Learnings from COVID-19: Making the scientific policy counselling system in Switzerland fit for the next crisis

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Contents

1 Executive summary

The system of scientific policy counselling in Switzerland was blindsided by the Sars-Cov-2 pandemic in early 2020. Only upon initiative of science network actors and not until the midst of the first wave, the 'Swiss National COVID-19 Science Task Force' (*ncs-tf*) was set up. After 6 months finally, sufficient trust between the task force and the administration was established. Precious time was lost.

The collaboration between the science community and governmental actors proved not strong enough to face a pandemic crisis. Several parliamentary motions from different political parties show the discomfort with the arrangements of science advice.

After the ncs-tf was finally mandated, various shortcomings in its composition, recruiting practices and communication came to light. Those impeded the effectiveness of the ncs-tf. Besides, mutual understanding of scientists and policymakers was underdeveloped.

The initial phase of scientific policy counselling during the pandemic was chaotic. Switzerland is characterised by democracy, accordance, and federalism. It has a splintered landscape of several institutions performing science advice without clear responsibilities. Traditionally, the Swiss administration relies on evidence rather than expertise.

Switzerland should establish a systematic approach to recruit ad-hoc scientific boards from a transdisciplinary network of scientists. Such boards are flexible, cheap, of high scientific quality and guarantee independence. They need direct access to the government at a political-strategic level.

The mutual understanding and trust between scientists and policymakers must be strengthened outside times of crises by regular exchange and networking formats. In this context, quality standards for scientific policy advice can be elaborated. Via such an institutionalisation, the system of scientific policy advice in Switzerland gets prepared for crises of any kind.

2 Policy problem

The Sars-Cov-2 pandemic (*the pandemic*) presented governments across the world with the extreme form of a familiar challenge: translating obscure information into concrete, strategic measures to mitigate the virus and its effects [1]. Scientific empirical evidence on the effectiveness and efficiency of interventions can provide orientation in such situations[1]. Still, public policy making is an inherently political matter [3].

The Swiss government established the 'Swiss National COVID-19 Science Task Force' (*ncs-tf*) in March 2020 - only upon an initiative by the key science networks in Switzerland[2] and during the first wave of the pandemic [4]. The ncs-tf is a self-organised ad-hoc board of scientists from various disciplines with the aim to provide scientific policy recommendations. Its organisational form is unique in recent Swiss history [5].

This fire drill shows that scientific advice in crises needs to be institutionalised to be ready for future crises. Maximal effectiveness of scientific advisory committees requires optimal design [6]. While quality and credibility were largely undisputed [1], the ncs-tf lacked diversity, sensibility for the political process and adequate communication [7, 8]. Building trust between the ncs-tf and the administration took 6 months [5], which is a considerable amount of time during a pandemic. Besides, clarification of its role and rules for its collaboration, constitution and composition are crucial [9]. The synthesis report of the NRP 78[3] concluded that "the partnership between the scientific community and the governmental institutions was not sufficiently developed to withhold the enormous pressure of a pandemic crisis" [10] .

[1] Evidence-based policy making relies on this assumption [2]

[2] They include the Swiss National Science Foundation, the ETH-Domain, swissuniversities and the Swiss Academies of Arts and Sciences.

[3] The objectives of the National Research Program 78 (NRP 78) were to advance understanding of Covid-19 and develop recommendations for clinical management, the public health response, vaccines, therapeutics and diagnostics.

3 Case analysis

3.1 Formation of the ncs-tf

After the detection of the first COVID-19 case in Switzerland towards the end of February 2020, the Federal Council (*FC*) announced the 'special situation' regulated in the 2012 Epidemics Act [11]. Under this regime, the FC can take mitigation measures directly, but in consultation with the cantons. On 16 March 2020 and after public demand by influential scientists, the FC raised the categorisation from special to 'extraordinary'. Thereby, it took control away from the cantons and centralised pandemic mitigation. This status persisted until June 19, when the FC returned to a special situation. The latter lasted until April 2022.

Scientific crisis advisory units were introduced gradually. On 23 January, when Sars-Cov-2 was established as cause of the pandemic, the Federal Office for Public Health (*FOPH*) set up an internal COVID-19 Task Force and activated its advisory network. Meanwhile, scientists across Switzerland increased their media presence to provide information about COVID-19 ant thus increased pressure on government. Towards mid-March, the ETH-Domain COVID-19 Task Force was initiated by the ETH Domain[4] to explore scientific aspects and opportunities.

In the meantime (and following [12]), the FOPH had started consulting an advisory board to assess the inputs from scientists. Negotiations to formally involve external scientists were initiated by science networks . As a result, the ncs-tf was created based on the ETH-Domain COVID-19 Task Force by federal mandate at the end of March. Its main task was to provide scientific knowledge to assist the political authorities in reaching decisions [13] . To guarantee independence, no remuneration was granted to members

[4]The ETH-Domain designates a federally funded national network of technical universities and research institutions.

of the ncs-tf. Regarding communication, it was only determined that the ncs-tf does not communicate independently.

3.2 Characteristics of the ncs-tf

At the beginning, the ncs-tf was composed of 70 (mainly biomedical) scientists. They were recruited by the scientific networks, the FOPH and a federal crisis unit. With high frequency, the ncs-tf published up-to-date modelling of the pandemic and policy briefs. The latter resulted from an iterative process open to all expert subgroups of the ncs-tf and intended to serve as a base for decision making. The scientific quality of the work of the ncs-tf is undisputed [5].

After the return to the special situation, the ncs-tf got newly attached to the COVID-19 Task Force of the FOPH. Besides, a new mandate was signed. Major changes occurred again in summer 2021, when the number of members of the ncs-tf was reduced to 25. Again, a new mandate was signed. The ncs-tf was dissolved at the end of March 2022 [4].

3.3 Political context of the ncs-tf

The ncs-tf was not part of the COVID-19 act [14]. The FC is legally required to suggest a law to Parliament within six months after announcing extraordinary situations. This is due to the missing democratic legitimation of decisions taken without the regular involvement of parliament.

Already during the pandemic, the broad discomfort with the arrangements for science advice became visible. Several parliamentary motions from different political parties regarding the role of scientific policy advice during crises were submitted. One of them called for a permanent platform for scientific advice , another for a centre of competence for science advice and two asked for basic changes in the dialogue between science and politics[5].

[5]Motion 21.3225, Postulat 20.3542, Postulat 20.3280 and Postulat 21.4230

3.4 Other channels of science advice in Switzerland

3.4.1 Institutional characteristics and organs

In Switzerland, democracy, accordance, and federalism strongly impact the system of scientific policy counselling [8]. It is unusual to legitimate policies by scientific evidence. Science advice counts as one perspective among various others. It is delivered to departments instead of decision makers [12]. Besides, there is no specific corresponding legislation.

The result is a splintered landscape of several institutions performing science advice in a broader sense. Scientific counselling is mainly organised in five structures [5]: First, there are extra-parliamentary advisory committees. Those are militia organs delivering, not only scientific, expertise to the government and fulfilling representative purposes. Second, there are ad-hoc expert boards, such as the ncs-tf, that punctually provide expertise. Third, the administration performs or outsources scientific research on its own. Fourth, a significant part of scientific policy counselling is delivered by private research institutions. Finally, the federation maintains several research institutes at universities in specific areas.

Two extraparliamentary advisory committees in relevant fields existed before the pandemic: The Federal Commission for pandemic preparedness and management, founded after the experiences of SARS and bird flu in the early 2000's, and the Federal Commission for Vaccination Issues. Whereas the latter was actively engaged in policy counselling during the pandemic, the former was not activated. The FOPH declared that their services were 'not necessary', which is astonishing [5].

3.4.2 Evidence versus expertise

Traditionally, the Swiss administration relies on evidence delivered via external mandates rather than expertise [1]. In general, scientific advice is

delivered in various forms on a continuum between evidence and expertise [15]. Whereas expertise is person-bound and free in its form of delivery, evidence is generated via scientific methods, verifiable and delivered in written form. Hence, the time pressure during the pandemic required an adaptation of the system. This explains in part why the networks between scientists and the administration were insufficient at the beginning of the pandemic.

4 Case findings

4.1 Problems specific to the ncs-tf

The composition of the ncs-tf caused several problems [5]:

- Mainly during the first wave, the ncs-tf was not diverse enough. It lacked expertise from the social sciences. This is reflected in the neglect of the societal dimension of the crisis and polarisation. Also, technological fixes such as the Swiss-Covid-App, Contact Tracing, vaccination were overestimated.
- New members were appointed by current members. This introduced bias towards academic networks that are scientifically and politically aligned to the ncs-tf.
- The initially high number of members created challenges regarding communication.

Further problems regarding political aspects include:

- Due to the media presence of the task force's leaders, a considerable personalisation of scientific advice arose. This is problematic for the consensus- and coalition-based Swiss style of governance. It also reinforced tensions between politics and science [1].
- After repositioning ncs-tf in the institutional arrangement in late summer 2020, it could no longer reach the FC directly but only via FOPH. At the same time, the total number of deaths was much higher than in the first wave in spring 2020 [16]. Also, since the situation was changed from extraordinary to special, the FC shared power with cantons[6]. These factors significantly decreased the amount to which scientific policy advice was integrated [17].

[6]This separation of power caused major complications for scientific policy advice considerably. They are not addressed in this paper.

4.2 Institutional problems

Swiss scientists are generally hardly trained in communicating to a non-scientific audience [7]. Science deals with uncertainty. In times of fast-changing knowledge, this can be hard to explain to a broader public.

There are no legal provisions for scientific policy advice in Switzerland [12]. During the pandemic, the COVID-19 act was updated several times, without including the role of the ncs-tf. Three times, the versions of the COVID-19 act were confirmed by the Swiss electorate. Granting the ncs-tf a legal basis would have been a neat way to increase its democratic legitimacy. Given Switzerland's political system characteristics, this is an important condition for any kind of advisory board.

So far, professional networks, guidelines, standards, or exchange platforms on science advice for policy in Switzerland are non-existent [5]. Thus, standardised processes cannot be established.

Finally, the built networks between science on the one hand and administration and politicians on the other hand were insufficient. This was a major obstacle towards an effective collaboration. The FOPH had to get used to the new situation where they are not the only institution providing expertise regarding public health. The professional ethos of the FOPH staff specialising in practice-oriented public health clashed with the scientific ethos of the ncs-tf. This resulted in mutual accusations and impeded the creation of a culture of collaboration [5].

5 Policy recommendations

5.1 Institutionalisation of ad-hoc scientific boards

Switzerland should consider the institutionalisation of ad-hoc scientific boards combined with an interdisciplinary network of scientists. Thereby, scientific policy counselling during times of crises of any kind could be channelled flexibly and efficiently.

Mandating ad-hoc scientific boards in terms of crisis is a reasonable approach for Switzerland. First, it guarantees flexibility to meet the demand in expertise, which depends on the kind of crisis. Second, it does not require any permanent institutions which makes the option comparably cheap. Third, it allows to mobilise the best scientists available since they are probably not willing to leave academia permanently. Fourth, no further legal basis is required [9]. Finally, independence of the scientists in the board is higher compared to options where the scientists are part of the administration.

5.1.1 Constitution of the ad-hoc boards

The exact procedure of mandating any ad-hoc scientific board must be specified. This includes its composition, size, recruiting of new members, mandate, and communication activities. Thereby, transparency and thus democratic legitimacy of the board is strengthened.

The ad-hoc scientific board needs to be granted direct access to the government at a political-strategic level. Thus, expert advice is more likely to be implemented [17]. Affiliation to a federal office is insufficient as the arrangement during the second wave showed.

5.2 Interdisciplinary network of scientists

A complementary interdisciplinary network of scientists is required from which members of an ad-hoc board can be recruited swiftly [9]. To im-

plement this, the administration should collaborate with the key science network actors[7]. The goal is to setup a database and register scientists on a voluntary basis. This database needs to cover all disciplines and regular maintenance.

The incentive for scientists to participate in the network are at hand. First, they might get the opportunity to link their expertise to practice in times of crisis. Second, they can build contacts into the world of politics that might be generally valuable. To protect their independence, financial compensation of the scientists for their work in ad-hoc boards is not intended.

5.2.1 Network activities

The institutionalisation of ad-hoc scientific boards needs to be complemented by permanent, basal measures. Established relationships and collaboration between experts and politicians favour access to scientific knowledge in times of crisis [1]. To tackle potential trust issues between scientists of the network, administration and politicians, regular exchange outside of crisis times is crucial.

Potential activities include roundtables, scientific anticipatory briefs or topic-specific networking events. There, scientists and decision-makers can sharpen their sensitivity for the needs of each other. Similarly, training workshops in science communication should be provided to the members of the network. The Geneva Science and Diplomacy Anticipator (GESDA) can serve as a role model here.

5.2.2 Elaboration of guidelines

Inside this network, guidelines and quality standards for scientific policy advice can be elaborated. A commission of representatives from the administration, the Swiss scientific networks and independent scholars would be

[7] see footnote 2

suitable for this task. Learnings from the pandemic make for a good starting point.

In the mid-term, a reference framework for scientific policy advice in Switzerland is the goal. This allows to standardise procedures, collect best practices, and formalise the discourse about scientific policy counselling.

5.3 Institutional setting

Unlike in the case of extraparliamentary commissions, there should be no political criteria regarding the composition of the boards. Otherwise, scientific quality is endangered. Therefore, the suggested institutionalisation of scientific policy advice should be incorporated in a federal law. Those are always subject to referendum and thus approved by the Swiss electorate. Otherwise, its acceptance will not be sufficient due to the importance of democracy and accordance in the Swiss political context.

Building networks and exchange between scientists and the administration during normal times enhances trust in expertise. Meanwhile, the role of evidence is not neglected. The Swiss scientific advisory system is more focused on evidence than on expertise. During times of crisis, such a system has its limits.

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