

Health Impacts of Climate Change (3-part series)

Part 2: Dr. Alistair Woodward: Focus on IPCC Fifth Assessment

Anne Johnson: This is Global Environmental Health Chat, the podcast that explores environmental health issues that transcend national boundaries. I'm your host Anne Johnson, and this podcast is produced by the National Institute of Environmental Health Sciences.

In the second episode in our series on climate change and health, we're taking a closer look at the Fifth Assessment report of the Intergovernmental Panel on Climate Change or IPCC. The report was developed under the auspices of the United Nations and takes a global look at the science and impacts of climate change.

Joining us to talk about that report is Dr. Alistair Woodward. He's a professor of epidemiology at the University of Auckland in New Zealand and served as coordinating lead author on the Fifth Assessment's health chapter.

He says much of the report's discussion of health impacts reinforces familiar territory from previous assessments.

Alistair Woodward: We know that human health is sensitive to shifts in weather patterns and other aspects of climate change, that climate change is already acting- it's already adding to the burden of disease and illness. We know that those who are most vulnerable are those whose health is already affected by the present day climate. And I think we've got a good sense of where the largest risks lie in terms of under-nutrition as a result of the effects of climate change on food production, extreme weather events, and infectious diseases.

Johnson: But there are also some new aspects. Alistair said the Fifth Assessment emphasizes the impacts we could expect to see if greenhouse gas emissions continue on their current trajectory, rather than assuming we're going to be able to reduce those emissions quickly. That trajectory could mean an additional warming of 4 degrees Celsius in the coming century, and some pretty severe impacts that weren't given as much weight in previous reports.

Woodward: The topic of heat receives a good deal more attention than it has in the past and I'm referring both to the effects of heat waves on mortality and on disease outcomes, also the effects of heat on workers. We suggest that this is an issue that will affect every country, but those that are going to be most heavily affected are countries in which many workers are in occupations that mean they're exposed and outdoors.

And the IPCC assessment included some statements about the limits to coping with exposures and they're largely to do with human physiology. One might be in the situation where humans directly exposed to temperatures of this magnitude just can't stay in heat balance. And what that means is that you can't work outdoors, you can't play outdoors, you can't compete in sport outdoors because it's just

too hot. And that translates really into the potential for parts of the world in the next century to be essentially uninhabitable in terms of the ordinary day-to-day activities that we might take as a given.

Johnson: Those impacts, of course, wouldn't affect everyone in the same way. Different places will experience different climate changes, and different health impacts.

Woodward: The projections for high temperatures are that the hottest parts of the world are going to be Southeast Asia and the Middle East. So clearly countries in those parts of the world are going to find it most difficult to handle the effects of heat, just as one example of climate change.

But, you know, the other aspect to climate change that we believe is important is the rate of change. So it's not just the absolute temperature but the speed with which temperatures and climates, weather, exposures vary. And some of the most rapid changes in fact are going to occur in the far North, in the Arctic, and in parts of northern Europe and North America. So, not necessarily seeing the same extremes of temperature but seeing much more rapid change and it's change that ecosystems and human beings find particularly stressful.

Johnson: Whether we're dealing with stressful rapid changes or a more gradual crawl to extreme temperatures, the report makes it clear that we need to be prepared to adapt.

Woodward: In terms of adaptation the IPCC assessment made a couple of points. One is that is really is the basic public health measures that are most important in countries where services and infrastructure is currently lacking or weak.

But the second point is that that's not enough on its own. The example of the wild fires in Australia or storms in the United States, even wealthy countries which have got on the whole have quite well developed public health systems, can be caught out can suffer severe effects of extreme and rapidly changing climate. So, we need climate specific measures that anticipate as best we can the kinds of challenges that are faced in the future.

Johnson: He added that many climate adaptation and mitigation strategies would also come with health benefits, reducing the overall health costs of climate change. On the flip side, some public health efforts could also help counter climate change. For example, increasing access to reproductive health services among people who want birth control but can't currently afford or access it is one health measure that could potentially slow population growth, reducing demand for energy and thus reducing greenhouse gas emissions.

Check out the full IPCC report to learn more about these ideas and others. Find the link on our website, niehs.nih.gov/podcasts. Thanks to Dr. Alistair Woodward for his insights on the IPCC report. In the final podcast in our series, we'll take a look at climate change in our own backyard with highlights from the U.S. National Climate Assessment.

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