



NATIONAL ACADEMY OF SCIENCES

Office of the President

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Governments and societies around the world are facing a wide range of serious challenges, for which understanding of available evidence is critical. Almost all of those challenges are, in varying degrees, common to all countries. And to address many of the most important challenges successfully, parallel policies and cooperative actions are essential.

Therefore it is of great importance that, especially for the past 20 years, science academies of most of the world's countries have cooperated intensively to contribute to the common evidence base needed by our societies to make wise choices.

The National Academy of Sciences appreciates very much the leadership of the Accademia Nazionale dei Lincei this year in proposing three very important and timely topics for the academies of the G7 countries to address jointly. I would like to mention a few of the important aspects of these three topics, and of the ways forward addressed in the statements developed by the academies.

First, rapid scientific, technological and societal developments pose many challenges, including how their great benefits to welfare, health, and prosperity can be sustained and shared in an inclusive ways across all of society. There is much recent physical and social evidence of the importance and difficulty of inclusive growth. In particular, this is evident in the continued existence, in both poor and relatively rich countries, of segments of society that are seriously disadvantaged. Part of the solution to these complex problems of inclusion is universal availability of key infrastructure, both physical (such as access to modern energy and communications) and institutional (including universal educational opportunities from early childhood throughout lifetimes). Academies must engage in a wide variety of ways to provide perspectives on how these needs can be met so that science can benefit all of society.

Second, the vast improvements in health, provided by scientific and technological advances, have led to remarkable increases in life expectancy. These increases, accompanied by many changes in the structures of families and communities, in life styles, and in medical diagnosis, have combined to make starkly clear a rapidly approaching common challenge: the personal and financial burdens of neurodegenerative diseases in aging populations. Contributions from science, health systems, technology, and innovation provide hope for alleviating these burdens. On one end of that spectrum, rapid further progress toward understanding the basic biological mechanisms and causes of the diseases can lead to better strategies for intervention. On the other end, more effective responses to vast demand on human resources (especially care-givers) hold the promise for lessening the economic impact of caring for the aged and infirmed.

Third, cultural heritage is an essential part of our existence and of transmitting the human experience to future generations. Examples of irreplaceable cultural heritage are already being destroyed by civil unrest and natural disasters, some of which are becoming more frequent or more intense with changing climate. There is an urgent need for increasing the resilience of infrastructure in general, and in this broader context, the complexities of preservation of cultural heritage should receive detailed consideration, including executing specific implementation steps.

Sincerely,

A handwritten signature in black ink that reads "Marcia McNutt". The signature is written in a cursive style with a long, sweeping underline.

Dr. Marcia K. McNutt
President