WHO Science Council

Report of First Meeting

27 April 2021

World Health Organization

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1. Background

Advances in science and technology hold great promise and hope for new and improved ways to address global health problems and support healthier populations worldwide. Although science and technology have an undisputed role in WHO's 13th General Programme of Work to achieve the triple billion targets, advances in these fields must be harnessed appropriately, with foresight and a broad overview of WHO's mission and purpose. To this end, Director-General (DG) Dr Tedros Adhanom Ghebreyesus has established the WHO Science Council, a group of distinguished scientists from around the world, to work with Dr Soumya Swaminathan, WHO's Chief Scientist, on priority issues, and has appointed the members to act as science ambassadors to the world and to advise WHO on scientific breakthroughs and technologies that can help the Organization achieve its goals.

The Council's first meeting was held virtually on 27 April 2021, with the goal of defining the Science Council's mission and next steps. In attendance were the nine members of the Council, the Director-General, key members of WHO leadership, the Chief Scientist, Directors of the Science Division, and the WHO Science Council Secretariat (Annex).

2. Key Points

The meeting was opened by the DG, who noted that a unique strength of the WHO is its "convening power to pull together experts to analyze evidence and distill it into guidance" and emphasized the role of science at WHO and in its transformation, the creation of the WHO Science Division and appointment of a Chief Scientist; the Science Council is the latest step in this work. Dr Tedros reminded attendees that science is critical to global health, particularly in the face of the COVID–19 pandemic: "Science saves lives, and, conversely, when science has been ignored, the virus has spread and lives have been lost". Because of this, he said, it is important to remember that science is not an abstract or intellectual pursuit, but the difference between life and death.

With that, Dr Tedros formally launched the Science Council, and noted his delight in having such a diverse and experienced group of scientists to serve on the Council. He then charged the Council with several functions:

- Evaluate high-priority scientific issues and translate these evaluations into guidelines
- Identify emerging issues in science and technology with the potential for direct or indirect impact on global health
- Support WHO's work on science, research, and innovation
- Participate in rapid reviews of WHO's normative products.

Dr Tedros closed his remarks by quoting Louis Pasteur, who said, "Science knows no country, because knowledge belongs to humanity, and is the torch which illuminates the world".

Dr Swaminathan thanked Dr Tedros and invited the Council Chair, Professor Harold Varmus, to chair the meeting. The Council members introduced themselves and described their work and their goals for the Science Council. Professor Varmus asked Dr Swaminathan what the WHO needs from the Council, how the Council should address those needs, what kinds of work the Council is expected to do, and what kind of deliverables are to be expected from the Council.

Dr Swaminathan referred back to Dr Tedros' four major functions, and further noted that the Council's role is to act as a pathfinder; as such, the Council is expected to do many things; she encouraged the Council to "suggest anything you think we can do that will help advance science". She then gave an overview of the Science Division.

The creation of the Science Division was a key change in the transformation of WHO, the goal of which is to ensure that the Organization s fit for purpose, data-driven, agile, and responsive. The Science Division serves as a key innovator in the 13th Global Programme of Work (the Triple Billion Goals), with a strategy underpinned by three main goals:

- Goal 1: Be forward-looking and prioritize global health research
- Goal 2: Produce timely and evidence-driven norms and standards updated in real-time, using digital tools with an aim towards inclusiveness and agility
- Goal 3: Adoption and scale-up of innovation and digital health, looking forward to data sharing and examining the scope for use of artificial intelligence.

Dr Swaminathan said she sees the Science Council, in addition to the tasks as charged by Dr Tedros, as having three additional mandates:

- Acting as sentinels to ensure the WHO remains cutting-edge and ahead of the curve, to proactively harness the benefits of new advances in science and technology;
- Identifying cross-cutting areas or trends that could be applicable in different disease areas or health conditions; these can be provided in a position paper or white paper to be shared with WHO's advisory and technical groups;
- Acting as ambassadors to represent WHO's work to the global scientific community.

The Science Council should take a longer-term view rather than responding to crisis situations. Council members noted that the Council should not be a committee of committees, but rather an independent group operating on a high level, scanning the horizon for new advances and being "a proactive leader in research and innovations, using its global authority for greater impact on global health."

The Council then discussed specific ideas it might pursue in its remit. The first topic proposed is the use of genomic technologies in disease and global health. It was noted that this would be a good initial topic because it applies to many diseases and health conditions; is in wide use in developed countries; there are many questions still to be answered on data sharing, storage, and compliance; many organizations and stakeholders may be helpful to the Council in answering this question; and the technologies may result in applications ranging from pandemic response to chronic disease.

Council members noted that there are many directions to pursue. Some noted challenges in ensuring equity in technology use, as many developed countries benefit from technologies not currently available in low-resource settings, but these may benefit from actions taken by WHO. Research for simplification and cost reduction could help to develop indigenous capabilities in countries around the world, and potentially to expand this into pharmacokinetics research as well. One member noted that defining problems epidemiologically, using genomics to determine resource allocation and make viral sequencing universally available, might be a useful path to pursue, while others emphasized genomics in terms of diagnostic and therapeutic potential, setting up a private market pipeline for durable technologies to be used almost anywhere, establishing genetic literacy and proper genetic health services, looking at the relationship between genomics and ecohealth and the social determinants of health, and how genomics can be harnessed for pandemic preparedness. There was an additional suggestion to use other technologies in parallel to genomics to trace pathogens, the spread of infectious disease, or antimicrobial resistance. It was noted that WHO has a key role in setting the standards and providing guidance for country-level surveillance and for the dissemination of technologies to countries that need but cannot afford these new technologies.

Discussion shifted to focus on pandemic preparedness, with the Council discussing ways in which it could contribute that would not duplicate other WHO efforts. It was noted that the Council might contribute in linking emergencies, such as the current pandemic, to the broader agenda for the application of science and technology to public health and attempt to avoid a familiar pattern of a large influx of resources for 18-24 months post-crisis, with a dearth of resources after that. The Science Council is not limited by disease area and has an overarching remit to work on issues such as this. It was suggested that any upcoming pandemic preparedness reports and products from WHO and its partners be shared with the Council.

3. Next steps

The Council agreed to meet in full four times a year, but a subcommittee should meet in the interim to discuss a genomics report. Four members were identified for this task:

- Harold Varmus
- Edith Heard
- Mary-Claire King