COVID-19 pandemic

RECOMMENDATIONS ON IMPROVING PANDEMIC PREPAREDNESS AND MANAGEMENT

Based on the forthcoming Joint Opinion[1] by

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Prologue

As science and ethics policy advisors we have examined the responses to the COVID-19 and, in part, previous pandemics, identified important lessons learned and to be learned and formulated the following recommendations to support the European Commission's efforts in strengthening Europe's preparedness for, and management of, future pandemics and epidemics.

This is a collaboration between the European Commission's Group of Chief Scientific Advisors, the European Group on Ethics in Science and New Technologies and the Special Advisor to the President of the European Commission on the response to COVID-19 and brings together

different disciplines and perspectives. It analyses the complexity of pandemics drawing on insights from research and scholarship and taking European values and respect for fundamental rights as critical orientation.

Scientific advice in an ongoing crisis, as indicated in our first joint statement (*Statement on scientific advice to European policy makers during the COVID-19 pandemic*, June 2020), needs to be transparent, based on high quality evidence, adaptive and open to scientific scrutiny. Science and scientific advice do not emerge from value-free spaces and can be interpreted, weighed and applied in different ways. This is where values, ethics and fundamental rights matter as they inform interpretations and decisions in the course of science and actions taken on the basis of science.

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[1] Minor changes were made to this advance draft of the recommendations in the context of their publication in the full Joint Opinion on 11 November 2020. The changes reflect the importance of global cooperation, beyond European cooperation, during and in preparation of pandemics and have been integrated into this draft.

The outbreak of infectious disease causes a broader societal crisis and highlights pre-existing social ills. This requires responses to be of a holistic nature, addressing all aspects and causes of the crisis and their complex interplay in an interdisciplinary framework, which aims at sustainable recovery and resilience by building strong and solidarity-based institutions.

The lessons learned have identified the limitations of an ad-hoc approach to health crises: pre-established networks, systems and infrastructure would have enabled a more rapid and coordinated response – crucial in the early phase of an outbreak. Many of our following recommendations require EU-level collaboration with coordinated management, which could be performed by agencies such as the proposed Biomedical Advanced Research and Development Authority (BARDA)-like structure, building on properly resourced existing elements, such as the European Centre for Disease Prevention and Control (ECDC) and the European Medicines Agency (EMA). We therefore endorse the European Commission's proposals concerning the respective creation and strengthening of these agencies.

Successful pandemic management and preparedness need to be based on European and international collaboration, driven by the long-standing European values of openness, cooperation and solidarity – understood as practices and institutions of mutual support among all people and all Members States in Europe, with particular attention to the needs of the vulnerable. The COVID-19 pandemic has highlighted the inter-dependency of people and other species, mutual vulnerabilities and the need for shared responsibilities within and between the Member States of the European Union, as well as internationally. Cross-border health threats such as pandemics do not stop at the EU borders. The COVID-19 pandemic is not going to be over anywhere, until it is over everywhere, worldwide. The inter-dependency extends to humans, animals and the environment, and it encompasses health, economic, social and cultural sectors. Pandemics preparedness and management is a collective capability of the whole EU as part of the international community, based on building resilience.

Each epidemic or pandemic affects societies and different parts and members of a society in different ways. Each outbreak has its own specific characteristics. There cannot be a single preparedness and management strategy. What is needed is a toolbox of flexible strategies that can be adjusted and further developed in a particular epidemiological, economic, social and cultural context.

On this basis, we recommend the European Commission to:

Prevent and pre-empt

- **Support multifaceted efforts to investigate, map and reduce the risk of emerging infectious diseases globally**, including the surveillance of pathogen reservoirs, mitigation, forecasting and early detection of potential outbreaks. This entails proactive pathogen discovery in wildlife and livestock populations and understanding the mechanisms and risks of cross-species host-switching, coupled with prevention efforts against spillover of pathogens to humans and the monitoring of spillover events when they do occur, as well as modelling of the potential spread of emerging pathogens. This will involve a strong global collaboration built on a combination of research, awareness raising, biosecurity and biosafety improvements and capacity building.

- **Support a combination of complementary approaches for accelerating the research on and development of responses to pathogens with epidemic and pandemic potential**, including (1) pathogen-specific work; (2) pathogen-independent platform-based technology; and (3) prototype-pathogen efforts at European and international level in collaboration with governments, non-

government organisations and private companies.

- **Strengthen multi- and cross-disciplinary research on pandemic prevention, preparedness, responses and impacts.** This should include biomedical studies as well as studies on societal dimensions, such as social, cultural and economic habits increasing the risk of outbreaks, socio-economic and psychosocial consequences of pandemics and of mitigation measures and broader questions of epidemic-resilient societal structures, for example with regard to health inequalities, poverty, employment, gender, ageing, housing, urbanism and rurality, mobility, environmental sustainability and legal and governance frameworks. These efforts should also cover analyses of public and policy discourses related to pandemic responses that have the potential to homogenise, stigmatise and problematize different population groups. Specific investigations into effective testing, tracing and isolating strategies (TTI) and other monitoring and containment strategies, such as sector-specific approaches, to avoid closures of public institutions and borders as well as impairment of public life, are also important. Studies into the development, effectiveness, necessity and proportionality of pan-European, interoperable technologies in the management of epidemics and pandemics are also recommended, acknowledging the social and ethical dimensions of their development and implementation, and addressing potentials and risks to dignity and fundamental rights and freedoms.

Enhance coordination across Member States and at international level

- **Establish a standing EU advisory body for health threats and crises**, including epidemics and pandemics. This body should have a multidisciplinary and inclusive membership so it can advise on biomedical, behavioural, social, economic, cultural, ethical, legal, technological and international aspects. Its composition and functioning should also respond to the challenges and requirements involved by its role in advising on new and surprising questions and complex and changing situations, as it will need to be expert, farsighted, rapid, flexible and creative, while often facing the unknown, uncertainties and chaos. It should have liaisons to representatives from relevant advisory bodies in the Member States, at EU-level, including the ECDC, and internationally to ensure EU-wide and global sharing and exchange of information. The result should be a shared evidence-base about effective and socially and economically sustainable mitigation and management strategies for health threats and crises, including epidemics and pandemics. The envisaged EU advisory body would also ensure that the advice provided to Member State governments and the European Commission is consistent, with differences in advice to different Member States clarified and clearly communicated. It would also ensure that key criteria guide EU coordination regarding international concerns such as travel, ensuring coherence and non-discrimination among Member States.

- **Ensure that monitoring efforts are comprehensive, evidence-based, rapidly shared and well-coordinated across the EU**, enabling strategic decisions in response to the situation at hand, insights through real-time comparisons, as well as collective action where appropriate. The COVID-19 pandemic highlighted that even key indicators, such as the number of deaths, were measured and assessed differently among Member States, hindering effective collaboration, insights and comparisons. For instance, the exclusion of deaths in nursing homes from official numbers in some Member States established practical barriers with respect to identifying clustering patterns and targeting and designing responses, and symbolic challenges with respect to communicating and pursuing

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inclusive mitigating strategies. Moreover, indicators were often limited to biomedical aspects, preventing a more complete assessment of the crisis and the effects of implemented measures. A European Dashboard with information from all Member States about the medical, economic and social impacts would be helpful, also for transparency and communication to the public. The Dashboard should also include indicators on unemployment and poverty, social isolation and social exclusion, school attendance, limitations of civil liberties and fundamental rights, as well as containment measures. Therefore, a European data platform, strategy and infrastructure for preparedness and management of health crises is recommended.

- **Establish a joint early-response mechanism to contain epidemics and pandemics, including a toolbox of strategies**, such as testing, tracing, isolating as well as local/regional/national containment measures. Any strategy needs to be based on scientific evidence, guided by the fundamental rights framework and applied in a situation-dependent manner. Herd immunity is a concept best applied in the context of vaccine-acquired immunity. Achieving herd immunity through natural infection by a previously unknown pathogen involving risks to life and health conflicts with the WHO's ethical framework and its multi-principled approach, requiring that utility and equity considerations are balanced. The moral equality of all persons means that the lives of vulnerable members of society must be considered to have equal value to the lives of those at less risk. Achieving a state where a sufficient share of the population has become immune as a result of natural infection can also create practical challenges regarding the protection of vulnerable populations, overburden health care systems and result in a high number of deaths and long-term morbidity.

- **Coordinate research and the development and implementation of medical countermeasures during a pandemic or other health threat.** Crucial scientific questions should be clarified as quickly as possible after the onset of a health threat such as a pandemic to rapidly inform effective and safe public health measures. These questions relate to, for example, distinctive molecular characteristics, means of transmission, the type and duration of the natural immune response to the pathogen, the clinical picture and the course of the disease in different populations. Research efforts should be coordinated and findings and insights shared at European and international levels to make best use of limited resources to accelerate the acquisition of scientific understanding. Initiatives similar to the ERAvsCorona Action Plan can facilitate such coordination at a European level. Similarly, EU coordination of the development and implementation of diagnostic tests and clinical trials for the development of treatments and vaccines can avoid fragmentation of studies, duplication, or competition for trial participants and help to secure the generation of robust evidence. We recommend the establishment of an EU-wide network of large-scale, multi-centric clinical trials for both therapeutics and vaccines, to ensure that regulatory requirements are met and to inform public health policies. For treatments, we recommend supporting adaptive trials using a pre-developed and ethically approved master protocol, and allowing therapeutic options to change according to interim results and newly emerging candidate treatments. To safeguard the efficacy and safety of newly developed vaccines and treatments when using accelerated procedures, it is necessary to coordinate trials in all phases, including a sufficiently high number of volunteers from different population groups and risk groups. The obtained results are essential to inform public health choices including the development of optimal vaccination strategies.

- **Coordinate research and the development and evaluation of social measures to mitigate harm and to increase resilience in case of pandemics or other public health crises.** Social, economic, ethical, psychosocial and cultural challenges raised by a pandemic should be addressed as quickly as possible after its onset to inform a range of nuanced and locally appropriate measures. These challenges may relate to, for example, income and housing security, age, disability, health, gender and educational equality, psychosocial and domestic wellbeing and social, cultural and religious needs. Research should also investigate the effects, proportionality and perceptions of mitigation measures during a pandemic, their communication and discourses they give rise to, as well as questions of trust and social cohesion, so that lessons can be drawn for the future. Research should also investigate and inform the development of inter-sectoral frameworks to integrate public health, social and economic considerations and support decision making and policy development during public health crises. Results should be shared at European and international levels to deepen the understanding of complex societal reactions during pandemics and inform governing bodies on how insecurities created by pandemics and containment measures can be countered through social support measures, from inclusive emergency financial aid schemes of different kinds to ad-hoc strengthening of institutions providing community support.

Strengthen systems for preparedness and management

- **Encourage Member States to provide healthcare for all**, respecting the principles of justice and solidarity and adhering to the commitments established in the context of European fundamental rights instruments, such as the European Pillar of Social Rights, and the Sustainable Development Goals. Member States should account for the resources needed to maintain high-quality, evidence-based continuity of care of people with other health problems, including workforce and service capacity needs, and a robust referral and diagnostics service. They should also ensure that settings that care for older adults and other vulnerable groups are better prepared for future waves of this pandemic and other pandemics.

- **Ensure robust and equitable access to critical products and services for all EU citizens and demonstrate global solidarity.** This involves pre-emptively providing criteria for the allocation, among and within Member States, of limited resources essential to manage a pandemic and mitigate harm, with due regard to the moral equality of all persons. This includes treatments and vaccines, but also specialised professionals that are in increased demand during pandemics, as well as key infrastructures, technologies and devices. Allocations should follow fair, needs-based criteria built on European values of solidarity, equity, non-discrimination and social justice, paying particular attention to disadvantaged groups, such as older adults, chronically ill and disabled persons, as well as disadvantaged regions, also beyond the EU. The complimentary concepts of 'inclusion health', where health services are operationalised to address health and social inequities, and 'linked lives', where people lead mutually influential interlocked lives, may provide useful orientating policy concepts to ensure this fairness. Prior identification and amplification of suitable laboratories, production facilities and adequate logistical workflows is recommended. Existing facilities may be repurposed in the case of emergencies to ensure the availability, affordability and accessibility to a sufficient supply of resources in all Member States. Steps should be taken to ensure that patent rights and pricing are not barriers to the availability and affordability of necessary

treatments and vaccines, especially in less advantaged countries. The EU should strengthen its capacities for, and accelerate, clinical and non-clinical research and development, authorisation, manufacturing and stockpiling of medicinal products, diagnostic testing material and personal protective equipment to address supply chain dependencies and to ensure availability of critical medicinal products and services in Europe in the case of pandemics and other health crises. An EU Biomedical Advanced Research and Development Authority (BARDA)-like structure could serve this purpose, tailored to the European context and properly resourced. It should closely collaborate with relevant existing structures at European and national level, including relevant industries.

- **Encourage Member States to strengthen public health infrastructure as an essential part of efficient and equitable health services**, including interoperable and interconnected health information systems capable of collecting and analysing real-time and dynamic data at community, regional and national level; development of rapid and reliable testing and tracing systems supported by laboratory networks and monitoring capabilities; building public health workforce capacity to ensure the availability of a sufficient, well trained, appropriately remunerated and motivated cohort of public health professionals and support staff; strengthening community infrastructures of social care. This will require reliable and sustainable funding streams as well as political leadership.

- **Establish systems for effective risk communication and tackling disinformation and misinformation during crises** and strengthen the ECDC's role also in this regard. Develop communication strategies for advice and policy that are evidence-based, fit for purpose, flexible and nuanced and that counter stigmatising and homogenising discourses that serve to

exclude and marginalise. Both scientific advice and considerations on the values and rights at play should be communicated. Leadership by example, as well as clear, sustained and transparent communication on public health measures, including on the science underlying them, as well as on scientific uncertainties and controversies and the reasons for which advice and policy may diverge across different societies, are crucial for maintaining public trust and pro-social behaviours during a pandemic. Trust is particularly critical if the public are to have confidence in their political leaders and is especially required when onerous demands are made on personal behaviour. Simultaneously, it is recommended to follow the best available knowledge and practice to further develop policy efforts tackling disinformation and misinformation during and beyond epidemics and pandemics. Among them are 'pre-bunking' or 'inoculation' approaches to counter false claims, for example on vaccines or risk mitigation measures, and community engagement approaches involving the hesitant segments of the public through 'trust chains'. Bolstering health literacy would empower individuals to take informed health decisions during pandemics, contribute to curbing the spread of disinformation and misinformation, promote healthy lifestyles in the long term and insulate populations from underlying health conditions which make them more vulnerable to infectious disease threats.

- **Together with EU Member States, develop strategies to sustain education in all sectors** and according to the Digital Education Plan 2021-2027. The closure of educational institutions touches on several key areas of society and has long-lasting social, economic, medical and psychosocial consequences. It should be carried out with utmost restraint. Solutions can include technologically supported teaching where appropriate, considering the need to overcome the 'digital divide' in technologies and competences, which causes further

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inequalities, and the recognised importance of human contact in settings of education. Interdisciplinary research on the negative consequences of a lockdown on education, above all of minors, should be set up, to better understand, avoid or mitigate them.

- **Encourage Member States to strengthen efforts in community involvement and organisation and support civil-society organisations.** Good governance during and in preparing for pandemics builds on the experiences of those affected to better understand the lived realities of the crisis and uses mechanisms for participatory governance and co-creation. It also encourages community action to tackle on-the-ground problems faced during pandemics, such as purchasing aid initiatives and the ad-hoc provision of housing and sanitation solutions for those in need. It moreover acknowledges and supports the work of civil-society organisations providing a critical part of the intensified social and care work during health crises. Special attention needs to be paid to grass-roots organisations who are led by members of at-risk populations, such as older people and people living with disabilities, whose activities and voices can be significantly constrained as a consequence of the pandemic and its related response measures.

- **Foster the exploitation of the possibilities of appropriate engineering and other controls in public buildings to limit infection risk indoors** for air borne diseases, such as sufficient and effective ventilation, possibly enhanced by particle filtration and air disinfection, avoiding air recirculation and overcrowding. Such measures can help to avoid the need for applying more invasive and restrictive measures such as the closure of educational institutions and work places.

Uphold fundamental rights and strengthen social justice

- **Uphold highest standards in the protection of fundamental rights and civil liberties during pandemics**, guided by the Charter of Fundamental Rights of the European Union and the Siracusa Principles on the Limitation and Derogation Provisions in the International Covenant on Civil and Political Rights2. In the rare case of encroachments on rights and liberties to limit harm and risks during pandemics they should be considered only with utmost care, be explicitly limited in time, continuously reviewed and justified with respect to their necessity and proportionality and lifted as soon as possible. The various efforts to develop digital tracing and tracking applications during the current pandemic and the discussions raised by them have pointed to the need for great caution in this, but also to the possibility of mitigation measures being in line with and guided by European values and fundamental rights.

- **Implement the European Pillar of Social Rights** by extending social security benefits to workers in non-standard and precarious employment and updating policies towards an appropriate acknowledgement of the value of care work; ensuring access to care services of good quality, in particular home-care and community-based services; addressing housing security to protect people without homes and in poor housing conditions; mitigating educational, domestic, sexual and gender-based risks during a pandemic; and sustainably addressing other structural

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[2] https://www.icj.org/wp-content/uploads/1984/07/Siracusa-principles-ICCPR-legal-submission-1985-eng.pdf

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inequalities and causes for poverty, disproportionately exposing particularly vulnerable groups and individuals to risks during pandemics. In view of the fact that poverty and precariousness are both a social and a medical risk factor, all relevant actors should implement appropriate short-time measures to alleviate the greatest and most immediate harms caused by a pandemic, such as emergency financial aid schemes for all persons in need, regardless of their occupational status, and implement long-term measures to alleviate poverty, precariousness and social exclusion in a sustainable manner.

Find solidarity-based and sustainable ways of living

During the work on this joint Opinion, considerations emerged that go beyond pandemic preparedness and management in the narrow sense, but are very relevant in their context. The COVID-19 crisis can also be seen as an opportunity to address systemic issues. Therefore, we recommend the European Commission to:

- **Take action in a cross-cutting manner upon the increasing body of knowledge about unsustainable ways of living**, which also contribute to the emergence of epidemics and pandemics. This includes addressing the links between health crises and environmental degradation from a 'planetary health' perspective and to devise new and update existing policies in related fields, such as environmental protection, food, transport and urban planning. It also includes addressing the links between health crises, poverty and structural inequalities, expressing themselves in 'syndemic pandemics', and to devise new and update existing policies in related fields, such as employment, housing, social and economic aspects of ageing, gender and migration. A solidary and sustainable governance approach and the resulting trust in governance structures are at the core of resilience. We recommend to initiate and

promote societal (including scholarly) debates about how to set conditions for strengthening systemic resilience to crises including, but not restricted to pandemics. Continuing this collaboration in 2021, it is our plan to provide a third joint advice on how Europe can develop towards stronger resilience.

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