Public acceptance of crisis measures

Learning from the Covid-19 pandemic

Results of two workshops and analysis by the Swiss Science Council SSC

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Der Schweizerische Wissenschaftsrat

Der Schweizerische Wissenschaftsrat SWR berät den Bund in allen Fragen der Wissenschafts-, Hochschul-, Forschungs- und Innovationspolitik. Ziel seiner Arbeit ist die kontinuierliche Optimierung der Rahmenbedingungen für die gedeihliche Entwicklung der Schweizer Bildungs-, Forschungs- und Innovationslandschaft. Als unabhängiges Beratungsorgan des Bundesrates nimmt der SWR eine Langzeitperspektive auf das gesamte BFI-System ein.

Le Conseil suisse de la science

Le Conseil suisse de la science CSS est l'organe consultatif du Conseil fédéral pour les questions relevant de la politique de la science, des hautes écoles, de la recherche et de l'innovation. Le but de son travail est l'amélioration constante des conditions-cadre de l'espace suisse de la formation, de la recherche et de l'innovation en vue de son développement optimal. En tant qu'organe consultatif indépendant, le CSS prend position dans une perspective à long terme sur le système suisse de formation, de recherche et d'innovation.

Il Consiglio svizzero della scienza

Il Consiglio svizzero della scienza CSS è l'organo consultivo del Consiglio federale per le questioni riguardanti la politica in materia di scienza, scuole universitarie, ricerca e innovazione. L'obiettivo del suo lavoro è migliorare le condizioni quadro per lo spazio svizzero della formazione, della ricerca e dell'innovazione affinché possa svilupparsi in modo armonioso. In qualità di organo consultivo indipendente del Consiglio federale il CSS guarda al sistema svizzero della formazione, della ricerca e dell'innovazione in una prospettiva globale e a lungo termine.

The Swiss Science Council

The Swiss Science Council SSC is the advisory body to the Federal Council for issues related to science, higher education, research and innovation policy. The goal of the SSC, in conformity with its role as an independent consultative body, is to promote the framework for the successful development of the Swiss higher education, research and innovation system. As an independent advisory body to the Federal Council, the SSC pursues the Swiss higher education, research and innovation landscape from a long-term perspective.

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Zusammenfassung

Weltweit hat die Covid-19-Pandemie durch die Krankheitsfolgen und die gesellschaftlichen Kosten, die mit den Eindämmungsmassnahmen einhergingen, nicht nur das Gesundheitswesen, sondern auch die Wirtschaft und fast alle anderen Lebensbereiche auf eine harte Probe gestellt. Doch die nächste Krise oder gleichzeitig auftretende Krisen könnten ganz anders aussehen. Vor diesem Hintergrund hat der Schweizerische Wissenschaftsrat SWR analysiert, wie sich die Schweiz auf künftige Krisen vorbereiten kann. Dazu hat er das Fachwissen von Forschenden wie auch von Vertreterinnen und Vertretern der Zivilgesellschaft, der Wirtschaft, der Politik und der Verwaltung eingeholt. Der SWR formuliert in der vorliegenden Schrift Handlungsfelder für Wissenschaft, Politik und Zivilgesellschaft und beleuchtet das Thema «Krise» insbesondere unter dem Aspekt der Akzeptanz.

Die Akzeptanz der behördlichen Massnahmen durch die Bevölkerung ist die Voraussetzung für notwendige Verhaltensänderungen und eine wirksame Umsetzung. In der Schweiz ist die Akzeptanz sowohl in der normalen Lage als auch im Krisenfall ein Schlüsselfaktor. Im Normalfall gewährleisten direkte Demokratie und Föderalismus die Zustimmung. In einer Krise führt die Dringlichkeit zu einer Stärkung der hierarchischen Regierungsstrukturen. In kurzen, akuten Notsituationen wird das akzeptiert. Dauert die Krise länger, nimmt die Akzeptanz nach wenigen Monaten deutlich ab. Dann müssen die politischen Entscheidungsträgerinnen und -träger Wege finden, dieses Kapital des Wohlwollens in der Bevölkerung zu erhalten, indem sie die Partizipation neu definieren, ohne das politische Handeln zu beeinträchtigen.

In einer grösseren Krise ist Wissen ein knappes Gut. Hier ist die Wissenschaft gefordert und bereit, Entscheidungshilfe zu leisten, Daten zu interpretieren und die verfügbare Literatur auszuwerten. Dabei muss den Forschenden bewusst sein, dass ihre Aussagen nicht nur als Dienst an der Öffentlichkeit, sondern auch als politischer Akt gesehen werden können. Um die Akzeptanz zu bewahren, sollen Fachleute auf interaktive Kommunikation setzen und die eigene Legitimation nie als selbstverständlich betrachten.

Der SWR formuliert Empfehlungen für Gesellschaft, Politik und Wissenschaft und ihre Schnittstellen. Sowohl die Bevölkerung als auch die politisch Verantwortlichen müssen ihre Entscheidungen auf eine realistische Risikobetrachtung abstützen und wichtige Langzeitfolgen im Auge behalten. Die Wissenschaft spielt bei der Bewertung und Priorisierung von Risiken eine entscheidende Rolle. Die Behörden ihrerseits müssen bereit sein, vor und während der Krise gesellschaftlich relevante Daten in Zusammenarbeit mit Forschenden verschiedener Fachbereiche zu sammeln, zu nutzen und mit der Gesellschaft zu teilen. Dies geht allerdings nur dann, wenn die Bürgerinnen und Bürger bereit sind, ihre Daten zur Verfügung zu stellen. Am Ende der vorliegenden Analyse werden alle Empfehlungen im Kontext vorgestellt und begründet.

Résumé

La pandémie de coronavirus a eu un profond impact sanitaire, mais aussi social, du fait des mesures de confinement. Partout dans le monde, ses conséquences se sont fait ressentir sur les systèmes de santé, les économies et presque tous les aspects de la vie. Mais les effets de la prochaine crise, voire des prochaines crises qui pourraient se produire simultanément, risquent d'être bien différents. C'est pourquoi le Conseil suisse de la science CSS a entrepris d'étudier comment préparer la Suisse aux prochaines situations d'urgence. Pour ce faire, il a recueilli l'expertise de scientifiques et de décideurs, mais aussi de représentants de la société civile et de l'économie. Le CSS propose des champs d'action aux milieux scientifiques, politiques et à la société civile, en examinant la problématique de la crise à travers le prisme de l'acceptation.

L'acceptation par la population des mesures gouvernementales crée les conditions propices à un changement de comportement et permet ainsi la mise en œuvre efficace de ces mesures. En Suisse, l'acceptation est un facteur clé aussi bien en temps normal, où elle est favorisée par la démocratie directe et le fédéralisme, qu'en temps de crise, où des changements organisationnels introduits dans l'urgence viennent renforcer les structures hiérarchiques au sein du gouvernement. Cet état de crise est plutôt bien accepté pendant une courte durée, mais beaucoup moins pendant plusieurs mois. Les dirigeants doivent trouver des moyens de préserver ce capital de bonne volonté au sein de la population en repensant la notion de participation, sans pour autant entraver l'action politique.

Lors d'une crise majeure, les connaissances pour résoudre cette dernière font défaut. Dans ce contexte, les scientifiques sont appelés – et sont prêts – à fournir une aide à la prise de décision, évaluer les données disponibles et passer en revue les études scientifiques existantes. Toutefois, ces spécialistes doivent être conscients que prendre la parole n'est pas vu seulement comme un service public, mais peut aussi être interprété comme un acte politique. Pour qu'ils soient acceptés par la population, il leur faut, d'une part, communiquer de manière interactive avec celle-ci et, d'autre part, ne jamais considérer leur propre légitimité comme acquise.

Dans la présente étude, le CSS formule des recommandations concernant la société, la politique et la science ainsi que les points communs à ces domaines. Tant la population que les autorités doivent fonder leurs décisions sur une approche réaliste du risque, en gardant à l'esprit les enjeux importants sur le long terme. À cet égard, la science joue un rôle essentiel, car elle aide à évaluer et à hiérarchiser les risques selon leurs priorités. En outre, avant et pendant les crises, les dirigeants doivent être disposés à recueillir, utiliser et publier les données pertinentes pour la société dans son ensemble, en coopération avec des scientifiques de différents domaines – mais cela ne peut se faire sans que les citoyens acceptent de fournir des informations. Toutes les recommandations sont expliquées et contextualisées à la fin de la présente étude.

Riassunto

Con le sue ripercussioni sulla salute e i costi sociali delle misure di contenimento, la pandemia ha messo a dura prova non solo il sistema sanitario, ma anche l'economia e praticamente ogni settore della vita quotidiana a livello mondiale. Tuttavia, la prossima o le prossime crisi, anche concomitanti, potrebbero essere ben diverse. Il Consiglio svizzero della scienza CSS ha pertanto analizzato come la Svizzera potrebbe prepararsi a future crisi. A tal fine si è avvalso delle conoscenze di ricercatori e rappresentanti della società civile, dell'economia, della politica e dell'amministrazione. Nel presente documento, il CSS propone campi d'azione per il mondo scientifico, politico e per la società civile, esaminando il tema della «crisi» in particolare dal punto di vista dell'accettazione.

L'accettazione delle misure governative da parte della popolazione è il prerequisito per i necessari cambiamenti di comportamento e consente un'efficace attuazione delle decisioni ufficiali. In Svizzera l'accettazione è un fattore chiave sia in situazioni normali che in caso di crisi. In circostanze normali, consenso è garantito dalla democrazia diretta e dal federalismo. In periodi di crisi, l'urgenza porta a un rafforzamento delle strutture di governo gerarchiche. In situazioni di emergenza brevi e acute questo viene accettato. Ma se la crisi si protrae, l'accettazione diminuisce notevolmente dopo pochi mesi. In questo caso i responsabili politici devono trovare il modo di preservare la riserva di buona volontà, reinventando la partecipazione senza compromettere l'azione politica.

In caso di grave crisi, la conoscenza è una risorsa rara. La scienza qui è sollecitata, e pronta, a fornire un supporto decisionale, interpretare dati e valutare la letteratura disponibile. I ricercatori devono essere consapevoli che le loro dichiarazioni possono essere viste non solo come un servizio al pubblico, ma anche come un atto politico. Per mantenere intatta l'accettazione, gli esperti dovrebbero puntare su una comunicazione interattiva e non dare mai per scontata la propria legittimità.

Il CSS formula raccomandazioni per la società, la politica, la scienza e i vari ambiti d'interazione tra loro. Sia i cittadini che le autorità politiche devono basare le loro decisioni su una valutazione realistica dei rischi e tenere presenti le principali ripercussioni a lungo termine. La scienza svolge un ruolo fondamentale nel contribuire alla valutazione e alla definizione delle priorità dei rischi. Le autorità, dal canto loro, devono essere disposte a raccogliere, utilizzare e condividere i dati socialmente rilevanti in collaborazione con i ricercatori di varie discipline sia prima che durante le crisi. Questo però è possibile soltanto se i cittadini sono pronti a mettere a disposizione i loro dati. Tutte le raccomandazioni sono giustificate e presentate nel loro contesto alla fine di questa analisi.

Executive summary

Through its impact on patients and through the social costs associated to containment, the Covid-19 pandemic has challenged healthcare systems, economies and nearly every aspect of life across the world. Still, the next crisis, or crises occurring concurrently, may be very different. The Swiss Science Council SSC is investigating how to prepare Switzerland for the next emergency. In this endeavour, it has collected the expertise of scientists and decision-makers, but also of representatives from civil society and the economy. The SSC proposes areas of action to be tackled by science, politics and the civil society, looking at the issue of crises through the prism of acceptance.

Acceptance by the public of governmental measures creates the preconditions for behaviour change, allowing for policies to be implemented efficiently. In Switzerland, acceptance is a key factor in both contexts: a normal situation, where consent is sustained by direct democracy and federalism, but also a "crisis mode", where urgency calls for organisational changes that enhance vertical structures within government. The "crisis mode" is rather well accepted in short and acute emergencies, much less so after just a few months. Decision-makers must find ways to preserve this reservoir of goodwill by reinventing participation without impairing political action.

During a major crisis, knowledge is in short supply and scientists are expected and willing to provide decision support, to interpret data and to review the available literature. They should be aware that their statement can be regarded not only as a public service but also as a political act. One approach for scientific experts to sustain acceptance is to communicate in a truly interactive way; another one is to never take their own legitimacy for granted.

The SSC is formulating recommendations pertaining to society, politics and science and their various interfaces. Both the population and the authorities need to base their decisions on a realistic notion of risk, keeping an eye on important long-term issues – and science plays a critical role in helping with assessing and prioritising risks. Furthermore, decision-makers must be willing to collect, use and share data of relevance to society, cooperating with scientists from various fields, both before and during crises – but this cannot be achieved without the citizens accepting the contribution of their data. The context and rationale for all recommendations are presented at the end of the present analysis.

1 Introduction by the SSC

1 Introduction by the SSC

In its Working Programme 2020–2023, the Swiss Science Council (SSC) decided to draw learnings for the future from the Covid-19 pandemic. Major, systemic crises have been thankfully rare in Switzerland, but in the future, several global crises occurring concurrently might be calling for attention. The present reflection takes a broad view on the issue of political acceptance in a time of crisis: the SSC is asking how Switzerland could be better prepared for all kinds of emergencies, not just the next pandemic. The focus is on acceptance by the public of crisis-related measures, not on the willingness of decision-makers to receive scientific advice. In a separate study, the SSC will investigate whether existing mechanisms of science policy advice are functional and sufficient in times of crises.[1]

Currently, numerous actors are striving to learn from the pandemic. In 2020, the Federal Council mandated the Federal Chancellery to assess crisis management within the federal administration during the pandemic.[2] The Federal Chancellery is also in charge of evaluating science policy advice mechanisms to address several parliamentary interventions.[3] On 26 January 2021, the Control Committee of the Federal Parliament tasked the Parliamentary Control of the Administration to evaluate all extra-parliamentary federal commissions[4] as well as how the Federal Office of Public Health (FOPH) made use of scientific knowledge during the crisis.[5] The Centre for Security Studies of the ETHZ has published first analyses on the management of the pandemic and continues investigating the topic.[6] The Swiss Academies of Arts and Sciences edited an analysis of the role of science during the first year of the pandemic.[7] Two assessments of the cantons' handling of the Covid-19 crisis have been published.[8] So far, none of the investigations has analysed acceptance in depth, which the SSC believes to be a key element.

Definition

Crises have either a natural or human origin and they unfold in the physical, social or virtual realm. Whatever the cause, a crisis can be defined as a situation of great danger, requiring action under uncertainty.[9] This action must be understood as needed immediately, even when the worst outcomes are expected years into the future, like in a slow-moving crisis such as antibiotic resistance or global warming. Thus, what counts as a crisis – and when one enters into crisis mode – depends on the subjective appreciation of a person, an organisation or a community. A common denominator of major crises is their spreading and ripple effects over many sectors of society, which further increases their inherent unpredictability. The pandemic caused by SARS-CoV2 is a case in point: adept at jumping species barriers, through its short- and long-term impact on patients, and through the social costs associated with containment, the virus has challenged healthcare systems, economies and nearly every aspect of life across the world.

1 The SWR position paper analysing scientific policy advice will be published later in 2022. It is based on the expert report mandated by the SSC to Caspar Hirschi et al. (2022). *Wissenschaftliche Politikberatung in Krisenzeiten in der Schweiz: eine Analyse der Finanzkrise, des Fukushima-Unfalls und der COVID-19 Pandemie.*

2 In addition, the Federal Council took notice of the final report of the *Krisenstab des Bundesrats Corona* and dissolved the *Krisenstab* on 19 June 2020. Also, single departments and offices are conducting their own sectorial evaluations, such as the Federal Department of Defense, Civil Protection and Sport and the Federal Office of Public Health.

3 Postulate 20.3280, Matthias Michel, *Mettre à profit le potentiel scientifique en période de crise*. Postulate 20.3542, Jacqueline de Quattro, *Un centre de compétence pour gérer l'après-Covid-19*. Motion 21.3225, Olivier Français, *Post-Covid-19. Pour une plateforme permanente d'experts scientifiques*.

4 This evaluation does not focus on Covid-19, but it includes a case study of the federal commission responsible for preparing for and combatting pandemics.

5 Expected case studies are on mask wearing, on limitations relative to private social life, on large events, on restaurants and on schools and higher education institutions. Two case studies will also be studied under the angle of communication to the public.

6 *Bulletin 2020 zur schweizerischen Sicherheitspolitik*. Publisher(s): Center for Security Studies (CSS), ETH Zurich.

7 Alexandra Hofmänner (2021). *The Role of Science in the Swiss Policy Response to the COVID-19 Pandemic*. Swiss Academies Reports 16 (11).

8 Lukas Schmid (2021). *Les enseignements du fédéralisme face au Covid-19*. Avenir Suisse, Zurich, December 2021, available in German and in French; Conference of Cantonal Governments (2022). *Collaboration Confédération-cantons durant l'épidémie de COVID-19: conclusions et recommandations*. Final report, 29 April 2022, available in German and in French.

9 Paul 't Hart (2022). *Teaching crisis management before and after the pandemic: Personal reflections*. Teaching Public Administration 2022, Vol. 0(0) 1–10.

1.1 Focus on acceptance

The SSC decided to investigate acceptance for the following reasons:

- Acceptance creates the *preconditions for behaviour change*, allowing for policies to be implemented as efficiently as possible when speed matters most. Acceptance is a more practical issue than, for example, trust in science, which tends to be affected by social-desirability bias in surveys.[10] How actively the population must participate in addressing a crisis is not identical in a war or a nuclear accident, although people's behaviour nearly always plays a role. Acceptance is also important in risk reduction, for instance, to convince landowners to take costly measures to mitigate against floods or fires,[11] or to help overcome panic in a shortage.[12] Looking at the success of various countries in controlling the Covid-19 pandemic – at a first glance that should be evaluated more stringently in years to come – acceptance appears to matter at least as much as preparedness.[13]

- In Switzerland, acceptance is an everyday concern because the government's decisions may be overturned by *popular vote*. In no other country are citizens called more frequently to the ballot box. For instance, on 13 June 2021, an amendment to the CO2 Act[14] aiming at reducing emissions was rejected by the Swiss population.[15] This setback happened despite the elaboration of extended reflections on the acceptance of energy policies at the conclusion of two national research programmes.[16] On the same day, the Swiss population accepted the COVID-19 Act.[17] One month later, another referendum was filed against modifications of the same law, suggesting that opponents did not acknowledge the first vote as sufficiently legitimate. A second referendum led to the same result in November 2021, with a slight increase in approval for the COVID-19 Act.

- As suggested by the previous point, political acceptance in Switzerland varies according to the topic but there is some *room for improvement*. Further indicators are easy to find: in April 2020, close to 70% of the people surveyed were planning to use the upcoming SwissCovid app, but the actual percentage of use turned out to remain in the low twenties.[18] At the end of 2021, the proportion of vaccinated inhabitants remained consistently lower in Switzerland than in France, Italy or Spain.[19] Threats against politicians and experts are on the rise. Still, it is important to look at the issue as neutrally as possible, and not to lose sight of the "reservoir of good will" still present in the Swiss population. There is no simple international benchmark for acceptance and a certain degree of scepticism is integral to a functional democracy. For a given country, a goal could be that, at the end of a crisis, support for the political system is not lower than before the crisis. In Switzerland, passing the test of a referendum may be an appropriate benchmark for some kind of policies.

- Acceptance is an especially fitting concept for crises that have *no end in sight*, such as recurring fires, desertification or sea-level rise. The longer the crisis, the higher the attrition rate. As Covid-19 showed, most societies display a rally-around-the-flag reaction, followed by gradual erosion over time.[20]

10 Note that these surveys (Science barometer, Eurobarometer, and others) measure a valuable information, and that it is obviously a good thing if "trusting science" enjoys social desirability. There is also no controversy about creationism in Swiss school standards as there is in the USA, for instance. The point made here is that acceptance, in the broader sense used here, means readiness to accept consequences, and even readiness to act.

11 Carl C. Anderson and Fabrice G. Renaud (2021). *A review of public acceptance of nature-based solutions: The 'why', 'when', and 'how' of success for Disaster Risk Reduction Measures.* Ambio. 50, 1552–1573.

12 When it comes to prevention, however, some crises can be prevented by the government without any involvement by the population, such as the saving of the UBS bank in 2008.

13 In October 2019, the Global Health Security Index estimated that the USA ranked first and the UK second among 195 countries with regard to pandemic preparedness. See also: COVID-19 National Preparedness Collaborators (2022). *Pandemic preparedness and COVID-19: an exploratory analysis of infection and fatality rates, and contextual factors associated with preparedness in 177 countries, from Jan 1, 2020, to Sept 30, 2021.* The Lancet. https://doi.org/10.1016/S0140-6736(22)00172-6.

14 Federal Act on the Reduction of Greenhouse Gas Emissions.

15 On 21 May 2017, the Swiss citizens accepted a new energy act.

16 Andreas Balthasar, Frédéric Varone and Daniel Meierhans (2019). *Acceptance. Thematic synthesis of the energy turnaround (NRP 70) and managing energy consumption (NRP 71) National Research Programmes.* 2019. https://archive-ouverte.unige.ch/unige:124126.

17 Federal Act on the Statutory Principles for Federal Council Ordinances on Combating the COVID-19 Epidemic.

18 Viktor von Wyl et al. (2021). *Drivers of Acceptance of COVID-19 Proximity Tracing Apps in Switzerland: Panel Survey Analysis.* JMIR Public Health and Surveillance 7(1), e25701. https://doi.org/10.2196/25701.

19 Mathias Buchwalder (2021). *Ausgewählte Beiträge zur Schweizer Politik: L'impact de la pandémie de Covid-19 sur le climat national, 2021.* Bern: Année Politique Suisse, Institut für Politikwissenschaft, Universität Bern.

20 Michael Bang Petersen et al. (2021). *Pandemic Fatigue and Populism: The Development of Pandemic Fatigue during the COVID-19 Pandemic and How It Fuels Political Discontent across Eight Western Democracies.*

Of course, acceptance cannot substitute for factors such as knowledge, training, infrastructure and resources, although the SSC believes that, compared to these factors, it has been consistently overlooked.

Definition

"*Acceptance*" is often used and rarely defined.[21] The SSC is using the term according to the definition by Betancourt and Ponce as "the willingness of the governed to endure the exercise of power by those who govern them, for whatever reason".[22] The main advantages of the concept are versatility and neutrality. While political legitimacy is a normative concept (suggesting that a proper justification is shared by everyone), acceptance is not: one can accept the exercise of power for all kinds of motives, including fear and inertia. Among these motives, trust remains, of course, one of the principal causes for acceptance. Furthermore, acceptance can be measured via surveys or experiments, both in democratic and undemocratic states. Data suggest that acceptance of a political system functions as a buffer, i.e., a reservoir of good will, for the acceptance of a government, and it seems likely that acceptance of a government plays the same role for the acceptance of single policies and measures.

1.2 A discursive method

The approach chosen by the SSC is discursive rather than evaluative. The SSC constituted a working group that undertook a range of discussions and exchanges and regularly reported on these to the Council.[23] Three questions were selected to serve as entry points into understanding acceptance:

Q1: How did the Swiss population behave during the Covid-19 pandemic?

To what extent the general public followed the guidance of the authorities is key as, in an emergency, enforcing new rules only via the police or the judicial system is inefficient. The Covid-19 pandemic is a case study on the importance of acceptance and its evolution over time.

Q2: How to govern a federal state like Switzerland in a time of crisis?

It is impossible to understand the governing of the crisis by the Swiss authorities and their influence on public acceptance without taking into account the key aspect that is the distribution of power and responsibilities among many actors and various levels. This issue was discussed both in the context of the pandemic and of other crises experienced by the Swiss political system.

Q3/4: What role did/should civil society, politics and science play?

Acceptance is not just a concept. The actors themselves, especially civil society, policy and science, are reflecting on their respective roles and concrete experiences with the issue. How did the "triangle of actors" work together during the Covid-19 pandemic and what, if anything, should change in future collaborations between the actors to respond to crises of all kinds?

21 Rolf Wüstenhagen, Maarten Wolsink and Mary Jean Bürera (2007). *Social acceptance of renewable energy innovation: An introduction to the concept.* Energy Policy 35 (2007), 2683–2691.

22 Roger Betancourt and Alejandro Ponce (2014). *Political acceptance as an alternative or complement to political legitimacy: concept, measurement and implications.* Society for Institutional & Organizational Economics.

23 The working group is composed of Verena Briner (SSC member), Christiane Pauli-Magnus (SSC member), Jane Royston (SSC member), Marianne Bonvin Cuddapah (SSC secretariat) and Eva Herrmann (SSC secretariat).

For the SSC, addressing the questions Q1/Q2 was only possible thanks to expert contributions from various fields, mostly, but not entirely, grounded in the social disciplines (natural sciences and humanities were also represented). Therefore, on 11 August 2021, the SSC invited 11 researchers for an interdisciplinary workshop in Bern:[24]

- Marc Höglinger is the head of Health Services Research at the Winterthur Institute of Health Economics of the ZHAW.
- Sarah Geber is a research associate at the Department of Communication and Media Research of the University of Zurich.
- Pascal Wagner-Egger is a lecturer and researcher in social psychology and statistics at the University of Fribourg.
- Oliver Nachtwey holds the chair of social structure analysis at the University of Basel.
- Marie-Valentine Florin is the executive director of the International Risk Governance Center at the EPFL.
- Andreas Wenger is the director of the Center for Security Studies and professor of International and Swiss Security Policy at ETHZ.
- Eva Maria Belser is co-director of the Institute of Federalism and professor of constitutional and administrative law at the University of Fribourg.
- Daniel Kübler is a professor at the Department of Political Science and co-director of the Centre for Democracy Studies at the University of Zurich.
- Bettina Büchel is a professor of strategy and organization at IMD, Lausanne.
- Nicolas Levrat is a professor of European and international law at the University of Geneva and the director of the Global Studies Institute.
- Thomas Stocker is the president of the Oeschger Centre for Climate Change Research and professor of climate and environmental physics at the University of Bern.

Next, based on the conviction that questions Q3/Q4 called for a larger debate, on 31 August 2021, the SSC chose a transdisciplinary approach and invited for a second workshop experts from the civil society and the economy as well as decision-makers from politics and administration, in addition to scientists. Participants received a brief report about the results of the first workshop and reflected in mixed breakout groups and in plenum on their respective experiences:

Civil society and economy

- Vjosa Gervalla, director of albinfo.ch
- Dagmar Jenni, director of the Swiss Retail Federation
- Markus Mader, director of the Swiss Red Cross
- Christine Michel, head of occupational safety and health protection at Unia
- Yannis Papadaniel, head of health at the Consumers' Federation of French-speaking Switzerland
- Silja Stofer, director of communication at Fenaco

Policy

- Stefan Brem, Chief Risk Officer and Head of Risk Analysis and Research Coordination at the Federal Office for Civil Protection (FOCP)
- Alexa Caduff, head of the "CoronaComm" and coordinator of civil protection at the Office for Military and Civil Defence of the Canton of Graubünden
- Markus Dürr, former State Councillor of the Canton of Lucerne and former director of the Conference of Cantonal Health Directors
- Erich Fehr, mayor of the city of Biel
- Patrick Mathys, head of crisis management and international cooperation at the FOPH

Science

- Matthias Egger, professor of epidemiology and public health at the University of Bern and president of the Swiss National Science Foundation
- Sarah Geber, research associate at the Department of Communication and Media Research of the University of Zurich
- Oliver Nachtwey, professor of social structure analysis at the University of Basel
- Marcel Tanner, former director of the Swiss Tropical and Public Health Institute and president of the Swiss Academies of Arts and Sciences
- Pascal Wagner-Egger, lecturer and researcher in social psychology and statistics at the University of Fribourg

24 See annex pp. 31–32 for short biographies.

Chapter 2 presents the main learnings from these discussions, focusing on acceptance. The results of the workshops are reported topically rather than chronologically, and do not automatically reflect the opinion of all participants at all times.

The input was further investigated and complemented by literature analyses and exchanges within the working group. On this basis, the SSC developed its conclusions and their possible implications for preparing Switzerland for future crises in Chapter 3.

Limitations

The topic of crises presents specific *challenges*. Firstly, global developments and decisions taken at the international level are hard to account for, but they have a large impact on the national context. An interesting feature of the pandemic is that several developing countries appear to have fared as well or better than rich nations.[25] Secondly, the all-encompassing Covid-19 pandemic constitutes a moving target, hampering the formulation of learnings detached from contextual bias. In the first half of 2021, minor delays in vaccine delivery were viewed as a decisive factor, until this issue was overshadowed by vaccine hesitancy in western countries. The SSC estimates that a proper assessment of the performance of various countries will not be possible for several months or years, unless one is satisfied with narrow indicators such as hospitalisation and deaths. More time will be needed if one wants to take into consideration the impact of the pandemic on mental health, disability, employment or education attainment. For this reason, the present analysis is not attempting to assess how well Switzerland is addressing the pandemic.

25 Examples include Vietnam, Uruguay, and the setting up of the Africa Centres for Disease Control and Prevention and of the Africa Medical Supplies Platform: https://theconversation.com/what-developing-countries-can-teach-rich-countries-about-how-to-respond-to-a-pandemic-146784.

2 Results of the workshops

2 Results of the workshops

2.1 Interdisciplinary exchange

2.1.1 How did the Swiss population behave during the Covid-19 pandemic?

Key learnings

The remarkably constant and overall high level of acceptance of crisis management measures by a majority of the Swiss population should be appreciated rather than taken for granted.

The intense rejection of the same measures by a vocal minority calls for attention. Despite their small number, opponents are heterogeneous. One should not assume the loudest individuals to be representative of the entire group. Whoever accepts the rules of the democratic system needs to be integrated into the political debate to prevent further political radicalisation.

Social media are one factor favouring the rise of conspiracy theories. Sound communication by scientists and by authorities may influence acceptance via the establishment of norms.

Several longitudinal studies are monitoring indicators for acceptance. Among them[26] are the COVID Social Monitor of the ZHAW, the Covid-Norms project of the University of Zurich and, over a longer time scale, the Security Report of the Center for Security Studies of the ETHZ.[27] All surveys come to the conclusion that a large majority of the Swiss population trusts the government and implements the crisis management measures. The data show little change over time and few differences between groups according to gender, income, educational level, etc. Immigrants behaved as cautiously or more cautiously than the overall population with regard to social distancing (while no monitoring was available on vaccine acceptance and immigration status). Young people tended to experience a larger decrease in quality of life and to suffer more from loneliness and isolation. Overall, quality of life was moderately affected.[28] Trust in the authorities increased at the beginning of the crisis and declined somewhat afterwards, but was still higher in 2021 than before the pandemic.[29]

Other analyses have focused on understanding rejection of the measures to mitigate Covid-19, present in a small minority of the population. Opposition comes from heterogeneous groups composed of moderate and radical individuals, although media reports tend to give more attention to the extremists among them. The movement consists to a large extent of a disparate association of educated, middle-class people, many of them self-employed. A majority of them are women. Opponents come from both the right and the left side of the political spectrum and they value freedom and autonomy. Political parties on the right are trying to embrace them, with some success, as the left-leaners among them tend to shift rightwards over time. Most critics distrust the institutions of the liberal democracy such as science and the media. Instead, they trust civil society and private enterprises and many display an affinity for anthroposophical worldviews.[30]

From the noisy minority's opposition to the silent majority's adhesion, which of those is more deserving of attention? Longitudinal studies documenting high acceptance within the Swiss population are important, precisely because unspectacular results tend to get overlooked. Still, the minority's capacity to mobilise further critics is striking – for instance when looking at the relatively modest acceptance rate of the COVID-19 Act, in light of the many financial incentives contained among the measures. Besides, a democratic state has a duty to integrate and care for all minorities. A good strategy would be to pay more attention to individuals who are in the middle, hesitant about vaccination, while concerned enough to wear masks. Overall, it is best to consider everybody's position as fluent and susceptible to change.

Even if they hurt acceptance by limiting the efficiency of crisis management, criticism and protest are legitimate displays of diversity in a liberal democracy. But how to prevent individuals from radicalising? Factors promoting extremism are related to a perceived lack of representation: unbalanced cov-

26 In addition, sotomo SA conducts the Covid Monitor on behalf of the Swiss Broadcasting Corporation: https://sotomo.ch/site/projekte/corona-krise-monitoring-der-bevoelkerung-oktober-2021/.

27 Tibor Szvircsev Tresch et al. (2021). *Sicherheit 2021 Aussen-, Sicherheits- und Verteidigungspolitische Meinungsbildung im Trend.* Ed.: Tibor Szvircsev Tresch and Andreas Wenger. Military academy at ETHZ and Center for Security Studies, ETHZ, Birmensdorf and Zurich, p. 145.

28 André Moser et al. (2021). *The COVID-19 Social Monitor longitudinal online panel: Real-time monitoring of social and public health consequences of the COVID-19 emergency in Switzerland.* PLoS ONE 15(11): e0242129. https://doi.org/10.1371/journal.pone.0242129. Sarah Heiniger et al. (2021). *Ausgewählte Ergebnisse des Covid-19 Social Monitors: Lebensqualität, psychische Befindlichkeit und Adhärenz an Schutzmassnahmen im Verlauf der Corona-Pandemie von März 2020 bis Juni 2021.* Bericht zuhanden des Bundesamts für Gesundheit. Winterthur. https://digitalcollection.zhaw.ch/handle/11475/23751.

29 Tibor Szvircsev Tresch et al. (2021). *Sicherheit 2021. Aussen-, Sicherheits- und Verteidigungspolitische Meinungsbildung im Trend.* Ed.: Tibor Szvircsev Tresch and Andreas Wenger. Military academy at ETHZ and Center for Security Studies, ETHZ, Birmensdorf and Zurich, p. 145.

30 Oliver Nachtwey, Robert Schäfer and Nadine Frei (2020). *Politische Soziologie der Corona-Proteste. Grundauswertung* 17.12.2020. Universität Basel. https://doi.org/10.31235/osf.io/zyp3f. This study includes Switzerland, Austria and Germany.

erage on the part of the media and, on the part of the government, a there-is-no-alternative (TINA) approach leading, sooner or later, to a backlash. Indeed, critical debate and a culture of openly discussing failure and conflict have been missing. Scientific exchanges and political debates have dedicated, established spaces, while the general public has few outlets to debate aside from digital platforms such as Twitter, Facebook or YouTube, where positions may solidify into fronts, and messaging services like WhatsApp or Telegram, where closed groups end up gathering. In this context, the fact that right-wing parties embrace movements of discontent can be seen as a positive development: it is better to integrate critical voices into the democratic process, where political parties can help moderate new members. There are, of course, limits to such openness: individuals who refuse democratic rules, who call for jailing adversaries, or who do not recognise facts anymore, should be isolated rather than integrated.

Covid-19 has been characterised as a pandemic of misinformation. In the words of Brian Keeley (1999), conspiracy theories are explanations of certain events in terms of causal actions by conspirators acting in secret.[31] It is worth noting that, even in normal times, a sizable proportion of the general public is open to at least some kind of conspiracy theories, as they offer an opportunity to make sense of major events. There are many causes for the growth of conspiracy theories: (i) sociopolitical trends such as globalisation may induce a feeling of powerlessness and a belief that most meaningful decisions are being taken by multinational organisations or corporations. This has led to an increase in radicalism in the last 40 years. (ii) Social inequities promote a discourse of retaliation against all elites. (iii) Actual conspiracies based on true conflicts of interest exist, driving some to the false conclusion that their favourite belief should count as warranted until disproven. (iv) The scientific method and the correct use of critical thinking are not sufficiently understood. (v) The internet allows even defunct theories like the flat-earth theory to come back into existence, while social media help disconnecting believers from contradictory facts.[32]

Communication influences people's acceptance of protective behaviour, among others via the establishment of social norms. During the Covid-19 outbreak, the use of traditional media was shown to correlate with increased perception of threat, increased confidence in the efficacy of protective behaviour, and the belief that other people do or think it is important to comply with measures (in other words: social norms); all these perceptions correlated with adherence to social distancing. Meanwhile, interpersonal communication was positively and social media use negatively associated with the perception of such norms.[33] In a crisis, communication to the public should be designed to build health literacy, to acknowledge uncertainty, to explain the nature and severity of the risk, to instil urgency without creating panic, to communicate consistent messages all while targeting them to audiences who may be moved by different nuances.[34] During the early HIV epidemic, no treatments were available. Communication campaigns and community involvement were remarkably successful to induce protective behaviour. During the early phase of Covid-19, the Federal Council and the administration communicated rather adeptly, yet this was less the case before and after the "extraordinary situation".[35] Eighteen months into the pandemic, new turns, like the appearance of variants, keep on upending the government's plans. But if a scientist can update her model every day, a politician will pay a price in terms of credibility when she modifies her predictions, and there's only a certain number of times she can afford to be wrong.

Scientific advice, from the Swiss National COVID-19 Science Task Force and otherwise, covered the medical dimension of the crisis very well. The social dimension was investigated mostly on economic terms, without investigating the secondary effects of measures on the population.[36] In order to understand acceptance and other related phenomena, there should be an integrated approach for social sciences and humanities, promoting collaboration between theoretical and empirical approaches. For instance, some research in the realm of security is focusing on disinformation campaigns from a small number of adversarial states on social platforms. These investigations are mostly data-driven and would benefit from theoretical concepts to contextualise the data. Meanwhile, science communication has improved during the pandemic, and the public has been able to see the scientific process in real time. For their part, higher education institutions are only beginning to reflect on how to promote outreach activities from the part of their scientists, especially how to evaluate them.

31 Brian Keeley (1999). *Of Conspiracy Theories*. The Journal of Philosophy 96(3), 109–126.

32 Pascal Wagner-Egger (2021). *Psychologie des croyances aux théories du complot. Le bruit de la conspiration*. Presses universitaires de Grenoble, April 2021.

33 Thomas N. Friemel and Sarah Geber (2021). *Social Distancing during the COVID-19 Pandemic in Switzerland: Health Protective Behavior in the Context of Communication and Perceptions of Efficacy, Norms, and Threat*. https://doi.org/10.1080/10410236.2021.1976360.

34 Aengus Collins, Marie-Valentine Florin and Ortwin Renn (2020). *COVID-19 risk governance: drivers, responses and lessons to be learned*. Journal of Risk Research 23:7-8, 1073–1082, May 2020.

35 As defined by the Federal Act on the control of communicable human diseases (Epidemics Act), art 7.

36 Overall, in 2020, the Swiss National COVID-19 Science Task Force had 10 groups, only one of them composed of experts from the social sciences and humanities. There was, in particular, one sociologist.

2.1.2 How to govern a federal state in a crisis?

Key learnings

To sustain acceptance, political authorities must display leadership qualities and show that they can protect their population from the fall-out of crises. There are no mechanisms of global governance, as most measures are directed by national governments.

In the Swiss political system, federalism allows for cantons and communes to implement their own measures adapted to local needs. It also forces all actors to exchange information. Still, willingness to act may be hampered by the expectation that another level will take the initiative. This makes the role of the Federal Council all the more crucial, especially in fast-moving crises, and calls for increased coordination between the federal departments and offices, improved contingency planning, and even for a less systematic prioritisation of efficiency at the expense of resilience.

When facing a slow-moving crisis, taking action does not come naturally to decision-makers. Willingness to act can be influenced by vested interests, the fear of becoming unpopular, mobilisation from the street and the hope that the crisis can be overcome quickly.

Democracy is a normative model that organises government by giving power to the people. It also needs to have the capacity to act effectively on public problems. Whether the state is perceived as protecting the people in an emergency is key for sustaining acceptance. During Covid-19, countries with a high quality of democracy – as measured according to a quality index[37] – restricted fundamental rights less, independently of the epidemiological situation. In addition, measures often involved a concentration of power in the executive. Overall, this concentration was negatively associated with the quality of democracy. Switzerland was found to be among the least restrictive European countries with regard to the severity of the measures, but in the middle of the ranking with regard to power concentration in the executives. Crisis management tilts the balance towards government responsibility, calling for a strengthening of democratic participation.[38]

The Swiss federal political system distributes power over a number of actors. During the Covid-19 crisis, federalism was instrumental in several ways. Most importantly for acceptance, citizens tend to trust local politicians more than national authorities. Furthermore, in situations of high uncertainty, it is efficient to experiment with various solutions that may be better adapted to local needs, modified more quickly and, in case of success, copied by others. Cantons were first to react in the early days of the pandemic: in February 2020, the canton of Ticino banned large gatherings two days before the Confederation. From a higher perspective, federalism forces all actors to vertical and horizontal information feedback loops, enabling some of the checks and balances inherent to the Swiss democracy. Also, in case of necessity, the principle of subsidiarity allows to defer to the higher level, just as it happened during the "special" and – even more so – the "extraordinary situation" as defined by the Epidemics Act. Still, federalism confronted decision-makers with a series of issues: at the end of the "extraordinary situation", a de-escalation process to manage the transition of competences back to the cantons was not specified in the Epidemics Act. In the autumn of 2020, cantons hesitated to act, knowing that whoever would take the initiative would have to bear the costs of the new measures. Whether cantonal strategies were adapted to local needs or not, the media consistently presented cantonal differences as inconsistent. It is possible that the coexistence of different rules worked against the establishment of social norms, a key element for acceptance.

A crisis does not overturn the governance system but forces it to operate differently. In addition to federalism, the following governance issues were also relevant:

- *"Departmentalism":* insufficient coordination among the departments and offices at all levels below the Federal Council and the Federal Chancellery hampered preparedness and response. Switzerland organised a trial run prior to the pandemic, together with the World Health Organization. Weaknesses were known and the country was relatively well prepared. But there was no overall coordination of precautionary planning and, until the beginning of the "extraordinary situation", no coordinated adjustments to the pandemic plan.

- *Task forces:* to establish new institutions across the board leads to a loss of know-how and experience. Organisations inventing themselves find it difficult to cooperate with others, especially if their partners are new as well. The better strategy is to have as many actors as possible do what they do best, by increasing the robustness and resilience of the existing actors.

- *Contingency planning:* while some authorities were prepared to the eventuality of a long crisis, for instance the police or the military, teams at the FOPH and elsewhere continued working under pressure throughout the crisis, without a chance to regroup and recover.

- *Self-evaluation* within the federal administration cannot substitute for independent evaluation by outside experts.

37 Sarah Engler et al. (2021). *Democracy in times of the pandemic: explaining the variation of COVID-19 policies across European democracies.* West European Politics 44:5–6, 1077–1102.

38 Op. cit.

— *Efficiency at the expense of resilience*: redundancies, for instance in supply chains, are expensive in normal times, but essential in crises. When setting political priorities, policy-makers should remain aware of the existing trade-off between efficiency and resilience.

In a crisis, many people call for strong leadership, and populism tendencies are common. During the Second World War, the Swiss Parliament transferred extraordinary powers to the Federal Council, giving up oversight. Beyond the threat to democracy, though, power concentration may lead to new opposition, and become unsustainable. This is not different from the balance of power in a corporation: at the beginning, a crisis provides the opportunity to strengthen leadership, and employees' acceptance is high. However, the ability to exercise power decreases over time. Leaders need to move from assertive, top-down strategies towards more cooperation, collaboration (such as in the Rapid Reflection Forces)[39] and compromise. What does not work for leaders is to refuse responsibility for the actions of their organisation, especially when these actions were mistaken. This increased need for leadership poses a special challenge in a country like Switzerland, where responsibility is traditionally diffuse rather than associated with single individuals.

Who should be the problem owner, from single figures of authority in the communes, the cantons, the Confederation but also in the international community? The principle of subsidiarity calls for some degree of global governance for issues unfolding in a context of high complexity and systemic risk. No country can react on its own, and international coordination is more needed than ever. Yet, the Covid-19 pandemic has shown us the fragility of the international system, with a World Health Organization on the brink of collapse and a return of nationalism. The type of global governance that would be needed to take binding decisions on behalf of the planet's sustainability is not available. Still, interacting levels of governance are not limited to political actors. Businesses (multinationals, trade associations) and scientists (as exemplified by the Intergovernmental Panel on Climate Change) can activate their own networks. A model of "creative coalitions" comprising countries, cities and companies was proposed to fight climate change and anticipate other issues.[40] A similar approach is used to boost vaccination by the Bill and Melinda Gates Foundation and other private actors together with African governments.

A pandemic, a cyberattack, a natural catastrophe or an explosion in a chemical plant: all these crises unfold in a matter of hours, days or weeks, calling for preparedness and agile governance. Urgency facilitates political willingness to take action as well as public adhesion and readiness to cooperate. Responding to a crisis is often most challenging when there is more time. In the case of global warming, both the threat and the need for action were already clear three decades ago: a concerted effort was acknowledged to be required at the individual, local, national and international levels. Stringent climate legislation entailing both incentives and sanctions was recognised as the way forwards. Thus, if Covid-19 is the living proof that humanity is able to confront a serious crisis, in the climate debate, acceptance is still lacking, as demonstrated by the Swiss citizens' refusal of the modification of the CO_2 Act in June 2021.

Decision-makers are already aware of the scientific consensus on climate change. Various factors may influence their willingness to act:

— A major roadblock for policy-making are the *vested interests* working to keep unsustainable business models in place as long as possible. In the field of energy policy, several think tanks are active in Switzerland and in the Anglo-Saxon countries, with high-level access to decision-makers. A similar configuration prevailed in the last months leading to the financial crisis of 2007–2009: financial specialists who should have known better only wanted to optimise earnings until the crisis was unavoidable. When it was already too late, the bailout of banks by national governments, often conducted outside of constitutional rules, contributed to the strengthening of populist movements around the world.

— Major crises often call for *unpopular measures* such as laws restricting personal freedoms or slowing down the economy. Democratic systems are not well equipped to address these problems, because politicians wish to be re-elected. Against climate change, plans exist at the global level in the form of international accords, but no sanctions are in place if a state does not fulfil its promises. "Free-riding" remains the easiest strategy for individuals as for countries. Given the lack of enforcing mechanisms, some have turned to the judicial system for solutions, for instance in the Netherlands and Germany. In France, the High Court has threatened to fine the state if it fails to take sufficient mitigation measures against sea-level rise in due time.[41]

— Not every *popular mobilisation* is opposing change. To the contrary, street protests, especially by young people, have been a source of pressure in favour of policy measures. A part of the population is strongly engaged based on ideology (rather than personal experience) and aims to shift public opinion towards acceptance of climate policy changes, to challenge a social order based on competition and social mobility and to propose new norms. For

39 Pierre Béroux, Xavier Guilhou and Patrick Lagadec (2008). *Rapid Reflection Forces put to the reality test.* Crisis Response 4(2), 38–40.

40 Oxford Martin School (2013). *Now for the Long Term. The Report of the Oxford Martin Commission for Future Generations.* https://www.oxfordmartin.ox.ac.uk/downloads/commission/Oxford_Martin_Now_for_the_Long_Term.pdf.
What we do – Activities | GESDA – Geneva Science and Diplomacy Anticipator.

41 Jon Henley (2021). *French court orders government to act on climate in next nine months.* The Guardian, 1 July 2021.

the young activists, as well as for the majority of the population, personal responsibility may feel overwhelming. In a pandemic, everyone can take simple and concrete actions such as wearing a mask and getting a vaccine. But should one give up flying or having children to tackle global warming?

There are reasons to hope – *expectations* – that Covid-19 (as a crisis, not as a disease) can be overcome within a few months or years. When it comes to climate change, however, one can only hope for warming to stabilise in order for most people to be in a position to adapt, without ever going back to a "normal" state. Given that global warming has no end in sight, some experts do not consider it a crisis, but rather a bifurcation to a "new normal", and they advocate shifting to a risk management approach, which opens up additional public policy space and broader options. This presents some moral issues: while Switzerland probably can adjust, many communities around the globe will hardly be able to adapt to this "new normal". Just like the climate and natural resources, health is a common good. A similar problem is posed by sharing vaccines with the developing world. One should make use of untapped reservoirs of knowledge about managing commons and reducing moral hazards on a global scale.[42]

42 Kris Hartley and Glen Kuecker (2020). *The moral hazards of smart water management*. Water International, 45, 1–9.

2.2 Transdisciplinary exchange

2.2.1 What role did civil society, politics and science play?

Key learnings

The Covid-19 crisis constitutes much more than a medical issue, yet the pressure of the emergency led to a focus on acutely sick people, while other issues took a back seat and some parts of civil society got – objectively or subjectively – left behind.

Decision-makers needed a broad overview of what was unfolding in order to take ownership of the crisis. There were some issues of coordination and transparency, as outsiders and even some insiders did not know who oversaw which responsibilities. Among the cantons, there were few systematic exchanges of best practices.

Scientists contributed time and effort to informing both the public and policy-makers. Given the urgency of the needs and the lack of past experiences, they did not take into account the different roles they had to fulfil. Within the science task force, science communication got streamlined after the first wave, although the media continued to focus on diverging opinions.

The civil society during the pandemic

Faced with the first major crisis in the age of information overload, various parts of the public did not feel empowered to voice their needs, questions, but also input and suggestions. A reason for this communication deficit was people's inability to contextualise new, incomplete knowledge. Much high-quality scientific information was circulating, but civil society did not know where to look for it. Likewise, confronted with the complexity of changing rules and policy mechanisms, the public had little understanding of the transient and relatively non-transparent crisis organisation and new responsibilities put in place by the administration. Unions and employers, used to communicating with the State Secretariat for Economic Affairs, struggled to identify intermediaries and establish channels of communication with the FOPH to clarify the consequences of the new measures on work health. While media attention was mostly directed at federal and, to a smaller extent, cantonal authorities, the lowest levels of government such as communal decision-makers, but also local employers and community organisers, played a vital role. The workplace was not recognised as a major public health policy field, for instance, by declaring vaccination time as working time. Economic actors struggled with keeping business afloat while conforming with quarantine rules. Cities felt somewhat forgotten by the Confederation, despite a high population density and even though some of them are more populated than some Swiss cantons.

The lockdowns slowed down not only viral transmission but also social and economic life. At the same time, they accelerated the pace of processes already underway such as digitisation and the growing wealth inequality. Overall, some parts of the population were left behind and disconnected, be it due to their health, age, citizenship, socio-economic status or other parameters. Polarisation may have generated some degree of stigmatisation of groups such as migrant populations. At this point, it is still too early to tell whether those most actively opposed to the measures are also the ones lacking representation or social security support. Likewise, vaccine hesitancy or even susceptibility to conspiracy theories cannot be fully equated with a deficit in social integration or education. Some opponents were acting in good faith and following a certain logic, based on interests, ideologies and social positions. In Switzerland, there is a hypersensitivity to governmental directives, interpreted as an intrusion on personal freedom. Solidarity is easier to sustain in less affluent societies.

Policy-making during the pandemic

Swiss decision-makers had little practical experience of catastrophic crises prior to the Covid-19 pandemic. Keeping in mind the sheer complexity of the task, decision-makers should draw honest lessons about what Switzerland did not do right. Internal conclusions from earlier crises and past exercises were available, although they usually get obfuscated and quickly forgotten. Many processes were tested and trained before the outbreak of the pandemic, but in an artificial environment, following pre-written scenarios. Thus, people learned to react within their own domain of responsibility. What actually unfolded during Covid-19, given the many ripple effects of the pandemic beyond the medical emergency, was a pressing need for spontaneous leadership in all sectors of government, with people taking up new roles, and a high number of additional task forces being created in all offices.

But who exactly was in charge, and of what, during the pandemic? An overall organigram and a "chain of command" were either missing or unclear, at least from the point of view of outside observers. The federal level was especially lacking in transparency. Silo mentality and insufficient coordination may have reduced acceptance by hampering the implementation of measures and the reception of feedback from the public. A broader view taking into consideration all aspects was lacking, as the authorities were mostly preoccupied with hospital occupancy. Within the federal administration, the Federal Council created an ad hoc board, the Crisis Staff Federal Council Corona, which already ended its activities in June 2020. Existing competences were not fully taken advantage of, be it the Federal Civil Protection Crisis Management Board at the Federal Department of Defence, Civil Protection and Sport, or the Crisis Management Centre at the Federal Department of Foreign Affairs. They could have helped with issue triaging and to sustain a sense of urgency over a longer period. When it comes to preparedness and resilience, Switzerland does not automatically practise at home what it is preaching internationally.

One missed opportunity at the cantonal level was the absence of real-time, coordinated data collecting during the establishment of cantonal strategies. There was no exchange of best practices and little scientific monitoring, which would have been crucial to find out what works, how and why. The Canton of Graubünden – which happens to have some familiarity with crises on a smaller scale, such as plane crashes and natural catastrophes – was among the better examples. In addition to taking steps towards a scientific validation of their measures, authorities in Graubünden defined policy aims and developed strategies such as mass testing, to allow schools and enterprises to remain functioning as long as possible. They also built a hub to synchronise all cantonal communication. For its part, the federal government was not up to date in terms of digital technology. The Covid-19 statistic dashboard of the FOPH did not become a reference. Civil society actors' expectations of a single platform linking all pandemic-related rules and measures and of immediate updates via a central social media channel did not get fulfilled.

Scientific actors during the pandemic

From the onset of the pandemic, scientific actors enjoyed a high degree of trust and legitimacy to speak, answering journalists' questions, but also taking initiatives and suggesting measures to decision-makers. This was mostly true for the STEM fields (mathematics, medicine and natural sciences, engineering and data sciences), less so for social sciences and the humanities, who were poorly organised, not very proactive and less visible. If the scientific expertise in epidemiology was mostly adequate, socio-economic explanations were and are still lacking.

This public trust allowed for individual scientists to devote large amounts of their time and effort to science policy advice. However, the legitimacy was such that scientists did not feel the need to explain the context of their rules of engagement. For instance, the mandate to the Swiss National Covid-19 Science Task Force was not clear, nor were the expectations. The public did not know by which process the scientists had been nominated, in which capacity they were acting as experts or even the fact that they were advising on a voluntary basis. In the United Kingdom, the Scientific Advisory Group for Emergencies (SAGE) had been established well ahead of the pandemic and was also used for other crises. But early in the crisis, as it was perceived as insufficiently independent and accused of offering justification for the government's policy, another group was created under the name Independent SAGE – this one lacking in influence.

The legitimacy enjoyed by science had some limits: in the media, scientific positions were often confronted with contradictory arguments. Thus, scientists and medical doctors representing minority positions, but also people aiming to misinform benefited from an oversized stage as compared to the scientific consensus. The "false balance" may also have suggested that scientific knowledge is open to arbitrary interpretation. To compound the situation, the past decades of market forces have seen a decline in the number of science journalists. There were only few left to address independent and informed questions to scientists and to their critics.

Scientific organisations such as the academies contributed by developing a broader reflection on science communication.[43] As a complicating factor, some scientists continued advancing unnuanced opinions as "the truth" in the media, appearing as activists for a cause or even for their own agenda. Political authorities were at the receiving end of contradictory recommendations from various scientists arguing opposite policies with the same degree of enthusiasm. This situation allowed them to pick and choose the scientific advice they were inclined to follow anyway. In the Parliament, it also led to a clumsy and short-lived initiative to "muzzle" science communication. Furthermore, it is safe to assume that the fear of being misunderstood lead many a conscientious scientist to decline media interviews. After the first infection wave, the communication of the science task force was streamlined, delegated to a few representative members and integrated into the federal administration's press conferences. The collective debate was kept in the background, where minority positions were discussed during an internal consensus-making process.

Public and private research has become more transparent by sharing intermediary results on the progress of clinical trials in the middle of the research process. Such dynamic information flows are not without risks, at a time when the information is still incomplete or not yet peer-reviewed, but they were the only way to deliver vaccines and treatments in record time.

2.2.2 What role should civil society, politics and science play?

Key learnings

Ahead of the next crisis, the assumption of "zero risk" should be called into question, and the public educated to handle and assess information. During a crisis, civil society should serve as a resource, contributing experience and solutions and participating in open debates.

Decision-makers should learn from their own and from other countries' experience. They should improve the coordination and transparency of crisis organisation.

Scientists should explain the scientific process and help put evidence into the proper context. They should support policy-making, without making policy.

The civil society in future crises

The Covid-19 pandemic is ongoing and few experts are ready to predict its end. Knowing that other crises, predictable or not, are looming, the first priority in terms of overall acceptance is to recreate cohesion, resilience and solidarity within civil society. A part of the population may not perceive their own responsibility anymore, while another part has become more aware of it. This latter trend should be encouraged. Any material fears that people may have in relation to the measures should be taken seriously and addressed: one does not go into quarantine if one cannot afford it financially. Part of the aim of improving policy-making and the resilience of society depends on a better encouragement of research in the humanities and social sciences.

There is a pressing need for various types of discussion forums, online and offline, to make room for arguments to be expressed freely and respectfully. Critical voices, whatever their motivations, should be addressed before they radicalise, or before they opt out. Within this debate, one should make a better use of the potential of groups who do not participate in the traditional political process of consultations and elections, such as diasporas. Migrants tend to trust the Swiss authorities and they are familiar with crises, especially with dealing with the inherent chaos. They can quickly establish information-sharing networks and they cultivate solidarity. Up to 38% of the Swiss population have a migrant background, and 40% of these are less educated. In order for them to contribute their experiences and coping strategies, they need highly accessible information.

In the longer term, competencies should be developed within the whole population to deal responsively with information online and offline, from primary education to digital information literacy for adults. The aim is not for everybody to know and understand everything, but to learn where to find the right information, how to identify experts and whether to trust them. Digital tools, including social media, should be conceived not just as a risk, but also as a chance.

43 Mike S. Schäfer et al. (2021). *Science in the Swiss Public. The State of Science Communication and Public Engagement with Science in Switzerland.* Swiss Academies of Arts and Sciences, Bern 2021.

Just as the administration and decision-makers are training for future crises, the population should be sensitised to "expect the unexpected" and to acquire a more realistic expectation, both about future risks and about what policy and science can deliver. Vaccines were developed in record time. But what science cannot give is the "proof" that, decades down the way, no one will suffer side-effects from any vaccine.

Policy-making in future crises

Decision-makers need to look beyond borders, both in terms of time and space, in order to widen the range of situations to expect. For instance, in the years 1965–1966, foot-and-mouth disease outbreaks in farms lead to significant restrictions of movement in some areas in Switzerland, with very little popular opposition. In current days' Haiti, the case fatalities due to earthquakes and tornadoes have been decreasing steadily, due to the efforts of governmental and nongovernmental aid. In a second phase, of course, any idea from the outside must be translated back to the current and local context.

Decision-makers should be trained in a more versatile manner. One can never learn "pandemic" but one can learn processes. The first priority is to know people and their competencies ahead of the crisis. Processes would also have to be tested practically beyond the respective domain of competence. When the next crisis unfolds, authorities should define and publish a clear organigram of the actors, defining competences, analysing and studying private initiatives and listing contact points in associations and communities. More broadly, decision-makers should promote transparency and accountability during crisis times as well, welcoming checks and balances from investigative journalists.

In a crisis, there is a need for trusted decision-makers, ideally for top leadership, to address the public, although the need for leadership does not imply micromanagement. Trust is where cantonal authorities have an advantage, thanks to their proximity to citizens. Communication requires specific tools, such as a more centralised digital platform, a push-channel. The federal administration should make a better use of social media, contribute to a better understanding of its rules and help developing mechanisms to tackle misinformation.

Scientific actors in future crises

Scientists should explain and expose their conclusions and interpretations in times of crises – always keeping the freedom to decline an interview request. "Vulgarisation", for example the participation in a public debate, as an essential service to the public, should be valorised by some kind of academic acknowledgement. Appraisal is especially important for young researchers in a precarious employment situation. Not all scientists can or should be on social media, but there is a need for more such voices on these platforms. In higher education institutions, structures functioning as "bridges" towards civil society should be established and committed to information, distinct from institutional communication.

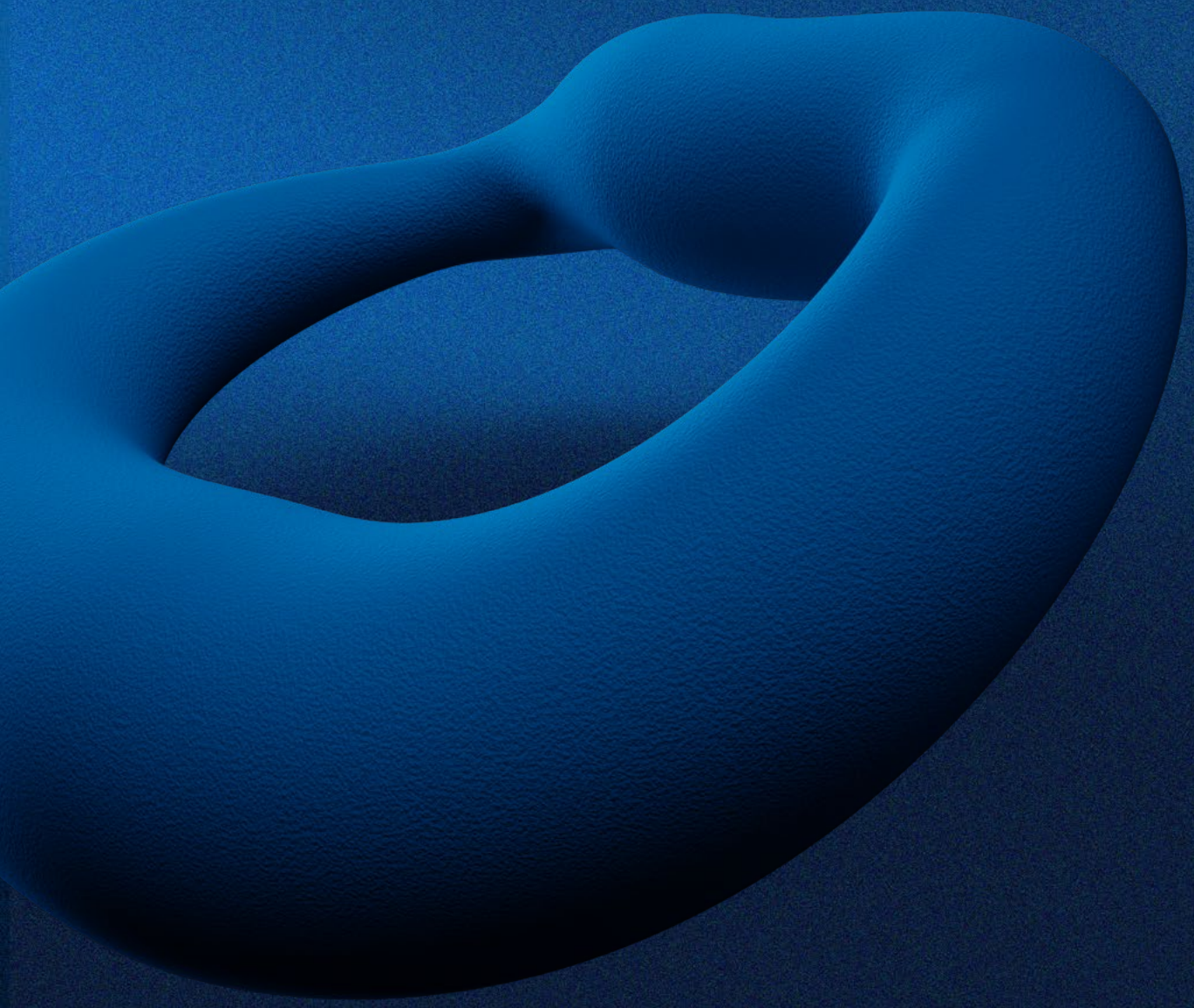
Scientists should communicate what science does and how, explain why a scientific consensus has changed, and even which arguments tilted the balance towards a given consensus position. Before the onset of the Covid-19 pandemic, most scientists had received advice such as: be clear and unambiguous, tell a good story, focus on a single take-home message. Recently published recommendations in *Nature* seem more appropriate for a time of crisis, such as: inform by presenting evidence and do not try to persuade; offer balance, not false balance; be upfront about uncertainty; state evidence quality; inoculate against potential misinformation.[44] In particular, scientists should explain the proper use of the falsification method and they should strive for a more modest pose, moving away from the figure of the "infallible scientist". A new scientific culture is needed, presenting science as a collective accomplishment and a cumulative achievement.

To provide science policy advice, one should investigate whether a task force or a permanent commission is better suited, especially in terms of credibility. A task force should involve all scientific fields important for addressing the crisis at hand, and its status, rule of engagement and rule of communication should be clarified. Also, scientists should be aware and specify whether they are functioning as experts, i.e., just presenting and explaining evidence, or as consultants, also helping with decision-making. When working as consultants, it is best to present several options together with their expected harms and benefits. Within their relationship with decision-makers, scientists should keep in mind that there is a trade-off between influence and independence from power.

44 Michael Blastland et al. (2020). *Five rules for evidence communication*. Nature 587, 362–364.


Jane ROYSTON
Christiane PAULI-MAGNUS

3 How to improve – potential areas for action according to the SSC



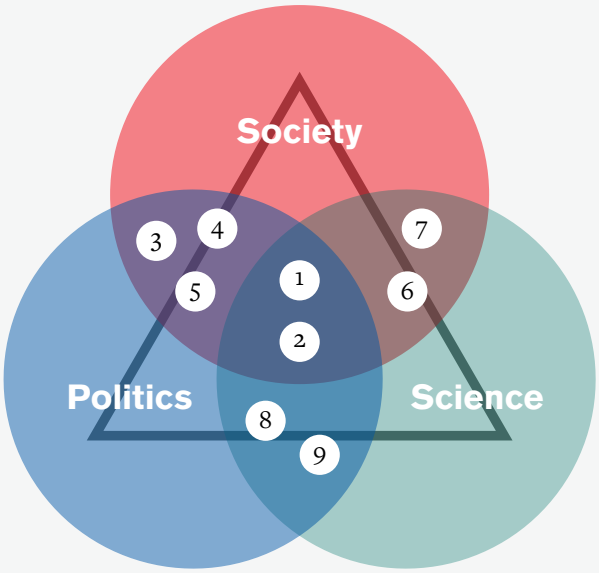
3 How to improve – potential areas for action according to the SSC

Acceptance by the public is a keystone of policy-making in Switzerland, both in a "normal" situation, where acceptance is sustained by direct democracy and by a network of horizontal and vertical loops throughout the federal system, but also in a "crisis mode", where urgency limits these mechanisms, leading to organisational changes that enforce vertical structures within government. "Crisis mode" is usually well accepted in short and acute emergencies, much less so after just a few months. Decision-makers must find ways to preserve this reservoir of goodwill by reinventing participation without impairing political action. Of course, an ineffective government would quickly ruin acceptance, but a walled-off government loses it as well over time.

Science plays a critical role in what can be seen as a "triangular relationship". During a major crisis, knowledge is in short supply and scientists are expected and willing to support decision-making by the government and the public. In Switzerland, scientists, as well as, or even more than, authorities, enjoy high acceptance. Still, they must be aware that speaking out is both a public service and a political act. Failing to acknowledge the balancing act between informing and positioning themselves only impairs their legitimacy. One approach for scientific expert to sustain acceptance is to communicate in a truly interactive way; another one is to never take legitimacy for granted.

Today's crises cannot be addressed without a data-driven, rational approach. The inability to share data within administrations, across sectors or cantonal barriers is a major impediment to government efficacy and credibility. The Covid-19 pandemic has been a time of reckoning for the state of the digitalisation of the Swiss health care system, and first conclusions are being drawn on the technical challenges ahead.[45] Because the disease and the measures to address it occasion high social costs, it is also urgent to discuss what kind of data is relevant.[46] As of early 2022, some key public health information, such as the cause of death, is still missing for part of 2020 and for 2021. Socio-economic numbers, data on isolation, online disinformation, reporting of racist incidents or other indicators may give crucial information for decision-making in the middle of a crisis, especially, but not limited to, the level of acceptance within the general public. Data pertaining to children and young people is urgently needed.

Based on the knowledge accumulated in the workshops, the SSC identified 9 areas where action is needed in preparation for the next crisis. As an advisory body to the government, the SSC primarily serves the Federal Council and the federal administration. However, these areas of action can only be addressed by society as a whole, including politicians at all federal levels, administrators, scientists, citizens and non-citizens. The SSC begins with the two recommendations calling for the highest degree of cooperation from all actors.



1. Calibrate expectations
2. Share data of relevance for society
3. Create platforms for dialogue
4. Include migrant communities
5. Be accessible and accountable
6. Mobilise the experts
7. Communicate and listen
8. Investigate social media
9. Expand bridges to policy-making

45 BAG (2022). *Bericht zur Verbesserung des Datenmanagements im Gesundheitsbereich. Stand der Umsetzung des Auftrags 8 aus dem Bericht zur Auswertung des Krisenmanagements in der Covid-19-Pandemie.* Bern 12 Jan. 2022.

46 See also: Dheepa Rajan et al. (2020). *Governance of the Covid-19 response: a call for more inclusive and transparent decision-making.* BMJ Global Health 2020;5:e002655. doi:10.1136/bmjgh-2020-002655.

1. Calibrate expectations

The public needs information on which risks are being prioritised and which solutions can be expected, both from science and politics.

In normal times, even the best prevention cannot eliminate all threats. In a crisis, a good outcome is not guaranteed. If the population is to support difficult measures, they should be in a position to correctly appreciate both the potential of what science and politics can achieve, and their limitations.

a. *Society*. The voters, as arbiters of political priorities, should develop a realistic (as opposed to both over- and undersized) notion of risk. Otherwise, long-term problems, such as global warming or the loss of biodiversity, will receive less attention than the last crisis, or the most immediate issue of the day.
b. *Politics*. In this "new normal", where various crises interact at different levels and speed, politicians need to tell the truth, even if there are uncertainties: there is no easy solution (like a simple financial remedy) to a complex situation, nor a return to a pre-crisis state. Swiss decision-makers need to trust that the citizens are capable of discernment.
c. *Science*. Low probabilities, when they are knowable at all, are rarely apprehended rationally. For instance, even an outstanding vaccine comes with a low – very low – level of risk. Scientists from risk sciences and all other relevant disciplines, together with experts within government, should offer context and orientation, and always explain where uncertainty comes from.

2. Share data of relevance for society

Governmental actors should make sure that data needed for decision-making is shared quickly.

Governments maintain the public's trust by providing accurate, timely information about the crisis. Furthermore, of all the resources that are needed in facing a crisis, such as teams of specialists, essential goods or critical infrastructures, data is the one with the highest impact on acceptance.

a. *Society*. The Swiss public cannot be content with bemoaning the limited IT knowledge and digital literacy of the authorities whilst remaining overly reluctant to share personal data in the public sphere and oversharing in private. Society needs to come to terms with the conditions under which it wants to have access to public digital services.
b. *Politics*. The national data management programme (NaDB) should be accelerated under the lead of the Federal Office of Statistics. The Federal Council should address the lack of exchange between departments and make sure that the administration has the needed scientific and technical expertise. Realistic estimates for the necessary investments from the part of the Confederation and the cantons should be drawn. Cantonal and federal statistical authorities should cooperate very closely, examining regulatory issues whenever appropriate. All cantonal authorities should establish a scientific monitoring of crisis-related measures and systematically exchange best practices.
c. *Science*. Social scientists should develop a broad conceptual framework to analyse social patterns by collecting data on social phenomena (including, but not limited to, acceptance) in real time. For better coherence, this effort could be mandated in the frame of the NaDB, where data experts from the ETH domain are already involved. When a crisis breaks out, scientists from all disciplines should be included in the definition of the scope of the problem.

Society – politics interface

3. Create platforms for dialogue

All actors should strive to create additional opportunities for debate and remain open to criticism.

A "new normal" of frequent or even concurrent crises is a possible future to account for, threatening cohesion and acceptance within society. Public dialogue on how to address this "new normal" should be a concern for civil society as a whole. Public and private institutions should develop new meeting formats, for instance for large group discussions, both online and offline. An open and respectful debate culture should be fostered. Social media are part and parcel of these platforms for debate. However, one should remain aware that the governance of these platforms does not take into consideration the value systems and cultural context of most of their global users.[47]

4. Include migrant communities

Confederation, cantons and communes should give guidance to, and receive input from, immigrants.

Switzerland's population comprises 38% of inhabitants with a migration background.[48] They are very diverse and cannot be looked at as a single entity. Generally well-integrated into economic life, most are non-citizens, and many with the right to vote do not participate. But in a major crisis, a government needs the overwhelming majority of the population to implement the measures. This implies deliberate efforts to collaborate with various groups to ensure full accessibility in terms of language and information sources, rather than merely translating the main documents. Before the beginning of a crisis, authorities should establish networks of multiplicators via schools, the workplace, community groups and specialised services. It is important to note that migrant communities have not been shown to be "sceptics" who oppose measures. Oftentimes, these groups respond to threat with caution, not panic. Many of them have more experience of chaos than the general Swiss population, and their input is invaluable in tackling future crises. So far, Switzerland has not sufficiently made use of this potential.

5. Be accessible and accountable

Leaders should communicate on the organisation of crisis management and shoulder responsibility for shortcomings.

The recommendation to proactively communicate organigrams of crisis units is easy to implement and would be greatly appreciated by civil society actors. Dedicated email boxes or phone lines should be offered on a central, well-publicised communication channel. Furthermore, the most important aim for politicians and scientists is to support, rather than to blame each other, understanding their respective roles and bearing responsibility for their actions. Senior decision-makers like the President of the Confederation, the President of the Swiss Parliament, the President of the Conference of the cantonal governments are accountable to the public for any personal but also institutional shortcomings. This basic principle of leadership requires openness and transparency towards "nasty questions" of citizens and investigative journalists, even in a time of high pressure. At the end of a crisis, independent evaluators should be mandated, and a follow-up of their conclusions should be a political priority.

47 Cat Zakrzewski et al. (2021). *How Facebook neglected the rest of the world, fueling hate speech and violence in India.* Washington Post, 24 Oct. 2021.

48 https://www.bfs.admin.ch/bfs/en/home/statistics/population/migration-integration/by-migration-status.html.

Science – society interface

6. Mobilise the experts

The institutions of higher education should identify experts and give them the necessary support.

Informing society on a variety of science-based issues is a mission distinct from public relations. It should not be delegated to communication experts only, although their support and training is certainly needed. Some universities and UAS have prepared lists of affiliated scientists who can answer questions on specific issues. As these lists are rarely updated nor promoted, their use is limited. Within their institution, researchers who devote a significant amount of time to outreach do not get recognised by a peer-reward system based on publication and grant acquisition. As a result, journalists usually ask the same few experts to answer most inquiries. These scientists become adept at navigating the pitfalls of media exposition, while many others disengage. During a crisis, many individual scientists feel compelled to communicate, which comes with additional challenges in the digital age. Not all scientists need to be on social media, but more scientific voices are needed on these platforms. Higher education institutions should develop science communication as a practice and as a discipline, ensuring that all students attend a short course during their studies, and even possibly developing a specialised Master programme. They should provide institutional support to scientists who are called to serve on a board or to address the media, or when they are exposed to personal attacks as a result of such engagement.

7. Communicate and listen

Scientists need to be educated in good communication practices.

Scientists often see themselves as bringing "just the facts" when they are already perceived as activists advancing a specific policy. In a context where interest groups are all too happy to instrumentalise the scientific discourse, experts need to be educated in good practices for communication.[49] Support materials for scientists needs to be made easily available, including simple guidance presenting the basics of communication but also of the Swiss political system. In addition to "saying the right thing", outreach efforts should be an occasion for all scientists to listen to the broader public, which requires a culture change.[50] The Swiss Academies of Arts and Sciences have a legal mandate to dialogue with society. Their recent publication on science communication contains a number of recommendations concurring with the present analysis.[51] The Academies have been promoting the notion of scientific culture, presenting science as a collective achievement. Inspired by the panel method used by TA-SWISS for technology assessment, which addresses ordinary citizens, Science et Cité and other members of the Academies should further develop outreach activities towards individuals from diverse social backgrounds who would not otherwise attend scientific events.

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49 Michael Blastland et al. (2020). *Five rules for evidence communication.* Nature 587, 362–364.

50 Maximilian Probst and Ulrich Schnabel (2022). *Wissenschaftskommunikation. Was Experten lernen müssen.* Die Zeit, 25 April 2022.

51 Mike S. Schäfer et al. (2021). *Science in the Swiss Public. The State of Science Communication and Public Engagement with Science in Switzerland.* Swiss Academies of Arts and Sciences, Bern 2021.

Politics – science interface

8. Investigate social media

The Confederation should fund research into the importance of information for democracy.

The world is experiencing the first pandemic and first conventional war in the digital age. Traditional media remain a reference, uncovering lies and conflicts of interest, thus helping to discriminate between true and fake conspiracies. Still, their business models are under unprecedented pressure. In Switzerland, authorities have yet to find out how to encourage print and digital media while preserving editorial independence. From 2005–2017, the NCCR Challenges to Democracy in the 21st Century investigated globalisation and mediatisation and has led to the creation of the Centre for Democracy Studies in Aarau. These research activities are not focused on digital platforms. Cyberthreats are studied at the ETH Centre for Security Studies. In other universities and UAS, researchers are investigating various angles of the issue. The Federal Office of Communications is funding a small number of research projects on disinformation and hate speech. All these individual efforts are important but insufficient in their scope, considering the disproportionate influence of digital information on trust and acceptance. So far, there has not been a comprehensive National Research Programme on the role of media and social media for democracy. This option should be explored.

9. Expand bridges to policy-making

Scientific organisations should improve interfaces between politics and administration.

There should be an excellent level of trust and solidarity between science and politics, which must be built before the onset of a crisis through regular interaction between representatives from science and politics and nourished by mutual knowledge of the personalities, mechanisms, practices, and issues within the two systems. This includes knowing which advising mechanisms are already in place to give input for policy. The SSC will formulate recommendations on science policy advice shortly.[52]

Conclusion

Acceptance by the public of the actions of the government is part and parcel of the Swiss political system. By highlighting acceptance, the SSC aims to raise awareness of a factor that is well-known in principle, but easily forgotten in practice, especially when emergency strikes. By formulating its recommendations, the SSC hopes to contribute to improving the resilience of society to crises of all sorts.

There is no simple recipe to foster acceptance. It requires a high degree of communication, listening, leadership, and creativity. To counterbalance the "tunnel vision", which is important to galvanise action but limiting in its scope, maintaining acceptance demands keeping a broad overview of the crisis, informed by data, contextualised by science, and shared by dialogue.

52 The SWR position paper analysing scientific policy advice will be published later in 2022. It is based on the expert report mandated by the SSC to Caspar Hirschi et al. (2022). *Wissenschaftliche Politikberatung in Krisenzeiten in der Schweiz: eine Analyse der Finanzkrise, des Fukushima-Unfalls und der COVID-19 Pandemie.*

SSC Workshop on 11 August 2021
Panellists for session 1

- *Marc Höglinger* is the head of Health Services Research at the Winterthur Institute of Health Economics of the ZHAW. Prior to this, he conducted research at the University of Bern and the ETHZ and teaching activities at the Careum School of Health. He co-leads the *Covid Social Monitor* project collecting indicators on the well-being, behaviour, physical and mental health, and employment situation of the Swiss population.

- *Sarah Geber* leads, together with several colleagues from the Department of Communication and Media Research of the University of Zurich, the SNSF-funded project *Covid-Norms: Monitoring and Analyzing Preventive Behavior*. She also leads the project *Covid, Culture and Communication: A Comparison of the Acceptance of Contact Tracing Technologies in Switzerland and Singapore*. She is a Fellow of the Digital Society Initiative of the University of Zurich.

- *Pascal Wagner-Egger* is a lecturer and researcher in social psychology and statistics at the University of Fribourg. In 2021, he published his book *Psychology of beliefs in conspiracy theories* and co-authored *A Power-Challenging Theory of Society, or a Conservative Mindset? Upward and Downward Conspiracy Theories as Ideologically Distinct Beliefs*. He participated in the publication of Response to Corona Denial, a Policy Brief of the Swiss National COVID-19 Science Task Force. He regularly serves as a consultant for radio and television.

- *Oliver Nachtwey* holds the chair of social structure analysis at the University of Basel. Prior to this, he was professor of sociology at the Goethe University Frankfurt and at the Technical University of Darmstadt. In 2016, he published the 8th edition of *Die Abstiegsgesellschaft. Über das Aufbegehren in der regressiven Moderne*. He published multiple books and articles about the erosion of democracy, on various protest movements, and about experiences of alienation related to the digitalisation of work. Since 2020, he has been working on the political sociology of Corona protests in Germany and Switzerland. In 2021, he published *Die Risikogesellschaft und die Gegenwelt*. In parallel, he is studying climate strikes in Switzerland.

- *Marie-Valentine Florin* is the executive director of the International Risk Governance Center (IRGC) at the EPFL. She graduated from Science Po in Paris in public policy and management, and earned post-graduate diplomas in marketing strategy, sustainable development and environmental diplomacy. She is a member of the Advisory Committee to the World Economic Forum Global Risk Report and a Fellow of the Society of Risk Analysis. In April 2020, she co-published *COVID-19 risk governance: drivers, responses and lessons to be learned*.

- *Andreas Wenger* has been the director of the Center for Security Studies since 2002 and is professor of International and Swiss Security Policy at ETH Zurich. After studying history, political science and German literature at the University of Zurich, he was a guest scholar at Princeton University, Yale University, the Woodrow Wilson Center, and the George Washington University. In 2020, he co-edited *The Politics and Science and Prevision: Governing and Probing the Future*. He also edited the *Bulletin 2020 on Swiss Security Policy*, devoted to the early management of the Covid-19 pandemic in Switzerland.

SSC Workshop on 11 August 2021
Panellists for session 2

- *Eva Maria Belser* is co-director of the Institute of Federalism and professor for constitutional and administrative law at the University of Fribourg. In addition, she holds a UNESCO Chair in Human Rights and Democracy. She is a member of various boards for ethics or human rights and she serves in the Expert Group Ethics, legal, social (ELSI) of the Swiss National COVID-19 Science Task Force. In 2020, she published various contributions on the effect of the Covid-19 crisis on human rights and on Swiss federalism in crisis mode.

- *Daniel Kübler* is a professor at the Department of Political Science, and co-director of the Centre for Democracy Studies at the University of Zurich. From 2012 to 2018, he was the Academic Director of the NCCR Democracy. From 2013 to 2016 he served as director of the Center for Democracy Studies in Aarau. He is the editor of: *Financial crisis and democracy. Challenges for politics, law and education* (2011) and co-author of *Democracy in times of the pandemic: explaining the variation of COVID-19 politics across European democracies* (2021). He participated in the publication of *Response to Corona Denial*, a Policy Brief of the Swiss National COVID-19 Science Task Force.

- *Nicolas Levrat* has been a professor of European and international law at the University of Geneva since 2001. He regularly teaches at universities in Belgium, Canada, France and Hungary. He was the director of the European Institute of the University of Geneva from 2007 to 2013, and of its successor, the Global Studies Institute (GSI) from 2013 to 2015. He has again been directing the GSI since 2019. In 2018, together with Didier Wernli, he co-founded the Geneva Transformative Governance Lab to conduct research on the governance of complex challenges. In 2021, he published, together with colleagues from various disciplines, *Governance in the age of complexity: building resilience to COVID-19 and future pandemics* as well as *Building a multisystemic understanding of societal resilience to the Covid-19 pandemic*.

— *Bettina Büchel* is a professor of strategy and organisation at IMD, Lausanne, focusing on strategic responses and transformations of multinational organisations. After studying public and business administration at the University of Constance, Rutgers University, and University of Geneva, she was assistant professor at the Asian Institute of Technology in Bangkok before joining IMD in Lausanne in 2000. As part of her work, she focuses on governance at the board and top team level of multinational organisations where trust in governance plays a central role.

— *Thomas Stocker* is the president of the Oeschger Centre for Climate Change Research (OCCR) and professor of climate and environmental physics at the University of Bern. Since 1998, he has been contributing to the reports of the Intergovernmental Panel on Climate Change (IPCC), and he served as co-chairman of the IPCC Working Group I (assessing scientific aspects of the climate system and climate change) from 2008 to 2015. He is a member of the Executive Steering Committee of *CH-Impacts. Climate scenarios CH2018 and derived consequences for Switzerland*. In 2020, he published *Utilization-focused scientific policy advice: a six-point checklist* together with colleagues from various disciplines.

Participants to the SSC workshop on 31 August 2021

Discussion chaired by Michael Renaudin, college M.

Civil society

— *Vjosa Gervalla*, directrice de albinfo.ch
— *Dagmar Jenni*, Geschäftsführerin der Swiss Retail Federation
— *Markus Mader*, Direktor des Schweizerischen Roten Kreuzes
— *Christine Michel*, Verantwortliche Arbeitssicherheit und Gesundheitsschutz bei Unia
— *Yannis Papadaniel*, responsable santé à la Fédération romande des consommateurs
— *Silja Stofer*, Leiterin Unternehmenskommunikation bei Fenaco

Politics and administration

— *Stefan Brem*, Chef Risikogrundlagen und Forschungskoordination, Bundesamt für Bevölkerungsschutz
— *Alexa Caduff*, Leiterin der “CoronaComm” und Bevölkerungsschutzkoordinatorin im Amt für Militär und Zivilschutz Kanton Graubünden
— *Markus Dürr*, Alt-Regierungsrat des Kantons Luzern, ehemaliger Direktor der Gesundheitsdirektorenkonferenz
— *Erich Fehr*, Stadtpräsident der Stadt Biel / maire de la ville de Bienne
— *Patrick Mathys*, Leiter Sektion Krisenbewältigung und internationale Zusammenarbeit, Bundesamt für Gesundheit

Science

— *Matthias Egger*, Präsident des Schweizerischen Nationalfonds
— *Sarah Geber*, Oberassistentin in der Abteilung Mediennutzung und Medienwirkung, Universität Zürich
— *Oliver Nachtwey*, Professor für Soziologie, Universität Basel
— *Marcel Tanner*, Präsident der Schweizerischen Akademien der Wissenschaften
— *Pascal Wagner-Egger*, enseignant-chercheur en psychologie, Université de Fribourg

SSC

— *Verena Briner*, Mitglied der Arbeitsgruppe «Learning from the Covid-19 pandemic»
— *Christiane Pauli-Magnus*, Mitglied der Arbeitsgruppe «Learning from the Covid-19 pandemic»
— *Jane Royston*, membre du groupe de travail «Learning from the Covid-19 pandemic»
— *Sabine Süsstrunk*, Präsidentin des Schweizerischen Wissenschaftsrats

Abbreviations

ELSI	Ethical, Legal, and Social Implications
EPFL	École Polytechnique Fédérale de Lausanne Swiss Federal Institute of Technology in Lausanne
ETHZ	Eidgenössische Technische Hochschule Zürich Swiss Federal Institute of Technology in Zurich
FOCP	Federal Office for Civil Protection
FOPH	Federal Office of Public Health
FOS	Federal Office of Statistics
GSI	Global Studies Institute
HIV	Human Immunodeficiency Virus
IEUG	Institut Européen de l'Université de Genève
IMD	International Institute for Management Development
IPCC	Intergovernmental Panel on Climate Change
IRGC	International Risk Governance Center
NaDB	National data management programme
NCCR	National Center for Competence in Research
OCCR	Oeschger Centre for Climate Change Research
SAGE	Scientific Advisory Group for Emergencies
SSC	Swiss Science Council
STEM	Science, technology, engineering and mathematics
TINA	"There is no alternative"
UAS	University of Applied Sciences
ZDA	Centre for Democracy Studies Aarau
ZHAW	Zürcher Hochschule für Angewandte Wissenschaften Zurich University of Applied Sciences

Imprint

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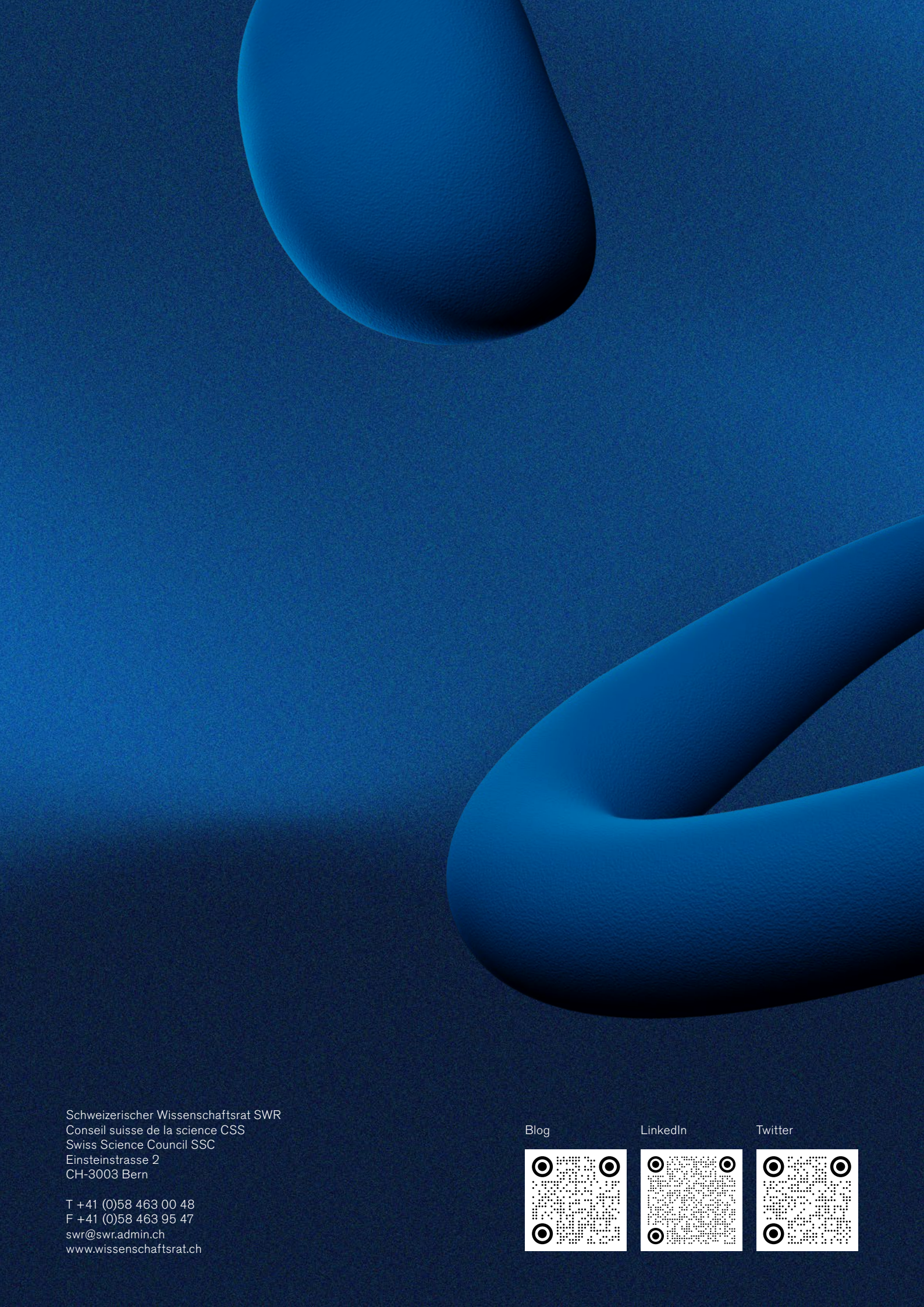
ISBN 978-3-906113-69-2
Bern 2022

Proofreading: Doris Tranter, Stéphane Gillioz
Concept and design: Modulator AG, Branding + Design



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