



The Global Virome Project (GVP) was conceived in response to repeated and unpredictable emergence and re-emergence of high impact viral epidemics and pandemics compromising global health security and well-being of the peoples of the world.

Between 8 and 11 August 2016, representatives from across the globe – high level policy and decision makers, thought leaders, subject matter experts, researchers, and representatives from international organizations (including those involved with human, animal, and environmental health), academia, donors, foundations, and the private sector – gathered at the Rockefeller Foundation’s Bellagio Conference Center to develop a vision on the importance and feasibility of the GVP in building a world safe from the threat of emerging viral diseases. Below is the report on this effort.

Bellagio Initiative on the Global Virome Project (GVP)

1. The Global Virome Project (GVP) Bellagio forum attendees (see list below) support the development of a global alliance to carry forward the GVP, an international effort to identify and characterize, within a decade, 99% of all zoonotic viruses with epidemic/pandemic potential in order to better predict, prevent, and respond to future viral pandemic threats and to protect us all from their worst consequences.

Why the Status Quo Isn't Acceptable

2. We, the attendees, recognize that we live in an interconnected world where a single lethal microbe could emerge suddenly and rapidly spread to every household and every community without regard to national borders, or to social and economic standing.
3. We are equally aware that global trends indicate that over the course of this century, the rate that new microbial threats emerge will continue to accelerate due to growing socioeconomic and demographic factors largely driven by the world's increasing population and increasing interactions with animal populations.
4. We recognize that our responses to the SARS, pandemic influenza, MERS, Ebola, and Zika outbreaks illustrate that the world needs to do better to either mitigate the impact of an emerging threat or to prevent its emergence.
5. We also know that the majority and growing proportion of epidemics are zoonotic and that the common thread across nearly all of the high-impact emerging disease threats is that they are viral. While bacteria, particularly those that have acquired resistance to antimicrobials, and parasites and fungi can also pose serious threats to global health, addressing viruses has emerged as a critical need in improving global health.

A Global Vision

6. Fortunately, rapid advances in science and a corresponding revolution in technologies allow us to foresee a world where the impact of future pandemics can be minimized.
7. With this knowledge comes the ability to move away from a reactionary approach to these threats to a strategy that focuses ever more on both accurate modeling for better prediction and robustly on prevention.
8. What is required is bold global action that embraces a near-term time horizon for an international 'big science' project akin to the Human Genome and Project.

9. The GVP offers such a vision, though it requires much greater distributive capacity and engagement by sovereign states around the world for such action.

10. At the core of GVP's vision is that within 10 years almost all of the planet's zoonotic viral threats will have been identified and characterized, and a comprehensive database built in order to design science-based surveillance, preparedness, and prevention plans, enabling the development of appropriate countermeasures well in advance of future epidemic events.

11. The GVP aims at achieving this vision through core principles that:

- Embrace an international scope, while fostering local ownership
- Promote equitable access to data and benefits
- Foster transparency
- Assist countries in building their national capabilities for “prevention, detection and response” for emerging viral threats in all partner countries on an unprecedented scale
- Foster global ownership through an international alliance

A Dramatic Step Towards Building the Systems and Capacities for the Future

12. The success of the GVP will be measured by its deliverables, which in the course of its 10-year lifespan will include:

- Detecting and identifying at least 99% of potential zoonotic viral threats to human health and food security;
- Characterizing the host range of the detected viruses (reservoirs and transmission hosts);
- Determining the geographic distribution and ecologic scope of nearly all zoonotic viruses to inform on risk and surveillance in human and animals;
- Promoting the monitoring of the movement of detected viruses across hosts and regions;

- Improving the assessment of the risk of spillover and epidemic potential;
- Prioritizing high-risk viruses for further characterization, surveillance targeting, research, and mitigation development;
- Strengthening global surveillance networks through local and global capacity enhancements (e.g. surveillance, field biology, lab proficiencies, biosafety);
- Enabling in-country/regional laboratory and surveillance capacities to monitor for high-risk viruses across animal-human interfaces;
- Establishing sample biobank(s) for further research;
- Creating open-access databases that include sequence and metadata;
- Making data and samples available for public health risk assessments and mitigation, as well as further detailed pathogen studies;
- Providing new insights into virus and host biology, conservation and ecology;
- Identifying markers for transmission and pathogenicity for high-risk viruses; and
- Establishing an ethical framework for sample, data, information, and benefit sharing, including authorship and intellectual property.

Additional Benefits

13. The GVP has the big science potential to be truly transformative – triggering advances in science and global health beyond its targeted scope.

14. Characterizing the global zoonotic viral diversity and ecology would also result in a wide range of advances in human and animal health, including the development of critical new technologies and diagnostics, risk mitigation strategies, and eventually advances in vaccines and therapeutics.

15. Like the Human Genome Project, the GVP will likely lead to unrelated and often unexpected advances in human and animal health and in science.

The Beginning of the End

16. With global support for the Global Virome Project, the world will be better prepared to deal with the consequences of escalating spillover of deadly viruses in ten years.

17. Further, this initiative will enable the identification of populations with the greatest vulnerability to novel pathogenic viruses and the highest risk interactions with animal populations, enabling mitigation measures to be targeted with unparalleled accuracy, protecting populations from future pandemics.

18. In short, the outcome of the GVP is designed to be the beginning of the end of the Pandemic Era.

2016 GVP Bellagio Forum Attendees

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