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Committee on the Peaceful Uses of Outer Space Scientific and Technical Subcommittee

Draft long-term strategy on space and global health for the period 2025–2035

Working paper prepared by the Coordinator of the Space and Global Health Network

I. Introduction

1. At its sixty-first session, in 2024, the Scientific and Technical Subcommittee noted with satisfaction that the United Nations/World Health Organization (WHO) International Conference on Space and Global Health had been co-organized by the Office for Outer Space Affairs, WHO and the United Nations Conference on Trade and Development, in collaboration with the Government of Switzerland and the Space and Global Health Network and with the support of the European Space Agency, as the first major event since the adoption of General Assembly resolution [77/120](#), entitled “Space and global health”, and that it had been attended by major stakeholders in the fields of space and global health. The Subcommittee noted that participants in the Conference had recommended, inter alia, the creation of a short-term action plan and a longer-term strategy for the implementation of actions supporting the General Assembly resolution on space and global health.
2. The present document contains a draft long-term strategy on space and global health for the period 2025–2035 to support the implementation of recommendations contained in General Assembly resolution [77/120](#), for consideration by the Committee on the Peaceful Uses of Outer Space.

II. Historical background

3. Biology and medicine were the focus of the fifth thematic session of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE), held in Vienna in August 1968. The discussion at that thematic session confirmed that biology and medicine played a leading role in cosmic research, in particular in connection with crewed space flight, and it was pointed out at that session that the results of space research and of the general development of space science exerted a considerable influence on the progress of biology and medicine as disciplinary sciences, as well as on their general practical aspects.
4. At the second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE II), held in Vienna in August 1982, it was noted that



space represented a new and powerful research environment for biology and medicine, because factors such as microgravity, access to the cosmic spectrum of radiations and a virtually infinite source of near-vacuum had not been encountered by living organisms throughout their terrestrial existence and evolution, and living organisms displayed varying degrees of tolerance of each factor.

5. Pursuant to General Assembly resolution [40/162](#), adopted in 1985, the Subcommittee started its consideration of the agenda item on life sciences, including space medicine. The item remained on the agenda of the Subcommittee until 1999, when the structure of the agenda was reviewed in preparation for the third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), held in Vienna in July 1999. In the outcome document of UNISPACE III, the States participating in the Conference recognized the importance of space science and space applications for the fundamental knowledge of health and other areas, and the major contribution that space science and technology had made to the well-being of humanity, specifically to economic, social and cultural development, and declared that action should be taken to improve public health services by expanding and coordinating space-based services for telemedicine and for controlling infectious diseases.

6. To follow up on the recommendations of UNISPACE III, the Action Team on Public Health of the Committee on the Peaceful Uses of Outer Space, also known as action team 6, was established in 2001. The preliminary and final reports of the Action Team, co-chaired by Canada and India, are contained in document [A/59/174](#), annex V, appendix IV, and in document [A/AC.105/C.1/L.305](#). In 2012, building on its work thus far, the Action Team set up an initiative led by the University of Koblenz-Landau of Germany, known as the action team 6 follow-up initiative.

7. From 2000 to 2013, issues related to the work of the Action Team and its follow-up initiative were considered by the Subcommittee and its Working Group of the Whole. In 2014, the Subcommittee's Working Group of the Whole agreed on the establishment of a focused expert group on space and global health to consider issues related to the use of space technology for public health and noted that no Secretariat services would be required for the expert group. The Expert Group on Space and Global Health was co-chaired by Pascal Michel (Canada) and Antoine Geissbühler (Switzerland) and held meetings from 2015 to 2018. The mandate and three-year workplan of the Expert Group, endorsed by the Subcommittee, is contained in the report of the Subcommittee on its fifty-second session ([A/AC.105/1088](#), annex I, para. 7). The work of the Expert Group is reflected in its reports ([A/AC.105/C.1/2015/CRP.29](#), [A/AC.105/C.1/2016/CRP.21](#), [A/AC.105/C.1/2017/CRP.28](#) and [A/AC.105/C.1/2018/CRP.17](#)).

8. Strengthened space cooperation for global health was one of the seven thematic priorities of UNISPACE+50 ([A/71/20](#), para. 296), which was held in 2018 to commemorate the fiftieth anniversary of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space. The United Nations/WHO/Switzerland Conference on Strengthening Space Cooperation for Global Health, organized jointly by the Office for Outer Space Affairs, WHO and the Government of Switzerland, with the support of the European Space Agency, and held in Geneva in August 2017, was a flagship conference under this thematic priority (see [A/AC.105/1161](#)). The UNISPACE+50 process led to the establishment of the Working Group on Space and Global Health.

9. The Committee on the Peaceful Uses of Outer space, at its sixty-first session, established a new item on the agenda of the Scientific and Technical Subcommittee, starting in 2019, entitled "Space and global health". Also at its session in 2018, the Committee on the Peaceful Uses of Outer Space agreed that a working group under the item on space and global health should be convened, with Antoine Geissbühler as Chair.

10. In the course of its work under its multi-year workplan for the period 2019–2022 ([A/AC.105/1202](#), annex III, appendix I, para. 9), the Working Group on Space

and Global Health conducted a review of responses to the questionnaire on policies, experiences and practices in the use of space science and technology for global health (A/AC.105/C.1/2021/CRP.7); made recommendations regarding policies, experiences and practices in the use of space science and technology for global health (A/AC.105/C.1/121, para 49); recommended the establishment of the Space and Global Health Platform and the Space and Global Health Network (A/AC.105/1258, para. 249, and annex IV, para. 7); and developed the text of a draft resolution on space and global health.

11. On 12 December 2022, the General Assembly adopted its resolution 77/120 on space and global health, in which it agreed to promote capacity-building events, to be organized by United Nations entities and other relevant actors, with the objective of further promoting awareness of and engagement with regard to the important contribution of space science and technology in the health domain.

12. On the same date, the General Assembly adopted its resolution 77/121 on international cooperation in the peaceful uses of outer space, in which it took note of the report of the Working Group on the work conducted under its multi-year workplan (A/AC.105/C.1/121), noted with satisfaction the establishment of the Space and Global Health Platform, based in Geneva, to promote effective collaboration on space and global health issues among Member States and United Nations system entities, in particular WHO and the Office for Outer Space Affairs, as well as international organizations and relevant actors, and welcomed the establishment of the Space and Global Health Network.

13. The United Nations/WHO International Conference on Space and Global Health, the first major event held following the adoption of Assembly resolution 77/120, was held in November 2023.

14. As part of the work of the Space and Global Health Network and under the leadership of its coordinator, Antoine Geissbühler, the Network held two meetings in hybrid format, on 5 and 6 February 2024, on the margins of the sixty-first session of the Scientific and Technical Subcommittee (see A/AC.105/C.1/2024/CRP.33). More than 50 participants attended the meetings, including participants from the space and health sectors, space agencies, academia and international organizations, including the Office for Outer Space Affairs and WHO. The participants in the Space and Global Health Network agreed to hold the Network's next meeting on the margins of the sixty-seventh session of the Committee on the Peaceful Uses of Outer Space.

15. As part of the Geneva Digital Health Day, a session will be dedicated to space and global health. The Geneva Digital Health Day is organized by the Geneva Digital Health Hub in collaboration with the Geneva Health Forum in the context of the seventy-seventh World Health Assembly. This first edition of the event will be held in Geneva at Campus Biotech on 30 May 2024 and will immediately follow the Geneva Health Forum held from 27 to 29 May 2024. The topics to be discussed during the Geneva Digital Health Day will be aligned with the recommendations of the United Nations/WHO International Conference on Space and Global Health in 2023 (see A/AC.105/1306) and of the report of the sixty-first session of the Scientific and Technical Subcommittee (A/AC.105/C.1/2024/CRP.29).

III. Draft long-term strategy on space and global health for the period 2025–2035

The draft long-term strategy on space and global health for the period 2025–2035 is aimed at realizing the following vision: ensure healthy lives and promote well-being for all at all ages by increasing the use of the benefits offered by outer space in the health sector.

In pursuance of this vision, there is a need for focused action at the local, national, regional and global levels in the following three priority areas: institutional strengthening; knowledge and awareness-raising; and capacity-building.

Priority 1. Institutional strengthening

Institutional strengthening is a cornerstone of the effective and efficient utilization of space technology in addressing global health challenges. Systematic cooperation and interaction among all stakeholders is vital for harnessing the full potential of space-derived solutions.

This could be attained through a focus on the following key elements:

(a) **Policy frameworks.** Developing policies and strategies that recognize the role of space technology in addressing global health challenges, integrating space-based solutions into national and international health agendas, and ensuring alignment with broader development goals;

(b) **Strengthening mechanisms and institutions.** Establishing coordination mechanisms at the national level to facilitate collaboration among stakeholders, and promoting interdisciplinary approaches involving space agencies, health ministries, research institutions, non-governmental organizations and private sector partners;

(c) **Coordination and collaboration.** Involving a diverse range of stakeholders, such as governments, academia, civil society and local communities, in decision-making processes, and engaging end users and beneficiaries to ensure that space-derived solutions are tailored to meet their specific needs and priorities.

Priority 2. Knowledge and awareness-raising

Space science, technology and related applications offer multifaceted innovative solutions to address various health challenges on Earth. However, the realization of these benefits requires raising awareness about existing technologies, promoting access to space-derived data, and facilitating the exchange of information and best practices among stakeholders.

This could be attained through, inter alia:

(a) **Awareness-raising and outreach.** Educating stakeholders, including health-care professionals, policymakers and the general public, about the diverse applications of space technology in public health; and organizing training events and awareness-raising campaigns, and leveraging outreach platforms in order to highlight success stories, ongoing projects and the potential of space for health solutions and engage audiences so as to foster among them a deeper understanding of the intersection between space and health;

(b) **Collaboration and the sharing of knowledge.** Promoting the collection, analysis, management and use of relevant data and practical information and ensuring its dissemination, taking into account the needs of different categories of users, as well as the new opportunities provided by the development of artificial intelligence; strengthening the platforms for knowledge-sharing, data exchange and collaboration among stakeholders across different sectors and regions; and encouraging the formation of interdisciplinary teams to tackle health challenges in specific areas, such as tele-epidemiology and telehealth.

Priority 3. Capacity-building

Capacity-building is a critical priority for unlocking the potential of space solutions in addressing global health challenges. For this, it is important to develop skills, knowledge, competencies and infrastructure at both the individual and the organizational levels in order to effectively utilize space technology in the realm of global health.

This could be attained by focusing on the following main dimensions:

(a) **Development at the individual level.** Establishing fellowships, scholarships and training programmes to equip individuals with the necessary skills and knowledge in space technology and its applications in health; developing specialized courses, workshops and seminars to enhance competencies in areas such

as remote sensing, geographic information systems, telemedicine and data science; and implementing mentorship and coaching programmes to provide guidance and support to individuals pursuing careers in space and global health;

(b) **Capacity-building at the organizational level.** Integrating technology and global health topics into existing educational curricula at academic institutions; establishing new educational programmes, such as degree courses, certificates and professional training modules, focused on space and global health; and promoting research on and innovation in space and global health.
