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COVID-19 cacophony: is there any orchestra conductor?

The first wave of coronavirus disease 2019 (COVID-19) pandemic is currently invading the world, and several countries are now struggling to fight it or trying to delay its start to help smooth its peak size for the purpose of lowering morbidity and mortality, and thereby reduce the overall tension on their health-care system. China's first major outbreaks of COVID-19 happened in January, 2020. Then South Korea, Iran, and Italy entered into this Ravel's Bolero-like epidemic in late February and early March, 2020, and many other countries are preparing to play the same rhythmic pattern in the coming days and weeks.

All countries have to react and take action without any conducting from WHO. WHO's Director-General declared on Jan, 30, 2020, a Public Health Emergency of International Concern,¹ which allowed him to release subsequent recommendations, but none were issued with regard to what to do, and when to do it, at the country level. With no vaccine or antivirals, the portfolio of countermeasures against COVID-19 is limited. Only a small set of evidence-based non-pharmaceutical interventions are available.²⁻⁶

Measures like self-quarantine, or temperature control at borders, are not expected to be very effective since half of infections are asymptomatic. There is consensus today to propose school closure, restrict social gathering (including shutdown of workplaces), limit population movements, and introduce so-called cordons sanitaires, which means quarantines at the scale of cities or regions. There is less consensus about which measure should start first, in which combination, and when.

There is no direct scientific evidence regarding wearing protective masks in public spaces for asymptomatic people, but mask protection is heavily practised in Asian populations and seems deeply despised in Western cultures. There is no common policy about which measures should be considered, and at which epidemiological threshold such measures should be implemented. Nobody knows at which level restrictions on mass gathering should be imposed.

The recent Chinese experience of combining non-pharmaceutical interventions to curb outbreak trends seems rather convincing. Although starting late in the process, authoritarian Chinese authorities succeeded in combining forced isolation of the population with all available social distancing interventions. The democratic Italian Government, followed by the governments of France, Spain, and other countries, set up most of these measures quickly in the epidemic process but lacked any international guidance or recommendations. Would they not have expected to see WHO headquarters as the orchestra conductor at this stage of the process? Do Member States not need some level of harmonisation and coordination when implementing the four available non-pharmaceutical interventions to help them decide whether, when, and how to implement them; if, when, and how to combine them; and to what extent? In addition, the Chinese Government has no guidance nor recommendation about

lifting measures that have been in place in Wuhan since Jan 23, 2020. To what extent, at which pace, and how should they start lifting their intervention and allow people to resume normal social and economic life?

WHO remains surprisingly silent and absent in all of these pragmatic questions.

I declare no competing interests.

Antoine Flahault
antoine.flahault@unige.ch

Institute of Global Health, Faculty of Medicine, University of Geneva, 1205 Geneva, Switzerland

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Future of Chernobyl research: the urgency for consolidated action

The Chernobyl nuclear disaster on April 26, 1986, continues to create fears and myths about its health consequences, as shown by the large response to a top-rated HBO miniseries devoted to the tragic event. Risk assessments range from recognising an increase in thyroid



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cancer incidence in exposed children and adolescents (becoming one of the single most established long-term health effects of the Chernobyl disaster on the general population), to claims of hundreds of thousands of deaths due to the accident.^{1,2}

Why are these conclusions so controversial, and why are they causing public mistrust? Firstly, because no so-called radiation signature has yet been established; radiation-related cancers are difficult to disentangle from cancers not related to radiation. Secondly, economic and political upheavals in the affected countries of the former Soviet Union had their own effect on the fluctuations of disease-specific incidence and mortality, further complicating analysis. Finally, doubts about the reliability of radiation exposure estimates, as well as the accuracy of some of the study methods used to assess Chernobyl-related health effects, added to the research findings' uncertainties.

The confusion arises largely because of an absence of comprehensive and coordinated efforts to delineate the overall physical and mental health consequences of the accident. Little evidence of other Chernobyl-related health effects after the accident does not mean that these health effects have not occurred. Radiation-related diseases could occur decades after exposure; continued studies are therefore needed to fully evaluate the lifetime radiological health effects. Coordinated by the International Agency for Research on Cancer, the Cooperation on Chernobyl Health Research (CO-CHER), a research-facilitating initiative done between 2014–16, brought together key worldwide Chernobyl researchers and proposed a detailed and prioritised research strategy in agreement with the relevant authorities in the affected countries.³ Due to an absence of funding, implementation of the research plans has come to an unfortunate and untimely standstill.

Chernobyl provides direct evidence of the consequences of a major nuclear

accident, and the affected populations deserve a comprehensive investigation of the accident-related health effects. There is a need to turn this poignant experience into an opportunity to better understand the effects of radiation on human health. At present, there is a high risk that unique and valuable scientific opportunities will be irretrievably lost. For example, due to ageing and death, there is a rapidly diminishing number of Chernobyl liquidators (civil and military personnel who were responsible for the clean up operation of the accident), which serves as an illustration of the urgency. Moreover, existing usable collections of biological samples can be wasted if not collated with existing epidemiological data. This appeal is endorsed by CO-CHER experts, who agree that after developing research priorities, key players must be brought together to implement the proposed research agenda to further reinforce radiation protection and public health intervention strategies in case of future nuclear accidents, rather than wasting time with organisational matters.

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**Evgenia Ostroumova, Joachim Schüz, Ausrele Kesminiene*
ostroumovae@iarc.fr

International Agency for Research on Cancer,
Lyon 69008, France

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Department of Error

Hyde R. Germany overturns ban on assisted suicide. *Lancet* 2020; **395**: 774—This World Report incorrectly stated that agreement of the patient's family is needed for euthanasia. Also, the article stated that euthanasia is legal in Switzerland; it is not, although assisted suicide is. These corrections have been made to the online version as of March 16, 2020.

Peckham R. COVID-19 and the anti-lessons of history. *Lancet* 2020; **395**: 850–52—In this Comment, the dates in references 13 and 14 have been corrected. These corrections have been made to the online version as of March 16, 2020.

Zhou F, Yu T, Du R, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *Lancet* 2020; **395**: 1054–61—In this Article, the units for d-dimer, haemoglobin, and high-sensitivity cardiac troponin I have been corrected to µg/mL (d-dimer), g/L (haemoglobin), and pg/mL (high-sensitivity cardiac troponin I). In figure 1, the start of systematic corticosteroid for non-survivors has been changed to day 13 after illness onset. The appendix has also been corrected. These corrections have been made to the online version as of March 12, 2020, and will be made to the printed version.

Chen H, Guo J, Wang C, et al. Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records. *Lancet* 2020; **395**: 809–15—In table 1 of this Article, the AST value for patient 4 was 76 U/L. And in the figure the chest CT images and descriptions for patient 6 and patient 7 were out of order: the CT images and figure legend have been updated accordingly. These corrections have been made to the online version as of March 23, 2020.



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