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data on previous glucocorticoid cumulative exposure, which might affect a patient's ability to successfully taper prednisone; however, the randomisation process might have mitigated the confounding effects of this variable.

The study has certain limitations. First, distinguishing symptoms of a rheumatoid arthritis flare from subtle signs of adrenal insufficiency is clinically challenging because both phenomena can manifest with worsening fatigue, joint pain, and morning stiffness. It is conceivable that some patients who experienced worsening of their rheumatoid arthritis were actually experiencing symptoms of adrenal insufficiency. Without adrenocorticotrophic hormone stimulation tests, it is impossible to know whether patients in either group developed adrenal insufficiency during the study.

It is also possible that a more flexible tapering regimen might have yielded better outcomes for patients in the tapered prednisone group. For instance, in some patients, particularly those with extensive previous exposure to glucocorticoids, a more intuitive tapering strategy might be necessary. In this approach, a patient might feel better staying at 3 mg daily for 8 weeks before attempting a further dosage decrement, or they might opt to lower the dosage more gradually by 0.5 mg every 4 weeks. The process of tapering glucocorticoids in patients whose lives and daily function are greatly affected by their rheumatoid arthritis is a highly personal experience that might not be reducible to one single algorithm. Nevertheless, the findings of the present study provide substantive evidence that continuation of low-dose prednisone is both safe and effective over

the course of 24 weeks. Future studies are needed to assess long-term morbidity and mortality outcomes of continued low-dose prednisone in patients with rheumatoid arthritis.

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Elizabeth R Volkmann

evolkmann@mednet.ucla.edu

Department of Medicine, David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, CA 90095, USA

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## France's COVID-19 response: balancing conflicting public health traditions



Simmering beneath the surface of France's centrally coordinated response to COVID-19 is a long-standing tension between two French public health traditions. The first tradition has been the foundation of the French state's historical engagement with global humanitarian health, which we have previously described as state humanitarian verticalism.<sup>1</sup> Instituted first in the French former colonies, it was widely used in France's international health assistance, including during epidemics, and is still part of France's global health

assistance in low-income countries.<sup>1–3</sup> The second tradition underpins France's state-provided, universal, and free health coverage. This approach takes health and non-health infrastructure into account when designing interventions, links the health system with the social protection system, and seeks to improve health by reducing inequality.

Historically the tension has been especially visible in francophone low-income countries. The *Assistance Médicale Indigène*, in place from 1899 to 1960, was

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intended to bring metropolitan France's universal and free public health care to French colonies. Instead, colonial public health efforts in the former colonies crystallised in state humanitarian verticalism to counter major diseases, starting with human African trypanosomiasis (sleeping sickness), a focus that survived beyond decolonisation.<sup>1</sup> The tension was given a new spin both by the arrival of French "sans-frontiérisme" and the advent of the AIDS pandemic and epidemic-prone diseases like Ebola virus disease.

In France, the tension between these two traditions has flared intermittently. In confronting influenza A H3N2 in the late 1960s, the universalist French public health tradition decisively "won" the conflict between the two traditions, with the vertical humanitarianism approach—automatically used against epidemics overseas—virtually absent from the national response. By contrast, when influenza A H1N1 pdm09 became a threat in 2009, the French Government again chose an unbalanced strategy, but this time in favour of the other tradition. Centrally managed mass vaccination centres that bypassed primary care were opened all over the country. The threatened epidemic never arrived, but the government's response represented an inability to balance the two traditions and was subsequently considered a political failure.<sup>4</sup>

Today, under the pitiless spotlight cast by the COVID-19 pandemic, the country's capacity to merge the two traditions is being tested. Moreover, this crisis is taking place in the context of France's health system that is heavily care oriented to the detriment of preventive

approaches. This imbalance exacerbates the health system's fragility in the face of the COVID-19 pandemic.

The two public health traditions have influenced the French Government's unprecedented scientific response to the pandemic. France's COVID-19 Scientific Council was set up on March 10, 2020, by President Emmanuel Macron.<sup>5</sup> Its members are a mix of medical (immunology, public health, virology, epidemiology, infectious diseases, modelling, intensive care, and general and family practice) and non-medical experts (social anthropology, sociology, information technology, and a representative of civil society). Half of the COVID-19 Scientific Council members have expertise in the French health system, while the other half offer expertise in public health, epidemics, and humanitarian crisis management in low-income and middle-income countries; five of us have expertise in both domains (social anthropology, immunology, and infectious diseases).

The COVID-19 Scientific Council is unpaid, autonomous from government, and, in the service of transparency, all of its advice is made public on the ministry of health's website. The council provides independent advice and the French Government makes decisions according to what it considers best for the nation together with political considerations. Although the media follow any apparent disagreement between the council and government closely, this *modus operandi* has proved successful so far, to the point that in parliamentary debates in early July the French Senate suggested extending the council in its role as scientific watchdog and pathfinder until late October, 2020, a suggestion later validated by the National Assembly.<sup>6</sup>

In several advisories issued in recent months and weeks, the COVID-19 Scientific Council has proposed strategies that draw from both traditions.<sup>7,8</sup> Several of the measures proposed stem from state humanitarian verticalism. These measures include: a unified operational governance structure; basing the lifting of lockdown on rigorous and specific epidemiological criteria; a national testing and isolation programme; and maintaining physical distancing and protective measures, while progressively reopening travel and lifting restrictions on movement. Also influenced by this first tradition is overall COVID-19 planning based on four different post-lockdown scenarios—(1) pandemic under control, (2) several clusters signalling an epidemic flare-up, (3) a diffuse and silent second wave, and (4) an acute second

wave—with associated prevention and protection plans for each scenario.

More directly rooted in the second tradition are restoring and rethinking hospitals and health services, establishing adequate stockpiles of personal protective equipment for the entire population, and creating an epidemiological surveillance system capable of detecting new cases and a possible resumption of the epidemic. Other measures that follow this tradition include adopting a strategy taking population-oriented risks into account, with different interventions tailored for three categories of the population (age >65 years and/or with chronic diseases, age <25 years, and age 25–65 years without chronic conditions), and regularly scheduling surveys to estimate immunity in the population. Notably, these measures represent an opportunity to adapt the health system to a changing world.

Merging and balancing humanitarian verticalist measures with complex state-provided universal health and social systems, which are themselves delivered across various complex layers of government administration, is challenging, especially given the high probability of a second wave of COVID-19. Should a second wave result in increased rates of infection and another lockdown, there will be tensions between health and social priorities, between young and old, and between urban and rural populations.

From the beginning, the COVID-19 Scientific Council's collective decision was to bridge the two traditions that have pulled French public health in different directions over the years. Our aim is to combine a robust state humanitarian vertical approach with reinforcement of social protection and the welfare state to mitigate the substantial socioeconomic consequences of lockdown. Our strong recommendation for the participation of civil society organisations in the COVID-19 response was not followed up by the government, unlike most of the measures we proposed.

Success will ultimately be judged not only by the biomedical evolution of the pandemic, but also by its social, political, and economic impacts on French society. For these reasons, it will be valuable to eventually compare the strategies adopted in different countries and evaluate their results, as well as the contrasting interfaces created between science and government.

Science and government must work together in times of crises, but it is not always clear how this should be

done. We believe that scientific advice to government in times of crisis is best furnished by a dedicated, multidisciplinary council that is open and transparent, maintains direct access to the highest level of decision making, and is free from any hierarchical relationship with government. This approach underpins both liberty of expression and the authority of scientific advisers' critical and constructive voice.

We are all members of the COVID-19 Scientific Council and declare no other competing interests.

*\*Laëticia Atlani-Duault, Franck Chauvin, Yazdan Yazdanpanah, Bruno Lina, Daniel Benamouzig, Lila Bouadma, Pierre Louis Druais, Aymeril Hoang, Marie-Aleth Grard, Denis Malvy, Jean-François Delfraissy*  
laetitia.atlani-duault@ird.fr

CEPEP, IRD, University of Paris, INSERM ERL 1244, 75006 Paris, France (LA-D); Institut COVID19 Ad Memoriam, Paris, France (LA-D); WHO Collaborative Center for Research on Health and Humanitarian Policies and Practices, IRD, University of Paris, Paris, France (LA-D); French High Council of Public Health, Paris, France (FC); Institut PRESAGE, Jean Monnet University-Saint-Etienne University Hospital, Saint Etienne, France (FC); REACTing, INSERM, Paris, France (YY); University of Paris, Assistance Publique-Hôpitaux de Paris, Infectious and Tropical Diseases Department, Bichat-Claude Bernard University Hospital, Paris, France (YY); University of Lyon, Virpath Team, CIRI, INSERM U1111, CNRS UMR5308, ENS, UCBL, Lyon, France (BL); Virology Laboratory of the HCL & French National Reference Centre for Respiratory Viruses, Infectious Agent Institute, Croix-Rousse Hospital, Lyon, France (BL); Sciences Po, Centre de Sociologie des Organisations, CNRS, Paris, France (DB); Medical and Infectious Diseases Intensive Care Unit, Bichat-Claude Bernard University Hospital, Assistance Publique-Hôpitaux de Paris, Paris, France (LB); Infections Antimicrobials Modelling Evolution (IAME-UMR1137), University of Paris, INSERM, Paris, France (LB); Haute Autorité de Santé, Saint Denis, France (PLD); Modus Operandi International Institute, Paris, France (AH); ATD Quart Monde, Paris, France (M-AG); Department for Infectious and Tropical Diseases, University Hospital Center of Bordeaux and INSERM 1219, University of Bordeaux, Bordeaux, France (DM); and National Ethical Consultative Committee for Life Sciences and Health, Paris, France (JFD)

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