

G8 Science Ministers Statement London UK, 12 June 2013

Introduction

We, the G8 Science Ministers met in London on Wednesday 12 June with Presidents of our respective national science academies, as part of the UK's G8 Presidency. At this unique meeting we discussed how our nations could lead efforts to improve the transparency, coherence and coordination of the global scientific research enterprise in order to address global challenges and maximise the social and economic benefits of research.

So today, recognising the role that science has to play in securing present and future sustainable growth, we approved a statement which proposes to the G8 for consideration new areas for collaboration and agreement on global challenges, global research infrastructure, open scientific research data, and increasing access to the peer-reviewed, published results of scientific research.

1. Global Challenges

Global challenges refer to humanity's most pressing concerns, transcending national boundaries and posing significant threats to societies and ecosystems. They require international cooperation because of the nature and magnitude of their potential - consequences. Science plays a pivotal role in addressing these challenges. We discussed new and emerging global challenges that require concerted G8 cooperation amongst the science community. We highlighted the importance of taking a cross-disciplinary and cross-sectoral approach, across the social, human, natural, life and environmental sciences. We accepted that there was value in enhanced collaboration to share insights from national activities to systematically identify and examine potential threats and challenges that can be addressed through science.

We acknowledged that there is a broad range of global challenges requiring our attention in the near future. We highlighted in particular, urbanisation, pollution, energy security, climate change, biodiversity, ocean acidification, youth unemployment, inequality, how to translate basic science to personalised and regenerative medicine, the ageing population and neurodegenerative diseases during our discussions – whilst recognising that this was not a definitive list.

At the meeting we focused on antimicrobial (i.e. anti-viral, anti-bacterial, anti-fungal and anti-parasite) drug resistance as a major health security challenge of the twenty first century. We decided to act concertedly on developing the scientific input necessary to reduce antimicrobial resistance working with existing agencies such as the World Health Organisation and by taking into consideration other activities, to:

- i. preserve the efficacy of existing antimicrobial agents, in part by avoiding misuse and optimising prescribing practices in our respective countries (for human, veterinary and aquaculture use);
- ii. prevent the emergence of antimicrobial/drug resistance, in part through developing rapid diagnostics to inform antimicrobial drugs use;
- iii. support the development of new antimicrobial agents and interventions to treat microbial infection, in part by stimulating the antimicrobial drug research and development pipeline;
- iv. support the development of new diagnostics to improve early diagnosis of antimicrobial resistant infections and improve treatment efficacy;
- v. support international cooperation and sharing of surveillance data to improve global understanding of the spread of antimicrobial drugs resistance;
- vi. support theoretical and applied research to better understand the origin, spread, evolution and development of resistance in microorganisms (including viruses, bacteria and parasites) and the role of the innate immune system.

2. Global Research Infrastructure

Research infrastructures (RI) are key elements in research and innovation policies. In some cases, their complexity as well as high development, construction and operation costs, requirement for a critical mass of highly qualified human resources, or simply the global nature of the scientific challenge addressed, makes it impossible for one country or region alone to build and operate these facilities. In such cases it becomes crucial to make concerted efforts at the international level for the realisation of "global research infrastructures" (GRI). We recognise the potential for increased international cooperation on global research infrastructures and the benefits that arise from a shared outlook on frontier research and collaboration and good governance.

We recognise the work of the Group of Senior Officials (GSO) formed after the G8 Ministerial meeting in Okinawa in 2008 to take stock and explore cooperation on GRIs.

- i. We have decided to adopt the Framework for GRIs decided by the GSO as the principles and reference terms under which G8 countries consider cooperation on GRIs, and encourage other nations to adopt them.
- ii. We approve a new mandate for the GSO to enable it to fulfil the areas of its original mandate that have not yet been addressed including to:
 - Promote the Framework and continue to exchange information on potential future research infrastructure that may present opportunities for international collaboration, noting especially the needs of the Global Challenges; and

- Share information on national research infrastructure priorities and prioritization processes; identify areas of potential benefit that could be achieved through sharing of best practices.
- Create a representative list of GRIs open to global cooperation of interest to new partners.

We invite the GSO to report in 2015 on their progress.

3. Open Scientific Research Data

Open enquiry is at the heart of scientific endeavour, and rapid technological change has profound implications for the way that science is both conducted and its results communicated. It can provide society with the necessary information to solve global challenges. We are committed to openness in scientific research data to speed up the progress of scientific discovery, create innovation, ensure that the results of scientific research are as widely available as practical, enable transparency in science and engage the public in the scientific process. We have decided to support the set of principles for open scientific research data outlined below as a basis for further discussions.

- i. To the greatest extent and with the fewest constraints possible publicly funded scientific research data should be open, while at the same time respecting concerns in relation to privacy, safety, security and commercial interests, whilst acknowledging the legitimate concerns of private partners.
- ii. Open scientific research data should be easily discoverable, accessible, assessable, intelligible, useable, and wherever possible interoperable to specific quality standards.
- iii. To maximise the value that can be realised from data, the mechanisms for delivering open scientific research data should be efficient and cost effective, and consistent with the potential benefits.
- iv. To ensure successful adoption by scientific communities, open scientific research data principles will need to be underpinned by an appropriate policy environment, including recognition of researchers fulfilling these principles, and appropriate digital infrastructure.

We decide to build on the existing work to coordinate and enable international data collaboration.

4. Expanding Access to Scientific Research Results

We recognise that effective global scientific research and public understanding of science and commercial innovation by enterprises is supported by free and rapid public access to published, publicly funded research. The generation, sharing and exploitation of scientific knowledge are integral to the creation of wealth and the

enhancement of our quality of life. We recognise that G8 nations have an important opportunity and responsibility to promote policies that increase access to the results of publicly funded research results to spur scientific discovery, enable better international collaboration and coordination of research, enhance the engagement of society and help support economic prosperity.

- i. We endorse the principle that increasing access to the peer-reviewed, published results of publicly funded published research will accelerate research, drive innovation, and benefit the economy.
- ii. We recognise the importance of peer review and the valuable role played by publishers, including Learned Societies. Increasing free access to peer-reviewed, published research results will require sustainable solutions.
- iii. We recognise the potential benefits of immediate global access to and unrestricted use of published peer-reviewed, publicly funded research results in line with the necessity of IP protection.
- iv. We recognise that there are different routes to open access (green, gold and other innovative models) which need to be explored and potentially developed in a complementary way.
- v. We recognise that the long-term preservation of the increasingly digitized body of scientific publications and data requires careful consideration at the national and international levels to ensure that the scientific results of our time will be available also to future generations.
- vi. We recognise that further work is required to optimise increasing public access to peer-reviewed, publicly funded published research and its underlying data and that international coordination and cooperation will provide for an efficient transition to “open access”.
- vii. We share the intention, therefore, to continue our cooperative efforts and will consider how best to address the global promotion of increasing public access to the results of publicly funded published research including to peer-reviewed published research and research data.

We recognise the role of our national science academies and research organisations across these important agendas, working regionally, nationally and globally through their respective networks.

Signed by G8 Science Ministers
12 June 2013

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