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Management of the COVID-19 health crisis: a survey of Swiss health authorities' responses

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As of 2020, the COVID-19 pandemic put enormous strain on national healthcare systems and regional health authorities¹. A survey of Switzerland's health authorities was done to describe the actions undertaken and challenges encountered by three groups (cantonal medical officers, CMOs; cantonal pharmacists, CPs; and Swiss federal authorities) during the COVID-19 pandemic's first wave. This work, integrating previous literature²⁻⁴, aimed to generate valuable information on how to improve pharmaceutical management in future health crises. An electronic survey was sent out to Switzerland's CMOs, CPs, and the relevant federal health authorities: the Federal Office of Public Health (FOPH), the Federal Office for National Economic Supply (FONES), and the Swiss Agency for Therapeutic Products (Swissmedic). The questionnaire was organized into ten clusters of questions covering many topics regarding the management of the COVID-19 crisis. Data collection occurred from July 20 to September 30, 2020.

Analyses were performed on the 33 questionnaires returned (54%) out of 61 sent. Both federal (100%; 8/8) and cantonal (60%; 15/25) authorities had prepared their own internal pandemic plans after 2009's H1N1 pandemic and before the COVID-19 pandemic. Among the cantonal authorities, 67% of CPs (10/15) and 50% of CMOs (5/10) have used their internal pandemic plan. To minimize drug shortage problems during the first wave, the Swiss Armed Forces Pharmacy quickly purchased drugs such as lopinavir/r on the open market and delivered them to CPs to distribute them onwards within their cantons. At the beginning of the crisis, there was a precarious bottleneck in the availability of ethanol for hand sanitizers notably due to the lack of reserves at the *alcosuisse* warehouses (former federal importer privatized in 2018). Health authorities' planning for sustainable supplies of this product was nevertheless rated as satisfactory by 47% of all respondents (9/19). This was because the FOPH's rapid response have been to issue a general authorization facilitating the manufacture and sale of biocidal products by pharmacies and other stakeholders. A chemical company, among others, also provided an important supply of disinfectant based on the WHO formula. In contrast, respondents considered that professional expert opinions had not been consulted frequently enough during the purchase of Personal Protective Equipment (PPE) by Switzerland's health authorities. Moreover, respondents stated that which of the different federal executive departments had the ultimate responsibility for this material's availability was unclear. Cantons mostly assessed their requirements for PPE to protect their healthcare workers from COVID-19 contamination via email (69%; 11/16) or telephone (38%; 6/16). Distribution of PPE at the cantonal level was mainly done using a scattergun approach (56%;

9/16) or according to need and healthcare mandate thanks to the creation of online shops (31%; 5/16).

Switzerland's health authorities thus encountered many challenges during the COVID-19 disaster, and the survey revealed that they had to find effective solutions quickly. Most respondents advocated for the maintenance of stockpiles of medicines and PPE at wholesalers and in hospital pharmacies and of disinfectants at *alcosuisse* to manage future crises. Equally, the competent federal and cantonal authorities would like regular simulation exercises to ensure better preparation for such crises, as these are already performed in some hospital settings in Switzerland⁵.

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