makes the case for neutrality or shifting from high to low carbon intensity; the importance of developing a communication strategy that interacts with other sectors, particularly the financial sector; the current costs of the health system based on fossil fuel intensive development pathways; and the need to better understand fiscal measures needed to improve health and emission reductions.

CONCLUSIONS FROM PARALLEL SESSIONS

On Friday morning, 29 August, participants gathered again in parallel sessions to summarize key concepts and action items arising from discussions held during the meeting. Draft summaries including action points were used as a basis for discussion.

Summary on Strengthening Health Resilience: In this session, participants discussed action points on health ownership and engagement, development of technical capacity and resource mobilization, and suggested new action points. Some participants suggested leveraging the presence of ministers to take actionable items back to member states while

others preferred a non-binding document that summarizes the discussion. One participant suggested using the draft text to capture new elements of the discussion on climate and health, while building on the 2008 resolution on climate (WHA61.29). Several participants suggested ways to strengthen the message in order to build resilience and help ministers make the case back home for new initiatives. Chair Modeste responded that the mandate of the conference is not to develop a resolution, but to capture the key action points to move forward.

On health ownership and engagement, a participant suggested including a reference to carbon emission reductions within the health sector. Regarding engagement at the UNFCCC, a member underlined that the NWP is the most relevant programme in the UNFCCC for health as acknowledged in the 2008 resolution. Another participant suggested the establishment of national working groups.

On technical capacity, participants highlighted the importance of sharing and managing data and the need to include capacity building, education and training. A participant noted a recent agreement to establish a scientific advisory mechanism for disaster risk reduction as a potential resource for member states.

On new action items, members suggested: fostering inter-sectoral partnerships and work on a low-carbon economy; encouraging advocacy, awareness and communications; and improving research, evidence and science, including data availability and monitoring. A participant also suggested creating a working group or a platform to further this work.

Summary on Promoting Health Co-Benefits: In the discussion on action points for promoting health while mitigating climate change, proposals included consideration of, *inter alia*: air pollution reduction to contribute to health and the climate; the increase in chronic diseases related to climate change, in particular by the use of coal and short-lived climate pollutants; and the need for active transport "in a safe environment." One participant said reforestation and technology transfer should be emphasized, with another stressing renewable energy. Another participant stressed the need for an enabling environment to facilitate health behavior change.

On measures that the healthcare sector can take to contribute to climate change mitigation, a participant underscored working in partnership with the private sector, while another stressed procurement strategies that promote low-carbon purchases. A participant highlighted energy to reduce carbon emissions and the potential of managing waste water, transport and food. Another participant noted that there are hospitals already committed to providing sustainable food.

On financing, a participant emphasized the need to facilitate access and availability, while another said finance is not necessarily a barrier, as resources can be better deployed in



Delegates met in plenary to discuss the final summary and conclusions

other sectors, such as in transport and energy. One participant said that perspectives from developed and developing countries should be more “balanced.” A participant stressed the need for a transformational change in research *vis-a-vis* developing countries so that, instead of “bringing people to the technology,” the technology is taken to the people in need and researchers are encouraged to train and teach in their countries.

Another participant highlighted the role that health professionals can play in redirecting fuel subsidies to address health. A number of participants stressed the need for further partnerships, including North-South ones. Another participant said the WHO workplan on climate change and health addresses many of the issues discussed, and said that given that the workplan is up for renewal, there is opportunity to further factor mitigation considerations into how WHO can support member states.

OPEN DEBATE

During a plenary session, delegates came together to hear conclusions from chairs of the parallel sessions, and to hear statements and reactions from health ministers.

Reporting from the resilience group, Chair Modeste shared the group’s opinion that the expertise present at the conference could be used to potentially support recommendations. She highlighted several potential recommendations, including: developing health engagement and ownership; facilitating inter-sectoral and multi-partner collaboration; supporting the development of technical capacity; supporting the use of actionable evidence and science; and creating a platform or working group.

Reporting from the health promotion while mitigating group, Chair Louise Newport presented actions to advance the issue, including: setting up platforms for North-South cooperation within the health sector; enabling existing finance mechanisms to consider health in decision-making and advocate for redirecting investment to clean technologies; linking health to productivity and economic growth in order to ensure health co-benefits; creating incentives for research and expansion of human resources; greening the health system including the adoption of clean energy food services; advocating for the importance of low carbon pathways; and recognizing the importance of coal and short-lived climate pollutants in generating public health risks.

In the summary, participants also suggested that the new WHO workplan on climate change and health include a stronger focus on mitigation and that WHO should develop guidelines and tools to support articulation of health in key sectors.

Fiona Godlee, British Medical Journal, moderated the final open debate session, in which health ministers were invited to speak, calling the UN Climate Summit a “first step” to transmitting the messages of the health community to the climate change community.

Calling climate change one of the most notable concerns of this century, Barbados highlighted the need for inter-ministerial collaboration, such as through national committees for health and climate. He also highlighted the need for guidance to build on existing initiatives and financial mechanisms.

Leneuoti Maatusi, Minister of Health, Tuvalu, highlighted that his country is highly vulnerable to climate change, increasing its population’s health risks. He called for technical and financial support to strengthen health systems to make them proactive, rather than reactive, and to develop and implement NAPs.

Francisco Javier Terrientes, Minister of Health, Panama, called for the WHO workplan to include climate change and health work, strengthening support to member states and promoting the health benefits of mitigation. Building on opinions expressed by others, he supported the creation of a working group on health and climate change.

Michel Blokland, Minister of Health, Suriname, said this is the beginning of a “necessary collaboration” between climate change and health. He underlined that medical professionals should take a leadership role, as trusted members of society. Hassan Abdel-Gadir Hilal, Minister of Environment, Forestry and Physical Development, Sudan, noted that inter-sectoral approaches are needed, and highlighted the role of forests and of market mechanisms, such as the Clean Development Mechanism, to providing financing.

Abdullahi Majeed, Minister of State for Environment and Energy, Maldives, expressed support for the recommendations of both working groups. Maithripala Sirisena, Minister of Health, Sri Lanka, underlined that in his country the traditional patterns of rainfall and monsoons have changed and that droughts have worsened, increasing suffering from water-borne diseases. He called for controlling greenhouse gas emissions.

Dinara Saginbaeva, Minister of Health, Kyrgyzstan, stressed the financial difficulties of scaling up pilot projects to fully operational programmes. She suggested WHO could work on supporting regional climate programmes.

In the ensuing discussion, Global Climate and Health Alliance called for a shift away from fossil fuels to tackle climate change and non-communicable diseases, and supported declaring climate change a global public health emergency. Rwanda referenced their plan for health surveillance and suggested regional working groups to enhance research and devise policies to reduce carbon emissions locally.

The UK emphasized that the revised WHO workplan should include guidelines for member states and that WHO should support health ministers to be part of UNFCCC delegations. Monaco underlined that health could send a powerful message to stimulate efforts to combat climate change and that WHO could have an important role in this.

Norway suggested drafting a strong statement on air pollution, citing the WHO Executive Board’s decision to work toward a World Health Assembly resolution on air pollution and health, and the UN Environment Assembly resolution on strengthening the role of UNEP in promoting air quality.

The US highlighted reducing air pollution as a key priority that provides for win-win solutions and stressed that WHO can play an important role by, *inter alia*, conducting quantification of air pollution health effects. Ecuador stressed the need to further engage health ministers to get further engaged in the disaster risk reduction process.

Sweden noted the relevance of creating environments enabling people to make good choices such as for active transport, and healthier and less carbon intense food. Switzerland underscored the relevance of mainstreaming nutrition issues in the climate agenda.

Burundi stressed that health ministers need to be involved in national and international discussions on climate change. Noting that it will host UNFCCC COP 21, France said it will work with WHO to ensure that the health perspective is considered.

The International Federation of Environmental Health stressed the need to support capacity building initiatives for preventive health professionals. Bangladesh drew attention to its national coastal population that lacks access to drinking water and the resultant outburst of illnesses.

Safe Observer International stressed that water and sanitation are key for improving health for people and wondered how Africa can handle Ebola virus risks when there are healthcare facilities without access to water. Italy stated that climate change could be an important duty for WHO and expressed hope that health experts would be present at environmental conferences, such as the UNFCCC negotiations.

The International Organization of Migration urged inclusion of, *inter alia*, hard-to-reach populations, voluntary and forced migrants, and internationally and internally displaced peoples in the consideration of health and climate change.

Finland urged inclusion of improving water and sanitation infrastructure to build resilience, citing the findings of the IPCC AR5. Underlining that the health sector is heavily influenced by the preparedness of other sectors, such as food and infrastructure, Indonesia suggested a community-based model for health adaptation to climate change and partnerships to increase capacity.

Many countries supported that the outcome of the meeting be communicated to the 2014 Climate Summit.

CLOSING PLENARY

The WHO Secretariat introduced the meeting outcome in the form of a draft summary produced during the session. Participants then heard closing remarks from member states and civil society.

The meeting produced a draft summary that recognized the need to strengthen health resilience to climate change and the opportunity to make gains in public health through well-planned mitigation measures. The text notes weaknesses in the international health responses to climate change, including: weak engagement of the health sector in national and international climate policy processes, the lack of technical capacity to create and implement health adaptation plans, and inadequate financing.

It further identifies needs, including for: supporting the health sector in UNFCCC engagement and in the development of NAPs; creating common metrics; providing guidance to the health sector on climate risks and emission reduction benefits; and guidance on resource mobilization.

Maria Neira expressed WHO's intention to host a platform on climate change and health, as well as to finalize the draft summary as an outcome document and use it to input to UNFCCC COP21, the post-2015 development agenda discussions, and the 2nd Hyogo Framework for Action on Disaster Risk Reduction in 2015.

Neira said WHO intends to produce an additional paper outlining opportunities for health ministers to access financial mechanisms for health and climate activities. Lastly, she invited funding donations from member states to stimulate health minister attendance and participation at UNFCCC meetings.

Flavia Bustreo, WHO, reflected on the calls of participants for country-specific support as well as continued global discussion on climate change and health. She said that WHO will incorporate the discussions of the conference in its workplan on climate change and health and consider hosting future conferences. To keep momentum, she asked those present to be a powerful voice for the issues in other fora.

Chair Boyce thanked the regional and global WHO staff and volunteers, as well as all conference participants, for a successful first conference on health and climate. He gavelled the Conference to a close at 3:50pm.

UPCOMING MEETINGS

2014 Climate Summit: This event is being organized by UN Secretary-General Ban Ki-moon with the aim of mobilizing political will for an ambitious legal agreement through the UNFCCC process. **date:** 23 September 2014 **location:** UN Headquarters, New York **www:** <http://www.un.org/climatechange/climate-summit-2014/>

UNFCCC Ad hoc Working Group on the Durban Platform for Enhanced Action (ADP) 2-6: The ADP will convene for the sixth part of the second session in October 2014. **dates:** 20-25 October 2014 **location:** Bonn, Germany **contact:** UNFCCC Secretariat **phone:** +49-228-815-1000 **fax:** +49-228-815-1999 **email:** secretariat@unfccc.int **www:** <http://unfccc.int>

IPCC-40: This IPCC meeting will be held to adopt the AR5 Synthesis Report and approve its Summary for Policymakers. **dates:** 27-31 October 2014 **location:** Copenhagen, Denmark **contact:** IPCC Secretariat **phone:** +41-22-730-8208 **fax:** +41-22-730-8025 **email:** IPCC-Sec@wmo.int **www:** <http://www.ipcc.ch/>

2nd Preparatory Committee for the Third World Conference on Disaster Reduction (WCDR): This is the second of two preparatory meetings for the Third WCDR, bringing together stakeholders to deliberate in on the post-2015 DRR framework. **dates:** 17-18 November 2014 **location:** Geneva, Switzerland **contact:** UNISDR Secretariat **phone:** +41 2291-78907 **fax:** +41 2291-78964 **email:** isdr@un.org **www:** <http://www.wcdr.org/preparatory>

Third Global Climate and Health Summit: This summit will occur in parallel to UNFCCC COP 20 and will use the theme "Investing in Health." **dates:** 6 December 2014 **location:** Lima, Peru **contact:** Nick Watts, Global Climate and Health Alliance **phone:** +61421528949 **email:** Nick.Watts@climateandhealthalliance.org **www:** <http://climatehealth-sideevent.org>

UNFCCC COP 20 and CMP 10: The 20th session of the Conference of the Parties (COP 20) to the UNFCCC and the 10th session of the Conference of the Parties serving as the Meeting of the Parties (CMP 10) to the Kyoto Protocol will take place in Lima, Peru. **dates:** 1-12 December 2014 **location:** Lima, Peru **contact:** UNFCCC Secretariat **phone:** +49-228-815-1000 **fax:** +49-228-815-1999 **email:** secretariat@unfccc.int **www:** <http://unfccc.int>

Third WCDR: The WCDR will be hosted by the Government of Japan and organized by the UNISDR, and is expected to agree a post-2015 framework for DRR. **dates:** 14-18 March 2015 **location:** Sendai, Miyagi, Japan **contact:** UNISDR **phone:** +41-2291-78907 **fax:** +41-2291-78964 **e-mail:** isdr@un.org **www:** <http://www.wcdr.org/>

GLOSSARY

CCAC	Climate and Clean Air Coalition to Reduce Short Lived Climate Pollutants
GEF	Global Environment Facility
IPCC	Intergovernmental Panel on Climate Change
NAP	national adaptation plan
NWP	Nairobi work programme on impacts, vulnerability and adaptation to climate change
UNDP	UN Development Programme
UNEP	UN Environment Programme
WHO	World Health Organization
WMO	World Meteorological Organization